

**Инструкция по развертыванию
ЕДИНАЯ ЦИФРОВАЯ ПЛАТФОРМА.МИС 3.0
(ЕЦП.МИС 3.0) и Сервисов взаимодействия**

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1 Назначение документа

Настоящий документ содержит инструкцию по развертыванию Единой цифровой платформы МИС 3.0 (далее – "ЕЦП.МИС 3.0", Система) и сервисов взаимодействия в части внедрения следующих подсистем и модулей ЕЦП.МИС 3.0:

- Подсистема "Картотека пациентов"
 - Модуль "Данные пациентов"
 - Модуль "Идентификация пациентов"
 - Модуль "Персональные данные пациента"
 - Модуль "Поиск человека в системе"
- Подсистема "Электронная медицинская карта"
 - Модуль "Организация прав доступа к ЭМК"
 - Модуль "Работа с согласием пациента"
 - Модуль "Голосовой ввод"
 - Модуль "Предварительное анкетирование"
 - Модуль "Пакетные назначения"
 - Модуль "Горячие клавиши в электронной медицинской карте"
 - Модуль "Направления и назначения в ЭМК"
 - Модуль "Отображение случаев медицинской помощи в ЭМК"
 - Модуль "Сведения о пациенте в ЭМК"
 - Модуль "Сигнальная информация пациента в ЭМК"
 - Модуль "Случай стационарного лечения в ЭМК"
- Подсистема "Электронная медицинская карта" 3.0.3_1
 - Модуль "Отображение случаев медицинской помощи в ЭМК" 3.0.3_1
- Подсистема "Регистратура"
 - Модуль "АРМ регистратора поликлиники"
 - Модуль "АРМ оператора call-центра"
 - Модуль "Ведение расписания"
 - Модуль "Прикрепление"
 - Модуль "Вызов врача на дом"
 - Модуль "Картохранилище"
 - ФБ "Квотирование"
- Подсистема "Регистратура" 3.0.3_1
 - Модуль "Квотирование расписания" 3.0.3_1
 - Модуль "Ведение расписания" 3.0.3_1
 - Модуль "Листы ожидания" 3.0.3_1
- Подсистема "Поликлиника"
 - Модуль "АРМ врача поликлиники"
 - Модуль "АРМ врача физиотерапевта"
 - Модуль "АРМ администратора холла"
 - Модуль "Диспансерное наблюдение"
 - Модуль "Флюоротека"
 - Модуль "Контрольная карта наблюдения пациента на карантине"
 - Модуль "Мобильное автоматизированное рабочее место врача поликлиники"
 - Модуль "Сигнальная информация для врача"
 - Модуль "Ведение документации по случаям оказания амбулаторно-поликлинической помощи" (Модуль "Ведение документации (талон амбулаторного пациента)")
 - Модуль "Медицинское освидетельствование мигрантов"
 - Модуль "Медицинское освидетельствование для получения права владения оружием"
 - Модуль "Медицинское заключение об отсутствии медицинских противопоказаний к владению оружием"
 - Модуль "Освидетельствование водителей (сведения о прохождении медицинского освидетельствования на допуск к управлению транспортными средствами)"
- Подсистема "Дистанционный мониторинг"
- Централизованная подсистема "Профилактическая медицина"

- Модуль "Диспансеризация взрослого населения"
- Модуль "Профилактические осмотры несовершеннолетних"
- Модуль "Диспансеризация детей-сирот"
- Модуль "Профилактические осмотры взрослого населения"
- Модуль "Планы диспансеризации и профилактических осмотров"
- Модуль "Экспорт карт по диспансеризации несовершеннолетних"
- Модуль «Обязательные предварительные и периодические медицинские осмотры работников»
- Централизованная подсистема "Профилактическая медицина" 3.0.3_1
 - Модуль "Медицинское освидетельствование иностранных граждан и лиц без гражданства" 3.0.3 в части соответствия приказу № 1079н
 - Модуль "Настройка маршрутных карт" 3.0.3
 - Модуль "Диспансерное наблюдение" 3.0.3_1 в части обеспечения порядка диспансерного наблюдения за взрослыми в соответствии с приказом Министерства Здравоохранения РФ №168н от 15.03.2022
 - Модуль "Ведение документации (талон амбулаторного пациента)" 3.0.3_1 в части обеспечения порядка диспансерного наблюдения за взрослыми в соответствии с приказом Министерства Здравоохранения РФ №168н от 15.03.2022
 - Модуль "Контролируемые показатели диспансерного наблюдения" 3.0.3 в части обеспечения соответствия контролируемых в соответствии с приказом Министерства Здравоохранения РФ №168н от 15.03.2022
- Подсистема "Стоматология"
 - Модуль "АРМ стоматолога"
 - Модуль "Ведение документации по случаям оказания амбулаторно-поликлинической помощи (стоматология)"
- Подсистема "Стационар"
 - Модуль "АРМ сотрудника службы консультативного приема"
 - Модуль "АРМ постовой медсестры"
 - Модуль "АРМ старшей медсестры"
 - Модуль "АРМ сотрудника справочного стола стационара"
 - Модуль "АРМ медсестры процедурного кабинета"
 - Модуль "АРМ заведующего оперблоком"
 - Модуль "АРМ врача приемного отделения"
 - Модуль "АРМ врача стационара"
 - Модуль "АРМ регистратора приемного отделения стационара"
 - Модуль "АРМ медсестры приемного отделения"
 - Модуль "Мобильный АРМ врача приемного отделения"
 - Модуль "Мобильный АРМ врача профильного отделения стационара"
 - Модуль "Мобильный АРМ медсестры профильного отделения стационара"
 - Модуль "Мобильный АРМ медсестры приемного отделения стационара"
 - Модуль "Пейджер сотрудника стационара"
 - Модуль "АРМ реаниматолога"
 - Модуль "АРМ хирурга"
 - Модуль "АРМ анестезиолога"
 - Модуль "Управление коечным фондом"
 - Модуль "Календарь назначений"
- Подсистема "Стационар" 3.0.3_1
 - Модуль "АРМ заведующего оперблоком" 3.0.3_1
 - Модуль "АРМ хирурга" 3.0.3_1
 - Модуль "АРМ анестезиолога" 3.0.3_1
- Подсистема "Иммунопрофилактика"
 - Модуль "АРМ медсестры кабинета вакцинации"
 - Модуль "Национальный календарь"
 - Модуль "План профилактических прививок пациента"
 - Модуль "Кабинет вакцинации"
 - Модуль "Информация об иммунизации"
 - Модуль "Назначения"
- Подсистема "Параклиника"

- Модуль "Ведение документации по данным об оказанных параклинических услугах"
- Подсистема "Регистры пациентов"
 - Модуль "Регистр по туберкулезным заболеваниям"
 - Модуль "Регистр больных венерическими заболеваниями"
 - Модуль "Регистр по вирусному гепатиту"
 - Модуль "Регистр ВИЧ-инфицированных"
 - Модуль "Регистр по Психиатрии"
 - Модуль "Регистр по Наркологии"
 - Модуль "Регистр по гериатрии"
 - Модуль "Регистр по паллиативной помощи"
 - Модуль "Регистр по реабилитации"
 - Модуль "Регистр по профзаболеваниям"
 - Модуль "Регистр по высокочувствительным нозологиям"
 - Модуль "Регистр лиц, совершивших суицидальные попытки"
 - Модуль "Журнал Извещений об инфекционном заболевании, пищевом, острым профессиональным отравлении, необычной реакции на прививку (форма №058/У)"
 - Модуль "Регистр по эндопротезированию"
 - Модуль "Регистр по ВМП"
 - Модуль "Регистр болезней системы кровообращения (БСК)"
 - Модуль "Регистр нуждающихся в генно-инженерной биологической терапии (ГИБТ)"
 - Модуль "Регистр по сахарному диабету"
 - Модуль "Регистр по нефрологии"
 - Модуль "Регистр спортсменов"
 - Модуль "Регистр Скрининг сельского населения старше 60 лет"
 - Модуль "Регистр РЖД"
 - Модуль "Регистр КВИ"
 - Модуль "Регистр Особые категории пациентов"
 - Модуль "Регистр детей-сирот (стационарных)"
 - Модуль "Регистр детей-сирот (усыновленных / опекаемых)"
- Подсистема "Телемедицина"
 - Модуль "АРМ сотрудника центра удалённой консультации"
 - Модуль "Проведение телемедицинских консультаций формата врач - врач"
 - Модуль "Проведение телемедицинских консультаций формата врач - пациент"
 - Модуль "Видеосвязь"
 - Модуль "АРМ диспетчера центра удаленной консультации"
- Подсистема "Паспорт и структура организаций"
 - Модуль "АРМ специалиста отдела кадров"
 - Модуль "Паспорт организации"
 - Модуль "Структура организации"
 - Модуль "Единый регистр медперсонала"
 - Модуль "Паспорт МО"
 - Модуль "Структура МО"
- Подсистема "Управление взаиморасчётами за оказанную медицинскую помощь"
 - Модуль "Формирование реестра счетов"
- Подсистема "Администрирование"
 - Модуль "АРМ администратора ЦОД"
 - Модуль "АРМ администратора МО"
 - Модуль "АРМ администратора организации"
 - Модуль "Справочники системы"
 - Модуль "Настройки параметров"
 - Модуль "Авторизация в Системе с помощью учетной записи ЕСИА"
 - Модуль "Настройка внутрисистемных уведомлений пользователей системы"
 - Модуль "Уведомление пациентов"
 - Модуль "Создание рассылок"

- Модуль "Журнал рассылок"
- Модуль "Тарифы и объемы"
- Модуль "Конструктор анкет"
- Модуль "Модерация двойников"
- Модуль "Обращения граждан"
- Модуль "АРМ медицинского статистика"
- Модуль "АРМ методолога"
- Модуль "Регистр VIP пациентов"
- Модуль "Импорт пациентов, обслуживаемых по государственному заданию организаций"
- Подсистема "Контроль и надзор"
 - Модуль "АРМ пользователя СМО"
 - Модуль "АРМ пользователя ТФОМС"
 - Модуль "АРМ специалиста Минздрава"
 - Модуль "АРМ специалиста МИРС"
 - Модуль "АРМ менеджера проекта"
 - Модуль "АРМ сотрудника МИАЦ"
 - Модуль "АРМ сотрудника ЗАГС"
- Подсистема "Эпидемиология"
 - Модуль "АРМ эпидемиолога МО/АРМ эпидемиолога города"
- Подсистема "Медико-социальная экспертиза и врачебная комиссия"
 - Модуль "Направление на МСЭ"
 - Модуль "АРМ врача врачебной комиссии"
 - Модуль "АРМ МСЭ"
- Подсистема "Медико-социальная экспертиза и врачебная комиссия" 3.0.3_1
 - Модуль "АРМ врача врачебной комиссии" 3.0.3_1
- Подсистема "Электронная очередь"
- Подсистема "Патоморфология"
 - Модуль "АРМ патологоанатома"
 - Модуль "Патолого-анатомические вскрытия"
 - Модуль "Прижизненные патолого-анатомические исследования"
 - Модуль "Цитологические диагностические исследования"
 - Модуль "Медицинские свидетельства о смерти"
 - Модуль "Медицинские свидетельства о перинатальной смерти"
 - Модуль "Мониторинг детской смертности"
 - Модуль "Установление смерти человека"
- Подсистема "Платные услуги"
 - Модуль "АРМ осмотров и оформления справок"
 - Модуль "Оформление медицинской справки на право управления транспортным средством"
 - Модуль "АРМ регистратора платных услуг"
 - Модуль "АРМ регистратора"
 - Модуль "АРМ врача"
 - Модуль "Касса"
 - Модуль "Специалиста по платным услугам"
 - Модуль "Интеграционный профиль подсистемы "Платные услуги"
- Подсистема "Документ о временной нетрудоспособности"
 - Модуль "Документ о временной нетрудоспособности"
 - Модуль "АРМ регистратора ЛВН"
 - Модуль "Реестры ЛВН"
 - ФБ "Пакетное подписание ЛВН"
- Подсистема "Электронная подпись"
- Подсистема "Отчеты"
 - Модуль "Аналитические показатели"
- Подсистема "Управление льготным лекарственным обеспечением"
 - Модуль "Справочник медикаментов"
 - Модуль "АРМ руководителя МО"
 - Модуль "АРМ администратора ЛЛО"
 - Модуль "АРМ специалиста по закупкам"
 - Модуль "АРМ специалиста ЛЛО ОУЗ"

- Модуль "АРМ специалиста по экспертизе ЛЛО"
- Модуль "АРМ врача ЛЛО поликлиники"
- Модуль "АРМ главного внештатного специалиста при МЗ"
- Модуль "АРМ специалиста ТОУЗ"
- Модуль "Обеспечение препаратами больных острыми сердечно-сосудистыми заболеваниями (ОССЗ)"
- Модуль "Заявка на ЛС по ВЗН"
- Модуль "АРМ провизора"
- Модуль "Льготные рецепты"
- Модуль "Нельготные рецепты"
- Модуль "Настройки ЛЛО"
- Модуль "Регистр льготников"
- Модуль "Регистр по орфанным заболеваниям"
- Модуль "Заявочная кампания"
- Подсистема "Диагностическая информационная система"
 - Модуль "АРМ диагностики"
 - Модуль "Работа с WorkList (рабочими листами)"
- Подсистема "Управление аптечной деятельностью"
 - Модуль "Управление закупками"
 - Модуль "Управление запасами"
 - Модуль двумерного штрихкодирования и взаимодействия с ФГИС МДЛП
 - Модуль "Изготовление лекарственных препаратов"
 - Модуль "Учет в отделениях и подразделениях МО"
 - Модуль "Персонифицированный учет расхода медикаментов"
 - Модуль "АРМ заведующего аптекой"
 - Модуль "Аптека"
 - Модуль "АРМ товароведа"
 - Модуль "АРМ главной медсестры"
- Подсистема "Управление аптечной деятельностью" 3.0.3_1
 - Модуль "АРМ товароведа" 3.0.3_1
 - Модуль "Управление запасами" 3.0.3_1
- Подсистема "Оказание высокотехнологичной медицинской помощи"
 - Модуль "АРМ ВМП"
- Подсистема "Общесистемные компоненты"
 - Модуль "Стандарты лечения"
 - Модуль "Извещения о ДТП"
 - Модуль "Журнал запросов"
 - Модуль "Обмен сообщениями"
 - Модуль "Консилиумы"
 - Модуль "Рекомендации"
- Подсистема "Взаимодействие с внешними системами"
 - Модуль "Интеграционное взаимодействие с ИС Фонда социального страхования (ФСС) в части передачи ЭЛН"
 - Модуль "Интеграционное взаимодействие с ИС Фонда социального страхования (ФСС) в части передачи электронного родового сертификата"
 - Модуль "Интеграционное взаимодействие с информационными системами территориальных фондов обязательного медицинского страхования (ТФОМС)"
 - Модуль "Региональная интеграционная шина"
 - Модуль "Интеграционное взаимодействие с ФГИС ФРИ"
 - Модуль "Интеграционное взаимодействие с ИС "1С Медицина: Больничная аптека"
 - Модуль "Интеграционное взаимодействие с ИС для работы с аппаратами электрокардиографии (ЭКГ)"
 - Модуль "Интеграционное взаимодействие с ИС для работы с аппаратами суточного мониторинга артериального давления (СМАД)"
 - Модуль "Интеграционное взаимодействие с ИС аптечных организаций"
 - Модуль "Интеграционное взаимодействие с региональной ИС в части льготного лекарственного обеспечения"
 - Модуль "Интеграционное взаимодействие с ИС Webiomed"

- Модуль "Интеграционное взаимодействие с ИС EBMEDS"
- Модуль "Интеграционное взаимодействие с ИС "Электронный рецепт"
- Модуль "Интеграционное взаимодействие с ИС "Доктис"
- Подсистема "Взаимодействие с внешними системами" 3.0.3_1
 - Модуль "Интеграционное взаимодействие с СФР в части автоматической актуализации СНИЛС пациента" 3.0.3
- Подсистема "Интеграция с ЕГИСЗ"
 - Модуль "Взаимодействие с ЕГИСЗ. Обновления справочников НСИ"
 - Модуль "Взаимодействие с ЕГИСЗ. Интегрированная электронная медицинская карта (ИЭМК)"
 - Модуль "Взаимодействие с ЕГИСЗ. Федеральный реестр медицинских организаций (ФРМО)"
 - Модуль "Взаимодействие с ЕГИСЗ. Федеральный регистр медицинских работников (ФРМР)"
 - Модуль "Взаимодействие с ЕГИСЗ. Регистр вакцинированных от Covid-19"
 - Модуль "Взаимодействие с ЕГИСЗ. Реестр электронных медицинских документов (РЭМД)"
 - ФБ "Формирование СЭМД "Отпуск по рецепту на лекарственный препарат, изделие медицинского назначения и специализированный продукт лечебного питания"
 - ФБ "Формирование СЭМД "Медицинская справка в бассейн"
 - ФБ "Формирование СЭМД "Карта профилактического медицинского осмотра несовершеннолетнего"
 - ФБ "Формирование СЭМД "Медицинское заключение об отсутствии медицинских противопоказаний к владению оружием"
 - ФБ "Формирование СЭМД "Медицинское заключение об отсутствии в организме человека наркотических средств, психотропных веществ и их метаболитов"
 - ФБ "Формирование СЭМД "Медицинская справка о состоянии здоровья ребенка, выезжающего в организацию отдыха детей и их оздоровления"
 - ФБ "Формирование СЭМД "Справка о прохождении медицинского освидетельствования в психоневрологическом диспансере"
 - ФБ "Формирование СЭМД "Направление к месту лечения для получения медицинской помощи с талонами 1 и 2"
 - ФБ "Формирование СЭМД "Медицинское заключение о принадлежности несовершеннолетнего к медицинской группе для занятий по физической культуре"
 - ФБ "Формирование СЭМД "Льготный рецепт на лекарственный препарат, изделие медицинского назначения и специализированный продукт лечебного питания"
 - ФБ "Формирование СЭМД "Рецепт на лекарственный препарат"
 - ФБ "Формирование СЭМД "Медицинское свидетельство о перинатальной смерти"
 - ФБ "Формирование СЭМД "Протокол патологоанатомического исследования"
 - ФБ "Формирование СЭМД "Протокол цитологического исследования"
 - ФБ "Формирование СЭМД "Медицинская справка (врачебное профессионально-консультативное заключение)"
 - ФБ "Формирование СЭМД "Контрольная карта диспансеризации (профилактических медицинских осмотров)"
 - ФБ "Формирование СЭМД "Контрольная карта диспансерного наблюдения"
 - ФБ "Формирование СЭМД "Справка об отсутствии контактов с инфекционными больными"
 - ФБ "Формирование СЭМД "Медицинское заключение об отсутствии противопоказаний к занятию определенными видами спорта"
 - ФБ "Формирование СЭМД "Эпикриз по законченному случаю амбулаторный"
 - ФБ "Формирование СЭМД "Выписной эпикриз из роддома"
 - ФБ "Формирование СЭМД "Справка о состоянии на учете в диспансере"

- ФБ "Формирование СЭМД "Медицинская справка (для выезжающего за границу)"
- ФБ "Формирование СЭМД "Справка о результатах химико-токсикологических исследований"
- ФБ "Формирование СЭМД "Справка для получения путевки на санаторно-курортное лечение"
- ФБ "Формирование СЭМД "Протокол гемотрансфузии"
- ФБ "Формирование СЭМД "Направление на госпитализацию, восстановительное лечение, обследование, консультацию"
- ФБ "Формирование СЭМД "Эпикриз в стационаре выписной"
- ФБ "Формирование СЭМД "Карта вызова скорой медицинской помощи"
- ФБ "Формирование СЭМД "Направление на консультацию и во вспомогательные кабинеты"
- ФБ "Формирование СЭМД "Справка о временной нетрудоспособности студентов, учащихся профтехучилищ о болезнях, карантине ребенка, посещающего школу, детское дошкольное учреждение"
- ФБ "Формирование СЭМД "Протокол консультации"
- ФБ "Формирование СЭМД "Протокол лабораторного исследования"
- ФБ "Формирование СЭМД "Протокол инструментального исследования"
- ФБ "Формирование СЭМД "Медицинское свидетельство о смерти"
- ФБ "Формирование СЭМД "Медицинское свидетельство о рождении"
- ФБ "Формирование СЭМД "Направление на медико-социальную экспертизу"
- ФБ "Формирование СЭМД "Протокол телемедицинской консультации"
- "Формирование СЭМД "Документ, содержащий сведения медицинского свидетельства о перинатальной смерти в бумажной форме"
- ФБ "Формирование СЭМД "Медицинская справка о допуске к управлению транспортными средствами"
- ФБ "Формирование СЭМД "Документ, содержащий сведения медицинского свидетельства о рождении в бумажной форме (СДА)"
- ФБ "Формирование СЭМД "Документ, содержащий сведения медицинского свидетельства о смерти в бумажной форме (СДА)"
- ФБ "Формирование СЭМД "Сертификат профилактических прививок"
- ФБ "Формирование СЭМД "Экстренное извещение об инфекционном заболевании, пищевом, остром профессиональном отравлении, необычной реакции на прививку"
- ФБ "Формирование СЭМД "Справка донору об освобождении от работы в день кроводачи и предоставлении ему дополнительного дня отдыха"
- ФБ "Формирование СЭМД "Справка об отказе в направлении на медико-социальную экспертизу"
- ФБ "Формирование СЭМД "Медицинское заключение по результатам предварительного (периодического) медицинского осмотра (обследования)"
- ФБ "Формирование СЭМД "Медицинское заключение о допуске к выполнению работ на высоте, верхолазных работ, работ, связанных с подъемом на высоту, а также по обслуживанию подъемных сооружений"
- ФБ "Формирование СЭМД "Справка о постановке на учет по беременности"
- ФБ "Формирование СЭМД "Справка об оплате медицинских услуг для предоставления в налоговые органы Российской Федерации"
- ФБ "Формирование СЭМД "Сведения о результатах диспансеризации или профилактического медицинского осмотра (СДА)"
- ФБ "Формирование СЭМД "Справка о возврате направления на медико-социальную экспертизу"
- ФБ "Формирование СЭМД "Выписка из протокола врачебной комиссии"
- ФБ "Формирование СЭМД "Выписка из истории болезни"
- ФБ "Формирование СЭМД "Справка об отсутствии медицинских противопоказаний для работы с использованием сведений, составляющих государственную тайну"

- ФБ "Формирование СЭМД "Заключение о результатах медицинского освидетельствования граждан, намеревающихся усыновить (удочерить), взять под опеку (попечительство), в приемную или патронатную семью детей-сирот и детей, оставшихся без попечения родителей"
- ФБ "Формирование СЭМД "Экстренное извещение о случае острого отравления химической этиологии"
- ФБ "Формирование СЭМД "Справка о проведенных профилактических прививках против новой коронавирусной инфекции (COVID-19) или наличии медицинских противопоказаний к вакцинации"
- ФБ "Формирование СЭМД "Предоперационный эпикриз"
- ФБ "Формирование СЭМД "Этапный эпикриз"
- ФБ "Формирование СЭМД "Талон на оказание высокотехнологичной медицинской помощи"
- ФБ "Формирование СЭМД "Санаторно-курортная карта"
- ФБ "Формирование СЭМД "Санаторно-курортная карта для детей"
- ФБ "Формирование СЭМД "Обратный талон санаторно-курортной карты (дополнительно, для Санаторно-курортной карты)"
- ФБ "Формирование СЭМД "Уведомление о выявлении противопоказаний или аннулировании медицинских заключений к владению оружием"
- ФБ "Формирование СЭМД "Протокол решения (выписка из протокола решения) комиссии по оказанию высокотехнологичной медицинской помощи"
- ФБ "Формирование СЭМД "Направление на госпитализацию для оказания высокотехнологичной медицинской помощи (CDA)"
- ФБ "Формирование СЭМД " ФБ "Формирование СЭМД "Направление на госпитализацию для оказания высокотехнологичной медицинской помощи (CDA)"
- ФБ "Отправка СЭМД с учетом ограничений на скорость приема со стороны федерального сервис"
- Модуль "Взаимодействие с ЕГИСЗ. Федеральная электронная регистратура (ФЭР)"
- Модуль "Взаимодействие с ЕГИСЗ. Федеральная электронная регистратура (ФЭР). Запись к врачу, вызов врача"
- Модуль "Взаимодействие с ЕГИСЗ. Федеральная электронная регистратура (ФЭР). Запись на вакцинацию"
- Модуль "Взаимодействие с ЕГИСЗ. Федеральная электронная регистратура (ФЭР). Запись на платные услуги"
- Модуль "Взаимодействие с ЕГИСЗ. Федеральная электронная регистратура (ФЭР). Запись на прием к врачу, осуществляющему диспансерное наблюдение"
- Модуль "Взаимодействие с ЕГИСЗ. Федеральная электронная регистратура (ФЭР). Запись для прохождения профилактических медицинских осмотров, диспансеризации"
- Модуль "Взаимодействие с ЕГИСЗ. Федеральная электронная регистратура (ФЭР). Запись на углубленную диспансеризацию"
- Модуль "Взаимодействие с ЕГИСЗ. Федеральный регистр больных туберкулезом (ФРБТ)"
- Модуль "Взаимодействие с ЕГИСЗ. Федеральный регистр лиц, инфицированных вирусом иммунодефицита человека (ФРВИЧ)"
- Модуль "Взаимодействие с ЕГИСЗ. Платформа федерального регистра «14 нозологий» (ФР 14Н)"
- Модуль "Взаимодействие с ЕГИСЗ. Регистр COVID-19"
- Модуль "Взаимодействие с ЕГИСЗ. Вертикально-интегрированная медицинская информационная система (ВИМИС "Онкология")"
- Модуль "Взаимодействие с ЕГИСЗ. Вертикально-интегрированная медицинская информационная система (ВИМИС "Сердечно-сосудистые заболевания")"
- Модуль "Взаимодействие с ЕГИСЗ. Вертикально-интегрированная медицинская информационная система (ВИМИС "Акушерство, гинекология и неонатология")"

- Модуль "Взаимодействие с ЕГИСЗ. Интеграционная подсистема обеспечения оказания государственных услуг в сфере здравоохранения (ИП ООГУСЗ)"
- Модуль "Взаимодействие с ЕГИСЗ. Интеграционная подсистема обеспечения оказания государственных услуг в сфере здравоохранения (ИП ООГУСЗ). Прикрепление онлайн"
- Модуль "Взаимодействие с ЕГИСЗ. Интеграционная подсистема обеспечения оказания государственных услуг в сфере здравоохранения (ИП ООГУСЗ). Идентификация пациента"
- Модуль "Взаимодействие с ЕГИСЗ. Федеральный регистр граждан, имеющих право на обеспечение лекарственными препаратами (ФРЛЛО)"
- Модуль "Маршрутизация запросов при взаимодействии с ЕГИСЗ"
- Модуль "Взаимодействие с ЕГИСЗ. Вертикально-интегрированная медицинская информационная система (ВИМИС "Профилактическая медицина")
- Модуль "Взаимодействие с ЕГИСЗ. Мониторинг проведения диспансеризации детей-сирот"
- Модуль "Взаимодействие с ЕГИСЗ. Пакетное подписание электронных медицинских документов от имени пользователя"
- Модуль "Взаимодействие с ЕГИСЗ. Витрина данных "
- Подсистема "Интеграция с ЕГИСЗ" 3.0.3_1
 - Модуль "Взаимодействие с ЕГИСЗ. Интеграционная подсистема обеспечения оказания государственных услуг в сфере здравоохранения (ИП ООГУСЗ). Идентификация пациента" 3.0.3_1
 - Модуль "Взаимодействие с ЕГИСЗ. Реестр электронных медицинских документов (РЭМД)" 3.0.3_1
 - ФБ "Формирование СЭМД "Заключение лечебного учреждения о нуждаемости престарелого гражданина в постоянном постороннем уходе (CDA)" 3.0.3
 - ФБ "Формирование СЭМД "Заключение об установлении факта поствакцинального осложнения (CDA)" 3.0.3
 - ФБ "Формирование СЭМД "Справка о наличии показаний к протезированию (CDA)" 3.0.3
 - ФБ "Формирование СЭМД "Справка о наличии медицинских показаний, в соответствии с которыми ребенок не посещает дошкольную организацию или организацию, осуществляющую образовательную деятельность по основным общеобразовательным программам, в период учебного процесса (CDA)" 3.0.3
 - ФБ "Формирование СЭМД "Протокол оперативного вмешательства операции (CDA)" 3.0.3
 - ФБ "Формирование СЭМД "Протокол медицинской манипуляции (CDA)" 3.0.3
 - ФБ "Формирование СЭМД "Протокол консультации в рамках диспансерного наблюдения (CDA)" 3.0.3
 - ФБ "Получение СЭМД "Программа дополнительного обследования гражданина" 3.0.3
 - Модуль "Взаимодействие с ЕГИСЗ. Интеграция с федеральным реестром медицинских организаций (ФРМО)" 3.0.3_1
 - Модуль "Взаимодействие с ЕГИСЗ. Интеграция с федеральным регистром медицинских работников (ФРМР)" 3.0.3_1
 - Модуль "Взаимодействие с ЕГИСЗ. Интеграция с федеральным регистром больных COVID-19 (3 версия)" 3.0.3
 - Модуль "Взаимодействие с ЕГИСЗ. Вертикально-интегрированная медицинская информационная система (ВИМИС "Профилактическая медицина")" 3.0.3_1
 - Модуль "Взаимодействие с ЕГИСЗ. Вертикально-интегрированная медицинская информационная система (ВИМИС "Онкология")" 3.0.3_1

- Модуль "Взаимодействие с ЕГИСЗ. Вертикально-интегрированная медицинская информационная система (ВИМИС "Сердечно-сосудистые заболевания")" 3.0.3_1
- Модуль "Взаимодействие с ЕГИСЗ. Вертикально-интегрированная медицинская информационная система (ВИМИС "Акушерство, гинекология и неонатология")" 3.0.3_1
- Модуль "Взаимодействие с ЕГИСЗ. Вертикально-интегрированная медицинская информационная система (ВИМИС "Инфекционные болезни")" 3.0.3
- Модуль "Ведение документации (талон амбулаторного пациента) 3.0.3_1 в части внедрения сервисов интеграции с ВИМИС
- Модуль "АРМ врача стационара" 3.0.3_1 в части внедрения сервисов интеграции с ВИМИС
- Модуль "АРМ хирурга" 3.0.3_1 в части внедрения сервисов интеграции с ВИМИС
- Модуль "Консилиумы" 3.0.3_1 в части внедрения сервисов интеграции с ВИМИС
- Подсистема "Медицинские заключения и справки" 3.0.3
 - Модуль "Медицинские заключения и справки" 3.0.3
- Подсистема "Центральный архив медицинских изображений"
- Централизованная подсистема "Организация оказания медицинской помощи больным сердечно-сосудистыми заболеваниями"
 - Модуль "Регистр по БСК"
 - Модуль "Регистр ОНМК"
 - Модуль "Регистр ИБС"
 - Модуль "Регистр по кардио"
 - Модуль "Маршрутизация и план ведения пациентов с заболеваниями по профилю "ССЗ"
- Централизованная подсистема "Организация оказания медицинской помощи больным сердечно-сосудистыми заболеваниями" 3.0.3_1
 - Модуль "Регистр по БСК" 3.0.3_1
 - Модуль "Регистр ОНМК" 3.0.3_1
- Централизованная подсистема "Организация оказания медицинской помощи больным онкологическими заболеваниями"
 - Модуль "Регистр онкогематологических пациентов"
 - Модуль "Маршрутизация и план ведения пациентов при подозрении на ЗНО и подтвержденном онкологическом заболевании"
 - ФБ "Специфика по онкологии"
 - Модуль "Онкологический консилиум"
 - Модуль "Критерии оценки ответа солидных опухолей на проводимую терапию (RECIST)"
 - Модуль "Регистр по онкологии"
 - Модуль "Регистр подозрений на ЗНО"
 - Модуль "Регистр пациентов с предраковым состоянием"
- Централизованная подсистема "Организация оказания медицинской помощи больным онкологическими заболеваниями" 3.0.3_1
 - ФБ "Специфика по онкологии" 3.0.3_1
 - ФБ "Протокол консилиума по профилю "Онкология" 3.0.3
- Централизованная подсистема «Организация оказания медицинской помощи по профилям «Акушерство и гинекология» и «Неонатология» (Мониторинг беременных)»
 - Модуль "Мониторинг беременных"
 - Модуль "Анкета при регистрации беременной"
 - Модуль "Скрининги"
 - Модуль "План ведения беременности"
 - Модуль "Исход беременности"
 - Модуль "Расчет факторов риска"
 - Модуль "Мониторинг новорожденных"
 - Модуль "Медицинские свидетельства о рождении"
 - Модуль "АРМ врача-эмбриолога"

- Модуль "Критические акушерские состояния"
- Модуль "Вспомогательные репродуктивные технологии"
- Модуль "Дневник наблюдения беременной"
- Модуль "Гравидограмма"
- Модуль "Маршрутизация и план ведения пациентов с заболеваниями по профилю "АКиНЕО"
- Централизованная подсистема «Организация оказания медицинской помощи по профилям «Акушерство и гинекология» и «Неонатология» (Мониторинг беременных)» 3.0.3_1
 - Модуль "Мониторинг новорожденных" 3.0.3_1
 - Модуль "Направления и назначения в ЭМК" 3.0.3_1 в части внедрения функциональности по оказанию медицинской помощи пациентам с врожденными и (или) наследственными заболеваниями
 - Модуль "Сведения о пациенте в ЭМК" 3.0.3_1 в части внедрения функциональности по оказанию медицинской помощи пациентам с врожденными и (или) наследственными заболеваниями
 - Модуль "Работа с согласием пациента" 3.0.3_1 в части внедрения функциональности по оказанию медицинской помощи пациентам с врожденными и (или) наследственными заболеваниями
 - Модуль "Взаимодействие с ЕГИСЗ. Вертикально-интегрированная медицинская информационная система (ВИМИС "Акушерство, гинекология и неонатология)" 3.0.3_1
 - Модуль "АРМ администратора ЦОД" 3.0.3_1 в части внедрения функциональности по оказанию медицинской помощи пациентам с врожденными и (или) наследственными заболеваниями
 - Модуль "Мониторинг новорожденных" 3.0.3_1 в части внедрения функциональности по оказанию медицинской помощи пациентам с врожденными и (или) наследственными заболеваниями
 - Модуль "Сведения о пациенте в ЭМК" 3.0.3_1 в части соответствия приказу N 1130н
 - Модуль "АРМ врача поликлиники" 3.0.3_1 в части соответствия приказу N 1130н
 - Модуль "АРМ врача стационара" 3.0.3_1 в части соответствия приказу N 1130н
 - Модуль "Скрининги" 3.0.3_1 в части соответствия приказу N 1130н
 - Модуль "Анкета при регистрации беременной" 3.0.3_1 в части соответствия приказу N 1130н
 - Модуль "Исход беременности" 3.0.3_1 в части соответствия приказу N 1130н
 - Модуль "Специфика новорожденного" 3.0.3 в части соответствия приказу N 1130н
 - Модуль "Протокол УЗИ" 3.0.3
 - Модуль "Дневник наблюдения беременной" 3.0.3_1
- Подсистема "Голосовой помощник"
- Подсистема "Обеспечение и оценка соответствия оказываемой медицинской помощи критериям оценки качества"
- Подсистема «Федеральный регистр доноров костного мозга и гемопоэтических стволовых клеток, донорского костного мозга и гемопоэтических стволовых клеток, реципиентов костного мозга и гемопоэтических стволовых клеток»

2 Mongo db(ReplicaSet)

2.1 Описание

Создание кластера(реплика-сет) Mongo db. Развертывание на 3х машинах, с инициализацией кластера и созданием пользователей promed/zabbix.

2.2 Зависимости проекта

2.3 Развертывание с использованием docker-образа

2.3.1 Необходимое ПО

- docker v19.03
- docker-compose 1.25

2.3.2 Структура папок монтируемых на host-машину

/data

└─ db - папка с дата файлами бд.

/etc

└─ timezone-временная зона.

└─ localtime - текущее время.

/etc/mongo

└─ auth - файлы аутентификации.

/sys/kernel/mm/transparent_hugepage/

└─ enabled - файл вкл/выкл использования "hugepage".

Для развертывания необходимо

Для каждой машины:

1. Создать папку развертывания
2. В корне папки развертывания создать файл **.env** ([пример](#) содержания ниже)
3. Создать в папке развертывания файл **docker-compose.yaml** ([пример](#) содержания ниже)
4. Проверить синтаксис конфигурации docker-compose командой: **docker-compose config**

Для одной из машин:

1. В файл **docker-compose.yaml** добавить содержание блока [extension](#) в секции "services:".

Для каждой машины:

1. Запустить сервис с помощью команды: **docker-compose up -d**

Примечание:

В соответствии с [рекомендациями](#) Mongo, файловая система для лучшей производительности на машинах должна быть xfs.

Для кастомизации параметров запуска нод кластера, в секции "command" контейнера-ноды можно добавить [ключи](#) запуска. Либо смонтировать готовые конфиги в контейнер, секцию "volumes:". Пример(- ./mongod.conf:/etc/mongod.conf:ro)

```
MONGO_INITDB_ROOT_USERNAME=<имя пользователя>
MONGO_INITDB_ROOT_PASSWORD=<пароль пользователя>
MONGO_KEY_FILE=<пароль для подключения нод к кластеру>
MONGO_HOST_1=<ip адрес хоста | dns имя хоста>:27017
MONGO_HOST_2=<ip адрес хоста | dns имя хоста>:27017
MONGO_HOST_3=<ip адрес хоста | dns имя хоста>:27017
```

Code Block 1 .env

```
version: "3.8"

services:
  # Контейнер инициализации ключевого файла для rs и установки hugepages
  на хост-машине в "never".
  pre-init:
    image: d-repo.rtmis.ru/promed/mongo:4.4.1
    env_file: .env
    command: sh -c "echo never >
/sys/kernel/mm/transparent_hugepage/enabled &&
    echo $MONGO_KEY_FILE > /etc/mongo/auth/mongo.keyfile &&
    chown mongodb:mongodb /etc/mongo/auth/mongo.keyfile &&
    chmod 400 /etc/mongo/auth/mongo.keyfile"
    privileged: true
    restart: "no"
    volumes:
      -
  /sys/kernel/mm/transparent_hugepage/:/sys/kernel/mm/transparent_hugepage/:
  rw
  - ./auth:/etc/mongo/auth/
  # Контейнер запуска дата-ноды
  mongo:
    image: d-repo.rtmis.ru/promed/mongo:4.4.1
    env_file: .env
    hostname: mongo
    depends_on:
      - pre-init
    command: mongod --replSet rs0 --port 27017 --keyFile
    /etc/mongo/auth/mongo.keyfile --bind_ip_all
    ports:
      - 27017:27017
    volumes:
      # Папка дата-файлов. Создастся в текущем каталоге. Если диск с xfs
      смонтирован в ОС отдельно, указываем полный путь до точки монтирования.
      - ./mongo:/data/db
      - /etc/timezone:/etc/timezone:ro
      - /etc/localtime:/etc/localtime:ro
      - ./auth:/etc/mongo/auth:ro
    privileged: true
    ulimits:
      nproc: 64000
      nofile: 64000
```

Code Block 2 docker-compose.yaml

```
# Контейнер инициализации реплика-сет и создания пользователей.
mongo-init:
  image: d-repo.rtmis.ru/promed/mongo:4.4.1
  hostname: mongo-init
  env_file: .env
  depends_on:
    - mongo
  restart: "no"
  command: sh -c "/tmp/mongo_init.sh"
  volumes:
    - ./auth:/etc/mongo/auth/
```

Code Block 3 extension

3 Node портал прокси

3.1 Описание сервиса:

Веб-сервер на **node.js** с подключенным модулем socket.io. Представляет собой сервис **доставки мгновенных сообщений** до клиентов подключенных к этому сервису.

Сервис предназначен для работы в связке с модулем электронной очереди (ЭО) и модулем Расписания врачей РМИС. Доступ к данному сервису прописывается в конфигах промеда и конфигах регионального портала медицинских услуг.

Доступ к данному сервису должны иметь все - не только вебы, но и сами клиенты (врачи армов, пользователи регионального портала мед. услуг). Сервис для конечного пользователя должен обязательно виден как защищенный сервис (<https:///>) для возможности выполнения кросс-доменных запросов в нему.

3.2 Репозиторий в Git:

<https://git.promedweb.ru/rtmis/promed/-/tree/master/jscore/node-portal-proxy>

3.3 Примечание:

Для "Промеда`а" обязательная зависимость. Настройка через файл конфигурации promed.conf

```
// NODE JS прокси для портала
// 1. для имени хоста обязательно указывать протокол (http:// или
https://) в зависимости от того, в каком режиме запущен NODE-SERVER (можно
посмотреть при старте сервера или в логах)
// 2. номера портов дублируются - это нормально, т.к. сокет сервер теперь
инициализируется через порт веб-сервера
// 3. если блок не закомментирован. Обязателен к разворачиванию сервис
node-portal-
proxy(https://confluence.rtlabs.ru/pages/viewpage.action?pageId=253706886)
define('NODEJS_PORTAL_PROXY_HOSTNAME', 'http://127.0.0.1');
define('NODEJS_PORTAL_PROXY_HTTPPORT', '7070');
define('NODEJS_PORTAL_PROXY_SOCKETPORT', '7070');
```

Code Block 4 Пример promed.conf

3.4 Развертывание с использованием docker-образа

3.4.1 Необходимое ПО

- docker v19.03
- docker-compose 1.25

3.4.2 Структура папок монтируемых на host-машину

/srv/node-portal-proxy/

- └─ certs - папка с сертификатами
- └─ logs - папка с логами
- └─ constants.js - файл настроек сервера

3.4.3 Для развертывания необходимо

1. Создать папку развертывания
2. В корне папки развертывания создать файл **constants.js** (пример содержания ниже)
3. Создать папки **logs**, **certs**
4. Поместить в папку **certs** действующий сертификат, ключ
5. Создать в папке развертывания файл **docker-compose.yaml** (пример содержания ниже)
6. Заменить значение внешнего порта в секции **ports** с **7070** на необходимое значение внешнего порта сервиса
7. Проверить синтаксис конфигурации docker-compose командой: **docker-compose config**
8. Запустить сервис с помощью команды: **docker-compose up -d**
9. Предоставить доступ к сервису ([пример](#) настройки балансировщика)

```
var constants = {

  httpServerPort : 7070,

  // для создания https сервера нужен сертификат сервера и его ключ
  // можно указать путь до файла или положить внутри папки нода
  certKey : 'certs/server.key',
  // сам сертификат
  cert: 'certs/server.crt',

  // путь до лога
  portal_proxy_log: 'logs/node_portal_proxy_info.log',
};

for (var key in constants) {
  exports[key] = constants[key];
};
```

Code Block 5 constants.js

```
version: '3.3'

services:
  node-portal-proxy:
    image: d-repo.rtmis.ru/promed/node-portal-proxy:1.0.0
    container_name: node-portal-proxy
    volumes:
      - ./constants.js:/srv/node-portal-proxy/constants.js
      - ./logs:/srv/node-portal-proxy/logs/
      - ./certs:/srv/node-portal-proxy/certs/
    ports:
      - 7070:7070
```

Code Block 6 docker-compose.yaml

```

map $http_upgrade $connection_upgrade {
    default upgrade;
    '' close;
}

server {
    listen                7070;
    server_name           promed.promedweb.ru;

    ssl                   on;
    ssl_certificate        /etc/nginx/ssl/promedweb_2020.crt;
    ssl_certificate_key    /etc/nginx/ssl/promedweb_2020.key;
    ssl_session_timeout   5m;
    ssl_protocols          TLSv1 TLSv1.1 TLSv1.2;
    ssl_ciphers            kEECDH+AES128:kEECDH:kEDH:-
3DES:kRSA+AES128:kEDH+3DES:DES-CBC3-SHA:!RC4:!aNULL:!eNULL:!MD5:!EXPORT$
    ssl_prefer_server_ciphers on;

    error_log             /var/log/nginx/nodejs_error.log;
    open_file_cache_errors off;

    location / {
        proxy_pass         https://node-portal-proxy;
        proxy_set_header   Access-Control-Allow-
Origin                    *;
        proxy_connect_timeout 10;
        proxy_send_timeout   60s;
        proxy_read_timeout   600s;
        proxy_http_version   1.1;
        proxy_set_header     Upgrade
$http_upgrade;
        proxy_set_header     Connection
$connection_upgrade;
    }
}

```

Code Block 7 Прине настройки Nginx

4 PostgreSQL на CentOS 8

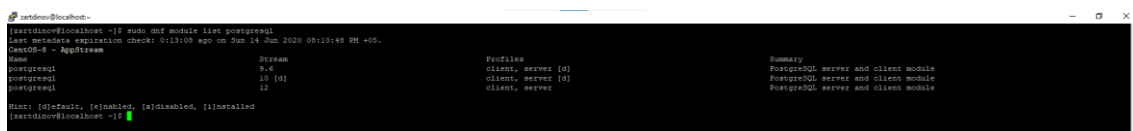
- [PostgreSQL 11](#)
- [PostgreSQL 12](#)

4.1 PostgreSQL 11

```
OS: CentOS 8
DB: PostgreSQL 11
```

Смотрим доступные версии PostgreSQL:

```
$ sudo dnf module list postgresql
```



```
cardinal@localhost:~$ sudo dnf module list postgresql
Last metadata expiration check: 0:13:08 ago on Sun 14 Jun 2020 08:10:49 PM +03.
CentOS-8 - AppStream
Name                                Stream                                Profiles                                Summary
postgresql                          9.6                                  client, server [d]                    PostgreSQL server and client module
postgresql                          10 [d]                              client, server [d]                    PostgreSQL server and client module
postgresql                          12                                  client, server                        PostgreSQL server and client module

Hint: [d]default, [e]enabled, [s]disabled, [i]installed
cardinal@localhost:~$
```

По умолчанию в AppStream доступно 3 версии PostgreSQL:

- 9.6
- 10
- 12

Нам нужна 11 версия PostgreSQL.

Актуальную ссылку на RPM repository PostgreSQL можно взять с официального сайта компании PostgreSQL: [PostgreSQL: Repository](https://www.postgresql.org/ftp/nightly/index.html)

Добавляем RPM repository PostgreSQL:

```
$ sudo dnf -y install
https://download.postgresql.org/pub/repos/yum/reporpms/EL-8-x86_64/pgdg-
redhat-repo-latest.noarch.rpm
```



```
martin@localhost:~$ sudo dnf -y install https://download.postgresql.org/pub/repos/yum/repos/EL-8-aarch64/pgdg-redhat-repo-latest.noarch.rpm
Last metadata expiration check: 0:00:13 ago on Mon 15 Jun 2020 02:19:50 PM +05.
pgdg-redhat-repo-latest.noarch.rpm
Dependencies resolved.
Package Architecture Version Repository Size
Installing:
pgdg-redhat-repo noarch 42.0-11 $commandline 11 k
Transaction Summary
Install 1 Package
Total size: 11 k
Installed size: 11 k
Downloading Packages:
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Preparing :
Installing : pgdg-redhat-repo-42.0-11.noarch 1/1
Verifying : pgdg-redhat-repo-42.0-11.noarch 1/1
Installed:
pgdg-redhat-repo-42.0-11.noarch
Complete!
martin@localhost:~$
```

Смотрим дополнительную информацию по добавленному RPM repository PostgreSQL:

```
$ sudo rpm -qi pgdg-redhat-repo
```

```
martin@localhost:~$ sudo rpm -qi pgdg-redhat-repo
Name : pgdg-redhat-repo
Version : 42.0
Release : 11
Architecture: noarch
Install Date: Mon 15 Jun 2020 03:00:45 PM +05
Group : Unspecified
Size : 10880
License : PostgreSQL
Signature : SHA256, Fri 01 May 2020 07:21:12 PM +05, Key ID f1642e1432df03
Source RPM : pgdg-redhat-repo-42.0-11.src.rpm
Build Date : Fri 01 May 2020 07:21:12 PM +05
Build Root : /tmp/pgsql-42.0-11-build
Relocations : (not relocatable)
Vendor : PostgreSQL Global Development Group
URL : https://yum.postgresql.org
Summary : PostgreSQL PGDG RPMs- Yum Repository Configuration for Red Hat / CentOS
Description:
This package contains yum configuration for Red Hat Enterprise Linux, CentOS,
and also the GPG key for PGDG RPMs.
martin@localhost:~$
```

Отключаем стандартный AppStream PostgreSQL:

```
$ sudo dnf -y module disable postgresql
```

```
martin@localhost:~$ sudo dnf -y module disable postgresql
Last metadata expiration check: 0:03:49 ago on Mon 15 Jun 2020 03:05:16 PM +05.
Dependencies resolved.
Package Architecture Version Repository Size
Disabling modules:
(postgresql)
Transaction Summary
Complete!
martin@localhost:~$
```

Проверяем отключение стандартного AppStream PostgreSQL:

```
$ sudo dnf module list postgresql
```

```
martin@localhost:~$ sudo dnf module list postgresql
Last metadata expiration check: 0:05:15 ago on Mon 15 Jun 2020 03:05:16 PM +05.
CentOS-8 - AppStream
Name Stream Profiles Summary
postgresql 9.6 [x] client, server [d] PostgreSQL server and client module
postgresql 10 [d][x] client, server [d] PostgreSQL server and client module
postgresql 12 [x] client, server PostgreSQL server and client module
Hint: [d]default, [x]enabled, [a]disabled, [i]installed
martin@localhost:~$
```

Очищаем историю транзакций:

```
$ sudo dnf -y clean all
```

Устанавливаем PostgreSQL:

```
$ sudo dnf -y install postgresql11-server postgresql11
```

```
satimov@localhost:~$ sudo dnf -y install postgresql11-server postgresql11
Last metadata expiration check: 0:00:57 ago on Mon 19 Jun 2023 03:12:19 PM +06.
Dependencies resolved.
=====================================================================================================================================
Package                               Architecture      Version           Repository        Size
=====================================================================================================================================
Installing:
 postgresql11-server                 x86_64            11.8-2PGDG.rhel8 postgresql        1.7 M
 postgresql11-server                 x86_64            11.8-2PGDG.rhel8 postgresql        4.9 M
Installing dependencies:
 libicu                               x86_64            60.3-2.el8_3      BaseOS           8.8 M
 postgresql11-libe                   x86_64            11.8-2PGDG.rhel8 postgresql        390 K
Transaction Summary
-----
Install 4 Packages
Total download size: 16 M
Installed size: 62 M
Downloading Packages:
(1/4): libicu-60.3-2.el8_3.x86_64.rpm                                                    19 MB/s |  5.9 MB  00:00
(2/4): postgresql11-libe-11.8-2PGDG.rhel8.x86_64.rpm                                  219 KB/s | 390 KB  00:01
(3/4): postgresql11-server-11.8-2PGDG.rhel8.x86_64.rpm                                236 KB/s | 1.7 MB  00:02
(4/4): postgresql11-server-11.8-2PGDG.rhel8.x86_64.rpm                                2.1 MB/s |  4.9 MB  00:02
Total                                                                                     5.2 MB/s | 16 MB  00:03
Warning: /var/cache/dnf/postgresql-bf977a555ad76b/packages/postgresql11-11.8-2PGDG.rhel8.x86_64.rpm: Header V4 DSA/SHA1 Signature, key ID 442d0f89: NOKEY
PostgreSQL 11 for RHEL/CentOS 8 - x86_64
Importing GPG key 0a42d0f8:
  Userid : "PostgreSQL RPM Building Project <pgsqlrpm-backers@pgfoundry.org>"
  Fingerprint: 40C9 F2D9 1A37 D3A8 F274 D376 1F14 D022 448D F0F6
  From    : /etc/pki/rpm-gpg/RPM-GPG-KEY-PGQG
Key imported successfully
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction:
  Preparing                | 1/1
  Installing postgresql11-libe-11.8-2PGDG.rhel8.x86_64 | 1/4
  Running scriptlet: postgresql11-libe-11.8-2PGDG.rhel8.x86_64 | 1/4
  Installing libicu-60.3-2.el8_3.x86_64 | 2/4
  Running scriptlet: libicu-60.3-2.el8_3.x86_64 | 2/4
  Installing postgresql11-11.8-2PGDG.rhel8.x86_64 | 3/4
  Running scriptlet: postgresql11-11.8-2PGDG.rhel8.x86_64 | 3/4
  Installing postgresql11-server-11.8-2PGDG.rhel8.x86_64 | 4/4
  Running scriptlet: postgresql11-server-11.8-2PGDG.rhel8.x86_64 | 4/4
  Installing postgresql11-server-11.8-2PGDG.rhel8.x86_64 | 4/4
  Running scriptlet: postgresql11-server-11.8-2PGDG.rhel8.x86_64 | 4/4
  Verifying : libicu-60.3-2.el8_3.x86_64 | 1/4
  Verifying : postgresql11-11.8-2PGDG.rhel8.x86_64 | 2/4
  Verifying : postgresql11-libe-11.8-2PGDG.rhel8.x86_64 | 3/4
  Verifying : postgresql11-server-11.8-2PGDG.rhel8.x86_64 | 4/4
Installed:
 postgresql11-11.8-2PGDG.rhel8.x86_64      postgresql11-server-11.8-2PGDG.rhel8.x86_64      libicu-60.3-2.el8_3.x86_64      postgresql11-libe-11.8-2PGDG.rhel8.x86_64
Complete!
satimov@localhost ~$
```

Создаем кластер DB PostgreSQL:

```
$ sudo /usr/pgsql-11/bin/postgresql-11-setup initdb
```

Ключом "-D" можно указать любую, другую директорию для кластера DB PostgreSQL:

```
$ sudo /usr/pgsql-11/bin/postgresql-11-setup initdb -D /dbpostgres
```

Активируем запуск службы PostgreSQL при запуске сервера и запустим службу PostgreSQL:

```
$ sudo systemctl enable --now postgresql-11
```

```
satimov@localhost ~$ sudo systemctl enable --now postgresql-11
Created symlink /etc/systemd/system/multi-user.target.wants/postgresql-11.service → /usr/lib/systemd/system/postgresql-11.service.
satimov@localhost ~$
```



```
listen_addresses = '*'
```



```
listen_addresses = '*'
```

Строку:

```
max_connections = 100
```

Оставляем без изменений или количество активных подключений в размере 100 меняем на другое значение.



```
max_connections = 100
```

Строку:

```
shared_buffers = 128MB
```

Оставляем без изменений размер буфера в разделяемой памяти или изменяем размер буфера в разделяемой памяти в количестве 128MB на другое значение.

[illegible]

Редактируем "pg_hba.conf":

```
$ sudo vim /var/lib/pgsql/data/pg_hba.conf
```

Строку:

```
# IPv4 local connections:
host      all        all         127.0.0.1/32      ident
```

[illegible]

Меняем на:

```
# IPv4 local connections:
host      all      all      0.0.0.0/0      md5
```

[illegible]

Перезапускаем службу PostgreSQL:

```
$ sudo systemctl restart postgresql
```

Запускаем пользователем postgres command line psql:

```
$ sudo -u postgres psql
```

```
cardano@localhost:~/ppl$ !bin
cardano@localhost bin$ sudo -u postgres psql
psql (11.8)
Type "help" for help.

postgres=#
```

Создаем пользователя:

```
CREATE USER "zartdinov" WITH SUPERUSER ENCRYPTED PASSWORD 'QWERTY';
```

```
centos@localhost:~$ sudo su -
[root@localhost ~]# mysql -u root -p
mysql> CREATE USER 'siddhant'@'%' WITH SUPERUSER ENCRYPTED PASSWORD 'QWERTY';
mysql> CREATE ROLE 'siddhant'@'%';
mysql> GRANT ALL PRIVILEGES ON *.* TO 'siddhant'@'%';
mysql> FLUSH PRIVILEGES;
```

Открываем port 5432 на firewall:

```
$ sudo firewall-cmd --add-port=5432/tcp --permanent
```



```
artdin@localhost:~$ sudo firewall-cmd --add-port=5432/tcp --permanent
success
artdin@localhost:~$
```

Перезапускаем firewall:

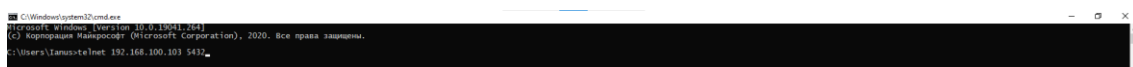
```
$ sudo firewall-cmd --reload
```



```
artdin@localhost:~$ sudo firewall-cmd --reload
success
artdin@localhost:~$
```

Проверяем подключение к серверу DB PostgreSQL с другого персонального компьютера с помощью cmd telnet:

```
$ telnet 192.168.100.103 5432
```



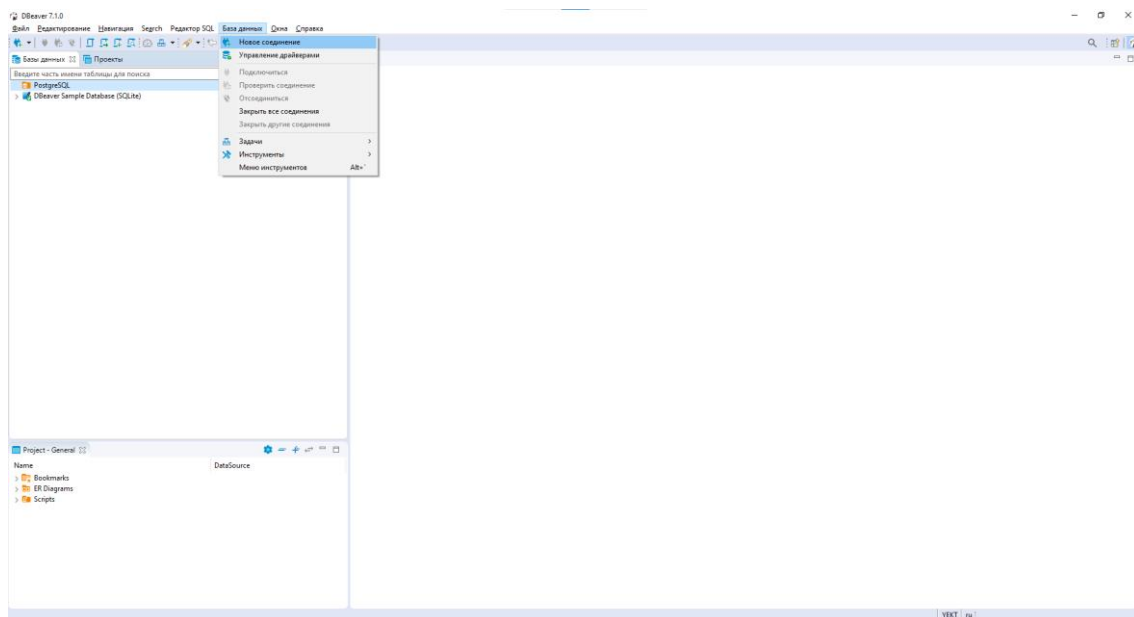
```
C:\Windows\system32\cmd.exe
Microsoft Windows [version 10.0.19041.764]
(c) Корпорация Майкрософт (Microsoft Corporation), 2020. Все права защищены.
C:\Users\Iamus>telnet 192.168.100.103 5432_
```

Если появится черный экран, port 5432 был успешно открыт:

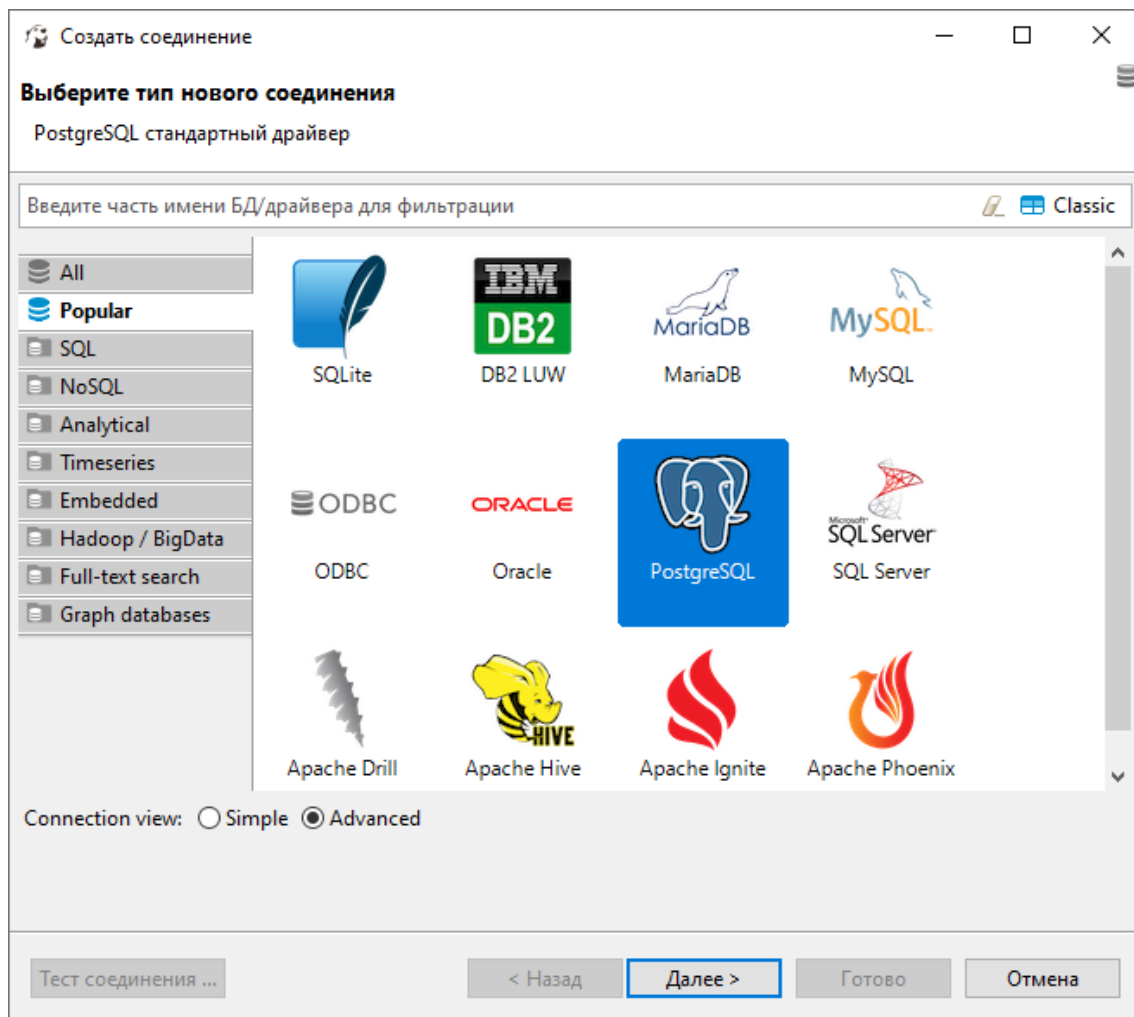


```
Telnet 192.168.100.103
```

В Dbeaver, в меню выбираем пункт "Базы данных", "Новое соединение":



В открывшемся окне выбираем базу данных "PostgreSQL":



Создать соединение

Настройки соединения

Свойства соединения с PostgreSQL

ГлавноеPostgreSQLСвойства драйвераSSHProxySSL

Server

Хост:192.168.100.103Порт:5432

База данных:postgres

Аутентификация

Аутентификация:Database NativeDatabase native authentication

Пользователь:zartdinov

Пароль:•••••☒ Сохранять пароль локально

Advanced

Локальный клиент:PostgreSQL Binaries

Вы можете использовать системные переменные в параметрах.

Описание соединения (название, тип, ...)

Драйвер: PostgreSQL

Настройки драйвера

Тест соединения ...

< Назад

Далее >

Готово

Отмена

4.2 PostgreSQL 12

OS: CentOS 8
DB: PostgreSQL 12

Смотрим доступные версии PostgreSQL:

```
$ sudo dnf module list postgresql
```

В ответ должны получить:

```
cardinov@localhost:~$ sudo dnf module list postgresql
Last metadata expiration check: 0:13:08 ago on Sun 14 Jun 2020 08:10:46 PM +05.
CentOS-8 - AppStream

Name                                Stream                                Profiles                                Summary
postgresql                           9.4                                  client, server [d]                    PostgreSQL server and client module
postgresql                           10 [d]                               client, server [d]                    PostgreSQL server and client module
postgresql                           12                                  client, server                        PostgreSQL server and client module

Match [] default, [e]enabled, [w]disabled, [i]installed
cardinov@localhost ~$
```

По умолчанию поток модуля установки рассматривает PostgreSQL 10, чтобы переключить на PostgreSQL 12:

```
$ sudo dnf -y module enable postgresql:12
```

Установка PostgreSQL 12:

```
$ sudo dnf -y install postgresql-server
```

```
cardinov@localhost:~$ sudo dnf -y install postgresql-server
Last metadata expiration check: 0:00:16 ago on Sun 14 Jun 2020 10:49:58 PM +05.
Dependencies resolved.

Package                               Architecture      Version                                Repository        Size
Installing:
 postgresql-server                   x86_64            12.1-2.module_el8.1.0-273+979c16e6.x86_64 AppStream         5.3 M
Installing dependencies:
 libpq                               x86_64            12.1-3.el8                                AppStream         195 k
 postgresql                           x86_64            12.1-2.module_el8.1.0-273+979c16e6.x86_64 AppStream         1.4 M
 libicu                               x86_64            60.3-2.el8_1                                Basic            8.8 M

Transaction Summary
Install 4 Packages

Total download size: 16 M
Installed size: 42 M
Downloading Packages:
(1/4): libpq-12.1-3.el8.x86_64.rpm                                809 kB/s | 195 kB  00:00
(2/4): postgresql-12.1-2.module_el8.1.0-273+979c16e6.x86_64.rpm 2.4 MB/s | 1.4 MB  00:00
(3/4): libicu-60.3-2.el8_1.x86_64.rpm                             20 MB/s | 8.8 MB  00:00
(4/4): postgresql-server-12.1-2.module_el8.1.0-273+979c16e6.x86_64.rpm 5.0 MB/s | 5.3 MB  00:01
Total
-----
9.9 MB/s | 16 MB  00:01

Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing                : 1/4
  Installing postgresql-12.1-3.el8.x86_64                        : 2/4
  Installing postgresql-12.1-2.module_el8.1.0-273+979c16e6.x86_64 : 3/4
  Installing libicu-60.3-2.el8_1.x86_64                          : 3/4
  Running scriptlet: libicu-60.3-2.el8_1.x86_64                  : 4/4
  Installing postgresql-server-12.1-2.module_el8.1.0-273+979c16e6.x86_64 : 4/4
  Running scriptlet: postgresql-server-12.1-2.module_el8.1.0-273+979c16e6.x86_64 : 4/4
  Verifying                : libpq-12.1-3.el8.x86_64            : 1/4
  Verifying                : postgresql-12.1-2.module_el8.1.0-273+979c16e6.x86_64 : 2/4
  Verifying                : postgresql-server-12.1-2.module_el8.1.0-273+979c16e6.x86_64 : 3/4
  Verifying                : libicu-60.3-2.el8_1.x86_64         : 4/4

Installed:
 postgresql-server-12.1-2.module_el8.1.0-273+979c16e6.x86_64      libpq-12.1-3.el8.x86_64      postgresql-12.1-2.module_el8.1.0-273+979c16e6.x86_64      libicu-60.3-2.el8_1.x86_64

Complete!
cardinov@localhost ~$
```

Создаем кластер DB PostgreSQL:

```
$ sudo postgresql-setup --initdb
```

```

root@redhat:~# systemctl start postgresql
root@redhat:~# systemctl status postgresql
● postgresql.service - PostgreSQL database server
   Loaded: loaded (/usr/lib/systemd/system/postgresql.service; enabled; vendor preset: disabled)
   Active: active (running) since Sun 2020-06-14 22:58:46 +05; 49s ago
     Main PID: 3104 (postmaster)
       Tasks: 6 (limit: 11495)
      Memory: 17.4M
      CGroup: /system.slice/postgresql.service
              └─3104 /usr/bin/postmaster -D /var/lib/pgsql/data
                  └─3105 postgres: logger
                      └─3109 postgres: checkpointwriter
                          └─3108 postgres: background writer
                              └─3106 postgres: walwriter
                                  └─3110 postgres: autovacuum launcher
                                      └─3111 postgres: stats collector
                                          └─3112 postgres: logical replication launcher

Jun 14 22:58:46 localhost.localdomain systemd[1]: Starting PostgreSQL database server...
Jun 14 22:58:46 localhost.localdomain postmaster[3104]: 2020-06-14 22:58:46.635 +05 [3104] LOG: starting PostgreSQL 12.1 on x86_64-redhat-linux-gnu, compiled by gcc (GCC) 8.3.1 20190507 (Red Hat 8.3.1-4), 64-bit
Jun 14 22:58:46 localhost.localdomain postmaster[3104]: 2020-06-14 22:58:46.642 +05 [3104] LOG: listening on IPv4 address "127.0.0.1", port 5432
Jun 14 22:58:46 localhost.localdomain postmaster[3104]: 2020-06-14 22:58:46.642 +05 [3104] LOG: listening on IPv6 address ":::0::1", port 5432
Jun 14 22:58:46 localhost.localdomain postmaster[3104]: 2020-06-14 22:58:46.649 +05 [3104] LOG: listening on Unix socket "/var/run/postgresql/.s.PGSQL.5432"
Jun 14 22:58:46 localhost.localdomain postmaster[3104]: 2020-06-14 22:58:46.652 +05 [3104] LOG: listening on Unix socket "/tmp/.s.PGSQL.5432"
Jun 14 22:58:46 localhost.localdomain postmaster[3104]: 2020-06-14 22:58:46.679 +05 [3104] LOG: redirecting log output to logging collector process
Jun 14 22:58:46 localhost.localdomain postmaster[3104]: 2020-06-14 22:58:46.679 +05 [3104] WARNING: Future log output will appear in directory "log".
root@redhat:~#

```

Запускаем службу PostgreSQL:

```
$ sudo systemctl start postgresql
```

Активируем запуск службы PostgreSQL при запуске сервера:

```
$ sudo systemctl enable postgresql
```

Проверяем запуск службы PostgreSQL:

```
$ sudo systemctl status postgresql
```

```

root@redhat:~# systemctl start postgresql
root@redhat:~# systemctl enable postgresql
Created symlink /etc/systemd/system/multi-user.target.wants/postgresql.service → /usr/lib/systemd/system/postgresql.service.
root@redhat:~# systemctl status postgresql
● postgresql.service - PostgreSQL database server
   Loaded: loaded (/usr/lib/systemd/system/postgresql.service; enabled; vendor preset: disabled)
   Active: active (running) since Sun 2020-06-14 22:58:46 +05; 49s ago
     Main PID: 3104 (postmaster)
       Tasks: 6 (limit: 11495)
      Memory: 17.4M
      CGroup: /system.slice/postgresql.service
              └─3104 /usr/bin/postmaster -D /var/lib/pgsql/data
                  └─3105 postgres: logger
                      └─3109 postgres: checkpointwriter
                          └─3108 postgres: background writer
                              └─3106 postgres: walwriter
                                  └─3110 postgres: autovacuum launcher
                                      └─3111 postgres: stats collector
                                          └─3112 postgres: logical replication launcher

Jun 14 22:58:46 localhost.localdomain systemd[1]: Starting PostgreSQL database server...
Jun 14 22:58:46 localhost.localdomain postmaster[3104]: 2020-06-14 22:58:46.635 +05 [3104] LOG: starting PostgreSQL 12.1 on x86_64-redhat-linux-gnu, compiled by gcc (GCC) 8.3.1 20190507 (Red Hat 8.3.1-4), 64-bit
Jun 14 22:58:46 localhost.localdomain postmaster[3104]: 2020-06-14 22:58:46.642 +05 [3104] LOG: listening on IPv4 address "127.0.0.1", port 5432
Jun 14 22:58:46 localhost.localdomain postmaster[3104]: 2020-06-14 22:58:46.642 +05 [3104] LOG: listening on IPv6 address ":::0::1", port 5432
Jun 14 22:58:46 localhost.localdomain postmaster[3104]: 2020-06-14 22:58:46.649 +05 [3104] LOG: listening on Unix socket "/var/run/postgresql/.s.PGSQL.5432"
Jun 14 22:58:46 localhost.localdomain postmaster[3104]: 2020-06-14 22:58:46.652 +05 [3104] LOG: listening on Unix socket "/tmp/.s.PGSQL.5432"
Jun 14 22:58:46 localhost.localdomain postmaster[3104]: 2020-06-14 22:58:46.679 +05 [3104] LOG: redirecting log output to logging collector process
Jun 14 22:58:46 localhost.localdomain postmaster[3104]: 2020-06-14 22:58:46.679 +05 [3104] WARNING: Future log output will appear in directory "log".
root@redhat:~#

```

```
$ sudo vim /var/lib/pgsql/data/postgresql.conf
```

Строку:

```
listen_addresses = 'localhost'
```



```
# IPv4 local connections:
host      all             all             0.0.0.0/0       md5
```



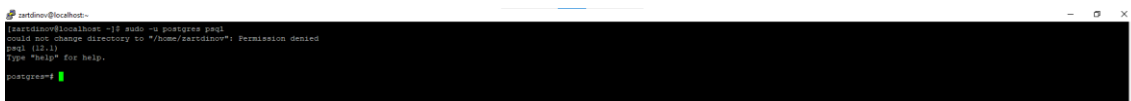
```
zartdinov@localhost:~$ cat /etc/postgresql/12/main/pg_hba.conf
# PostgreSQL configuration file.
#
# This file controls: which hosts are allowed to connect, which
# authentication methods are used for each host, and whether
# SSL encryption is used.
#
# The following lines show the default configuration for IPv4
# and IPv6.
#
# TYPE            DATABASE            USER            ADDRESS          METHOD
#-----
local             all                         all                         postgres         peer
host              all                         all                         0.0.0.0/0        md5
host              all                         all                         :::             ident
host              replication              all                         127.0.0.1/32    ident
host              replication              all                         :::             ident
host              replication              all                         :::             ident
```

Перезапускаем службу PostgreSQL:

```
$ sudo systemctl restart postgresql
```

Запускаем пользователем postgres command line psql:

```
$ sudo -u postgres psql
```



```
zartdinov@localhost:~$ sudo -u postgres psql
psql (12.1)
Type "help" for help.

postgres=#
```

Создаем пользователя:

```
CREATE USER "zartdinov" WITH SUPERUSER ENCRYPTED PASSWORD 'QWERTY';
```



```
zartdinov@localhost:~$ sudo -u postgres psql
psql (12.1)
Type "help" for help.

postgres=# CREATE USER "zartdinov" WITH SUPERUSER ENCRYPTED PASSWORD 'QWERTY';
CREATE ROLE
postgres=#
```

Открываем port 5432 на firewall:

```
$ sudo firewall-cmd --add-port=5432/tcp --permanent
```

```
cardinov@localhost:~$ sudo firewall-cmd --add-port=5432/tcp --permanent
success
cardinov@localhost:~$
```

Перезапускаем firewall:

```
sudo firewall-cmd --reload
```

```
cardinov@localhost:~$ sudo firewall-cmd --reload
success
cardinov@localhost:~$
```

Проверяем подключение к серверу DB PostgreSQL:

В cmd с помощью telnet:

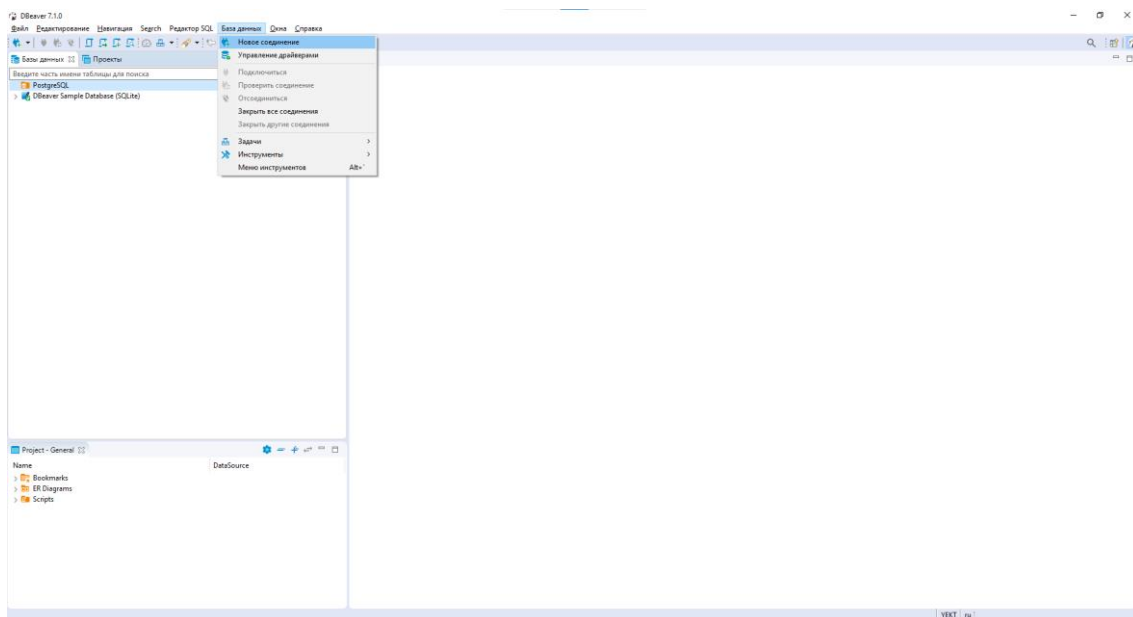
```
$ telnet 192.168.100.103 5432
```

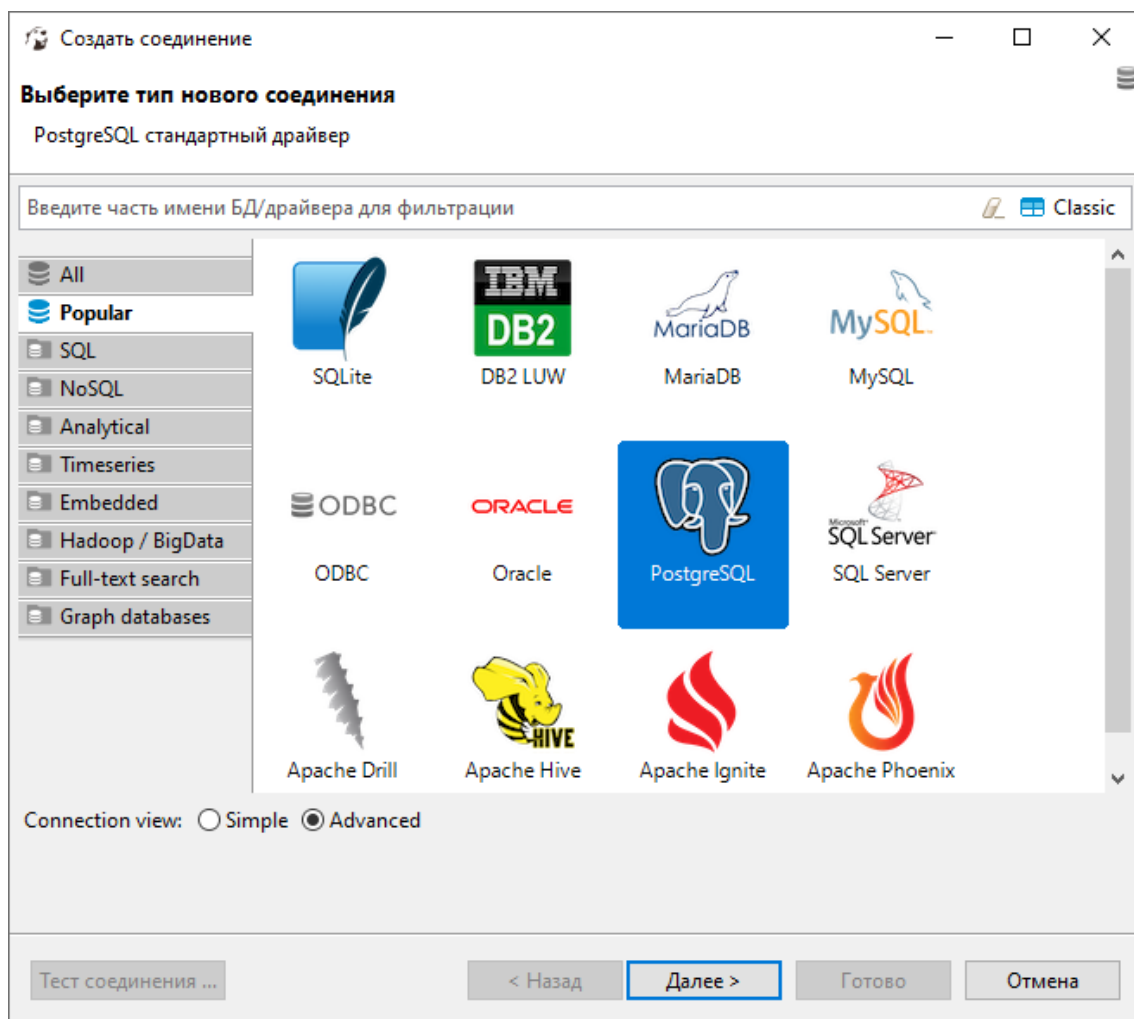
```
C:\Windows\system32\cmd.exe
Microsoft Windows [version 10.0.19041.764]
(c) Корпорация Майкрософт (Microsoft Corporation), 2020. Все права защищены.
C:\Users\Tamas>telnet 192.168.100.103 5432_
```

Если появится черный экран, port 5432 был успешно открыт:

```
Telnet 192.168.100.103
```

В Dbeaver:





Создать соединение

Настройки соединения

Свойства соединения с PostgreSQL

ГлавноеPostgreSQLСвойства драйвераSSHProxySSL

Server

Хост:192.168.100.103Порт:5432

База данных:postgres

Аутентификация

Аутентификация:Database NativeDatabase native authentication

Пользователь:zartdinov

Пароль:•••••☒ Сохранять пароль локально

Advanced

Локальный клиент:PostgreSQL Binaries

Вы можете использовать системные переменные в параметрах.

Описание соединения (название, тип, ...)

Драйвер: PostgreSQL

Настройки драйвера

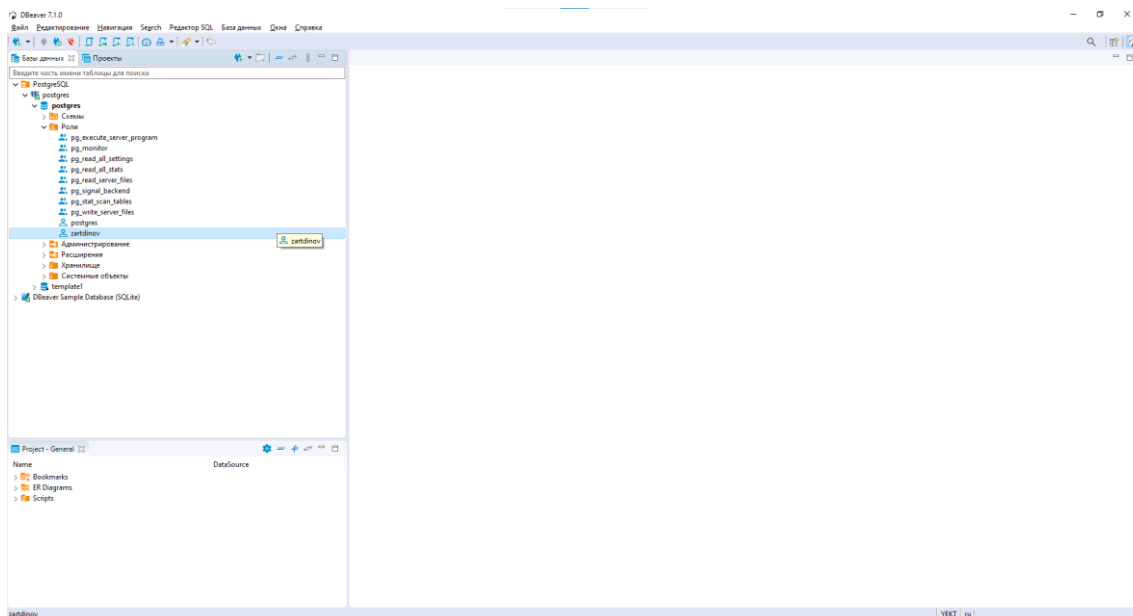
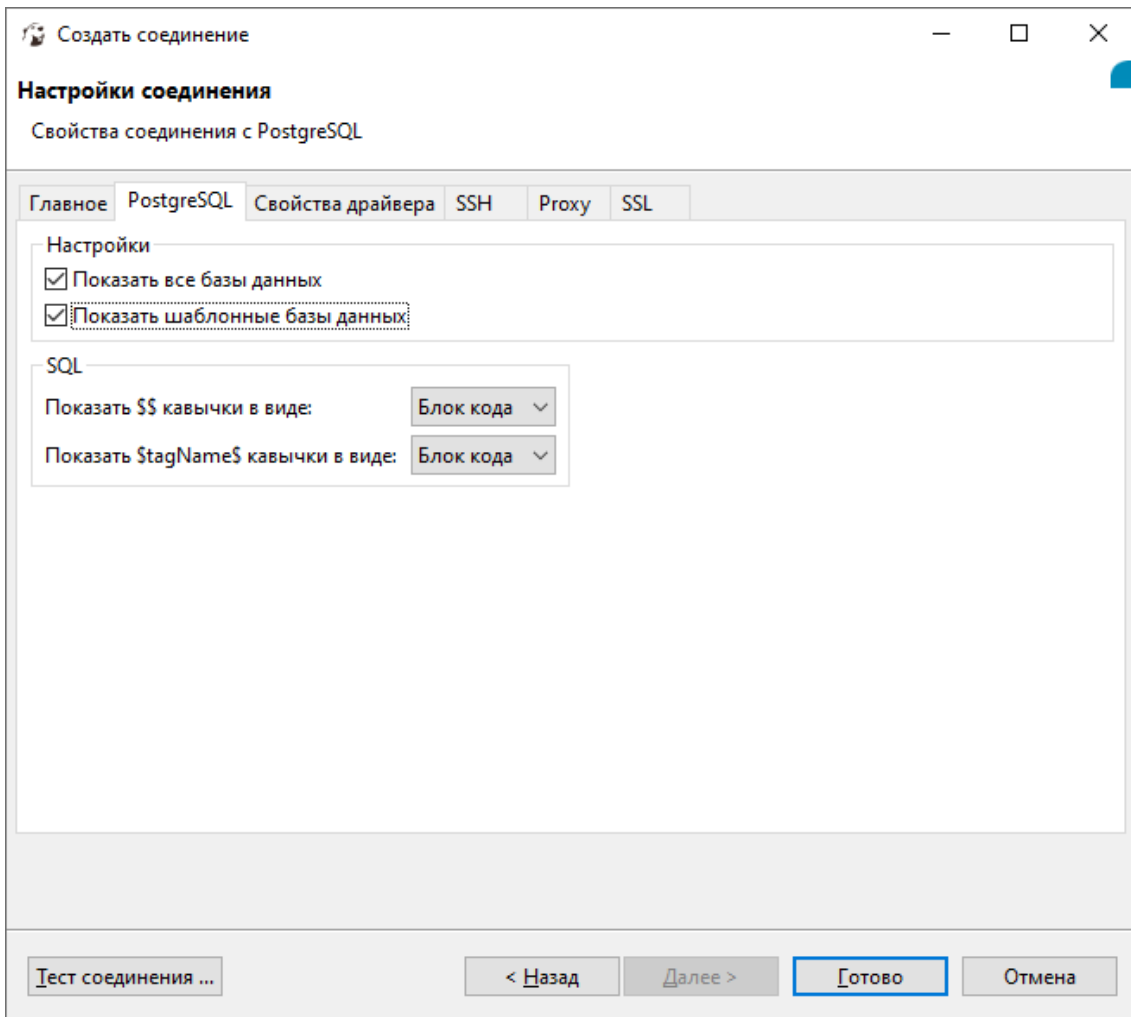
Тест соединения ...

< Назад

Далее >

Готово

Отмена



5 Балансировщик nginx

5.1 Структура папок

/etc/nginx

```
|— conf.d
|   |— html
|   |   └─ index.html
|   |— main
|   |   └─ promed.conf
|   |— nojob
|   |   └─ promed.conf
|   |— params
|   |   |— birt_param.conf
|   |   |— ermp_param.conf
|   |   |— other_max.conf
|   |   |— other_min.conf
|   |   └─ promed_param.conf
|   |— ssl
|   |   |— promed.ssl
|   |   |— certificate.crt
|   |   └─ certificate.key
|   └─ upstream
|       └─ upstream.conf
|— fastcgi.conf
|— fastcgi_params
|— koi-utf
|— koi-win
|— mime.types
|— nginx.conf
|— proxy_params
|— scgi_params
|— uwsgi_params
└─ win-utf
```

html	находятся html файлы, для показа объявления в момент остановки системы
main	основная папка для хранения конфигурации ЕЦП.МИС
nojob	папка с копией конфигов из main но вместо проксирования на рабочие сервера показывает html заглушку из папки html
params	папка с параметрами для location внутри конфига

ssl	лежат сертификаты SSL/TLS для шифрованного трафика и файлы ssl в которых прописываются сертификаты и ключи и параметры их подключения. сами файлы инклюдятся в необходимые конфиги
upstream	файл с upstream до backend серверов

/srv/hosts

```

└─promed
    └─ export
        └─ uploads

```

promed	папка - копия системы Промед. так же обновляется как и остальные веб сервер
export	папка export подключается в nfs/samba хранилища
uploads	папка uploads подключается в nfs/samba хранилища

5.2 Описание файлов конфигураций

```

user nginx; # Пользователь под которым будет
производиться работа сервиса
worker_processes auto; # Автоматически создастся
столько worker процессов сколько выделено машине
worker_rlimit_nofile 65536; # максимальное количество
открытых файлов на ядро. по умолчанию в системе 1024
error_log /var/log/nginx/error.log crit; # отключить error log
невозможно. он всё равно будет писать файлы, чтобы писал на диск меньше
ставим crit
pid /var/run/nginx.pid; # pid файл главного процесса
nginx

events {
    worker_connections 10240; #Реальное количество коннектов больше.
    Просто умножай на количество процессов
    use epoll; #Наиболее эффективно для Linux так что
    лучше оставить
}

http {
    include /etc/nginx/mime.types; # описание типов файлов
    например он узнает что такое текст и т.д.
    default_type application/octet-stream; # тип по умолчанию, если
    не понятно какой тип

    #Это понятно. формат логов
    log_format main '$remote_addr - $remote_user [$time_local]
"$request" '
        '$status $body_bytes_sent "$http_referer" '
        '"$http_user_agent" "$http_x_forwarded_for"';
    access_log off; # отключаем
    access логи.
    error_log /var/log/nginx/nginx_error.log crit; # error log для
    системы только критичесике
    sendfile on; #экономия
    ресурсов при отдаче файлов
    tcp_nopush on;
    tcp_nodelay off;

    keepalive_timeout 180; #keepalive
    соединения. которые зависли - выгоняем. тут расчет в секундах
    gzip on; #Включаем сжатие
    простых данных, для уменьшение трафика, в основном текстовых файлов
    gzip_proxied any; #разрешает
    сжатие для всех проксированных запросов
    gzip_min_length 1100; #длина ответа.
    после которой начинается сжатие, если меньше - сжатие не происходит
    gzip_http_version 1.0; #Минимальная
    версия протокола, при каком включается gzip
    gzip_buffers 4 8k; # Задаёт число и
    размер буферов, в которые будет сжиматься ответ.
    gzip_comp_level 6; # самое
    эффективное сжатие 9, но очень сильно съедает процессор, хотя сильного
    уменьшения с 6 небольшое
    gzip_types text/plain text/css application/x-javascript text/xml
    application/xml application/xml+rss text/javascript application/json;
    # типы сжимаемых данных
    # include /etc/nginx/include/nojob/*.conf; # Заглушки
    Промед по умолчанию выключены
    include /etc/nginx/include/upstream/*.conf; # подключаем
    upstream конфиги
    include /etc/nginx/include/main/*.conf; # подключаем
    папку с основными конфигами
}

```

Code Block 8 nginx.conf

```

# 192.168.0.{1,2,3,4,5} по порту 2080 нежно заменить на IP и порты ваших
# веб серверов
upstream promed_backend {
    server 192.168.0.1:2080 weight=1 max_fails=1 fail_timeout=5s;
    server 192.168.0.2:2080 weight=1 max_fails=1 fail_timeout=5s;
    server 192.168.0.3:2080 weight=1 max_fails=1 fail_timeout=5s;
    server 192.168.0.4:2080 weight=1 max_fails=1 fail_timeout=5s;
    server 192.168.0.5:2080 weight=1 max_fails=1 fail_timeout=5s;
    keepalive 40;
}
upstream birt_backend {
    server 192.168.0.1:8080 weight=1 max_fails=1
fail_timeout=5s;
    server 192.168.0.2:8080 weight=1 max_fails=1
fail_timeout=5s;
    keepalive 40;
}

upstream ermp_backend {
    server 192.168.0.1:8080 weight=1 max_fails=1
fail_timeout=5s;
    server 192.168.0.2:8080 weight=1 max_fails=1
fail_timeout=5s;
    keepalive 40;
}

upstream wiki_backend {
    server 192.168.0.1:2022 weight=1 max_fails=1
fail_timeout=5s;
    keepalive 40;
}

```

Code Block 9 upstream/upstream.conf


```

# Делаем редирект со всеми параметрами на ssl
server {
    listen                80;
    server_name           promed.ru;           # Заменить на
необходимый адрес
    access_log            off;
    error_log             /dev/null crit;
    open_file_cache_errors off;

    rewrite ^(.*) https://$host$1 permanent;
}

server {
    listen                443 ssl http2;      # Включаем для
этого адреса ssl и http2 протокол
    server_name           promed.ru;          # Заменить на
необходимый адрес
    include               /etc/nginx/ssl/promed.ssl; # Добавляем
настройки ssl которые я описан ниже
    access_log            /var/log/nginx/promed_access.log main
buffer=64k;
    error_log             /var/log/nginx/promed_error.log warn;
    open_file_cache_errors off;

    location / {
        proxy_pass        http://promed_backend/;
        proxy_next_upstream error timeout http_500 http_502
http_503 http_504;
        include
/etc/nginx/params/promed_param.conf;

        location /birt-viewer/run {
            proxy_pass        http://birt_backend/birt-
viewer/preview;
            include
/etc/nginx/conf.d/params/birt_param.conf;
        }

        location /birt-viewer/ {
            proxy_pass        http://birt_backend/birt-
viewer/;
            include
/etc/nginx/conf.d/params/birt_param.conf;
        }

        location /ermp/servlets/ {
            proxy_pass        http://ermp_backend/ermp/;
            include
/etc/nginx/conf.d/params/ermp_param.conf;
        }
        location /ermp/reports/ {
            proxy_pass        http://ermp_backend/ermp/;
            include
/etc/nginx/conf.d/params/ermp_param.conf;
        }
        location /wiki/ {
            proxy_pass
http://wiki_backend/wiki/;
            include
/etc/nginx/conf.d/params/other_min.conf;
        }

        #Добавляем если статика находится у нас на nginx
        location ~*
^(?!/wiki/|/export/|/uploads/)+.(jpg|jpeg|gif|png|ico|zip|tgz|gz|rar|bz2|

```

```

doc|xls|docx|xlsx|exe|pdf|ppt|txt|css|tar|mid|midi|wav|bmp|rtf|js|html|htm
|odt|ods)$ {
    root    "/srv/promed/";
    gzip_static on;
    #gzip_proxied expired no-cache no-store private
auth;

    add_header Cache-Control public;
    expires    max;
    etag on;
}

}

}

```

Code Block 10 main/promed.conf

5.3 Настройка ssl для сайта

5.3.1 Настройка RSA сертификатов

```

#Ключ promed_2020 показан для примера необходимо изменить в соответствии
с названием файла вашего ключа.
ssl_certificate      /etc/nginx/ssl/promed_2020.crt;
ssl_certificate_key  /etc/nginx/ssl/promed_2020.key;
ssl_session_timeout 120m;
ssl_protocols TLSv1.1 TLSv1.2 ;
ssl_ciphers kEECDH:kEDH:ECDHE-RSA-AES256-GCM-SHA384:ECDHE-RSA-AES256-
SHA:ECDHE-RSA-AES256-
SHA384:!RC4:!aNULL:!eNULL:!MD5:!EXPORT:!LOW:!SEED:!CAMELLIA:!IDEA:!PSK:!SR
P:!SSLv2;
ssl_prefer_server_ciphers on;

```

Code Block 11 ssl/promed.ssl

5.3.2 Настройка GOST сертификатов

Для начала нужно установить:

- openssl v1.1.0 и выше
- engine gost либо КриптоПро 4 и выше (нужно только для библиотеки gost.so)

```

#на Ubuntu 18.04 и выше уже стоит openssl версии 1.1.1f и установка не
требуется

#ставим библиотеку для подключения gost
apt update
apt install libengine-gost-openssl1.1
#Правим /etc/ssl/openssl.cnf
#в начало файла вставляем
openssl_conf = openssl_def
#в конец файла вставляем
[openssl_def]
engines = engine_section

[engine_section]
gost = gost_section

[gost_section]
engine_id = gost
dynamic_path = /usr/lib/x86_64-linux-gnu/engines-1.1/gost.so
default_algorithms = ALL
CRYPTO_PARAMS = id-Gost28147-89-CryptoPro-A-ParamSet

```

Code Block 12 Ubuntu: Установка Openssl +GOST

```

# Ставим Nginx +openssl(с поддержкой ГОСТ). На данный момент собраны
только для centos 7
cat << EOF > /etc/yum.repos.d/rtmis.repo
[rtmis]
name=rtmis repo
baseurl=https://yum-repo.rtmis.ru/centos/$releasever/$basearch/
gpgcheck=0
enabled=1
EOF

yum remove openssl
yum install -y nginx

```

Code Block 13 Centos: Установка Openssl +GOST

```

#Ключ gost_2020 показан для примера необходимо изменить в соответствии с
названием файла вашего ключа.
ssl_certificate /etc/nginx/ssl/gost_2020.crt;
ssl_certificate_key /etc/nginx/ssl/gost_2020.key;
ssl_session_timeout 5m;
ssl_protocols TLSv1 TLSv1.1 TLSv1.2;
ssl_ciphers GOST2012-GOST8912-GOST8912:HIGH:MEDIUM;
ssl_prefer_server_ciphers on;

```

Code Block 14 ssl/promed.ssl

Для тестирования nginx с GOST 2012 можно использовать следующие сертификаты <https://paste.is-mis.ru/AZjP9tNz> (GOST2012_256)
 При использовании этих сертификатов сайт должен открыться только в браузерах chromium-gost или sputnik

6 Важные настройки ЕЦП.МИС

Все файлы находятся в ЕЦП.МИС в папке promed/config.

В папке config создаем папку с названием региона, например, krasnoyarsk. Там можем повторять файлы конфигов из основной папки. Обязательно нужно повторить файл database.php. Если конфиг в основной и региональной папке совпадают, первоначально конфиг берется из региональной папки.

Пример конфигов можно взять по ссылке <https://git.promedweb.ru/dev/configs/postgre>

config.php

```
// Список регионов
// По примеру добавляем имя региона латиницей (такова будет папка с именем
// региона в конфигах)
$config['regions'] = [
    0 => ['nick'=>'undefined', 'name'=>'Неопределенный', 'schema'=>'dbo'],
    2 => ['nick'=>'ufa', 'name'=>'Уфа', 'schema'=>'r2'],
];

// Параметр develop влияет на загрузку JS и CSS файлов, формирование
// ссылок на заглавной странице ЕЦП.МИС, а также на добавление текста ошибок
// при выполнении запросов к БД
// Если значение TRUE, то все JS и CSS файлы грузятся "как есть" (отдельно
// и без минимизации), ошибки БД выдаются на клиент вместе с запросами.
// Если значение FALSE, практически все JS и CSS файлы собираются в
// соответствующие engine-файлы. При наличии ошибок БД пользователь не видит
// тексты запросов.
$config['develop'] = TRUE;

// Режим API ЕЦП.МИС
// Допустимые значения: common, lis, rish
// 1) common - режим API для функционала, который еще не вынесен в
// микросервисы
// 2) lis - режим микросервиса ЛИС
// 3) rish - режим "монолита", должен использоваться для веб-серверов
// ЕЦП.МИС
$config['PROMED_MODULE'] = 'rish';

// Путь до логов
$config['log_path'] = '/srv/promed/promed/logs/';
```

constants.php

```
// Включить пейджинг с помощью OFFSET / FETCH NEXT в запросах (не работает
// в старых SQL SERVER)
define("USE_NEW_SQL_PAGING", true);
```

database.php

```

// настройки распределяются по группам
структура групп показана а примере группы default
// Default database
$db['default']['hostname'] = '';
$db['default']['username'] = '';
$db['default']['password'] = '';
$db['default']['database'] = '';
$db['default']['dbdriver'] = "postgres";
//$db['default']['port'] = '6432'; -----данное значение необходимо если
нужно изменить стандартный порт postgresql "5432" на другой
$db['default']['dbprefix'] = "";
$db['default']['pconnect'] = FALSE;
$db['default']['db_debug'] = TRUE;
$db['default']['cache_on'] = FALSE;
$db['default']['cachedir'] = "";
$db['default']['char_set'] = "utf-8";
$db['default']['dbcollat'] = "utf8_general_ci";
$db['default']['query_timeout'] = 6000;
$db['default']['schema'] = 'dbo';
$db['default']['context_info'] = true; // true - включить заполнение
контекста при каждом запросе в БД, false - выключить

// наряду с Default главная группа при использовании базы postgres
$db['postgres'] = $db['default'];

// реестровая База данных
$db['registry'] = $db['default'];

// База данных для формирования дерева отчетов
$db['reports'] = $db['default'];

// База данных для отчетов
$db['bdreports'] = $db['default'];

// База данных для поиска например поиска человека
$db['search'] = $db['default'];

// Архивная БД
$db['archive'] = $db['default'];

// База данных UserPortal , которая также используется у портала К-
врачу.
// то есть логин и пароль на данный момент берется все те же настроек из
default, заменяя только имя базы данных.
$db['UserPortal'] = $db['default'];
$db['UserPortal']['database'] = "userportaltest";

// База данных портала. Первой страницы в ЕЦП.МИС. где хранятся новости,
объявления и т.д.
$db['portal'] = $db['default'];

// База данных портала. Первой страницы в ЕЦП.МИС. где хранятся новости,
объявления и т.д. , Но специально для Postgre
$db['portalPg'] = array_merge($db['postgres'], [
    'database' => 'portaltest',
]);

// база данных для хранения сессии. Да сессии хранятся всё равно в mongo,
но без нее не работает
$db['php_session'] = $db['default'];
$db['php_session'] = $db['postgres'];
$db['php_session']['database'] = "php_session_test";

// База для хранения Логов действий пользователей
$db['phplog'] = $db['default'];
$db['phplog']['database'] = "php_log";

```

```

$db['phplog']['schema'] = "dbo";

// База СМП версии 1
$db['smp'] = $db['default'];
$db['smp']['hostname'] = '';
$db['smp']['database'] = '';
$db['smp']['username'] = '';
$db['smp']['password'] = '';

//Электронные медицинские документы
$db['emd'] = $db['default'];
$db['emd']['database'] = 'emd';

//Лабораторные информационные системы (ЛИС)
$db['lis'] = $db['default'];
$db['lis']['database'] = 'promedlistest2';

// база для формирования реестров ЛВН
$db['registry_es'] = $db['registry'];

```

database.php должен быть в общей и региональной папке. Узнавать параметры БД у Администраторов БД.
 При использовании PostgreSQL у групп default, postgres, phplog необходимо прописать **схему работы - dbo**

esia.php

```

/**
 * Настройки для авторизации через ЕСИА
 */
$config['esia'] = [
    // Включить/отключить авторизацию через ЕСИА
    'enabled' => true,

    // Тип авторизации (esia - через портал госуслуг или egisz - через ИА
    ЕГИСЗ)
    'type' => 'egisz',

    // Путь к SAML обработчику ИА ЕГИСЗ
    'egisz_path' => 'https://ia-
test.egisz.rosminzdrav.ru/realms/master/protocol/saml',

    // Идентификатор ИС в ЕСИА
    'client_id' => '98089a68-972c-916e-c2c5-5ec939c71b5c',

    // Путь к РПМ для перенаправления с ЕСИА
    'redirect_uri' => 'https://prm.promedweb.ru/?c=IaEgisz&m=login', //
для ИА ЕГИСЗ
    // 'redirect_uri' => 'https://prm.promedweb.ru/?c=Esia&m=login', //
для портала госуслуг

    // Путь к РПМ для получения данных пользователя
    'redirect_uri_info' =>
'https://prm.promedweb.ru/?c=Esia&m=user_info&user_id=:user_id',

    // Путь к контроллеру ЕСИА для получения авторизационного кода
    'ac_path' => 'https://esia.gosuslugi.ru/aas/oauth2/ac',

    // Путь к контроллеру ЕСИА для получения маркера идентификации кода
    'te_path' => 'https://esia.gosuslugi.ru/aas/oauth2/te',

    // Область доступа для получения всех данных по пользователю
    'usr_scope' => 'fullname birthdate snils medical_doc',

    // Путь к REST контроллеру для получения данных по пользователю
    'usr_data_path' => 'https://esia.gosuslugi.ru/rs/prns/:user_id',

    // Путь к REST контроллеру для получения контактных данных по
    пользователю
    'usr_contacts_path' =>
'https://esia.gosuslugi.ru/rs/prns/:user_id/ctts?embed=(elements)',

    // Сертификат ИА ЕГИСЗ
    'egisz.crt' =>
'MIICmzCCAYMCBgFSPzj0bTANBgkqhkiG9w0BAQsFADARMQ8wDQYDVQQDDAZtYXN0ZXIwHhcNM
TYwMTE0MDgxOTAzWhcNMjYwMTE0MDgyMDQzWjARMQ8wDQYDVQQDDAZtYXN0ZXIwggEiMA0GCSq
GSIsb3DQEBAQUAA4IBDwAwggEKAoIBAQDI1leonyVTyqVM/R+4+6RDPN110LaEPqNRC0pPWDEmA
ATuzsuDDjHaEzArbXsej30Yk+j1h6jVh3pLtfwYJyYnN926ZcQtSJpUHN+iEcNqIB+d3NHe+4l
HPLvb8U19Y4TsndcWTj9tG1KpGDOZrtGBu3TYtSGOGaeLdEB5Vl+ApOiKtlHeMwsEwdCr5YKc2
2KTQpicVDDHMOiQ7+B1Eje7o+wwCkQFpc6t103Lezhdt0azZH8V8DJ5NscVRxHcv/i7jZIFrY/
7ulBmhPfsIjxx2GtC/BEaG+MNw918a4JsToP2sCSA6LNGh+Bngp/nlAtH9zIz4xWsSsQQ2P+CI
6fPAGMBAAEwDQYJKoZIhvcNAQELBQADggEBAF4YCgy/AvkTO11KtTjCcgoYcNMSUFQqnglwNVJ
vbln1WYGqkbAt+12l8GZk28HFbdAyOzIp0QXGksXTAPRHcGblOV5faMM8/YnrGDdH47HSkRWuB
ykZgEwW9wZ6Gqj2eLV/NNv030AiJriEWLXtdAQDffFbBmrJ3bGjyOj1KkkExz7mrFSRr2eLXwC
/PT3648RN6ay837+Q9ZLLUAleWfcbxsRzgnzYHm4+iC6D7ulM3RlhY7Woem+RQE9+7nA3m4lrq
0df4u3Yc10SCQ2bV97kCAWvltbfsuo2JPetFDhdhK8ALUZywzlc/mcLA2/+bdiMEQXw2yeOCjS
8oD8zBNw=',

    // Сертификат
    'crt' => '-----BEGIN CERTIFICATE-----
...
-----END CERTIFICATE----- ',

```

```
// Закрытый ключ
'key' => '-----BEGIN PRIVATE KEY-----
...
-----END PRIVATE KEY----- ',

// Пароль для закрытого ключа, если ключ не зашифрован, то параметр
удаляем
// 'key_pass' => '12345678',
);
```

hooks.php


```

// Начало логирования
$hook['pre_system'][] = [
    // Для логирования в БД SQL указать DBLog. Используется БД, указанная
    // в группе соединения phplog файла database.php
    // Для логирования в MongoDB указать DBMongoLog, но тогда нужно
    // настроить задание на запуск /?c=PhpLogService&m=transferDataFromMongoDB
    'class' => 'DBMongoLog',

    // Метод, начинающий выполнение логирования
    'function' => 'StartRequest',

    // Имя библиотеки для обработки запросов
    // Для логирования в БД SQL указать DBLog.php
    // Для логирования в MongoDB указать DBMongoLog.php
    'filename' => 'DBMongoLog.php',

    // Путь до библиотеки
    'filepath' => 'hooks',

    // Параметры (пусты для старта логирования)
    'params' => [],
];

// Конец логирования
$hook['post_system'] = [
    'class' => 'DBMongoLog',
    'function' => 'FinishRequest',
    'filename' => 'DBMongoLog.php',
    'filepath' => 'hooks',

    /**
     * В params могут быть переданы правила логирования. Если они пусты,
     * то логируются все обращения
     * Правила передаются массивом, в каждом правиле может быть задано
     * регулярной выражение для имени контроллера и имени метода (оба вместе или
     * каждый по отдельности)
     * В лог попадают только запросы, удовлетворяющие какому-либо из
     * правил
     * Пустое правило аналогично разрешению всего
     *
     * Пример логирования всех запросов к контроллеру EvnPL
     * [
     *     'controller' => '/^EvnPL$/i'
     * ]
     *
     * Пример логирования всех запросов, в которых метод содержит слово
     * person
     * [
     *     'method' => '/person/i'
     * ]
     */
    'params' => []
];

```

mongodb.php

mongodblog.php

mongodbsessions.php

```

// Адрес сервера MongoDB
$config['mongo_host'] = "127.0.0.1";

// Порт
$config['mongo_port'] = 27017;

// Наименование БД
$config['mongo_db'] = "db";

// Данные учетной записи для подключения к MongoDB
// Оставить пустыми, если MongoDB запущена не в режиме auth
$config['mongo_user'] = "";
$config['mongo_pass'] = "";

// Использование постоянного соединения
$config['mongo_persist'] = TRUE;
$config['mongo_persist_key'] = 'ci_mongo_persist';

// Формат результатов запроса
// 1) array - массив
// 2) object - объект
$config['mongo_return'] = 'array';

// When you run an insert/update/delete how sure do you want to be that
the database has received the query?
// safe = the database has received and executed the query
// fsync = as above + the change has been committed to harddisk <- NOTE:
will introduce a performance penalty
$config['mongo_query_safety'] = 'w';

// Suppress connection error password display
$config['mongo_suppress_connect_error'] = TRUE;

// If you are having problems connecting try changing this to TRUE
$config['host_db_flag'] = FALSE;

// Поля в нижнем регистре
$config['fields_underscore'] = TRUE;

```

portal.php

```

/**
 * Конфигурация портала
 */

// Пользователи портала
$config['users'] = [
    [
        'username' => 'admin',
        'password' => '*****',
    ]
];

// Телефоны службы техподдержки
$config['phones'] = [];

// Разные ссылки
$config['links'] = [

    // Справочная система
    'promedhelp' => '',

    // Форум поддержки
    'forum' => '',

    // Ссылка на статью с описанием последних изменений
    'lastupdates' => '',
];

// Название разворачиваемого продукта
$config['titles'] = [
    'main_title' => 'ЕЦП',
    'main_page_1' => 'ЕЦП',
    'main_page_2' => 'Единая цифровая платформа',
    'RIAMS' => 'ЕЦП',
    'auth_page_enter' => 'Вход в ЕЦП',
];

// Разные настройки
$config['settings'] = [

    // Количество новостей на главной странице
    'news_on_main_page' => 0,

    // Количество новостей на страницах архива новостей
    'news_on_page' => 20,

    // Максимальное количество строк в новости, после которого новость
    // надо обрезать
    'news_body_cut_lines' => 15,

    // Время хранения в PHP-кэше (в секундах)
    'cache_time' => 300,
];

// Основные сервисы
$config['products'] = [
    'promed' => [
        'title' => 'ЕЦП',
        'description' => 'Единая цифровая платформа',
        'icon' => '/img/portal/icon-promed.png',
        'url' => '?c=portal&m=promed',
    ],
];

```

promed.php

```

// Путь к папке с log-файлами ЕЦП.МИС
define("PROMED_LOGS", APPPATH . '/logs');

// Java нужна для плагина добавляющего PDF для нанесения метки что
документ подписан
$config['JAVA_PATH'] = '/usr/bin/java';

// Адрес LDAP
define("LDAP_SERVER", "192.168.37.3");
define("LDAP_SERVER_PORT", 389);
define("LDAP_DOMAIN", "dc=swan,dc=perm,dc=ru");
define("LDAP_GROUP_PATH", "ou=Groups,LDAP_DOMAIN");
define("LDAP_USER_PATH", "ou=Users,LDAP_DOMAIN");
define("LDAP_ADDRBOOK_PATH", "ou=Books,LDAP_DOMAIN");
define("LDAP_USER", "cn=admin,LDAP_DOMAIN");
define("LDAP_PASS", "amokkamokk");

// SMTP хост
// Если SSL или TLS соединение, то следует писать ssl://сервер или
tls://сервер
define("SMTP_HOST", "mx.swan-it.ru");
define("SMTP_PORT", "25");
define("SMTP_TIMEOUT", "5");
define("SMTP_EMAIL", "info@swan-it.ru");
define("SMTP_EMAIL_PASS", "");
define("SMTP_EMAIL_DESCR", "ЕЦП");

// Включение/выключение оповещения через СМС пользователей портала при
записи/отмене записи в ЕЦП.МИС
$config['USER_PORTAL_IS_ALLOW_NOTIFY_ABOUT_RECORD_CANCEL'] = TRUE;

// Отправлять уведомления пользователям портала самозаписи
$config['USER_PORTAL_NOTIFICATION'] = true;

// Адрес Промед для использования в BIRT при вставке в печатные формы
штрих-кодов и иных изображений, генерируемых ЕЦП.МИС
$config['PromedURL'] = 'http://192.168.37.3:2080';

// Отладочный режим
// 1 - включен, 0 - выключен
$config['IS_DEBUG'] = "0";

// Отображать статистику на портале
$config['SHOW_PORTAL_STATS'] = FALSE;

// Параметры подключения к сервису онлайн идентификации
$config['IDENTIFY_SERVICE_URI'] =
"http://11.0.0.4/LPUWebServices/LPU_WebService.asmx";
$config['IDENTIFY_SERVICE_PORT'] = 3455;
$config['IDENTIFY_SERVICE_LOGIN'] = "";
$config['IDENTIFY_SERVICE_PASS'] = "";

// Признак необходимости проверять прикрепление, если с момента последнего
прикрепления не прошел год
$config['CHECK_ATTACH_IF_YEAR_EXPIRE'] = false;

// Признак необходимости производить проверку на двойников
$config['CHECK_PERSON_DOUBLES'] = true;

// Список кодов гинекологических специальностей (пример для Уфы, для
конкретного региона вместо ufa подставить соответствующее наименование)
$config['ufa']['GIN_LSP_CODE_LIST'] = [ 522, 540, 622, 640, 822, 840 ];

// Список кодов стоматологических специальностей (пример для Уфы, для
конкретного региона вместо ufa подставить соответствующее наименование)

```

```

$config['ufa']['STOM_LSP_CODE_LIST'] = [ 526, 527, 528, 529, 530, 559,
560, 561, 562, 626, 627, 628, 629, 630, 659, 660, 661, 662, 826, 827, 828,
829, 830, 859, 860, 861, 862 ];

// Максимальное время ожидания отчёта
$config['ReportMaxExecutionTime'] = 1800;

// Время кэширования отчёта, мин.
// В течение этого времени, сформированный тем же пользователем, с теми же
параметрами отчёт не будет формироваться заново, а будет браться готовый с
сервера
$config['ReportCacheTime'] = 5;

// Массив дополнительных армов на СМП сервере
$config['ADDITIONAL_SMP_ARMS'] = ['mstat'];

// Возможность добавлять карты СМП из АРМ мед. статистика
$config['MedStatAddCards'] = true;

// Настройки NODE JS
define('NODEJS_ENABLED', false);
define('NODEJS_SERVER_HOSTNAME', '127.0.0.1');
define('NODEJS_HTTPSERVER_PORT', '9900');
define('NODEJS_SOCKETSERVER_PORT', '9999');

// NODE JS прокси для портала
// 1. для имени хоста обязательно указывать протокол (http:// или
https://) в зависимости от того, в каком режиме запущен NODE-SERVER (можно
посмотреть при старте сервера или в логах)
// 2. номера портов дублируются - это нормально, т.к. сокет сервер теперь
инициализируется через порт веб-сервера
// 3. если блок не закомментирован. Обязателен к разворачиванию сервис
node-portal-
proxy(https://confluence.rtlabs.ru/pages/viewpage.action?pageId=253706886)
define('NODEJS_PORTAL_PROXY_HOSTNAME', 'http://127.0.0.1');
define('NODEJS_PORTAL_PROXY_HTTPPORT', '7070');
define('NODEJS_PORTAL_PROXY_SOCKETPORT', '7070');
// включить\выключить подключение к ноду-портала из клиента
define('NODEJS_PORTAL_ENABLE', true);

define('NODEJS_SMP_HTTPSERVER_PORT', '8800');
define('NODEJS_SMP_SOCKETSERVER_PORT', '8888');
define('NODEJS_PROMED_SOCKET_PORT', '9995');
define('NODEJS_CONTROL_ENABLE', true);

define('NODEJS_VIDEOCHAT_SOCKET_HOST', 'https://promed.promedweb.ru');
define('NODEJS_VIDEOCHAT_SOCKET_PORT', '9991');
define('NODEJS_VIDEOCHAT_ENABLE', true);
define('NODEJS_VIDEOCHAT_ICE_SERVERS', ' [{
    "urls": "stun:stun.l.google.com:19302"
}] ');

// Путь к справке
define("CONFLUENCE_PATH", "https://confluence.rtlabs.ru/display/main/");
define("CONFLUENCE_AUTH_PATH",
"https://confluence.rtlabs.ru/?os_authType=basic&os_username=users_perm&os
_password=q1W@e3R$");
define("WIKI_PATH", "https://192.168.36.64/wiki/perm/wiki/");

// Путь к бирту
define("BIRT_SERVLET_PATH", "http://perm.swn.local/birt-viewer/");
define("BIRT_SERVLET_PATH_ABS", "http://192.168.37.44:8080/birt_perm/");

// Включить поддержку картридера
define("CARDREADER_IS_ENABLE", true);

```

```

// Включить логин по ЭЦП
define("ECP_IS_ENABLE", true);

// Путь до локального вебсервиса
define("LOCALPHP", "http://perm.promed/");

// Экспорт данных
// Определение путей для экспорта всех данных в ЕЦП.МИС

// Корневой каталог для экспорта
define("EXPORTPATH_ROOT", "export/");
// Каталог для экспорта штатного расписания ФРМП
define("EXPORTPATH_STAFF", EXPORTPATH_ROOT."staff/");
// Каталог для экспорта регистра по орфанным заболеваниям
define("EXPORTPATH_ORPHAN", EXPORTPATH_ROOT."orphan_register/");
// Каталог для экспорта реестров
define("EXPORTPATH_REGISTRY", EXPORTPATH_ROOT."register_files/");
// Каталог для экспорта прикрепленного населения
define("EXPORTPATH_ATTACHED_LIST", EXPORTPATH_ROOT."attached_list/");
// Каталог для экспорта реестра медработников
define("EXPORTPATH_MEDPERSONAL_LIST",
EXPORTPATH_ROOT."medpersonal_list/");
// Каталог для экспорта МЭС
define("EXPORTPATH_MES", EXPORTPATH_ROOT."mes_files/");
// Каталог для экспорта регистра по ДД
define("EXPORTPATH_DD", EXPORTPATH_ROOT."dd_files/");
// Каталог для экспорта регистра по детям сиротам
define("EXPORTPATH_DO", EXPORTPATH_ROOT."do_files/");
// Каталог для экспорта ТАП
define("EXPORTPATH_PL", EXPORTPATH_ROOT."pl_files/");
// Каталог для экспорта КВС
define("EXPORTPATH_PS", EXPORTPATH_ROOT."ps_files/");
// Каталог для экспорта картотеки
define("EXPORTPATH_PC", EXPORTPATH_ROOT."pc_files/");
// Каталог для экспорта подписанных документов
define("EXPORTPATH_SIGNED", EXPORTPATH_ROOT."signed_files/");
// Каталог для экспорта для qwerty и реестра фонда из штатного расписания
ЛПУ
define("EXPORTPATH_LPU_STAFF_QWERTY_REG_FOND",
EXPORTPATH_ROOT."lpu_staff_qwerty_reg_fond_files/");
// Каталог для экспорта DBF файлов для министерства труда
define("EXPORTPATH_LABOR", EXPORTPATH_ROOT."labordep_files/");
// Каталог для экспорта DBF файлов для ВСМЭ
define("EXPORTPATH_BSME", EXPORTPATH_ROOT."bsme_files/");
// Каталог для хранения электронных медицинских документов
define("EXPORTPATH_EMD", EXPORTPATH_ROOT."emd_files/");
// Каталог для экспорта PDF файлов
define("EXPORTPATH_PDF_PRINT", EXPORTPATH_ROOT."pdf_print/");
// Каталог для экспорта коечного фонда (для Самары)
define("EXPORTPATH_HOSPITAL_BED_FOND",
EXPORTPATH_ROOT."hospital_bed_fond_files/");
// Каталог для экспорта лотов (unit of trading)
define("EXPORTPATH_UOT", EXPORTPATH_ROOT."uot_files/");
// Каталог для экспорта цен на ЖНВЛП
define("EXPORTPATH_JNVLP_PRICE", EXPORTPATH_ROOT."jnvlp_price_files/");
// Каталог для экспорта сводных заявок
define("EXPORTPATH_CONSOLIDATED_REQUEST",
EXPORTPATH_ROOT."consolidated_request_files/");
// Каталог для экспорта содержимого регистра остатков
define("EXPORTPATH_OSTAT_REGISTRY",
EXPORTPATH_ROOT."ostat_registry_files/");

// Корневой каталог для импорта файлов
define("IMPORTPATH_ROOT", "uploads/");

```

```

// Корневой каталог для формирования файлов отчётов ФЛК
define("DIRECTORYPATH", IMPORTPATH_ROOT . "Directory_files/");
// Корневой каталог для файлов пользователей в рамках профилей
define("USERSPATH", IMPORTPATH_ROOT . "users/");
// Корневой каталог для хранения файлов организаций (в т.ч. МО)
define("ORGSPATH", IMPORTPATH_ROOT . "orgs/");
define("ORGSPHOTO PATH", ORGSPATH . "photos/");
// Корневой каталог для прикрепленных к сообщениям файлов
define("FILESSPATH", IMPORTPATH_ROOT . "messages/");
// Корневой каталог для изображений препаратов
define("DRUGSPATH", IMPORTPATH_ROOT . "drugs/");
// Корневой каталог для документов EvnMediaFiles
define("EVNMEDIAPATH", IMPORTPATH_ROOT . "evnmedia/");
// Корневой каталог для документов pmMediaData
define("PMMEDIAPATH", IMPORTPATH_ROOT . "pmmmedia/");

// ?
define("VALIDATE_ROOT", "validate");

// Корневой каталог сохранения файлов отчётов
define("REPORTPATH_ROOT", "export/reports/");

// Путь до проксирующего контроллера отчётов
define("REPORT_CONTROLLER", '/?c=ReportRun&m=Run');

// Параметры БД для хранения сессий
define('USE_DBSESSIONS', FALSE);
define('SESSIONDB_HOSTNAME', "192.168.36.61");
define('SESSIONDB_USER', NULL);
define('SESSIONDB_PASS', NULL);
define('SESSIONDB_DBNAME', "PHP_session");
define('SESSIONDB_TABLE', "PHPSessions");

// Портал "К врачу" (1 - старый, 2 - новый)
define('KVRACHU_TYPE', "2");

// База с пользователями ЭР
define('ACCDATABASE', "UserPortal");

// E-mail, с которого отправляются уведомления
define('KVRACHU_MAIL', "reg@k-vrachu.ru");
define('KVRACHU_MAIL_PASS', "****");
define('KVRACHU_MAIL_DESCR', "Система уведомлений");

// Путь до сообщения об отсутствии Gears (устарело)
define('GEARS_WARNING', "/?c=portal&m=article&id=3");

// Путь к шрифтам для FPDF
define('FPDF_FONTPATH', APPPATH . 'libraries/fpdf16font/');

// Включить логирование в textlog
define('DOLOG', TRUE);

// Путь к PACS Промед
define('PROMED_PACS_AETITLE', 'DCM4CHEE');
define('PROMED_PACS_IP', '192.168.36.159');
define('PROMED_PACS_PORT', '11112');
define('PROMED_PACS_WADO PORT', '8080');
define('PROMED_PACS_HTTPS_WADO PORT', '8443');

// PACS сервис
define('PACS_SERVICE_IP', '192.168.36.226');
define('PACS_SERVICE_PORT', '8080');
define('PACS_SERVICE_NAME', 'DCMWebService');

// STOMP-сообщения

```



```

// Требуется подробное описание
define('STOMP_MESSAGE_ENABLE', FALSE);
define('STOMP_MESSAGE_SERVER_URL', 'tcp://192.168.36.208:61613');
define('STOMP_MESSAGE_DESTINATION_RULE', '/queue/ru.swan.fer.Rule');
define('STOMP_MESSAGE_DESTINATION_SLOT', '/queue/ru.swan.fer.Slot');
define('STOMP_MESSAGE_TIMEOUT', 2);

// Очередь сообщений
define('STOMPMQ_MESSAGE_ENABLE', TRUE);
define('STOMPMQ_MESSAGE_SERVER_URL', 'tcp://192.168.37.3:61613');
define('STOMPMQ_MESSAGE_DESTINATION_RULE', '/queue/ru.swan.directory');
define('STOMPMQ_MESSAGE_DESTINATION_SLOT', '/queue/ru.swan.person');
define('STOMPMQ_MESSAGE_TIMEOUT', 2);

// Служба проверки подписи JAX-RS
define('SIGN_SERVICE_URL', 'http://192.168.37.3:8081/service/api');

// Настройки подключения (логин и пароль) к ЛИС для получения справочников
define('LIS_LOGIN', "admin");
define('LIS_PASSWORD', '***');
define('LIS_CLIENTID', '***');

// Путь до портала К-врачу
define('KVRACHU_URL', 'https://swantest.k-vrachu.ru');

// Настройка сервиса подписания ЭЛН для ФСС
$config['EvnStickServiceEncryption'] = true;
$config['EvnStickServiceEncryptionCert'] =
'documents/FSS_TEST_CERT_2020_GOST2012.pem';
if ($config['EvnStickServiceEncryption']) {
    $config['EncryptionServiceUrl'] =
'http://192.168.37.32:8180/jcpCipher/CipherServiceImplService?WSDL';
    $config['EvnStickServiceUrl'] = 'https://docs-
test.fss.ru/WSLnCryptoV11/FileOperationsLnPort?WSDL';
} else {
    $config['EvnStickServiceUrl'] =
'http://193.148.44.24/FSSWSLn/FileOperationsLnPort?WSDL';
}

// Путь до openssl с поддержкой GOST-2012-256 нужен для проверки хэша и
// проверки подписания
$config['OPENSSL_PATH'] = '/usr/bin/openssl';
$config['OPENSSL_CONF'] = '/etc/ssl/openssl.cnf';
$config['RHASH_PATH'] = '/usr/bin/rhash';

// Идентификатор пациента из ФЭР
$config['FER_PERSON_ID'] = 3615838;

// Настройки Wialon
define('WIALON_API_URL', 'http://wialon.03.perm.ru:8026/ajax.html');
define('WIALON_IMAGE_HOST', 'http://wialon.03.perm.ru:8022');

// Настройки сервиса ЕГИССО
define('EGISSO_REST_URL',
'https://promed.promedweb.ru/PortalGateService/webresources/rest/execJson'
);

// Настройки СППР
$config['DSS_API_URL'] = 'http://192.168.37.3:2071';

// Список МО, которым доступны новые АРМ врача поликлиники и ЭМК
$config['LPU_LIST_WITH_ALLOWED_EXTJS6_ARMS'] = [
    10010833 => [
        'LpuSection' => [ 99560017734 ] // список отделений, доступны
        новые АРМ врача поликлиники и ЭМК
    ],
];

```

```

10010833 => [],
13002730 => [],
13002737 => [],
10010817 => [],
9990000183 => [],
150185 => [],
9990000166 => [],
13002362 => [],
9990010223 => [],
];

// Загрузка ExtJS 6 без ExtJS 2.
$config['USE_EXTJS6_ONLY'] = false;

// Настройка подключения к БД для проверки учетных документов на вхождение
в реестры
$config['RegistryChecksDBConnection'] = 'default';

// Список электронных очередей, для которых должна использоваться
нелинейная схема обслуживания его ПО
$config['NON_LINEAR_ELECTRONIC_QUEUE_LIST'] = [ 92 ];

// Минимальное время предложения места в ЭО
$config['MinTimeQueue'] = 2;

// Базовая часть для ссылок в гридах Справочник инфоматов и Справочник
электронных табло
$config['infomat_base'] = 'https://swantest.k-vrach.ru';

define('USE_POSTGRESQL', 'TRUE');

define('USE_POSTGRESQL_LIS', 'TRUE');

// Используем ли БД PostgreSQL
$usePostgre = false;
// Используем ли БД PostgreSQL для ЛИС
$usePostgreLis = false;

// Для тестовых серверов можем включать/выключать использование БД
PostgreSQL через COOKIE
if (isset($config['IS_DEBUG']) && $config['IS_DEBUG']) {
    if (isset($_COOKIE['usePostgre'])) $usePostgre =
$_COOKIE['usePostgre'];
    if (isset($_COOKIE['usePostgreLis'])) $usePostgreLis =
$_COOKIE['usePostgreLis'];
}

define('USE_POSTGRESQL', filter_var($usePostgre,
FILTER_VALIDATE_BOOLEAN));
define('USE_POSTGRESQL_LIS', filter_var($usePostgreLis,
FILTER_VALIDATE_BOOLEAN));

// Библиотека для аудита
defined('USERAUDIT_LIBPATH') || define("USERAUDIT_LIBPATH", APPPATH .
(USE_POSTGRESQL ? 'libraries/_pgsql/UserAudit.php' :
'libraries/UserAudit.php'));

// Включить использование базы emd для хранения электронных медицинских
документов
$config['EMD_ENABLE'] = true;

// Отключение проверки сертификата
$config['EMD_DISABLE_CERT_CENTER_CHECK'] = true;

// Настройка сервиса интеграции с ТФОМС
$config['TFOMSAutoInteract'] = [

```

```

    'host' => '192.168.37.43',
    'port' => '5672',
    'user' => 'admin',
    'password' => 'admin',
    'publisher_queues' => [
        'common' => 'test_input',
        'answer' => 'test_answer',
    ],
    'consumer_queues' => [
        'common' => 'test_output',
        'answer' => 'tfomsToPromed.answer',
    ],
    'init_date' => '2019-01-01',
    'read_only' => false,
    'allowed_lpus' => [],
];

// Данные RabbitMQ для взаимодействия с ИС "Профилактика"
$config['ServiceISProf'] = [
    'host' => '45.139.16.125', // хост
    'port' => '55672', // порт
    'user' => 'promed_svc', // логин
    'password' => '***', // пароль
    'vhost' => 'Promed', // VirtualHost
    'request_queue' => 'Income' // название очереди
];

// ?
$config['ExchInspectPlan'] = $config['TFOMSAutoInteract'];

// Доступ к ПАК НИЦ МБУ
$config['MBU'] = [
    'apiurl' => 'http://194.0.219.199/pdkdl/api/fhir/', // адрес api
    'timeout' => 600
];

// ?
$config['enableSmsTalonCode'] = 'true';

// Список идентификаторов МО (справочник Lpu), являющихся психиатрическими
$config['PsychoLpuList'] = [
    13004374, // ПЕРМЬ ККПБ (новая)
    13002453,
    10010868,
    150225,
    150229,
    150301,
    150209,
    150221,
    150059,
    10010987,
    13002446,
    13002528,
    10010884,
    10011058,
    13002676,
    13002690,
    13002684,
    13002683,
    13002692,
    13002697,
    13002687,
    13002686,
];

// Ключ API для Yandex Maps API

```

```

define('YANDEX_API_KEY', '');

// Тип используемого кэша
$config['cache']['use'] = 'mongo';

// Настройка жизни кэша в секундах для некоторых кэшей (чтобы не лазить в
код при необходимости изменения)
$config['cache']['ttl'] = [
    //'LpuBuildingList' => 3600, // на час
    //'LpuSectionList' => 1800,
    //'LpuUnitList' => 3600,
    //'LpuSectionWardList' => 3600,
    //'MedServiceList' => 1800,
    //'MedStaffFactList' => 1800
];

// ?
$config['minimal'] = true;

// Настройки для АС МЛЮ
$config['asmlo_server'] = '192.168.37.3:8880/interface'; // сервер
$config['asmlo_timeout'] = 100000; // таймаут в секундах
$config['asmlo_login'] = 'admin'; // логин
$config['asmlo_password'] = '****'; // пароль

// Настройки использования архивной БД
$config['archive_database_enable'] = false;
$config['archive_database_date'] = '2014-01-01';

// Экспорт MSEExp
$config['MSEExp'] = [
    'host' => '192.168.36.58',
    'port' => '21',
    'user' => 'test',
    'password' => 'test',
    'export_folder' => 'export',
    'import_folder' => 'import',
];

// Блокировка медленных функций
$config['blockSlowDownFunctions'] = false;
$config['blockedSlowDownFunctions'] = [
    'search' => ['exportsearchresultstodbf'],
    'personcard' => ['exportpctodbf', 'loadattachedlist'],
    'vaccinectl' => [], // если не указаны методы блокируется весь
контроллер
    'vaccine' => [],
    'vaccine_list' => [],
];

// Для контроллера Search можно заблокировать некоторые виды поиска,
например, РПН: Поиск (SearchFormType = 'PersonCard')
$config['blockedSlowDownSearchFormTypes'] = [
    'personcard'
];

// ?
$config['PMU'] = [
    'xmlurl' => 'http://logs.promedweb.ru/web04/web/passport/passport-
xml',
    'replicatorurl' => 'http://passport.promedweb.ru/PassportReplicator',
];

// ?
$config['SwServiceLis'] = [
    'apiurl' => 'http://127.0.0.1:2080/api/lis',
];

```

```

        'timeout' => 30,
        'name' => 'ЛИС',
        'nick' => 'lis',
    ];

$config['SwServiceCommon'] = [
    'apiurl' => 'http://127.0.0.1:2080/api/common',
    'timeout' => 30,
    'name' => 'Общий функционал',
    'nick' => 'common',
];

// ?
$config['dbReplicatorQueue'] = [
    'enable' => false,
    'host' => '10.159.8.44',
    'port' => '61613',
    'login' => 'sabirov',
    'password' => '***',
    'destPrefix' => '/topic/dbReplicator.VirtualTopic.',
    'timeout' => 2,
];

// Признак сервера СМП
$config['IsSMPServer'] = false;

// FCM_KEY для push уведомлений
define('PUSH_NOTIFICATION_FCM_KEY', '***');

// Добавление test_id атрибута для авто-тестов.
$config['TEST_ID_ENABLED'] = 1;

// Количество записей обрабатываемых за один запуск задания по переносу
// записей лога. По умолчанию 2000000
$config['PhpLogCountRun'] = 2000000;
// Количество записей, обрабатываемых за один шаг задания. По умолчанию
// 5000
$config['PhpLogCountStep'] = 5000;
// Время, через которое допустимо повторное выполнение переноса записей в
// сек. По умолчанию 1 час в секундах
$config['PhpLogTimeToLive'] = 3600;

```

Code Block 15 promed.php

proxy_queries.php

```

// Конфигурационные данные для хука ProxyQueries

$config['proxy_queries'] = [
    'enable' => false,

    'settings' => [
        'server' => '192.168.37.7', // https://perm.swn.local
        'http_port' => '80',
        'https_port' => '443',
        'timeout' => '5',
        'http_auth_user' => null,
        'http_auth_passwd' => null,
        'session_key' => 'proxyq',
    ],

    // Порядок проксирования
    'order' => 'allow,deny',

    // Запросы, которые не надо проксировать
    'deny' => [
        [ 'c' => 'promed', 'm' => 'getJSFile' ],
        [ 'c' => 'perm_promed', 'm' => 'getJSFile' ],
    ],

    // Запросы, которые всегда проксируются
    'allow' => [],
];

```

session.php

```

/**
 * Использовать дополнительный драйвер для работы с сессиями
 * Варианты:
 * false - хранение сессий как задано в настройках PHP
 * 'db' - хранение сессий в базе данных
 * 'mongodb' - хранение сессий в MongoDB
 */

$config['session_driver'] = 'mongodb';

// Вести журнал авторизаций в системе (true - вкл, false - выкл)
define('USERAUDIT_LOGINS', true);

// Обработчик хранения сессий в MONGODB
if ( isset($config['session_driver']) && $config['session_driver'] ==
'mongodb' ) {
    //Параметры БД возьмется из конфига, а название таблицы уточним здесь
    $config['mongodb_session_settings'] = array('table'=>'Session');

    // Подключаем библиотеку для работы с сессиями в МонгоДБ
    require_once(APPPATH.'libraries/MONGODB_SESSIONS.php');
    $mongodb_sessions = new MONGODB_SESSIONS($config); # создаем объект
}

// Стартуем!
if (!ini_get("session.auto_start"))
{
    if (!isset($_SESSION)) { // Проверяем не была ли уже создана
сессия, нужно если мы подключаем index.php из стороннего скрипта, например
генерим документацию
        // достаём параметр из REQUEST_URI, как это делается в
URI.php (который еще не загружен)
        if (!empty($_SERVER['REQUEST_URI'])) {
            $uri = parse_url('http://dummy' .
$config['REQUEST_URI']);
            $query = isset($uri['query']) ? $uri['query'] :
'';

            parse_str($query, $get);
            if (!empty($get['sess_id'])) {
                // устанавливаем текущий идентификатор
сессии
                session_id($get['sess_id']);
            }
        }
        session_start();
    }
} else {
    if ( isset($config['session_driver']) && $config['session_driver']
== 'db' ) {
        die('Нельзя использовать автозагрузку сессий при хранении
сессий в БД!');
    }
}

```

sms.php

```
/**
 * Настройки для отправки SMS
 */
$config['sms'] = [
    // Библиотека, через которую отправляем СМС
    'lib' => 'SMSTraffic',

    // Логин учетной записи для отправки СМС
    'login' => 'swan:test',

    // Пароль учетной записи для отправки СМС
    'password' => '***',

    // Отправитель
    'sender' => 'k-vrachu.ru'
];
```

timetabletypes.php


```
// Настройка отображения бирок в зависимости от типа
$config['types'] = [
    [
        'id' => 1,
        'name' => 'Обычная',
        'style' => 'background-color: #ddffdd;',
        'style_person' => 'background-color: #ffdddd;',
        'sources' => [ 1, 2, 3, 4, 5, 6, 7, 8, 9 ],
        'places' => [ 1, 2, 3 ],
    ],
    [
        'id' => 2,
        'name' => 'Резервная',
        'style' => 'background-color: yellow;',
        'style_person' => 'background-color: orange;',
        'sources' => [ 1, 2, 3, 4, 5 ],
        'places' => [ 1, 2, 3 ],
    ],
    [
        'id' => 3,
        'name' => 'Платная',
        'style' => 'background-color: #ff99ff;',
        'style_person' => 'background-color: #ff9999;',
        'sources' => [ 1, 2, 3, 4, 5 ],
        'places' => [ 1, 3 ],
    ],
    [
        'id' => 4,
        'name' => 'Бирка для ЦЗ',
        'style' => 'background-color: #66cccc;',
        'style_person' => 'background-color: #227777;',
        'sources' => [ 1, 2, 3, 4, 5, 7 ],
        'places' => [ 1 ],
    ],
    [
        'id' => 5,
        'name' => 'По направлению',
        'style' => 'background-color: #eebb88;',
        'style_person' => 'background-color: #aa9966;',
        'sources' => [ 1, 2, 3, 4, 5 ],
        'places' => [ 1, 3 ],
    ],
    [
        'id' => 6,
        'name' => 'Экстренная',
        'style' => 'background-color: #66ff00;',
        'style_person' => 'background-color: orange;',
        'sources' => [ 1, 2, 3, 4, 5 ],
        'places' => [ 2 ],
    ],
    [
        'id' => 7,
        'name' => 'Для врачей своей ЛПУ',
        'style' => 'background-color: #66ff00;',
        'style_person' => 'background-color: orange;',
        'sources' => [ 3 ],
        'places' => [ 1, 2, 3 ],
    ],
];
```

rest.php

```
// список, которые определяет какие данные нужно логировать в RESTLog_Y-m-d.log для каждого запроса
$config['rest_log_params'] = ['uri', 'method', 'params', 'api_key',
'ip_address', 'time', 'authorized'];
```

promed.conf (в nginx)

Регион указываем в настройках nginx, например, krasnoyarsk:

```
fastcgi_param  REGION krasnoyarsk;
```

7 Настройка видеосвязи

7.1 Разворачивание сервиса на nodejs. docker-compose.yml

```
version: '2'
services:
  nodevideochat:
    image: docker.promedweb.ru/node-video-chat:8
    container_name: node-video-chat
    restart: unless-stopped
    ports:
      - "9991:9991"
```

Code Block 16 docker-compose.yml

7.2 Настройки ЕЦП.МИС

7.2.1 promed.php

```
define('NODEJS_VIDEOCHAT_SOCKET_HOST', 'https://ADDRESS');
define('NODEJS_VIDEOCHAT_SOCKET_PORT', '9991');
define('NODEJS_VIDEOCHAT_ENABLE', true);
define('NODEJS_VIDEOCHAT_ICE_SERVERS', '[{
  "urls": "stun:stun.l.google.com:19302"
}, {
  "urls": "turn:turn.promedweb.ru:5349?transport=udp",
  "username": "admin",
  "credential": "admin999"
}]');
```

Code Block 17 promed.php

ADDRESS - необходимо поменять на тот адрес вашего ЕЦП.МИС по которому работает ваш видеочат сервер, в идеале по тому же адресу, что и работает сам ЕЦП.МИС.

7.3 Настройки портала

7.3.1 site.php - работа web портала

```
'nodejs_videochat_socket_host' => 'https://ADDRESS',
'nodejs_videochat_socket_port' => '9991',
'nodejs_videochat_enable' => true,
'nodejs_videochat_ice_servers' =>
'[{ "urls": "stun:stun.l.google.com:19302" }, { "urls":
"turn:turn.promedweb.ru:5349?transport=udp",
"username": "admin", "credential": "admin999" } ]',

// примечание для эксплуатации: в конфиге два массива 'record' и это
НЕ вложенный в 'service' => array(...'record'), а отдельный массив
'record'
'record' => array(
    'videoChatIsOn' => true, // признак, что видеочат включен
    'timeForVideoChat' => 15, // время отведенное на консультацию в
минутах
    ...
    ...
);
```

Code Block 18 site.php

надо поменять ADDRESS

7.3.2 regions.php - работа через мобильное приложение

```
'perm' => array(
    'nodejs_videochat_socket_host' => 'https://ADDRESS',
    'nodejs_videochat_socket_port' => '9991',
    'nodejs_videochat_enable' => true,
    'nodejs_videochat_ice_servers' => array(
        array('urls' => 'stun:stun.l.google.com:19302'),
        array(
            'urls' => 'turn:turn.promedweb.ru:5349?transport=udp',
            'username' => 'admin',
            'credential' => 'admin999'
        )
    )
)
```

Code Block 19 regions.php

Данные настройки на пермском k-vrachi.ru делаются. первоначально все мобильные устройства обращаются именно к нему.
надо поменять ADDRESS

7.4 Настройка балансировщика

video.conf

```

server {
    listen                9991 ssl;
    server_name           ADDRESS;
    include                ssl/ecp.ssl;
    access_log             /var/log/nginx/node_video_access.log;
    error_log              /var/log/nginx/node_video_error.log;
    open_file_cache_errors off;

    location / {
        proxy_pass        http://ADDRESS_NODE:9991;
        include            params/nodejs.conf;
        proxy_set_header   Allow-Origin    *;
        proxy_set_header   Access-Control-
    }
}

```

Code Block 20 video.conf

ADDRESS_NODE - Адрес развернутого nodejs контейнера

7.4.1 nodejs.conf

```

proxy_connect_timeout    15;
proxy_send_timeout       60s;
proxy_read_timeout       600s;
proxy_http_version       1.1;
proxy_set_header         Upgrade
$http_upgrade;
proxy_set_header         Connection
$connection_upgrade;

```

Code Block 21 params/nodejs.conf

7.4.2 nginx.conf

```

map $http_upgrade $connection_upgrade {
    default upgrade;
    '' close;
}

```

Code Block 22 nginx.conf

7.5 Примечания

8 Настройка региональных параметров при разворачивании "коробочной" версии ЕЦП.МИС

Адыгея считается эталонным регионом для коробочной версии системы. При разворачивании нового региона нужно скопировать конфиги с региональными параметрами `parameters_client.php` и `parameters_server.php` из `promed/parameters/adygeya` в аналогичную папку для этого региона.

Дальнейшую настройку параметров региона можно выполнять следующим образом:

1. Найти системное название параметра в конфигурационном файле с параметрами по умолчанию `promed/parameters/parameters_client.php` и `promed/parameters/parameters_server.php`. По комментариям к параметрам определить нужный параметр.
2. Найти такой же параметр в региональном конфигурационном файле `promed/parameters/{регион}/parameters_client.php` и `promed/parameters/{регион}/parameters_server.php`. Если параметра в региональном файле нет, то скопировать его из файла с параметрами по умолчанию.
3. Изменить значение параметра нужным образом. Параметр может иметь значение одного из типов: `null`, булевый, числовой, строка или массив значений перечисленных типов.

Конфиги правятся эксплуатацией. Конфиги не добавляются в `.gitignore`.

Разработка после добавления новых параметров в задаче указывает их в поле "Действия при обновлении". Пример по КСГ/КСЛП/группировке в задаче <https://jira.is-mis.ru/browse/PROMEDWEB-21882>:

Добавить параметры в `promed/parameters/parameters_server.php`:

```
/* Расчет КСГ выполняется хранимой функцией */
$config['EvnSection_model_CalcKSGByStoredFunction'] = false;
/* Расчет КСЛП выполняется хранимой функцией */
$config['EvnSection_model_CalcKSLPByStoredFunction'] = false;
/* Расчет группировки выполняется хранимой функцией */
$config['EvnSection_model_CalcGroupByStoredFunction'] = false;
```

Добавить параметры в `promed/parameters/yanao/parameters_server.php`:

```
/* Расчет КСГ выполняется хранимой функцией */
$config['EvnSection_model_CalcKSGByStoredFunction'] = true;
/* Расчет КСЛП выполняется хранимой функцией */
$config['EvnSection_model_CalcKSLPByStoredFunction'] = true;
/* Расчет группировки выполняется хранимой функцией */
$config['EvnSection_model_CalcGroupByStoredFunction'] = true;
```

9 Настройки БД после развертывания.

После развертывания БД необходимо вручную провести следующие действия:

1. Установка значения региона.

Значение региона определяется процедурой GetRegion().

Для первой версии dbo.getregion необходимо установить возвращаемое значение кода региона.

```
CREATE OR REPLACE FUNCTION dbo.getregion()  
RETURNS integer  
LANGUAGE plpgsql  
AS $function$  
declare r integer;  
User_Name varchar;  
begin  
r:=1; --Установить значение кода региона.  
return r;  
end;  
$function$;
```

В случае если установлена вторая версия процедуры

```

CREATE OR REPLACE FUNCTION dbo.getregion()
  RETURNS integer
  LANGUAGE plpgsql
  AS $function$
  declare r integer;
         User_Name varchar;
begin
  --dbo.GetRegion версия 2.0
  r:=0;
  User_Name:=current_user;
  begin
    SELECT to_number(current_setting('Session.Region')) into r;
  EXCEPTION
  when others then r:=0;
  END;
  --RAISE notice 'Session.Region %', r;
  if r=0 then
    if User_Name like 'web_promed%' then
      User_Name:=regexp_replace(User_Name,'^[0-9]+', '');
      if ISNUMERIC(User_Name) = 1 then
        r:=to_number(User_Name);

        end if;
      end if;
    end if;
    --RAISE notice 'web_promed %', r;
    if r=0 then
      select region_id into r from pmuser_region where
pmuser_name=lower(User_Name);
    end if;
    --RAISE notice 'pmuser_region %', r;
    r:=coalesce(r,0);
    --RAISE notice 'coalesce %', r;
    if r=0 then
      r:=COALESCE(to_number(dbo.get_sysparametr('region')),0);
    end if;
    if r=0 then
      r:=59;
    end if;
    SELECT to_number(set_config('Session.Region', r::varchar, False)) into
r;
    --RAISE notice 'set Session.Region %', r;
    return r;
  end;
$function$
;

```

то необходимо в таблице параметров настроить регион и сдвиг по времени для текущего региона


```

do
$$
declare
sqltext varchar(1000);
rec record;
min_value varchar(20);
max_value varchar(20);
min_value_int varchar(10);
max_value_int varchar(10);
begin
    /* https://redmine.swan-
it.ru/projects/knowledgebase/wiki/Правила_формирования_ID

0 000 00 00   XXX XXX XXX
| | | | |
| | | | | ----- Девять знаков. Приращиваемое значение
значение
| | | ----- Два знака. Номер сервера по порядку
| | ----- Два знака. Код группы/функциональной
принадлежности ( Человек - 1, ЛИС - 2, Поликлиника - 3, Стационар - 4, СМП
- 5, Отчетный - 6, Реестры - 7 )
| ----- Три знака. Код региона (Пермский Край- 059,
Башкортостан -002, Крым 082 и тд. Для Казахстана кода вида 101,102 )
-----Один знак. Не заполняем

    */

    min_value:='0' || lpad(dbo.getregion()::text,3,'0') || '0101000000001';
    max_value:='0' || lpad(dbo.getregion()::text,3,'0') || '0101999999999';
    if dbo.getregion()<100 then
        min_value_int:= lpad(dbo.getregion()::text,3,'0') || '1010001';
    else
        min_value_int:= lpad(dbo.getregion()::text,3,'0') || '101001';
    end if;
    max_value_int:='2147483647';
    for rec in (select nspname,relname,pg_sequence.* from
pg_catalog.pg_sequence pg_sequence
    join pg_class on pg_class.oid=pg_sequence.seqrelid
    join pg_namespace on pg_namespace.oid=pg_class.relnamespace
    --and relname='descriptions_descriptions_id_seq'
    and (relname not like 'pmgen_%' or relname= 'pmgen_pmgen_id_seq')
    where seqmin<>cast(min_value as bigint) and seqmin<>cast(min_value_int
as bigint)
    --and seqmax>cast(min_value as bigint)
    order by 1,2) loop
        if rec.seqmax>2147483647 then
            if rec.seqmax<cast(min_value as bigint) then
                sqltext:= 'alter SEQUENCE
||rec.nspname||'.||rec.relname|| ' MAXVALUE '||max_value||';';
                execute(sqltext);
            end if;
            if rec.seqmin>max_value::bigint then
                sqltext:= 'alter SEQUENCE
||rec.nspname||'.||rec.relname|| ' MINVALUE 1 RESTART WITH 1';
                execute(sqltext);
            end if;
            sqltext:= 'alter SEQUENCE
||rec.nspname||'.||rec.relname|| ' RESTART WITH '||min_value||';';
            sqltext:= sqltext||chr(13)||chr(10)||'alter SEQUENCE
||rec.nspname||'.||rec.relname|| ' INCREMENT BY 1 MINVALUE
||min_value||' MAXVALUE '||max_value||' START '||min_value||' CACHE 1 NO
CYCLE;';
            execute(sqltext);
        else
            if rec.seqmax<cast(min_value_int as bigint) then

```

```

        sqltext:= 'alter SEQUENCE
'||rec.nspname||'.'||rec.relname|| ' MAXVALUE '||max_value_int||';';
        execute(sqltext);
    end if;
    if rec.seqmin>min_value_int::bigint then
        sqltext:= 'alter SEQUENCE
'||rec.nspname||'.'||rec.relname|| ' MINVALUE 1 RESTART WITH 1';
        execute(sqltext);
    end if;
    sqltext:= 'alter SEQUENCE
'||rec.nspname||'.'||rec.relname|| ' RESTART WITH '||min_value_int||';';
    sqltext:= sqltext||chr(13)||chr(10)||'alter SEQUENCE
'||rec.nspname||'.'||rec.relname|| ' INCREMENT BY 1 MINVALUE
'||min_value_int||' MAXVALUE '||max_value_int||' START '||min_value_int||'
CACHE 1 NO CYCLE;';
    execute(sqltext);
    end if;
end loop;
end;
$$

```

3. Чистка региональных значений.

- Очистка версий справочников:

```
delete from stg.localdbversion ;
```

4. Чистка региональных схем

В БД для каждого региона создаются отдельные схемы

- rN - для расчета реестров
- rptN - для хранения структур БД уникальных отчетов

где N - номер региона.

После развертывания БД необходимо удалить схемы чужих регионов, и при необходимости создать схемы для своего региона.

```

DO
$$
DECLARE

    r record;
    sql_text text;

BEGIN

    sql_text := 'CREATE SCHEMA IF NOT EXISTS ' ||
quote_ident('r' || dbo.getregion()::text) || ';';
    RAISE NOTICE '%', sql_text;
    EXECUTE sql_text;

    sql_text := 'CREATE SCHEMA IF NOT EXISTS ' ||
quote_ident('rpt' || dbo.getregion()::text) || ';';
    RAISE NOTICE '%', sql_text;
    EXECUTE sql_text;

    FOR r IN
        SELECT pn.nspname AS schema_name FROM pg_catalog.pg_namespace pn
        WHERE pn.nspname NOT IN
        ('r' || dbo.getregion()::text, 'rpt' || dbo.getregion()::text)
        AND ( pn.nspname ~ '^(r|rpt)(\d)')
    LOOP

        sql_text := 'DROP SCHEMA ' || quote_ident(r.schema_name) || '
CASCADE;';
        RAISE NOTICE '%', sql_text;
        EXECUTE sql_text;

    END LOOP;

END;
$$;

```

Структура региональных схем разрабатывается отдельно для каждого региона и не входит в общий дамп.

5. Обновление БД

При необходимости провести обновления БД выполнив **Выгрузка diff в БД** [Liquibase](#)

6. Удаление из локального справочника региональных схем

```

delete from stg.regionallocaldblist where localdblist_id in (select
localdblist_id FROM stg.localdblist
where localdblist_schema like 'r%' and localdblist_schema!='rls');

delete FROM stg.localdblist
where localdblist_schema like 'r%' and localdblist_schema!='rls';

```

10 Памятка - установка "коробочной" версии в новые регионы ЕЦП.МИС

№	Задача	исполнитель	ожидаемый результат
1	выделение мощностей	РП + СМ + ОЭИР	
2	закупка лицензий КриптоПро - много процессорная по 1 шт на каждый сервис интеграции + 1 портал к врачу + 1 на тест	РП	
3	Завести Эпик в Жире для привязывания всех задач и проблем по тестированию стенда	РП, СМ	
4	подготовка серверов, без приклада	ОЭИР	настроены ВМ, даны доступы для ОЭИР + ДБА + ОТС + внедрение?
5	настройка СУБД postgres и mongoDB + предоставление прав доступа ОТС, ОФС, Внедрение, ЗЛП	ДБА	СУБД готовы к развертыванию эталонной БД
6	получить копию БД "коробки"	ДБА	Копия БД 192.168.36.24/mnt/backup/ (Если нет доступа обсудить с Климачев Алексей Леонидович) как забрать
7	Развернуть БД ЕЦП.МИС, emd	ДБА	должны быть базы: - основная Promed (Установить diffy до diff20201002_0001.sql) - emd,php_log,usrer_portal,log_service
8	Переименовать схемы под текущий регион. и выполнить Настройки БД после развертывания.	ДБА	должны быть схемы: - основная - региона - реестровая r<код_региона> - отчетная rpt<код региона> Коды регионов Таблица утвержденных имен регионов и их кодов
9	Настроить MongoDB Установка сервера хранения справочников, логов, кэша, сессий	ДБА + ОЭИР	отсутствие ошибок в прикладе по обращению к БД

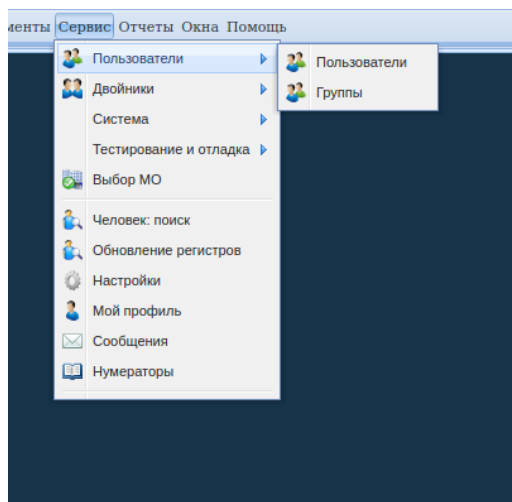
№	Задача	исполнитель	ожидаемый результат
10	Проверка наличия всех артефактов в БД. Загрузка недостающих данных в справочники, необходимых для начала ввода случаев.	ОТС + Биллинг	нужные схемы и справочники на месте можно воспользоваться скриптами для разливки данных Коробка . Пакетная миграция данных Адыгеи на другие регионы .
11	получить код для установки "коробки" и провести Настройка региональных параметров при разворачивании "коробочной" версии ЕЦП.МИС	ЗЛП + ОЭИР	Актуальная код тут Промед Релиз Адыгея - есп-рр.1.0.25
12	развернуть сервисы на продлайке	ОЭИР	код развернут на серверах и запускается без ошибок.
13	Настроить ПродЛайк	ОЭИР	в стенд можно зайти под УЗ администратора
14	установить и настроить отчеты из git.promedweb.ru/rtmis/report_pg	ОЭИР	отчеты есть на стенде и запускаются при необходимости создание папки для региона обратится к Лупандин Роман Владимирович
15	Настроить загрузку отчетов на стенд	ОЭИР	
16	Завести УЗ в прод-лайке	Внедрение	
17	Подготовить чек лист для проверки по вводу случаев в систему, аналогично Адыгее https://confluence.rtlabs.ru/pages/viewpage.action?pageId=236076865	Биллинг	
18	Протестировать ввод случаев по чек-листу из предыдущего пункта и отметить проверенное.	Биллинг + Внедрение + ОФС	
19	Проверить отчёты	Внедрение + ОФС	
20	Проверить работу биллинга, формирование счетов реестров	Биллинг	
21	Развернуть БД на продуктиве	ДБА	
22	Развернуть сервисы на продуктиве	ОЭИР	

№	Задача	исполнит ель	ожидаемый результат
2 3	Настроить Продуктивный контур	ОЭИР	
2 4	Проверить продуктивный контур	Внедрени е + ОК	

11 Получение токена авторизации.

Для создания пользователя необходима учетная запись с правами Супер Администратора СВАН.

Переходим к пользователям.



Проверяем есть ли пользователь scheduler, если пользователя нет то нажимаем добавить. Если пользователь существует, заходим в него.

A screenshot of the 'Пользователи' (Users) management interface. It features a search form with fields for 'Логин' (Login), 'Группа' (Group), 'Организация' (Organization), 'Описание' (Description), 'Фамилия' (Surname), 'Имя' (Name), 'Тип организации' (Organization type), and 'Заблокирован' (Blocked). Below the form is a table of users. The table has columns for 'Логин', 'Имя', 'Фамилия', 'Группы', 'Организации', and 'Описание'. A single user named 'scheduler' is listed, belonging to the 'SuperAdmin' group. Above the table are buttons for 'Добавить' (Add), 'Изменить' (Edit), 'Просмотреть' (View), 'Удалить' (Delete), 'Обновить' (Update), 'Печать' (Print), and 'Действия' (Actions).

Для добавления пользователя вводим логин и пароль для этого пользователя. Добавляем в пользователю группа SuperAdmin (СуперАдминистратор СВАН)

Для генерации токена нажимаем кнопку "Сгенерировать", вводим дату меньше 19.01.2038 года. О проблеме можно почитать [тут](#)

Пользователь: Редактирование

1. Основное 2. Доступ к АРМ

Организация:    Добавить  Удалить

Наименование	Тип
Название не определено	

Логин: ☐ Заблокирован Идент. МАРШа:

Временный пароль:

Токен: До:  Сгенерировать

 Сертификаты  Сертификаты РЭМД

Сотрудник

Сотрудник:

Фамилия: Полное имя:

Имя: Эл. почта:

Отчество: Описание:

Группы:  Добавить  Удалить

Группа	Описание
SuperAdmin	Супер Администратор СВАН

Количество параллельных сеансов:

 Сохранить  Помощь  Отмена

Сохраняем пользователя.

Сгенерированный токен необходим для запуска сервисов

12 Порядок развертывания БД и действия до загрузки дампа

1. Порядок развертывания БД

Базы данных необходимо развертывать в следующем порядке:

- userportal
- promed
- php_log
- portal
- emd

2. Внешние сервера

Необходимо прописать параметры внешних серверов

Для основной БД Promed внешний сервер на БД UserPortal

```
CREATE SERVER userportal  
OPTIONS (  
SET host 'IP сервера',  
SET dbname 'userportal');
```

Для БД PHP_Log внешний сервер на основную БД

```
CREATE SERVER promed  
OPTIONS (  
SET host 'IP сервера',  
SET dbname 'promed');
```

наименование параметра dbname должно точно соответствовать наименованию сервера подключения, включая регистры.

Так же в случае смены паролей необходимо изменить обертки для внешних серверов

```
alter USER MAPPING FOR public  
SERVER userportal  
OPTIONS (  
set password '*****',  
set "user" 'locomotive');
```

Подставив соответствующих пользователя и пароль.

13 Региональный портал мед. услуг

Репозиторий РПМУ в Git: <https://git.promedweb.ru/rtmis/medservice>

На портале поддерживается старая и новая версия. Новые регионы работают только с новой версией.

Поддерживается стеки:

mssql + php 5.6 (текущие регионы)

postgre + php 7.2 (Адыгея)

Общие файлы находятся в папке application/config.

Региональная специфика учитывается в файлах, расположенных в папках, наименование которых соответствует региону. Например, buryatia_new для новой версии портала и buryatia для старой версии.

13.1 Зависимости проекта

- [Промед\(ЕЦП.МИС\)](#)
- [Node Portal Proxy](#)

13.2 Развертывание с использованием docker-образа

13.2.1 Необходимое ПО

- docker v19.03
- docker-compose 1.25

13.2.2 Структура папок монтируемых на host-машину

/srv/promed/application

├─ logs - папка с логами

├─ web.conf - файл настроек веб-сервера nginx

├─ config - папка с конфигами

└─ config/secrets - папка с файлом .env содержащим учетные данные для подключения к внешним системам

13.2.3 Для развертывания необходимо

1. Создать папку развертывания
2. В корне папки развертывания создать файл .env ([пример](#) содержания ниже)
3. Создать папки **logs/nginx**, **logs/php**, **config**, **secrets**
4. Поместить в папку **config** необходимые конфигурационные файлы (<https://git.promedweb.ru/rtmis/medservice/-/tree/master/application/config>)
5. В файлах конфигурации пароли приведены к виду переменных. Пример:

```
'hostname' => '192.168.36.30',
      'database' => 'promedtest',
      'username' => "user_r59",
      // Значение из переменной если предусмотрено иначе
      'password' => isset($_SERVER['DATABASE_DEFAULT_PASSWORD']) ?
$_SERVER['DATABASE_DEFAULT_PASSWORD'] : 'ПАРОЛЬ',
      'pooling' => TRUE,
```

Code Block 23 database.php

Переменные подставляются из файла `./secrets/.env`. Предопределить пароли можно:

- через файл `./secrets/.env` (пример содержания ниже)
- изменением значения конфигурационного файла `isset($_SERVER['DATABASE_DEFAULT_PASSWORD']) ? $_SERVER['DATABASE_DEFAULT_PASSWORD'] : 'ПАРОЛЬ ПО УМОЛЧАНИЮ'` на **ТЕКУЩИЙ ПАРОЛЬ**. Пример:

```
'hostname' => '192.168.36.30',
      'database' => 'promedtest',
      'username' => "user_r59",
      /**
       * Значение предопределенное
       * старая строка 'password' =>
isset($_SERVER['DATABASE_DEFAULT_PASSWORD']) ?
$_SERVER['DATABASE_DEFAULT_PASSWORD'] : 'ПАРОЛЬ ПО УМОЛЧАНИЮ',
       */
      'password' => 'ТЕКУЩИЙ ПАРОЛЬ',
      'pooling' => TRUE,
```

Code Block 24 database.php

- либо изменением значения конфигурационного файла `$_SERVER['DATABASE_DEFAULT_PASSWORD'] : 'ПАРОЛЬ ПО УМОЛЧАНИЮ'` на `$_SERVER['DATABASE_DEFAULT_PASSWORD'] : 'ТЕКУЩИЙ ПАРОЛЬ'`. Пример:

```
'hostname' => '192.168.36.30',
      'database' => 'promedtest',
      'username' => "user_r59",
      /**
       * Значение предопределенное
       * старая строка 'password' =>
isset($_SERVER['DATABASE_DEFAULT_PASSWORD']) ?
$_SERVER['DATABASE_DEFAULT_PASSWORD'] : 'ПАРОЛЬ ПО УМОЛЧАНИЮ',
       */
      'password' => isset($_SERVER['DATABASE_DEFAULT_PASSWORD']) ?
$_SERVER['DATABASE_DEFAULT_PASSWORD'] : 'ТЕКУЩИЙ ПАРОЛЬ',
      'pooling' => TRUE,
```

Code Block 25 database.php

- При выборе предопределения паролей через `.env`. Поместить в папку `secrets` файл `.env` (<https://git.promedweb.ru/rtmis/medservice/-/tree/master/application/config/.env.example>) и заполнить ([пример](#) содержания ниже).
- Создать файл `web.conf` ([пример](#) содержания ниже)
- Установить на папки и файлы созданные в п.п. 3, 4, 5 владельца `www-data` (UID: 33, GID: 33)
- Создать в папке развертывания файл `docker-compose.yaml` ([пример](#) содержания ниже)

10. Заменить значение внешнего порта в секции **ports** с **2080** на необходимое значение внешнего порта сервиса
11. Проверить синтаксис конфигурации docker-compose командой: **docker-compose config**
12. Запустить сервис с помощью команды: **docker-compose up -d**
13. Настроить балансировщик ([пример](#) содержания ниже)

```
SYSPATH=/srv/promed/application
```

Code Block 26 .env

```
server {
    listen 80;
    root /srv/promed/;
    # Логгирование в stdout контейнера
    #error_log stderr warn;
    #access_log /dev/stdout;
    access_log /srv/promed/application/logs/nginx/access.log;
    error_log /srv/promed/application/logs/nginx/error.log;

    location ~ /\.php$ {
        charset utf-8;
        try_files $uri = 404;
        include fastcgi_params;
        fastcgi_pass unix:/var/run/php/php7.2-fpm.sock;
        fastcgi_read_timeout 3600;
        fastcgi_send_timeout 3600;
        fastcgi_index index.php;

        # задать переменную окружения региона
        # для отладки - development
        # для прод - production
        fastcgi_param PORTAL_REGION perm;

        # Задать переменную окружения
        # для отладки - "development"
        # для прод - "production"
        fastcgi_param KOHANA_ENV development;

        fastcgi_param SCRIPT_FILENAME $document_root$fastcgi_script_name;

        #Для запуска без балансировщика с сертификатом комментируем
        #параметры ниже
        fastcgi_param HTTPS on;
        fastcgi_param X-Forwarded-Proto https;
    }

    location / {
        charset utf-8;
        index index.php index.html index.htm;
        try_files $uri $uri/ /index.php$is_args$args;
    }
}
```

Code Block 27 web.conf

```

[www]
user = www-data
group = www-data

listen = /run/php/php7.2-fpm.sock
listen.owner = www-data
listen.group = www-data
pm = dynamic
pm.max_children = 460
pm.start_servers = 8
pm.min_spare_servers = 6
pm.max_spare_servers = 24
pm.process_idle_timeout = 60s;
pm.max_requests = 1536
env[TMP] = /tmp
env[TMPDIR] = /tmp
env[TEMP] = /tmp
php_flag[display_errors] = off
php_admin_value[error_log] = /srv/promed/application/logs/php/error.log
; Логгирование в stdout контейнера
;php_admin_value[error_log] = /proc/self/fd/2
php_admin_flag[log_errors] = on

php_admin_value[memory_limit] = 2048M
php_admin_value[date.timezone] = Europe/Moscow
php_admin_value[post_max_size] = 400M
php_admin_value[upload_max_filesize] = 400M
php_admin_value[max_execution_time] = 3600
php_admin_value[session.gc_maxlifetime] = 7200

```

Code Block 28 php-fpm.conf

```
# В комментариях название конфигурационного файла, для которого
#предопределяется переменная.

#api.php
API_APIKEY=""

#auth.php
AUTH_LDAP_PASS=""

#captha.php
CAPTCHA_RECAPTCHA_SECRET=""
CAPTCHA_RECAPTCHA_SITEKEY=""

#database.php
DATABASE_DEFAULT_PASSWORD=""
DATABASE_ACCOUNTS_PASSWORD=""
DATABASE_DEFAULT_POSTGRES_PASSWORD=""
DATABASE_ACCOUNTS_POSTGRES_PASSWORD=""
DATABASE_EMD_PASSWORD=""
#DATABASE_MONGO_PASSWORD=""

#esia.php
ESIA_CERT=""
ESIA_KEY=""

#mail.php
MAIL_PASSWORD=""

#site.php
SITE_FCM_KEY=""
GENERAL_PURPOSE_PASSWORD=""
SWTOKEN=""

#sms.php
SMS_PASSWORD=""

#uec_auth.php
UEC_AUTH_MASTER_SECRET=""
```

Code Block 29 ./secrets/.env

```
version: '3.0'

services:
  medservice:
    container_name: medservice
    image: d-repo.rtmis.ru/medservice/medservice:rpms-1-0-0
    environment:
      SYSPATH: ${SYSPATH}
    volumes:
      - ./logs:${SYSPATH}/logs
      - ./config:${SYSPATH}/config
      - ./secrets:${SYSPATH}/config/secrets
      - ./web.conf:/etc/nginx/conf.d/web.conf
    ports:
      - 2080:80
```

Code Block 30 docker-compose.yml

```

server {
    listen                80;
    server_name           promed.local;
    open_file_cache_errors off;
    access_log            /var/log/nginx/access.log;
    error_log             /var/log/nginx/error.log;

    location / {
        proxy_pass        http://medservice/;
        proxy_redirect     off;
        proxy_set_header   Host                $host;
        proxy_set_header   X-Real-IP
$remote_addr;
        proxy_set_header   X-Forwarded-For
$proxy_add_x_forwarded_for;
        proxy_set_header   X-Forwarded-Proto $scheme;
        proxy_set_header   Access-Control-Allow-Origin
        *;
    }

    upstream medservice {
        least_conn;
        server medservice:80    weight=2 max_fails=3

    fail_timeout=10s;
    }
}

```

Code Block 31 Пример конфигурации для LB Nginx.

13.3 Общие файлы конфигурации

api.php

Настройки API

```

return array(
    // Ключ приложения, передаваемый при обращении к API
    'apiKey' => '44c8a6356a3e67ed38c9d9df0e6f8e57',
);

```

auth.php

Настройки LDAP для авторизации пользователей в АРМ администратора холла, АРМ сотрудника пункта забора, АРМ сотрудника обр. учреждения


```

return array(
    'driver' => 'ORM',
    'hash_method' => 'md5',
    'hash_key' => NULL,
    'lifetime' => 1209600,
    'session_key' => 'auth_user',
    'LDAP_ROOT' => 'dc=swan,dc=perm,dc=ru',
    'LDAP_USER_PATH' => 'ou=Users,dc=swan,dc=perm,dc=ru',
    'LDAP_SERVER' => '192.168.37.3',
    'LDAP_SERVER_PORT' => 389,
    'LDAP_USER' => 'cn=admin,dc=swan,dc=perm,dc=ru',
    'LDAP_PASS' => 'amokkamokk',
);

```

cache.php

Настройки кэширования

```

return array(
    'file' => array(
        'driver' => 'file',
        'cache_dir' => APPPATH.'cache',
        'default_expire' => 3600,
        'ignore_on_delete' => array(
            '.gitignore',
            '.git',
            '.svn'
        )
    )
);

```

captcha.php

Настройки Captcha

```

return array(
    'default' => array(
        'style' => 'basic',
        'width' => 200,
        'height' => 50,
        'complexity' => 5,
        'background' => '',
        'fontpath' => MODPATH.'captcha/fonts/',
        'fonts' => array('DejaVuSerif.ttf'),
        'promote' => FALSE,
    ),
    'recaptcha' => array(
        'style' => 'recaptcha',
        'url' => 'https://www.google.com/recaptcha/api/siteverify',
        'secret' => '***',
        'sitekey' => '***',
        'DontShowCaptcha' => true,
    )
);

```

demo.php

Конфигурация демонстрационных аккаунтов

```
return array(  
    'users' => array(  
        // Логин демонстрационной учетной записи  
        'demo',  
    ),  
);
```

record_restriction.php

Настройки механизма ограничения записи по больнице прикрепления человека

```

// ПОРЯДОК КЛЮЧЕЙ (0, 1, 2) ВАЖЕН

return array(
    'default' => array(
        /**
         * 3. Список профилей, к которым запрещена запись (безусловно)
         */
        0 => array(
            'code' => 'banned_profiles_list',
            'value' => FALSE,
            'profiles_array' => array()
        ),
        /**
         * 2. Запись по территории обслуживания МО
         */
        1 => array(
            'code' => 'mo_service_area',
            'value' => FALSE
        ),
        /**
         * 1. Запись по месту прикрепления
         */
        2 => array(
            'code' => 'attaching_point',
            'value' => FALSE,
            /**
             * 1.1 Профили, к которым разрешена запись независимо от
             * прикрепления.
             */
            'profiles' => array(
                'value' => TRUE,
                'profiles_array' => array()
            ),
            /**
             * 1.2 Запись для неприкрепленного населения
             */
            'patient_without_attaching' => array(
                'value' => FALSE
            ),
            /**
             * 1.4 Запись в МО без прикрепленного населения
             */
            'mo_without_attaching' => array(
                'value' => FALSE
            )
        )
    ),
    /** Соответствие кода профиля названию
     * Ключ массива - идентификатор записи в справочнике
     */
    dbo.LpuSectionProfile
    'default_profiles_list' => array(
        35217 => 'Терапевт',
        35255 => 'Терапевт/Педиатр',
        35188 => 'Педиатрия',
        35232 => 'Хирургия',
        35184 => 'Отоларингология',
        35185 => 'Офтальмология',
        35250 => 'Травматология',
        35220 => 'Дерматология',
        35136 => 'Гинекология',
        35122 => 'Гинекология',
        35123 => 'Гинекология',
        35247 => 'Гинекология',
        35248 => 'Гинекология',
        35249 => 'Гинекология',
        35140 => 'Стоматология',
    )
)

```

```
35205 => 'Стоматология',  
35209 => 'Стоматология',  
35210 => 'Стоматология',  
35206 => 'Стоматология'  
    )  
);
```

regions.php

Список регионов с настройками для мобильного приложения

```

return array(
    'list' => array(
        'astrakhan' => array(
            // Наименование для печати
            'print_name' => 'Астраханская область',
            'geo_name' => 'Астраханская область',
            // Адрес РПМУ
            'link' => 'https://doctor30.ru/',
            // Системное наименование региона
            'nick' => 'astrakhan',
            // Код региона
            'code' => '30',
            // Использование мобильного приложения
            'mobile' => true,
            // Адрес API
            'apiaddress' => 'https://doctor30.ru/api/v1/',
            // Использование платных услуг
            'payservices' => false,
            // В мобильном приложении включена авторизация через
            // госуслуги
            'esiaLoginEnabled' => true,
            // Авторизация через email
            'emailLoginEnabled' => true,
            // В мобильном приложении включена ЭМК
            'mobileEmkEnabled' => true,
            // В мобильном приложении включен вызов врача на дом
            'mobileDoctorhomeEnabled' => true
        ),
        'penza' => array(
            'print_name' => 'Пензенская область',
            'geo_name' => 'Пензенская область',
            'link' => 'https://пенза-доктор.рф',
            'punylink' => 'https://xn----7sbnbkvqmbbuw.xn--plai',
            'nick' => 'penza',
            'code' => '58',
            'mobile' => true,
            'apiaddress' => 'https://xn----7sbnbkvqmbbuw.xn--
            plai/api/v1/',
            'payservices' => true,
            'esiaLoginEnabled' => true,
            'emailLoginEnabled' => true,
            'mobileEmkEnabled' => true,
            'mobileDoctorhomeEnabled' => true
        ),
        'perm' => array(
            'print_name' => 'Пермский край',
            'geo_name' => 'Пермский край',
            'link' => 'https://swantest.k-vrach.ru/',
            'nick' => 'perm',
            'code' => '59',
            'mobile' => true,
            'apiaddress' => 'https://swantest.k-vrach.ru/api/v1/',
            'payservices' => true,
            'esiaLoginEnabled' => true,
            'emailLoginEnabled' => true,
            'mobileEmkEnabled' => true,
            'mobileDoctorhomeEnabled' => true,
            'mobileDiaryEnabled' => true,
            // Отключение функционала анкетирования в мобильном устройстве
            'mobilePollEnabled' => true,
            // Отключение возможности регистрации в мобильном устройстве
            'mobileRegisterEnabled' => false,
            // если нет параметра или NULL - отключены, 0 - только
            // рейтинг, 1 - текст + рейтинг
            'doc_feedbacks' => 1,

```

```

        // если нет параметра или NULL - отключены, 0 - только
рейтинг, 1 - текст + рейтинг
        'lpu_feedbacks' => 1,
        // включить/отключить СМС уведомления// Для сайта параметр
находится в config/имя_региона/site.php
        'sms_notifications' => false,
    ),
)
);

```

session.php

Настройки для работы с сессиями

```

return array(
    'native' => array(
        'name' => 'session_name',
        'lifetime' => 43200,
    ),
    'cookie' => array(
        'name' => 'cookie_name',
        'encrypted' => FALSE,
        'lifetime' => 43200,
    ),
    'database' => array(
        'name' => 'cookie_name',
        'encrypted' => FALSE,
        'lifetime' => 43200,
        'group' => 'accounts',
        'table' => 'sessions',
        'columns' => array(
            'session_id' => 'session_id',
            'last_active' => 'last_active',
            'contents' => 'contents'
        ),
        'gc' => 500,
    ),
);

```

ues_auth.php

Настройки интеграции с сервисом авторизации УЭК

```

return array(
    // Мастер пароль сервиса авторизации
    'master_secret' => 'password'
);

```

13.4 Региональные файлы конфигурации

database.php

Настройки соединения с БД

```

return array(
    // БД ЕЦП
    'default' => array(
        // Тип драйвера
        'type' => 'sqlsrv',
        // Настройки соединения
        'connection' => array(
            // Адрес сервера
            'hostname' => '10.255.0.62',
            // Наименование БД
            'database' => 'PromedWebBuryatiya',
            // Учетная запись
            'username' => 'web_user',
            // Пароль
            'password' => '***',
            // ?
            'pooling' => TRUE,
        ),
        'table_prefix' => '',
        'charset' => 'utf8',
        'caching' => TRUE,
        'profiling' => TRUE
    ),
    // БД РПМУ
    'accounts' => array(
        'type' => 'sqlsrv',
        'connection' => array(
            'hostname' => '10.255.0.62',
            'database' => 'UserPortal',
            'username' => 'web_user',
            'password' => '***',
            'pooling' => TRUE,
        ),
        'table_prefix' => '',
        'charset' => 'utf8',
        'caching' => FALSE,
        'profiling' => TRUE
    ),
    // Для БД PG
    'default_postgres' => array
    (
        'type' => 'PostgreSQL',
        'connection' => array(
            'hostname' => 'host',
            'database' => 'db_name',
            'username' => 'user',
            'password' => '***',
            'persistent' => FALSE,
        ),
        'primary_key' => '', // Column to return from INSERT queries,
        see #2188 and #2273
        'schema' => '',
        'table_prefix' => '',
        'charset' => 'utf8',
        'caching' => FALSE,
    ),
    'accounts_postgres' => array
    (
        'type' => 'PostgreSQL',
        'connection' => array(
            'hostname' => 'host',
            'database' => 'db_name',
            'username' => 'user',
            'password' => '***',
            'persistent' => FALSE,
        ),
    ),

```

```
        'primary_key' => ' ',    // Column to return from INSERT queries,
see #2188 and #2273
        'schema'      => ' ',
        'table_prefix' => ' ',
        'charset'     => 'utf8',
        'caching'     => FALSE,
    ),
);
```

esia.php

Настройки для авторизации через ЕСИА


```

return array(

    // использовать регистрацию на портале только через ЕСИА
    'registration' => false,

    // использовать авторизацию на портале только через ЕСИА
    'auth' => false,

    // использовать расширенный ЕСИА контроллер (с новым функционалом)
    'use_extended_esia' => true,

    // Включить/отключить логирование
    'log' => false,

    // Включить/отключить авторизацию через ЕСИА
    'enabled' => true,

    // Идентификатор ИС в ЕСИА
    'client_id' => 'MZPK015901',

    // Путь к РПМ для перенаправления с ЕСИА
    'redirect_uri' => 'https://k-vrachu.ru/login/esia',

    // Путь к РПМ для получения данных пользователя
    'redirect_uri_info' => 'https://k-vrachu.ru/esia/user_info/:user_id',

    // Путь к контроллеру ЕСИА для получения авторизационного кода
    'ac_path' => 'https://esia.gosuslugi.ru/aas/oauth2/ac',

    // Путь к контроллеру ЕСИА для получения маркера идентификации кода
    'te_path' => 'https://esia.gosuslugi.ru/aas/oauth2/te',

    // Область доступа для получения всех данных по пользователю
    'usr_scope' => 'http://esia.gosuslugi.ru/usr_inf?oid=:user_id',

    // Путь к REST контроллеру для получения данных по пользователю
    'usr_data_path' => 'https://esia.gosuslugi.ru/rs/prns/:user_id',

    // Путь к REST контроллеру для получения контактных данных по
    // пользователю
    'usr_contacts_path' =>
    'https://esia.gosuslugi.ru/rs/prns/:user_id/ctts?embed=(elements)',

    // Сертификат
    'crt' => '-----BEGIN CERTIFICATE-----
    ...
    -----END CERTIFICATE-----',

    // Закрытый ключ
    'key' => '-----BEGIN ENCRYPTED PRIVATE KEY-----
    ...
    -----END ENCRYPTED PRIVATE KEY-----',

    'key_pass' => '***'
);

```

hospitals.php

Не используется

```

return array(
    'menu' => array(
        'main' => array(
            'page' => 'main',
            'title' => 'Главная',
            'url' => ''
        ),
        'terms' => array(
            'page' => 'terms',
            'title' => 'Условия оказания помощи',
            'url' => 'terms'
        ),
        'care_types' => array(
            'page' => 'care_types',
            'title' => 'Виды помощи',
            'url' => 'care_types'
        ),
        'criteria' => array(
            'page' => 'criteria',
            'title' => 'Показатели',
            'url' => 'criteria'
        ),
        'drugs' => array(
            'page' => 'drugs',
            'title' => 'Лекарства',
            'url' => 'drugs'
        )
    )
);

```

kiosk.php

Настройки информационного киоска (для старой версии портала)

```

return array(
    /**
     * Заголовок главного экрана
     */
    'title' => 'Медицинские услуги',

    /**
     * Время бездействия для возврата на начальную страницу
     */
    'idle_timeout' => 900000,

    /**
     * Услуги
     */
    'services' => array(
        'record' => array(
            'title' => 'Запись на прием к врачу',
            'title_html' => 'Запись<br> на прием к врачу',
            'description' => 'Система предназначена для записи на прием к
медицинским специалистам',
            'link_title' => 'Записаться',
            'url' => 'record',
            'icon' => '/design/common/img/main_items_01.png',
            'type' => 'service',
            'enabled' => TRUE
        ),
        'fake_service1' => array(
            'title' => 'Подача заявления на прикрепление к медицинской
организации',
            'title_html' => 'Подача заявления на прикрепление к
медицинской организации',
            'description' => 'Сервис приема заявлений на прикрепление к
медицинской организации',
            'link_title' => 'Подать заявление',
            'url' => 'notimplemented',
            'icon' => '/design/common/img/main_items_02.png',
            'type' => 'service',
            'enabled' => TRUE
        ),
        'fake_service2' => array(
            'title' => 'Запись на медицинскую услугу',
            'title_html' => 'Запись на медицинскую услугу',
            'description' => 'Система записи на медицинскую услугу',
            'link_title' => 'Записаться',
            'url' => 'notimplemented',
            'icon' => '/design/common/img/main_items_03.png',
            'type' => 'service',
            'enabled' => TRUE
        ),
        'fake_service3' => array(
            'title' => 'Подача заявления на страхование в системе ОМС',
            'title_html' => 'Подача заявления на страхование в системе
ОМС',
            'description' => 'Сервис приема заявлений на страхование в
системе ОМС',
            'link_title' => 'Подать заявление',
            'url' => 'notimplemented',
            'icon' => '/design/common/img/main_items_04.png',
            'type' => 'service',
            'enabled' => TRUE
        ),
        'fake_service4' => array(
            'title' => 'Вызов участкового врача на дом',
            'title_html' => 'Вызов участкового врача на дом',
            'description' => 'Сервис предназначен для вызова участкового
врача',

```

```

        'link_title' => 'Вызвать врача',
        'url' => 'notimplemented',
        'icon' => '/design/common/img/main_items_05.png',
        'type' => 'service',
        'enabled' => TRUE
    ),
    'pharm' => array(
        'title' => 'Поиск льготных лекарств',
        'title_html' => 'Поиск льготных лекарств',
        'description' => 'Наличие медикаментов в аптеках системы
обеспечения необходимыми лекарственными средствами (дополнительное
лекарственное обеспечение)',
        'link_title' => 'Найти',
        'url' => 'notimplemented',
        'icon' => '/design/common/img/main_items_06.png',
        'type' => 'info',
        'enabled' => TRUE
    ),
    'hospitals' => array(
        'title' => 'Перечень медицинских организаций',
        'title_html' => 'Перечень медицинских организаций',
        'description' => 'Страницы медицинских организаций',
        'link_title' => 'Найти',
        'url' => 'notimplemented',
        'icon' => '/design/common/img/main_items_07.png',
        'type' => 'info',
        'enabled' => TRUE
    ),
    'fake_service5' => array(
        'title' => 'Перечень страховых медицинских организаций',
        'title_html' => 'Перечень страховых медицинских организаций',
        'description' => 'Страницы страховых медицинских организаций',
        'link_title' => 'Найти',
        'url' => 'notimplemented',
        'icon' => '/design/common/img/main_items_08.png',
        'type' => 'info',
        'enabled' => TRUE
    )
),

/**
 * Настройки сканера штрихкодов
 */
'barcode' => array(
    /**
     * Включить/отключить работу со сканером штрихкодов
     */
    'enabled' => true,

    /**
     * Название COM порта, по которому подключен сканер штрихкодов
     */
    'barcodePort' => 'COM18',

    /**
     * Интервал опроса порта в миллисекундах
     */
    'barcodeInterval' => 1000
),

/**
 * Настройки считывателя карт
 */
'ues' => array(
    /**
     * Включить/отключить работу со считывателем карт

```

```
        */
        'enabled' => true,

        /**
         * Интервал опроса считывателя в миллисекундах
         */
        'interval' => 1000
    )
};
```

mail.php

Настройки для отправки электронной почты

```
return array(
    'server' => '192.168.36.17',
    'port' => 25,
    'login' => 'reg@k-vrachu.ru',
    'password' => '***',
    'from' => 'noreply@k-vrachu.ru'
);
```

site.php

Общие настройки для региона

```

return array(
    /**
     * Название сайта
     */
    'title' => 'Региональный портал медицинских услуг',

    /**
     * Региональные установки
     */
    'region' => array(
        'name' => 'Пермь',
        'nick' => 'perm',
        'code' => 59,
        'default_city' => array(
            'city_name' => 'Пермь',
            'city_id' => 3310, // Идентификатор города из таблицы
dbo.KLArea
            'area_id' => 59 // Идентификатор региона из таблицы dbo.KLArea
        )
    ),

    /**
     * Медицинский услуги
     */
    'services' => array(
        'record' => array(
            'title' => 'Запись на приём к врачу',
            'title_html' => 'Запись на приём к врачу',
            'description' => 'Запись на плановый прием к врачу по месту
жительтва. Требуется регистрация.<br>Государственная услуга.',
            'link_title' => 'Записаться',
            'url' => '/service/record',
            'icon' => '/design/common/img/main_items_01.png',
            'type' => 'service',
            'enabled' => TRUE,
            'need_auth' => TRUE,
            'class' => 'kvrachu',
            'banner' => 'record'
        ),
        'schedule' => array(
            'title' => 'Расписание работы врачей',
            'title_html' => 'Расписание работы врачей',
            'description' => 'Информация о наличии врачей-специалистов в
медицинских организациях, режиме их работы и расписании приемов',
            'link_title' => 'Расписание',
            'url' => '/service/schedule',
            'icon' => '/design/common/img/main_items_01.png',
            'type' => 'service',
            'enabled' => TRUE,
            'need_auth' => FALSE,
            'class' => 'rasp',
            'banner' => 'schedule'
        ),
        'emk' => array(
            'title' => 'Медицинская карта',
            'title_html' => 'Медицинская карта',
            'description' => 'Просмотр Вашей Электронной Медицинской
Карты',
            'link_title' => 'Записаться',
            'url' => '/service/emk',
            'icon' => '/design/common/img/main_items_01.png',
            'type' => 'service',
            'date' => '2016-10-01',
            'enabled' => TRUE,
            'need_auth_esia' => TRUE,
            'class' => 'emk',

```

```

        'banner' => 'emk',
        'allow_user_access_esia' => true
    ),
    'diary' => array(
        'title' => 'Дневник здоровья',
        'title_html' => 'Дневник здоровья',
        'description' => 'Описание для дневника здоровья',
        'link_title' => 'Дневник здоровья',
        'url' => '/service/diary',
        'icon' => '',
        'type' => 'service',
        'enabled' => true,
        'need_auth' => true,
        'class' => 'diary',
        'banner' => 'diary',
        'version' => 2
    ),
    'doctorhome' => array(
        'title' => 'Вызов участкового врача на дом',
        'title_html' => 'Вызов участкового врача на дом',
        'description' => 'Опишите симптомы и вызовите участкового
врача на дом',
        'link_title' => 'Вызвать врача',
        'url' => '/service/doctorhome',
        'icon' => '/design/common/img/main_items_05.png',
        'type' => 'service',
        'enabled' => TRUE,
        'need_auth' => TRUE,
        'class' => 'nadow',
        'banner' => 'nadow'
    ),
    'pharm' => array(
        'title' => 'Поиск льготных лекарств',
        'title_html' => 'Поиск льготных лекарств',
        'description' => 'Наличие медикаментов в аптеках системы
обеспечения необходимыми лекарственными средствами (дополнительное
лекарственное обеспечение)',
        'link_title' => 'Найти',
        'url' => '/service/pharm',
        'icon' => '/design/common/img/main_items_06.png',
        'type' => 'info',
        'enabled' => true,
        'class' => 'drugs'
    ),
    'hospitals' => array(
        'title' => 'Медицинские организации',
        'title_html' => 'Медицинские организации',
        'description' => 'Список медицинских организаций и врачей',
        'link_title' => 'Найти',
        'url' => '/service/hospitals',
        'icon' => '/design/common/img/main_items_07.png',
        'type' => 'info',
        'enabled' => TRUE,
        'class' => 'medorg',
        'banner' => 'hospitals'
    ),
    'find_regions' => array(
        'title' => 'Поиск участка прикрепления',
        'title_html' => 'Поиск участка прикрепления',
        'description' => 'Поиск медицинской организации, врачебного
участка, и врача, обслуживающего указанный адрес',
        'link_title' => 'Найти',
        'url' => '/service/regions',
        'icon' => '/design/common/img/main_items_10.png',
        'type' => 'info',
        'enabled' => TRUE,

```

```

        'class' => 'uchastok',
        'banner' => 'regions'
    ),
    'payservices' => array(
        'title' => 'Платные медицинские услуги',
        'title_html' => 'Платные услуги',
        'description' => 'Услуги, предоставляемые дополнительно к
бесплатным медицинским услугам',
        'link_title' => 'Записаться',
        'url' => '/service/record/paid',
        'icon' => '/design/common/img/main_items_01.png',
        'type' => 'service',
        'enabled' => true,
        'need_auth' => TRUE,
        'class' => 'payservices',
        'banner' => 'payservices',
    ),
    'attachment' => array(
        'title' => 'Прикрепление',
        'title_html' => 'Прикрепление',
        'description' => 'Добавить или изменить прикрепление к
медицинской организации',
        'link_title' => 'Изменить',
        'url' => '/service/emk/attachment',
        'icon' => '/design/common/img/main_items_01.png',
        'type' => 'service',
        'enabled' => true,
        'need_auth' => TRUE,
        'class' => 'attachment',
        'banner' => 'attachment',
    ),
),

/**
 * Профили врачей
 */
'profiles' => array(
    // Список id главных специальностей для вывода в начале списка
    'main_profiles' => array(
        // терапевт, стоматолог, гинеколог, педиатр
        //6, 10, 11, 29, 31, 36, 37, 38, 56, 63, 100, 10000, 12006,
12013, 401455, 401387, 401468, 401444
        // хирургия, дерматология, травматология, гинекология,
стоматология, отоларингология, офтальмология
    ),
    // Список id главных специальностей для вывода в начале списка
    'main_profiles_auth' => array(
        //6, 10, 11, 29, 31, 56, 63, 100, 401455, 401387, 401468,
401444
        // хирургия, отоларингология, офтальмология, травматология,
дерматология, гинекология, стоматология,
    ),
    // Список специальностей по которым есть прикрепление
    'attach' => array(2, 21, 12), // Терапевт, педиатр или гинеколог
    'attach_adult' => array(2, 5080), // по терапевту или по врачу
общей практики,
    'attach_child' => array(21), // для детей по педиатру
    'attach_women' => array(12), // гинеколог
    // Стоматолог
    'stomatologist' => array(35, 36, 37, 38, 12006),
    // Терапевт
    'therapist' => array(2, 33020),
    // Педиатр
    'pediatrician' => array(21, 914),
    // Гинеколог
    'gynecologist' => array(12, 12013, 10000)
)

```



```

),

/**
 * Настройки записи на прием
 */
'record' => array(
    // Время, после которого запрещена запись на следующий день (Н:i)
    'max_time' => '17:00',
    // Возраст взрослого пациента
    'adult_age' => 18,
    // Количество дней, на которые доступна запись
    'max_day' => 14,
    'allow_record_today' => true,
    // Включить автоматическую модерацию
    'enable_automatic_moderation' => true,
    'enable_automatic_moderation_always' => true,

    /**
     * Проверки при записи
     */
    'validations' => array(
        // Разрешать только одно предстоящее посещение по профилю
        'only_one_record_allowed' => true,
        // Разрешать только одно посещение к одному специалисту в одно
        ЛПУ на день
        'only_one_record_on_day_allowed' => true,
    ),

    /**
     * Разрешить платный прием
     */
    'allow_pay' => true,
    'allow_disp' => true,

    /**
     * Разрешить настройку разрешения оповещений из Промеда
     */
    'set_promed_notifications' => false,

    /**
     * Разрешить отменять записи в любое время
     */
    'allow_cancel_any_time' => true,

    /**
     * Ограничение записи пациентов с закрытым полисом ОМС
     */
    'restrict_record_with_closed_polis' => true
),

/**
 * Список официальных документов для вывода на страницах
 */
'documents' => array(
    array(
        'link' => '/docs/pgg2015.pdf',
        'title' => 'Программа государственных гарантий оказания
гражданам Российской Федерации бесплатной медицинской помощи на 2015 год и
на плановый период 2016 и 2017 годов'
    ),
    array(
        'link' => '/docs/tpgg2015_perm.pdf',
        'title' => 'Закон № 427-ПК от 25 декабря 2014 «О
территориальной программе государственных гарантий бесплатного оказания
гражданам медицинской помощи на 2015 год и на плановый период 2016 и 2017
годов»'
    )
)

```

```

    ),
    array(
        'link' => '/docs/sed-34-01-06-346.pdf',
        'title' => 'Приказ Министерства Здравоохранения Пермского края
№ сэд-34-01-06-346 от 21 сентября 2011 г. «Об утверждении порядка
прикрепления населения к медицинским организациям для получения
амбулаторно-поликлинической помощи»'
    )
),

/**
 * Часовой пояс
 */
'timezone' => 'Asia/Yekaterinburg',

/**
 * Ключ для яндекс-карт
 */
'map_key' => '***',

/**
 * Объявление для главной страницы
 */
'notice' => array(
    // Текст объявления (поддерживается Textile)
    'text' => '
        Сайт работает в ознакомительном режиме. Вскоре состоится
переход в рабочий режим. <a href="/about/new">Что нового?</a>
    ',
    // Дата и время (Y-m-d H:i) срока действия объявления
    'expires' => '2016-09-28 12:00'
),

/**
 * Тип добавления человека в картотеку
 * 1 - Добавление без модерации, если человек не найден в БД
 * 2 - Отправка человека на модерацию, если человек не найден в БД
 * 3 - Запрет добавления человека если он не найден в БД
 */
'add_person_type' => 1,

/**
 * Настройки авторизации
 */
'auth' => array(
    /**
     * Количество неверных попыток авторизации до момента, когда
учетная запись будет временно заблокирована
     */
    'max_attempts_count' => 5,

    /**
     * Количество минут, на которые блокируется учетная запись после
определенного выше числа неверных попыток авторизации.
     */
    'ban_time' => 10,

    'swToken' => '***',
    'scan_code_service' =>
'ws://127.0.0.1:8080/ScanCodeService/wsscancode'
),
'homevisit' => array(
    /**
     * Временной промежуток, когда доступен сервис
     */
    'from_time' => '08:00',

```

```

        'to_time' => '23:00'
    ),
    'MinTimeQueue' => '2',

    /**
     * E-mail технической поддержки, используется для формы обратной связи
     */
    'support_email' => 'support@k-vrachu.ru',

    /**
     * Яндекс метрика
     */
    'metrika' => 41455854,

    /**
     * Регионы
     */
    'regions' => array(
        'astrakhan' => array(
            'print_name' => 'Астраханская область',
            'geo_name' => 'Астраханская область',
            'link' => 'http://doctor30.ru'
        ),
        'ufa' => array(
            'print_name' => 'Республика Башкортостан',
            'geo_name' => 'Республика Башкортостан',
            'link' => 'https://rb.k-vrachu.ru'
        ),
        'buryatia' => array(
            'print_name' => 'Республика Бурятия',
            'geo_name' => 'Республика Бурятия',
            'link' => 'https://reg03.k-vrachu.ru/'
        ),
        'karelia' => array(
            'print_name' => 'Республика Карелия',
            'geo_name' => 'Республика Карелия',
            'link' => 'https://reg.zdrav10.ru/'
        ),
        'perm' => array(
            'print_name' => 'Пермский край',
            'geo_name' => 'Пермский область',
            'link' => 'https://demo.k-vrachu.ru/'
        ),
        'pskov' => array(
            'print_name' => 'Псковская область',
            'geo_name' => 'Псковская область',
            'link' => 'https://k-vrachu.pskov.ru/'
        ),
        'ekb' => array(
            'print_name' => 'Свердловская область',
            'geo_name' => 'Свердловская область',
            'link' => 'https://so.k-vrachu.ru/'
        ),
        'khakassia' => array(
            'print_name' => 'Республика Хакасия',
            'geo_name' => 'Республика Хакасия',
            'link' => 'https://k-vrachu.mz19.ru/'
        ),
    ),

    /**
     * Настройки связи с ЕЦП
     */
    'promed' => array(
        /**
         * Путь к ЕЦП

```

```

    */
    'path' => 'http://pro.local/rish',

    /**
     * Путь к Birt
     */
    'birt_path' => 'http://192.168.136.40:812/birt-viewer/preview'
),
'external' => array(
    'promed_path' => 'http://pro.local'
),

/**
 * Настройки отзывов
 */
'feedbacks' => array(
    'doctor' => array(
        'enabled' => true // включить/отключить отзывы о врачах
        , 'display_type' => 0 // 0 или не указано - только звездочки, 1
- звездочки + текст
        , 'posting_expired_time' => 10
    ),
    'lpu' => array(
        'enabled' => true // включить/отключить отзывы о больницах
        , 'display_type' => 0 // 0 или не указано - только звездочки, 1
- звездочки + текст
    )
    // возможность модерации отзывов через панель модерации
    // (1 - модерация разрешена | 0 или НЕ УКАЗАНО - модерация не
разрешена)
    // для типа отображения "только звездочки", признак модерации не
учитывается
    , 'canModerate' => 1
    // кто может оставлять отзывы
    // 1 - только пользователи ЕСИА
    // 0 - все пользователи
    , 'only_esia_can_post' => 0
),

/**
 * Настройки жалоб
 */
'complaints' => array(
    'enabled' => false // включить/отключить жалобы
),

'logspath' => APPPATH . 'logs',

/**
 * NODE JS прокси для портала
 * 1. для имени хоста обязательно указывать протокол (http:// или
https://) в зависимости от того в каком режиме запущен NODE-SERVER (можно
посмотреть при старте сервера или в логах)
 * 2. номера портов дублируются - это нормально, т.к. сокет сервер
теперь инициализируется через порт веб-сервера
 */
'nodejs_portal_proxy_hostname' => 'https://perm.swn.local',
'nodejs_portal_proxy_httpport' => '7070',
'nodejs_portal_proxy_socketport' => '7070',

'workplaces' => array(
    // Название точки входа в ЕЦП
    'endpoint_name' => 'ЕИСЗ ПК',

    // настройки для разных типов АРМ

```

```

        // АРМ СОТРУДНИКА ОБР. УЧ.
        'edu' => array(
            // Список доступных ЛПУ для сотр. обр. учреждений
            'lpu_list' => array(10010833, 150185)
        )
    ),

    // Медицинский опросник - сбор структурированной медицинской
    информации и поддержка принятия решений
    'dss' => array(
        'api_path' => 'http://192.168.37.3:2071/patient/API.php', //
        // тестовый сервер АПИ СППР
        'api_version' => '4-1-0'
    ),

    // Количество строк на экране ТВ
    'scoreboard_timetable_max_rows' => 5,

    // Включить/отключить СМС уведомления
    // Для API находится в config/regions.php
    'sms_notifications' => false,
    'fcm_key' => '***',

    // Анкеты в ЭМК
    'polls' => array(
        'enabled' => true
    ),

    // Путь до общих сервисов
    'SwServiceCommon' => array(
        'default' => array(
            'url' => 'http://192.168.37.3:2080/api/common',
            'timeout' => 20,
            'name' => 'Общий функционал',
            'nick' => 'common',
            'enabled' => true
        )
    ),

    // Путь до РИШ
    'SwServiceRish' => array(
        'default' => array(
            'url' => 'http://192.168.37.3:2080/api/rish',
            'timeout' => 20,
            'name' => 'РИШ',
            'nick' => 'rish',
            'enabled' => true
        )
    ),

    // Дополнительное логирование
    'logging' => array(
        // включено или отключено
        'enabled' => true,

        // здесь можно исключить какие-либо логи
        // (ElectronicQueue, ProffService, SwService, Infomat)
        'exluded_logs' => array()
    ),

    // использование моделей запросами на PG
    'use_postgres' => true,
    // разрешить использование функционала заявок
    'enable_record_request' => false,
    // перенаправлять на сайт ЕПГУ при записи к врачу
    'use_ergu_record' => false

```

```
);
```

sms.php

Настройки для отправки SMS

```
return array(  
    'login' => 'svan',  
    'password' => '***',  
    'prefix' => 'karelia',  
    'sender' => 'reg.zdrav10',  
    'proxy' => array(  
        /*  
        'address' => '192.168.36.167',  
        'port' => '3128',  
        'login' => NULL,  
        'password' => NULL,  
        */  
    )  
);
```

14 Сервис LDAP

Для установки на centos нужен доступ к интернету и выполнить следующую команду

```
curl https://cloud.swan-it.ru/index.php/s/Xp4xk9XN7XSpsgz/download |  
sudo bash
```

После установки регистрируется сервис в systemd `opendj.service`

Сервис уже преднастроен и залита пустая база с Base DN `dc=ecp,dc=ru`

Администрирование осуществляется по порту 4444 пароль `rjynhjncnefktybt`

В базе находится один пользователь для входа в ЕЦП.МИС `admin/AmoKK`

Данный пользователь может быть не привязан ни к одной МО. в этом случае входим в ЕЦП.МИС. Видим выбор МО, но выбрать якобы невозможно. Но если начать вводить Тест, то можно перейти в ЛПУ тест. после чего создать пользователя с привязкой к МО и необходимыми правами. и в последующем входить уже под созданным пользователем.

Добавляем в настройки ЕЦП.МИС в `promed.php`, заменив адрес сервера на необходимый, следующие настройки:

```
// сервер LDAP  
define("LDAP_SERVER", "10.1.1.1");  
define("LDAP_SERVER_PORT", 389);  
  
// настройки дерева  
define("LDAP_DOMAIN", "dc=ecp,dc=ru");  
define("LDAP_GROUP_PATH", "ou=Groups, ".LDAP_DOMAIN);  
define("LDAP_USER_PATH", "ou=Users, ".LDAP_DOMAIN);  
define("LDAP_ADDRBOOK_PATH", "ou=Books, ".LDAP_DOMAIN);  
  
// учетная запись  
define("LDAP_USER", "cn=admin, ".LDAP_DOMAIN);  
define("LDAP_PASS", "amokkamokk");
```

Code Block 32 promed.php

Установка ограничения по памяти:

Правим службу и оставляем

в файле `/opt/opendj/config/java.properties`

выставляем необходимые границы памяти.

`overwrite-env-java-home=true`

`start-ds.java-args="-server" "-Xms2g" "-Xmx6g" "-XX:+UseCompressedOops"`

запускаем

`/opt/opendj/bin/dsjavaproperties`

перезапускаем службу.

Реконструкция индексов

```
rebuild-index -h localhost -p 4444 -D "cn=directory manager" --bindPassword ***** --baseDN  
dc=ufa,dc=local --rebuildAll --trustall
```


15 Сервис ЕРМП

15.1 Программное обеспечение:

1. Java 1.8
2. Tomcat 9
3. Драйвер Postgresql (Положить в lib томката)
(42.2.6) <https://mvnrepository.com/artifact/org.postgresql/postgresql/42.2.6>

На данный момент можно взять сам ЕРМП <https://cloud.swan-it.ru/index.php/s/PHxrRok6DoxStBE>

js файлы из папки ermp_promed по ссылке выше надо положить в папку ermp в корневой папке ЕЦП.МИС. (Если ЕЦП.МИС в папке /srv/promed, то положить в папку /srv/promed/ermp)

Старые файлы js лучше удалить.

.gwt.rpc файл положить рядом с папкой WEB-INF (лежит так же в ermp_promed)

Настройки находятся в папке webapps/ermp/WEB-INF/settings.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<servers>
  <server>
    <active>true</active>
    <!-- Можно не править на данный момент не используется -->
    <ermp-export>
      <see-in-browser>/export/ermp_files</see-in-browser>
      <url>file:///d:\ermp\</url>
      <port></port>
      <user></user>
      <password></password>
      <ermp_temp></ermp_temp>
    </ermp-export>
    <!-- Указываем подключени к БД mongodb в которой хранятся сессии, т.е. к
    той которая указана в конфигурации промеда в файле mongodbsessions.php -->
    <noSQLAuthorizationDBConnection active="true">
      <username></username>
      <password></password>
      <host></host>
      <port></port>
      <db_name></db_name>
      <table_name>Session</table_name>
    </noSQLAuthorizationDBConnection>
    <!-- Указываем подключени к БД postgresql основная. Группа в database.php
    default -->
    <authorizationDBconnection>
      <username></username>
      <password></password>
      <url>jdbc:postgresql:///</url>
    </authorizationDBconnection>
    <!-- Указываем подключени к БД postgresql основная. Группа в database.php
    default -->
    <workDBconnection>
      <username></username>
      <password></password>
      <url>jdbc:postgresql:///</url>
    </workDBconnection>
    <service-auth>
      <url>http://mz.nsser.prognoz.ru/MedStaff/MedStaff.svc/basic</u
rl>
      <!--
url>https://service.rosminzdrav.ru/MedStaffIntegration/medstaff.svc/basic<
/url-->
      <username></username>
      <password></password>
      <!--hdStorePassword></hdStorePassword-->
    </service-auth>
    <app-env>
    <!-- Кроме кода ДЛО (описание и регулярное выражение) пока ничего не
    правила по данным настройкам желательно проконсультироваться у
    разработчиков (Разорвин Виктор, Фролов Антон) -->
    <lpuSearchConstraint>true</lpuSearchConstraint>
    <kodDloMask>[0-9]{6}</kodDloMask>
    <kodDloMaskMessage>Код ДЛО должен состоять из 6
цифр</kodDloMaskMessage>
    <useKodDLOWithLPU>>false</useKodDLOWithLPU>
    <generateDloButtonVisible>true</generateDloButtonVisible>
    <needINN>true</needINN>
    <needSNILS>true</needSNILS>
    <needAddress>true</needAddress>
    <needDocument>true</needDocument>
    <exportAllPost>true</exportAllPost>
    <!-- контроль на обязательность полей -->
    <useFRMR>>false</useFRMR>
    <!-- запрет на редактирование сотрудника-->

```

```

        <preventEditableWorker>true</preventEditableWorker>
        <!--количество ставок-->
        <medPersonalRate>1.5</medPersonalRate>
    </app-env>
</server>
</servers>
<!--
Для возможности редактирования Строки штатного расписания на месте работы
в таблице БД persis.ClientSettings должен присутствовать параметр
isEditStaff со значением true (таблица региональная)
Для возможности редактирования Должности в строке штатного расписания в
таблице БД persis.ClientSettings должен присутствовать параметр isEditPost
со значением true (таблица региональная)
-->

```

Code Block 33 settings.xml

Выше в комментариях написано какие подключения прописывать. Читайте внимательно.

[Настройка авторизации в ЕРМП](#)

15.2 Настройка авторизации в ЕРМП

Настройка авторизации в ЕРМП производится в файле настроек WEB-INF/settings.xml

Блоки отвечающие за настройку

Авторизация через БД (на данный момент уже не используется) :

```

...
<authorizationDBconnection>
    <username></username>
    <password></password>
    <url>jdbc:postgresql:///</url>
</authorizationDBconnection>
...

```

Code Block 34 settings.xml

Авторизация через MongoDB:

```

<noSQLAuthorizationDBConnection active="true">
    <uri></uri>
    <username></username>
    <password></password>
    <host></host>
    <port></port>
    <db_name></db_name>
    <table_name>Session</table_name>
</noSQLAuthorizationDBConnection>

```

Code Block 35 settings.xml

Выбор способа авторизации производится следующим образом: по умолчанию используется авторизация через бд, если же в теге `noSQLAuthorizationDBConnection` параметр `active` установлен в "true" то производится авторизация через MongoDB

Настройка авторизации через бд (на данный момент уже не используется):

- указать имя пользователя (`<username>someLogin</username>`)
- пароль (`<password>*****</password>`)
- строку соединения jdbc с сервером базы данных (`<url>jdbc:postgresql://192.168.36.24:5432/promedtest</url>`)

Настройка авторизации через Mongo:

1) Настройка соединения с одиночным сервером MongoDB

- строка соединения оставляется пустой (`<uri></uri>`)
- указать если требуется авторизация имя пользователя (`<username>someLogin</username>`)
- пароль (`<password>*****</password>`)
- хост (`<host>192.168.36.84</host>`)
- порт (`<port>27017</port>`)
- имя базы (`<db_name>db_perm</db_name>`)
- имя коллекции (`<table_name>Session</table_name>`)

Доступно с версии v1.0.2

2) Настройка соединения с кластером MongoDB

- указывается строка соединения с кластером (`<uri>mongodb://mongors1n1:27017,mongors1n2:27017,mongors1n3:27017/?replicaSet=mongors1</uri>`)
- имя базы (`<db_name>db_perm</db_name>`)
- имя коллекции (`<table_name>Session</table_name>`)
при указании строки соединения (uri) соединение создается из него значения хоста и порта игнорируются даже если заполнены

[Проверка правильности настроек](#)

16 Сервис формирования отчетов birt-viewer

1. Java 1.8 (1.11)
2. Tomcat 9
3. Драйвер Postgresql (Положить в lib томката) (42.2.6) <https://mvnrepository.com/artifact/org.postgresql/postgresql/42.2.6>
4. birt-viewer 4.8

Скачать birt-viewer можно по ссылке <https://download.eclipse.org/birt/downloads/>

Стандартная инструкция по установке находится по ссылке - <https://www.eclipse.org/birt/documentation/integrating/viewer-setup.php>

После установки надо скачать шрифты, которые используются в отчетах <https://cloud.swan-it.ru/index.php/s/SLtpxTcb3HefPap>

положить в одну из следующих папок:

```
/usr/X/lib/X11/fonts/TrueType
/usr/share/fonts/default/TrueType
/usr/openwin/lib/X11/fonts/TrueType
/usr/openwin/lib/locale/euro_fonts/X11/fonts/TrueType
/usr/openwin/lib/locale/iso_8859_2/X11/fonts/TrueType
/usr/openwin/lib/locale/iso_8859_5/X11/fonts/TrueType
/usr/openwin/lib/locale/iso_8859_7/X11/fonts/TrueType
/usr/openwin/lib/locale/iso_8859_8/X11/fonts/TrueType
/usr/openwin/lib/locale/iso_8859_9/X11/fonts/TrueType
/usr/openwin/lib/locale/iso_8859_13/X11/fonts/TrueType
/usr/openwin/lib/locale/iso_8859_15/X11/fonts/TrueType
/usr/openwin/lib/locale/ar/X11/fonts/TrueType
/usr/openwin/lib/locale/hi_IN.UTF-8/X11/fonts/TrueType
/usr/openwin/lib/locale/ja/X11/fonts/TT
/usr/openwin/lib/locale/ko/X11/fonts/TrueType
/usr/openwin/lib/locale/ko.UTF-8/X11/fonts/TrueType
/usr/openwin/lib/locale/KOI8-R/X11/fonts/TrueType
/usr/openwin/lib/locale/ru.ansi-1251/X11/fonts/TrueType
/usr/openwin/lib/locale/th_TH/X11/fonts/TrueType
/usr/openwin/lib/locale/zh_TW/X11/fonts/TrueType
/usr/openwin/lib/locale/zh_TW.BIG5/X11/fonts/TT
/usr/openwin/lib/locale/zh_HK.BIG5HK/X11/fonts/TT
/usr/openwin/lib/locale/zh_CN.GB18030/X11/fonts/TrueType
/usr/openwin/lib/locale/zh/X11/fonts/TrueType
/usr/openwin/lib/locale/zh.GBK/X11/fonts/TrueType
/usr/X11R6/lib/X11/fonts/TrueType
/usr/X11R6/lib/X11/fonts/truetype
/usr/X11R6/lib/X11/fonts/tt
/usr/X11R6/lib/X11/fonts/TTF
/usr/X11R6/lib/X11/fonts/OTF
```

```
/usr/share/fonts/ja/TrueType  
/usr/share/fonts/truetype  
/usr/share/fonts/ko/TrueType  
/usr/share/fonts/zh_CN/TrueType  
/usr/share/fonts/zh_TW/TrueType  
/var/lib/defoma/x-ttcidfont-conf.d/dirs/TrueType
```

Перезапускаем сервис.

С папке report создаем файл ConnectLib.rptlibrary

```

<?xml version="1.0" encoding="UTF-8"?>
<library xmlns="http://www.eclipse.org/birt/2005/design" version="3.2.23"
id="1">
  <property name="createdBy">Eclipse BIRT Designer Version
4.2.2.v201301221637 Build &lt;4.2.2.v20130206-1509></property>
  <property name="units">in</property>
  <property name="theme">defaultTheme</property>
  <parameters>
    <scalar-parameter name="CurrentRegion" id="374">
      <property name="hidden">true</property>
      <text-property name="promptText">Текущий регион</text-property>
      <property name="valueType">static</property>
      <property name="isRequired">>false</property>
      <property name="dataType">integer</property>
      <property name="distinct">>true</property>
      <simple-property-list name="defaultValue">
        <value type="constant">1</value>
      </simple-property-list>
      <list-property name="selectionList"/>
      <property name="paramType">simple</property>
      <property name="controlType">text-box</property>
      <structure name="format">
        <property name="category">Unformatted</property>
      </structure>
    </scalar-parameter>
  </parameters>
  <data-sources>
    <oda-data-source extensionID="org.eclipse.birt.report.data.oda.jdbc"
name="DataSourceReportPgSQL" id="365">
      <list-property name="privateDriverProperties">
        <ex-property>
          <name>metadataBidiFormatStr</name>
          <value>ILYNN</value>
        </ex-property>
        <ex-property>
          <name>disabledMetadataBidiFormatStr</name>
        </ex-property>
        <ex-property>
          <name>contentBidiFormatStr</name>
          <value>ILYNN</value>
        </ex-property>
        <ex-property>
          <name>disabledContentBidiFormatStr</name>
        </ex-property>
      </list-property>
      <property
name="odaDriverClass">org.postgresql.Driver</property>
      <property name="odaURL"></property>
      <property name="odaUser"></property>
      <encrypted-property name="odaPassword"
encryptionID="base64"></encrypted-property>
    </oda-data-source>
    <oda-data-source extensionID="org.eclipse.birt.report.data.oda.jdbc"
name="DataSourceReportPgSQLStac" id="367">
      <list-property name="privateDriverProperties">
        <ex-property>
          <name>metadataBidiFormatStr</name>
          <value>ILYNN</value>
        </ex-property>
        <ex-property>
          <name>disabledMetadataBidiFormatStr</name>
        </ex-property>
        <ex-property>
          <name>disabledMetadataBidiFormatStr</name>
        </ex-property>
      </list-property>
    </oda-data-source>
  </data-sources>
</library>

```

```

        <name>contentBidiFormatStr</name>
        <value>ILYNN</value>
    </ex-property>
    <ex-property>
        <name>disabledContentBidiFormatStr</name>
    </ex-property>
</list-property>
<property
name="odaDriverClass">org.postgresql.Driver</property>
    <property name="odaURL"></property>
    <property name="odaUser"></property>
    <encrypted-property name="odaPassword"
encryptionID="base64"></encrypted-property>
</oda-data-source>
    <oda-data-source extensionID="org.eclipse.birt.report.data.oda.jdbc"
name="DataSourceReportPgSQLLis" id="368">
        <list-property name="privateDriverProperties">
            <ex-property>
                <name>metadataBidiFormatStr</name>
                <value>ILYNN</value>
            </ex-property>
            <ex-property>
                <name>disabledMetadataBidiFormatStr</name>
            </ex-property>
            <ex-property>
                <name>contentBidiFormatStr</name>
                <value>ILYNN</value>
            </ex-property>
            <ex-property>
                <name>disabledContentBidiFormatStr</name>
            </ex-property>
        </list-property>
    </property>
name="odaDriverClass">org.postgresql.Driver</property>
    <property name="odaURL">jdbc:postgresql:///</property>
    <property name="odaUser"></property>
    <encrypted-property name="odaPassword"
encryptionID="base64"></encrypted-property>
</oda-data-source>
    <oda-data-source extensionID="org.eclipse.birt.report.data.oda.jdbc"
name="DataSourceReportPgSQLRegistry" id="369">
        <list-property name="privateDriverProperties">
            <ex-property>
                <name>metadataBidiFormatStr</name>
                <value>ILYNN</value>
            </ex-property>
            <ex-property>
                <name>disabledMetadataBidiFormatStr</name>
            </ex-property>
            <ex-property>
                <name>contentBidiFormatStr</name>
                <value>ILYNN</value>
            </ex-property>
            <ex-property>
                <name>disabledContentBidiFormatStr</name>
            </ex-property>
        </list-property>
    </property>
name="odaDriverClass">org.postgresql.Driver</property>
    <property name="odaURL"></property>
    <property name="odaUser"></property>
    <encrypted-property name="odaPassword"
encryptionID="base64"></encrypted-property>
</oda-data-source>

```



```

        <oda-data-source extensionID="org.eclipse.birt.report.data.oda.jdbc"
name="DataSourceReportPgSQLPolka" id="370">
        <list-property name="privateDriverProperties">
            <ex-property>
                <name>metadataBidiFormatStr</name>
                <value>ILYNN</value>
            </ex-property>
            <ex-property>
                <name>disabledMetadataBidiFormatStr</name>
            </ex-property>
            <ex-property>
                <name>contentBidiFormatStr</name>
                <value>ILYNN</value>
            </ex-property>
            <ex-property>
                <name>disabledContentBidiFormatStr</name>
            </ex-property>
        </list-property>
        <property
name="odaDriverClass">org.postgresql.Driver</property>
        <property name="odaURL"></property>
        <property name="odaUser"></property>
        <encrypted-property name="odaPassword"
encryptionID="base64"></encrypted-property>
    </oda-data-source>
    <oda-data-source extensionID="org.eclipse.birt.report.data.oda.jdbc"
name="DataSourceReportPgSQLSMP" id="371">
        <list-property name="privateDriverProperties">
            <ex-property>
                <name>metadataBidiFormatStr</name>
                <value>ILYNN</value>
            </ex-property>
            <ex-property>
                <name>disabledMetadataBidiFormatStr</name>
            </ex-property>
            <ex-property>
                <name>contentBidiFormatStr</name>
                <value>ILYNN</value>
            </ex-property>
            <ex-property>
                <name>disabledContentBidiFormatStr</name>
            </ex-property>
        </list-property>
        <property
name="odaDriverClass">org.postgresql.Driver</property>
        <property name="odaURL"></property>
        <property name="odaUser"></property>
        <encrypted-property name="odaPassword"
encryptionID="base64"></encrypted-property>
    </oda-data-source>
    <oda-data-source extensionID="org.eclipse.birt.report.data.oda.jdbc"
name="DataSourceReportPgSQLNSI" id="372">
        <list-property name="privateDriverProperties">
            <ex-property>
                <name>metadataBidiFormatStr</name>
                <value>ILYNN</value>
            </ex-property>
            <ex-property>
                <name>disabledMetadataBidiFormatStr</name>
            </ex-property>
            <ex-property>
                <name>contentBidiFormatStr</name>
                <value>ILYNN</value>
            </ex-property>
        </list-property>
    </oda-data-source>

```

```

        <ex-property>
            <name>disabledContentBidiFormatStr</name>
        </ex-property>
    </list-property>
    <property
name="odaDriverClass">org.postgresql.Driver</property>
        <property name="odaURL"></property>
        <property name="odaUser"></property>
        <encrypted-property name="odaPassword"
encryptionID="base64"></encrypted-property>
    </oda-data-source>
    <oda-data-source extensionID="org.eclipse.birt.report.data.oda.jdbc"
name="DataSourceReportPgSQLAll" id="373">
        <list-property name="privateDriverProperties">
            <ex-property>
                <name>metadataBidiFormatStr</name>
                <value>ILYNN</value>
            </ex-property>
            <ex-property>
                <name>disabledMetadataBidiFormatStr</name>
            </ex-property>
            <ex-property>
                <name>contentBidiFormatStr</name>
                <value>ILYNN</value>
            </ex-property>
            <ex-property>
                <name>disabledContentBidiFormatStr</name>
            </ex-property>
        </list-property>
    </property>
name="odaDriverClass">org.postgresql.Driver</property>
        <property name="odaURL"></property>
        <property name="odaUser"></property>
        <encrypted-property name="odaPassword"
encryptionID="base64"></encrypted-property>
    </oda-data-source>
    <oda-data-source extensionID="org.eclipse.birt.report.data.oda.jdbc"
name="DataSourceEMD" id="7">
        <list-property name="privateDriverProperties">
            <ex-property>
                <name>metadataBidiFormatStr</name>
                <value>ILYNN</value>
            </ex-property>
            <ex-property>
                <name>disabledMetadataBidiFormatStr</name>
            </ex-property>
            <ex-property>
                <name>contentBidiFormatStr</name>
                <value>ILYNN</value>
            </ex-property>
            <ex-property>
                <name>disabledContentBidiFormatStr</name>
            </ex-property>
        </list-property>
    </property>
name="odaDriverClass">org.postgresql.Driver</property>
        <property name="odaURL"></property>
        <property name="odaUser"></property>
        <encrypted-property name="odaPassword"
encryptionID="base64"></encrypted-property>
    </oda-data-source>
</data-sources>
<themes>
    <theme name="defaultTheme" id="4"/>

```

```

</themes>
<page-setup>
  <simple-master-page name="NewSimpleMasterPage" id="3"/>
</page-setup>
</library>

```

Необходимо заполнить следующее:

```

<property
name="odaURL">jdbc:postgresql://DB\_ADDRESS/DB\_NAME</property>
  <property name="odaUser">USERNAME</property>
  <encrypted-property name="odaPassword"
encryptionID="base64">PASSWORD_BASE64</encrypted-property>

```

В строках капслоком прописаны параметры, которые необходимо поменять

DB_ADDRESS - поменять на адрес Базы данных и порт

DB_NAME - имя БД

USERNAME - пользователь под которым будет подключаться

PASSWORD_BASE64 - Пароль зашифрованный base64

Источники данных:

DataSourceReportPgSQL - Указывается подключение к отчетной БД

DataSourceReportPgSQLStac - Указывается подключение к БД стационара

DataSourceReportPgSQLLis - Указывается подключение к БД ЛИС

DataSourceReportPgSQLRegistry - Указывается подключение к реестровой БД

DataSourceReportPgSQLPolka - Указывается подключение к БД поликилиники

DataSourceReportPgSQLSMP - Указывается подключение к БД СМП

DataSourceReportPgSQLNSI - НЕОБХОДИМО ПОЯСНИТЬ У РАЗРАБОТЧИКОВ

DataSourceReportPgSQLAll - Общей БД (Нужно для печати рецептов и т.д.)

```

<parameters>
<scalar-parameter name="CurrentRegion" id="374">
<property name="hidden">>true</property>
<text-property name="promptText">Текущий регион</text-property>
<property name="valueType">static</property>
<property name="isRequired">>false</property>
<property name="dataType">integer</property>
<property name="distinct">>true</property>

```

```
<simple-property-list name="defaultValue">  
  <value type="constant">1</value>  
</simple-property-list>  
<list-property name="selectionList"/>  
<property name="paramType">simple</property>  
<property name="controlType">text-box</property>  
<structure name="format">  
  <property name="category">Unformatted</property>  
</structure>  
</scalar-parameter>  
</parameters>
```

В разделе <parameters> необходимо заполнить значение <value type="constant"> кодом региона, для которого разворачивается сервер birt.

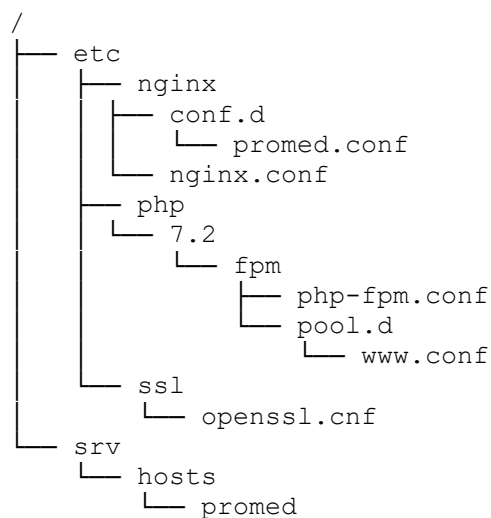
Отчеты положить в папку reports сервиса birt-viewer.

17 Установка веб сервера на linux

Необходимое программное обеспечение:

- nginx последняя стабильная версия
- openssl версии 1.1.1
- java версии 1.8 и выше
- при использовании MSSQL необходим Microsoft ODBC драйвер версии 17
- php 7.0 и выше
- модули php
- bcmath
- fpm
- mbstring
- stomp
- ldap
- gd
- pgsql
- curl
- opcache
- soap
- zip
- xml
- mongodb
- dbase
- rar
- sqlsrv(при использовании MSSQL базы данных)

Структура папок



└─ export
└─ uploads

Описание файлов и папок

/etc/nginx/nginx.conf	Основной конфиг nginx
/etc/nginx/conf.d/promed.conf	Конфиг ЕЦП.МИС
/etc/php/7.2/fpm/php-fpm.conf	Основной конфиг PHP
/etc/php/7.2/fpm/pool.d/ www.conf	конфиг php для ЕЦП.МИС
/etc/ssl/openssl.cnf	Openssl конфиг
/srv/hosts/promed	путь для приложения ЕЦП.МИС
/srv/hosts/promed/export	папка со сгенерированными документами, например ответы
/srv/hosts/promed/uploads	папка с документами, что загружают пользователи

в папке export необходимо создать самостоятельно следующие папки:

./register_files
 ./registry_es
 ./ostat_registry_files
 ./reports
 ./vzn_register
 ./dd_files
 ./attach_list
 ./medpersonal_list
 ./staff_files
 ./cryptcp_temp
 ./jnvlp_price_files
 ./pl_files
 ./miac_export
 ./registry_es_files
 ./person_card_inform
 ./stickfssdata_files
 ./template
 ./pdf_print
 ./export_morbus_onko_data
 ./evn_prescr_mse
 ./measures_rehab
 ./medsvid_blanks
 ./bsme_files
 ./mes_files
 ./person_disp_list
 ./medpersonal_data_frm
 ./nolos_person_register
 ./egisso_recept
 ./do_files
 ./hosp_data_for_tfoms
 ./vk_journals
 ./labordep_files
 ./rhash_temp
 ./signed_files
 ./person_polis_list
 ./QueryToDbf
 ./disp_list
 ./frl_import

- ./attached_list
- ./emd_files
- ./ps_files
- ./pc_files
- ./rrl_files
- ./lpu_staff_qwerty_reg_fond_files

В папке uploads необходимо самостоятельно создать следующие папки:

- ./messages
- ./geozones
- ./Directory_files
- ./importRegistryFromTFOMS
- ./drugs
- ./mce
- ./doc_normative_files
- ./users
- ./importHospDataFromTfoms
- ./RegistryFields
- ./importPersonRPN
- ./pmmedia
- ./evnmedia
- ./personcardattaches
- ./kazakh_project
- ./audioCalls
- ./persons
- ./mseattaches
- ./orgs

Папкам export и uploads необходимо дать права на запись, так же права на запись необходимо дать папкам logs, если используете логинг папке внутри приложения и папке ./vendor/mpdf/mpdf/tmp

```

apt-get install software-properties-common curl tzdata -y ;\
ln -sf /usr/share/zoneinfo/$TZ /etc/localtime ;\
dpkg-reconfigure -f noninteractive tzdata ;\
add-apt-repository ppa:nginx/stable -y ;\
curl https://packages.microsoft.com/keys/microsoft.asc > microsoft.asc
;\
apt-key add microsoft.asc ;\
curl https://packages.microsoft.com/config/ubuntu/18.04/prod.list >
/etc/apt/sources.list.d/mssql-release.list ;\
apt-get update ;\
ACCEPT_EULA=Y apt-get install -y nginx openjdk-8-jre php7.2 php7.2-
bcmath php7.2-fpm php7.2-mbstring php7.2-dev php-stomp php7.2-ldap php7.2-
gd php7.2-pgsql php7.2-curl php7.2-opcache php7.2-soap php7.2-zip php7.2-
xml php-pear msodbcsql17 mssql-tools unixodbc unixodbc-dev libengine-gost-
openssl1.1 ;\
ln -snf /opt/mssql-tools/bin/sqlcmd /usr/bin/sqlcmd ;\
ln -snf /opt/mssql-tools/bin/bcp /usr/bin/bcp ;\
pecl install mongodb sqlsrv pdo_sqlsrv dbase rar ;\
echo "extension=sqlsrv.so" > /etc/php/7.2/fpm/conf.d/sqlsrv.ini ;\
echo "extension=pdo_sqlsrv.so" >
/etc/php/7.2/fpm/conf.d/pdo_sqlsrv.ini ;\
echo "extension=mongodb.so" > /etc/php/7.2/fpm/conf.d/mongodb.ini ;\
echo "extension=dbase.so" > /etc/php/7.2/fpm/conf.d/dbase.ini ;\
echo "extension=rar.so" > /etc/php/7.2/fpm/conf.d/rar.ini

```

Code Block 36 Пример установки ПО на ubuntu 18.04 с MSSQL драйвером и модулем php

```

user www-data;
worker_processes 1;
pid /run/nginx.pid;
include /etc/nginx/modules-enabled/*.conf;
worker_rlimit_nofile 16384;
events {
    worker_connections 2048;
}
http {
    sendfile on;
    tcp_nopush on;
    tcp_nodelay on;
    keepalive_timeout 65;
    types_hash_max_size 2048;
    server_tokens off;
    charset utf-8;
    client_max_body_size 400M;
    include /etc/nginx/mime.types;
    default_type application/octet-stream;
    access_log /var/log/nginx/access.log;
    error_log /var/log/nginx/error.log warn;
    include /etc/nginx/conf.d/*.conf;
    #include /etc/nginx/sites-enabled/*;
}

```

Code Block 37 nginx.conf


```
# REG_NAME нужно заменить на название имя непосредственно того региона,
который вы настраиваете, например krasnoyarsk
server {
    listen 2080;
    root /srv/promed;
    access_log /var/log/nginx/promed.access.log;
    error_log /var/log/nginx/promed.error.log;
    location ~ /\.php$ {
        charset          utf-8;
        try_files $uri = 404;
        include fastcgi_params;
        fastcgi_pass unix:/var/run/php/php7.2-fpm.sock;
        fastcgi_read_timeout 3600;
        fastcgi_send_timeout 3600;
        fastcgi_index index.php;
        fastcgi_param REGION REG_NAME;
        fastcgi_param SCRIPT_FILENAME $document_root$fastcgi_script_name;
    }
    location /
    {
        charset          utf-8;
        index index.php index.html index.htm;
        try_files $uri $uri/ /index.php$query_string;
    }
}
```

Code Block 38 promed.conf

```
[global]

pid = /run/php/php7.2-fpm.pid

error_log = /var/log/php7.0-fpm.log

; Эти 3 строки связаны с тем чтобы очищать незавершенные и зависшие
процессы php

emergency_restart_threshold = 12

emergency_restart_interval = 65s

process_control_timeout = 10s

; количество процессов

process.max = 1536

; подключение конфига php по аналогии с php.ini

include=/etc/php/7.2/fpm/pool.d/*.conf
```

Code Block 39 php-fpm.conf

```

[www]
user = www-data
group = www-data
listen = /run/php/php7.2-fpm.sock
listen.owner = www-data
listen.group = www-data
pm = dynamic
pm.max_children = 460
pm.start_servers = 8
pm.min_spare_servers = 6
pm.max_spare_servers = 24
pm.process_idle_timeout = 60s;
pm.max_requests = 1536
env[TMP] = /tmp
env[TMPDIR] = /tmp
env[TEMP] = /tmp
php_flag[display_errors] = off
php_admin_value[error_log] = /var/log/fpm-php.www.log
php_admin_flag[log_errors] = on
php_admin_value[memory_limit] = 2048M
php_admin_value[date.timezone] = Europe/Moscow
php_admin_value[post_max_size] = 400M
php_admin_value[upload_max_filesize] = 400M
php_admin_value[max_execution_time] = 3600
php_admin_value[session.gc_maxlifetime] = 7200

```

Code Block 40 www.conf

Примечание

Указанные ниже настройки зависят от мощности сервера. но надо бысть с ними осторожными подробнее <https://www.php.net/manual/ru/install.fpm.configuration.php>

```

pm.max_children = 460
pm.start_servers = 8
pm.min_spare_servers = 6
pm.max_spare_servers = 24

```

```

#пишем в начале файла. например 3й не закомментируемой строкой
openssl_conf = openssl_def

#Пишем в конце файла
[openssl_def]
engines = engine_section
[engine_section]
gost = gost_section
[gost_section]
engine_id = gost
dynamic_path = /usr/lib/x86_64-linux-gnu/engines-1.1/gost.so
default_algorithms = ALL
CRYPTO_PARAMS = id-Gost28147-89-CryptoPro-A-ParamSet

```

Code Block 41 openssl.conf

18 Установка сервера хранения справочников, логов, кэша, сессий

Для функционирования Системы необходима установка и настройка СУБД MongoDB. Используется последняя стабильная версия mongodb 4.2

Функциональное назначение СУБД MongoDB - хранение локальных справочников и кэширование данных.

Установка СУБД производится на большинстве из платформ в соответствии с инструкциями официального сайта:

- инструкция по установке для Windows - <https://docs.mongodb.com/manual/tutorial/install-mongodb-on-windows/>
- инструкция по установке для Linux - <https://docs.mongodb.com/manual/administration/install-on-linux/>
- инструкция по установке для macOS - <https://docs.mongodb.com/manual/tutorial/install-mongodb-on-os-x/>

Примечание - Ссылки приведены в ознакомительных целях, месторасположение инструкций может быть изменено владельцем сайта.

Дополнительных настроек, кроме указанных в инструкциях по установке (приведенных по ссылкам выше), не требуется. По умолчанию используемый порт подключения к СУБД - 27017.

Инсталляция СУБД MongoDB производится либо на отдельно выделенном сервере для СУБД, либо на специализированном сервере, предназначенном для работы сервисов и приложений.

После установки СУБД MongoDB требуется загрузка локальных справочников и настройка конфигурационных файлов web-серверов:

- promed/condig/mongodb.php — файл конфигурации БД справочников.
- promed/condig/mongodblog.php — файл конфигурации БД логов пользователей.
- promed/condig/mongodbcache.php — файл конфигурации БД кэша приложения.
- promed/condig/mongodbsessions.php — файл конфигурации БД сессий пользователей.

В указанных конфигурациях указывается:

- \$config['mongo_host'] — настройка IP машины с сервером mongodb;
- \$config['mongo_port'] — настройка порта сервера mongodb;
- \$config['mongo_db'] — имя БД на сервере mongodb;

Для мониторинга производительности и управления СУБД используется менеджер студия, например, Robomongo, устанавливаемая на рабочем месте администратора.

Загрузка функциональных справочников производится согласно инструкции:

1. Авторизуйтесь в системе.
2. Откройте АРМ Администратора ЦОД, если заходите в первый раз, возможно у вас не откроется АРМ Администратор ЦОД, то в этом случае нужно открыть консоль браузера и ввести следующую команду **getWnd('swDBLocalVersionWindow').show();**
3. Нажмите кнопку «Система», выберите подпункт «Управление версиями локальных справочников». Отобразится форма состоящая из разделов:
 1. Версии - данный раздел содержит уже сгенерированные версии справочников.
 2. Справочники версии - можно посмотреть какие справочники и в какую версию вошли.

3. Все справочники - перечень справочников, доступных для регенерирования.
 - Добавьте локальный справочник. Для этого:
 1. В секции «Все справочники» нажмите кнопку "Добавить", откроется форма добавления справочника.
 2. Заполнить поля: Наименование (Название справочника), Префикс (совпадает с наименованием), Краткое наименование (совпадает с наименованием), Схема (Схема в которой находится справочник), Ключ-поле (Ключевое поле таблицы, обычно имя и _id), Модуль (Promed).
 3. Нажмите кнопку «Сохранить» и сгенерируйте его.

ВАЖНО. Перед самым первым формированием справочников нужно убедиться, что у базы указана правильная региональность. Если справочники сформировали раньше, то можно удалить базу со справочниками и повторить формирование.

19 Фоновые процессы системы

19.1 Фоновые процессы базы данных.

19.1.1 Создание реестра счетов

Для создания реестров счетов из очереди создается задание:

```
* /5 * * * * sudo -u postgres psql -d promedtest -U srv_rep50 -c "SELECT
r50.registry_processing_region();"
* /5 * * * * sudo -u postgres psql -d promedtest -U srv_rep60 -c "SELECT
r60.registry_processing_region();"
* /2 * * * * (/bin/date && sudo -u postgres psql -d promedadygea -U
srv_rep1 -c "CALL r1.registry_processing_region();" ) #>>
/home/zartdinov/promedadygea.log 2>&1 #При выполнении скрипта создается
файл с именем promedadygea.log и записывает информацию о выполнении
скрипта.
* /2 * * * * (/bin/date && sudo -u postgres psql -d promedtest -U srv_rep1
-c "CALL r1.registry_processing_region();" ) #>>
/home/zartdinov/promedtest.log 2>&1 #При выполнении скрипта создается файл
с именем promedtest.log и записывает информацию о выполнении скрипта.
```

Периодичность запуска от 2 до 5 мин.

Имя схемы зависит от настроек региона.rpt.registry_lvn_processing_region();

19.1.2 Чистка лога действия пользователя.

Задания запускаются на БД PHP_LOG

Очистка лога с отправкой удаленного в архив

```
select dbo.clear_PHPLog2(mont:=1);
0 3 * * 1-5 (/bin/date && sudo -u postgres psql -d php_log -U srv_rep1 -c
"select dbo.clear_PHPLog2(1);") >> /home/zartdinov/1-5.log 2>&1
```

mont кол-во месяцев, от текущей даты, данные за этот период остаются в логе, все что старше переносится в архив лог, по умолчанию =1.

Периодичность запуска с понедельника по пятницу раз в день.

Очистка архивного лога.

```
select dbo.clear_PHPLogArchive(mont:=3);
0 3 * * 6-0 (/bin/date && sudo -u postgres psql -d php_log -U srv_rep1 -c
"select dbo.clear_PHPLogArchive(3);") >> /home/zartdinov/6-0.log 2>&1
```

mont кол-во месяцев, от текущей даты, данные за этот период остаются в архивном логе, все что старше удаляется, по умолчанию =3.

Периодичность запуска с суббота, воскресенье раз в день.

19.1.3 Формирование ЛВН

```
*/5 * * * * sudo -u postgres psql -d promedtest -U web_promed50 -c "select  
rpt.registry_lvn_processing_region();"
*/5 * * * * sudo -u postgres psql -d promedadygea -U web_promed1 -c  
"select rpt.registry_lvn_processing_adygea_region();"
```

19.1.4 Vacuum

```
0 4 * * * su - postgres -c "vacuumdb --all --analyze --verbose"
```

19.1.5 Чистка логов PostgreSQL

```
0 0 * * * find /dbpostgres/postgresql/log/*.log -ctime +0 -delete
```

19.1.6 Обновление мат представлений

```
0 5 * * * sudo -u postgres psql -d promedlistest2 -c "select  
xp_materializedview_refresh()"
```

19.1.7 Backup

```
0 0 * * * /opt/scripts/backupfull.sh
```

19.1.8 Auto kill

```
*/10 * * * * sudo -u postgres psql -d postgres -c "SELECT  
pg_terminate_backend(pid) FROM pg_stat_activity WHERE pid <>  
pg_backend_pid() AND state = 'idle' AND state_change < current_timestamp -  
INTERVAL '10' MINUTE;"
```

19.1.9 Collect data iops for zabbix

```
* * * * * /etc/zabbix/scripts/iostat-collect.sh /tmp/iostat.out 60
```

19.2 Фоновые процессы WEB сервера

```
*/20 0-7 * * * /usr/bin/curl  
'http://URL_ADDRESS/?c=PhpLogService&m=transferDataFromMongoDB&swtoken=<по  
дставляем токен пользователя от которого запускать команду>'  
данное задание на прикладе веб-сервера ЕЦП.МИС пишет отдельный лог в  
котором можно смотреть ход работы - TransferDataFromMongoDB
```

Code Block 42 Задание для запуска переноса логов из MongoDB в основную БД

ЧАСТЬ 2 – Сервисы для взаимодействия с внешними федеральными системами

1 swan-api

1.1 Разворачивание

1.1.1 Установка с применением docker

1.1.1.1 Необходимое ПО

- docker v19.03
- docker-compose 1.25

1.1.1.2 Структура папок

/srv/hosts/swan-api - основная папка сервиса
├── api.yml - конфиг файл
└── logs - папка с логами

1.1.1.3 docker-compose.yml

```
version: "2"
services:
  swan-api:
    image: docker.promedweb.ru/swan-api:1.0.50
    container_name: swan-api_promed
    volumes:
      - /srv/hosts/swan-api/logs:/opt/tomee/logs
      - ./api.yml:/opt/tomee/conf/api.yml
    environment:
      - CATALINA_OPTS=-Xms512M -Xmx2048M -server -XX:+UseParallelGC -
        Dfile.encoding=UTF-8
      - TIMEZONE=Asia/Yekaterinburg
    ports:
      - "8082:8080"
```

Code Block 43 docker-compose.yml

1.1.2 Установка напрямую на ОС

1.1.2.1 Необходимое ПО

1.1.2.2 Установка TomEE

1.1.2.3 Настройка TomEE как сервиса

1.2 Описание файлов конфигурации.

```

# Настройки задаются в формате YAML
# http://www.yaml.org/
# https://ru.wikipedia.org/wiki/YAML

# ! Отступы - это не просто так, они задают структуру документа, см.
описание формата!

# Общие настройки API
api:
  # время жизни сессии
  # sessionTTL: 3600

  # загружать драйвер для профилирования запросов jdbc? В случае
отключения адреса вида jdbc:simon:* могут не работать
  # profilingUseJdbcDriver: true

  # загружать файл конфигурации для профилирования?
  profilingUseConfig: true

# специфические настройки для различных модулей
app:
  # интеграция с Архимед
  archimed:
    # идентификатор шаблона для /archimed/EvnFuncDiagResult
    EvnFuncDiagResult.xmlTemplateBaseId: 33

# Настройки подключения к LDAP. Необходимо использовать тот же сервер что
и для ПроМед
ldap:
  # URL LDAP-сервера
  url: <LDAP_IP>
  # порт
  # port: 389
  # домен авторизации
  domain: dc=escp,dc=ru
  # пользователь
  user: cn=admin
  # пароль
  pass: <LDAP_PASS>
  # путь для запросов групп
  # groupPath: ou=Groups
  # путь для запросов пользователей
  # userPath: ou=Users

# Настройки подключения к БД
db:
  # драйвер для подключения
  driver: org.postgresql.Driver

  # Настройки по регионам:

  # Если для региона в API не используются подключения с различными ролями
то указываем:
  # * id региона - r2, r59.. или perm, ufa..
  # * url - URL для подключения к БД
  # * username - имя пользователя
  # * password - пароль
  # * isDefault - признак "региона по умолчанию", т.е. если в запросах к
API не указан регион - будет использоваться этот.
  # Если регион таковым не является - можно не указывать

  # r2:
  #   url:
jdbc:sqlserver://АДРЕС_СЕРВЕРА;databaseName=ИМЯ_БД;selectMethod=cursor
  #   username: ПОЛЬЗОВАТЕЛЬ
  #   password: ПАРОЛЬ

```

```

#   isDefault: true

# Если используются подключения с различными ролями, например API должен
# работать с основной и БД СМП, то подключения указываются в секции
connects:
# * ид региона - r2, r59.. или perm, ufa..
# * role - "роль" БД: рабочая - MAIN, реестровая - REGISTRY, отчетная -
# REPORT, основная СМП - EMERGENCY_MAIN, реестровая СМП - EMERGENCY_REGISTRY
# * url - URL для подключения к БД
# * username - имя пользователя
# * password - пароль
# * isDefault - признак "коннекта по умолчанию", т.е. основная БД с
# которой работает API. Либо не указываем эту опцию если это не основная БД

# r2:
#   connects:
#     - role: MAIN
#       url:
# jdbc:simon:sqlserver://АДРЕС_СЕРВЕРА;databaseName=ИМЯ_БД;selectMethod=curs
# or
#       username: ПОЛЬЗОВАТЕЛЬ
#       password: ПАРОЛЬ
#     - role: EMERGENCY_MAIN
#       isDefault: true
#       url:
# jdbc:simon:sqlserver://АДРЕС_СЕРВЕРА;databaseName=ИМЯ_БД;selectMethod=curs
# or
#       username: ПОЛЬЗОВАТЕЛЬ
#       password: ПАРОЛЬ

# ВАЖНО!!!
# ! Для рабочего окружения указываем только один регион с которым
# работаем
# ! Если настроено несколько регионов, то для одного из них необходимо
# задать признак "региона по умолчанию" (isDefault: true).
# Если настроен только один регион - можно не указывать
# ! Если для региона используются соединения с различными ролями (секция
# connects) то необходимо задать для одного из соединений
# признак "по умолчанию" (isDefault: true)

regions:
  r50:
    role: MAIN
    url:
# jdbc:postgresql://<DB_HOST>/<DB_NAME>?user=<DB_USER>&password=<DB_PASS>&st
# ringtype=unspecified
#       username: <DB_USER>
#       password: <DB_PASS>
  r2:
    driver: com.microsoft.sqlserver.jdbc.SQLServerDriver
    url:
# jdbc:sqlserver://<DB_HOST>;databaseName=<DB_NAME>;selectMethod=cursor
#       username: <DB_USER>
#       password: <DB_PASS>

```

Code Block 44 api.yaml (PostgreSQL)

Необходимо заменить <IP_SERVER>

<LDAP_HOST> - ip адрес сервера ldap

<LDAP_PASS> - пароль сервера ldap (юзер прописал для примера в конфиге. они должны быть стандартные.)

<DB_HOST> - IP Адрес Базы данных

<DB_NAME> - Имя Базы данных

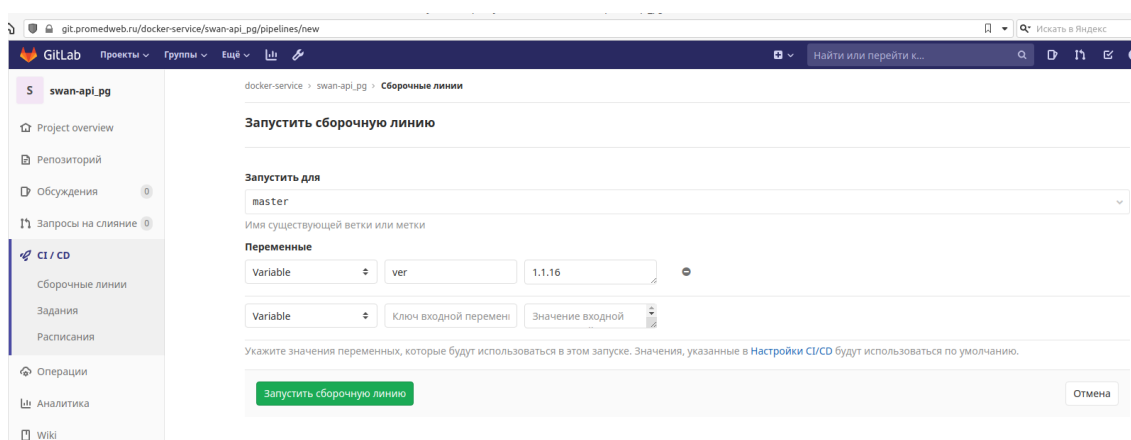
<DB_USER> - Пользователь БД

<DB_PASS> - Пароль от БД

1.3 Обновление

Для обновления MSSQL версии нужно перейти на следующий проект <https://git.promedweb.ru/docker-service/swan-api>

Запустить Pipeline с переменной ver и версией апи. Последняя на данный момент версия для 1.0.50



1.4 Действия после установки

Можно настроить nginx для работы с swan-api. Например для работы 1С или Android-приложений для СМП.

```
server {
    listen 8081;
    server_name api.ecp-mis.ru;
    access_log /var/log/nginx/api_acc.log main buffer=64k;
    error_log /var/log/nginx/api_err.log;
    open_file_cache_errors off;

    location /swan-api/ {
        index index.php;
        proxy_pass http://<IP_SERVER>:<PORT_SERVER>/swan-api/;
        proxy_redirect off;
        proxy_set_header Host $host;
        proxy_set_header X-Real-IP $remote_addr;
        proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
    }
}
```

Code Block 45 api.conf

2 ЕСИА (ScanCodeService)

Операционная система:

OS	Version	Bit
CentOS	8.2.2004	x86_64 bit

Программный комплекс:

Application	Version
Java	1.8.0-openjdk-devel
CriptoPRO JCP	2.0.40035
Apache Tomcat (TomEE)	8.5.50(7.0.7)
net-tools	
unzip	

Java

Обновляем пакеты операционной системы:

```
$ sudo dnf -y update
```

Проверяем версию java:

```
$ sudo java -version
```

Если java не установлена (отличается версия):

```
zartdinov@localhost:~  
[zartdinov@localhost ~]$ sudo java -version  
[sudo] password for zartdinov:  
sudo: java: command not found  
[zartdinov@localhost ~]$
```

Ищем нужную нам версию java:

```
$ sudo dnf search 1.8.0-openjdk
```

```

zartdinov@localhost:~$ sudo dnf search 1.8.0-openjdk
Last metadata expiration check: 1:32:27 ago on Fri 24 Jul 2020 01:42:49 PM +05.
===== Name Matched: 1.8.0-openjdk =====
java-1.8.0-openjdk.x86_64 : OpenJDK Runtime Environment 8
java-1.8.0-openjdk-src.x86_64 : OpenJDK Source Bundle 8
java-1.8.0-openjdk-demo.x86_64 : OpenJDK Demos 8
java-1.8.0-openjdk-devel.x86_64 : OpenJDK Development Environment 8
java-1.8.0-openjdk-javadoc.noarch : OpenJDK 8 API documentation
java-1.8.0-openjdk-headless.x86_64 : OpenJDK Headless Runtime Environment 8
java-1.8.0-openjdk-javadoc-zip.noarch : OpenJDK 8 API documentation compressed in single archive
java-1.8.0-openjdk-accessibility.x86_64 : OpenJDK 8 accessibility connector
[zartdinov@localhost ~]$

```

Устанавливаем java-1.8.0-openjdk-devel.x86_64:

```
$ sudo dnf -y install java-1.8.0-openjdk-devel.x86_64
```

Проверяем версию java:

```
$ sudo java -version
```

```

zartdinov@localhost:~$ sudo java -version
openjdk version "1.8.0_262"
OpenJDK Runtime Environment (build 1.8.0_262-b10)
OpenJDK 64-Bit Server VM (build 25.262-b10, mixed mode)
[zartdinov@localhost ~]$

```

CriptoPRO JCP

Для загрузки [CriptoPRO](#) понадобится зарегистрироваться на портале [CriptoPRO](#), так же актуальная версия CriptoPRO будет выложена на корпоративном [Cloud](#).

Скачиваем CriptoPRO с корпоративного [Cloud](#):

```
$ curl -o jtls.zip https://cloud.swan-
it.ru/index.php/s/oPLFt84CXeYMgzb/download?path=%2FJCP%2FJavaTLS%2Fjcp-
2.0.40035&files=jcp-2.0.40035.zip
```

Распакуем jtls.zip:

```
$ unzip jtls.zip
```

Распакуем jcp-2.0.40035.zip в каталог /opt:

```
$ sudo unzip jcp-2.0.40035/jcp-2.0.40035.zip -d /opt/
```

Назначим файлы с расширением .sh исполняемыми:

```
$ sudo chmod +x /opt/jcp-2.0.40035/*.sh
```

Перейдем в каталог jcp-2.0.40035:

```
$ cd /opt/jcp-2.0.40035
```

Проверяем используемую по умолчанию java и путь до каталога:

```
$ sudo alternatives --config java
```

Запускаем установку jcp:

```
$ sudo ./setup_console.sh /usr/lib/jvm/java-1.8.0-openjdk-1.8.0.262.b10-0.el8_2.x86_64/ -force -en -install -jcp -jcryptop -cades -jre /usr/lib/jvm/java-1.8.0-openjdk-1.8.0.262.b10-0.el8_2.x86_64/
```

Скопируем jcp dependencies библиотеки в каталог ext:

```
$ sudo cp /opt/jcp-2.0.40035/dependencies/* /usr/lib/jvm/java-1.8.0-openjdk-1.8.0.262.b10-0.el8_2.x86_64/jre/lib/ext/
```

Скопируем jcp javadoc библиотеки в каталог ext:

```
$ sudo cp /opt/jcp-2.0.40035/javadoc/* /usr/lib/jvm/java-1.8.0-openjdk-1.8.0.262.b10-0.el8_2.x86_64/jre/lib/ext/
```

Проверяем лицензию CriptoPRO JCP:

```
$ java ru.CryptoPro.JCP.tools.License
```

```
zartdinov@localhost:~  
[zartdinov@localhost ~]$ java ru.CryptoPro.JCP.tools.License  
License verify:  
Type: Server, sign and encrypt  
Allowed amount of cores: Unlimited  
Serial number: CF20X-X0030-00BAA-1F  
Validity: Until Oct 25, 2020  
Valid license.  
[zartdinov@localhost ~]$
```

ESIA

Актуальная версия ЕСИА (ScanCodeServices) будет выкладываться на корпоративном [Cloud](#).

Создадим группу tomee:

```
$ sudo groupadd tomee
```

Создадим пользователя tomee:

```
$ sudo useradd tomee -s /bin/false -g tomee -d /opt/tomee
```

Скачиваем актуальную версию ЕСИА (ScanCodeServices) с корпоративного [Cloud](#):

```
$ curl -o ScanCodeServices.zip https://cloud.swan-  
it.ru/index.php/s/8FaGYLEneRTmi8S/download?path=%2FTomEE%2FScanCodeService  
s&files=ScanCodeServices_v202003.zip
```

Распакуем ScanCodeServices.zip:

```
$ unzip ScanCodeServices.zip
```

Распакуем ScanCodeServices_v202003.zip в каталог /opt:

```
$ sudo unzip ScanCodeServices/ScanCodeServices_v202003.zip -d /opt/tomee
```

Назначим файлы с расширением .sh исполняемыми:


```
$ sudo chmod +x /opt/tome/bin/*.sh
```

Назначаем владельцем каталога /opt/tomee/ tomee:

```
$ sudo chown -R tomee: /opt/tomee/
```

Установим редактор vim:

```
$ sudo dnf -y install vim
```

Настроим tomee

Сделаем резервную копию конфигурационного файла tom:

```
$ sudo cp /opt/tomee/conf/tomcat-users.xml /opt/tomee/conf/tomcat-users.xml.old
```

Отредактируем конфигурационный файл tomcat-users.xml:

```
$ sudo vim /opt/tomee/conf/tomcat-users.xml
```

Было:

```
zartdino@localhost:~$ cat /opt/tomee/conf/tomcat-users.xml
<?xml version="1.0" encoding="UTF-8"?>
<!--
Licensed to the Apache Software Foundation (ASF) under one or more
contributor license agreements.  See the NOTICE file distributed with
this work for additional information regarding copyright ownership.
The ASF licenses this file to You under the Apache License, Version 2.0
(the "License"); you may not use this file except in compliance with
the License.  You may obtain a copy of the License at
    http://www.apache.org/licenses/LICENSE-2.0
Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
-->
<tomcat-users version="1.0" xmlns="http://tomcat.apache.org/xml" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://tomcat.apache.org/xml tomcat-users.xsd">
  <!-- NOTE: By default, no user is included in the "manager-gui" role required
to operate the "/manager/html" web application.  If you wish to use this app,
you must define such a user - the username and password are arbitrary.  It is
strongly recommended that you do NOT use one of the users in the commented out
section below since they are intended for use with the examples web
application. -->
  <!--
  NOTE: The sample user and role entries below are intended for use with the
  examples web application.  They are wrapped in a comment and thus are ignored
  when reading this file.  If you wish to configure these users for use with the
  examples web application, do not forget to remove the <!-- ... --> that surrounds
  them.  You will also need to set the passwords to something appropriate.
  -->
  <role rolename="tomcat"/>
  <role rolename="role1"/>
  <user username="tomcat" password="must-be-changed" roles="tomcat"/>
  <user username="both" password="must-be-changed" roles="tomcat,role1"/>
  <user username="role1" password="must-be-changed" roles="role1"/>
  <!-- Activate those lines to get access to Tomee GUI if added (tomee-webaaccess) -->
  <!--
  <role rolename="tomee-admin" />
  <user username="tomee" password="tomee" roles="tomee-admin,manager-gui" />
  -->
</tomcat-users>
```

Стало:

```

$ findenv | localhost:
$ cat /etc/passwd "1.0" encoding="UTF-8" 21
<!--
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contributor license agreements.  See the NOTICE file distributed with
this work for additional information regarding copyright ownership.
The ASF licenses this file to You under the Apache License, Version 2.0
(the "License"); you may not use this file except in compliance with
the License.  You may obtain a copy of the License at

    http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
-->
<tomcat-users version="1.0" xmlns="http://tomcat.apache.org/xml" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://tomcat.apache.org/xml tomcat-users.xsd"
-->
<!--
NOTE: By default, no user is included in the "manager/html" role required
to operate the "/manager/html" web application.  If you wish to use this app,
you must define such a user - the username and password are arbitrary.  It is
strongly recommended that you do NOT use one of the users in the commented out
section below since they are intended for use with the examples web
application.
-->
<!--
NOTE: The sample user and role entries below are intended for use with the
examples web application. They are wrapped in a comment and thus are ignored
when reading this file. If you wish to configure these users for use with the
examples web application, do not forget to remove the <!-- ... --> that surrounds
them. You will also need to set the passwords to something appropriate.
-->
<!--
<role rolename="tomcat"/>
<role rolename="role1"/>
<user username="tomcat" password="must-be-changed" roles="tomcat"/>
<user username="both" password="must-be-changed" roles="tomcat,role1"/>
<user username="role1" password="must-be-changed" roles="role1"/>
-->
<!-- Activate those lines to get access to TomEE GUI if added (tomcat-wehaccess) -->
<!--
<role rolename="tomcat-admin" />
<user username="tomcat" password="tomcat" roles="tomcat-admin,manager-gui" />
-->
<role rolename="admin-gui,manager-gui"/>
<user username="login" password="password" roles="admin-gui,manager-gui"/>
</tomcat-users>

```

В конфигурационный файл tomcat-users.xml добавили:

```
<role rolename="admin-gui,manager-gui"/>
<user username="login" password="password" roles="admin-gui,manager-gui"/>
```

Сделаем резервную копию конфигурационного файла context.xml:

```
$ sudo cp /opt/tomee/webapps/manager/META-INF/context.xml
/opt/tomcat/webapps/manager/META-INF/context.xml.old
```

Отредактируем конфигурационный файл context.xml:

```
$ sudo vim /opt/tomee/webapps/manager/META-INF/context.xml
```

Было:

```

part@ubuntu:~$ cat /usr/share/doc/tomcat7-common/LICENSE.txt
...
Licensed to the Apache Software Foundation (ASF) under one or more
contributor license agreements. See the NOTICE file distributed with
this work for additional information regarding copyright ownership.
The ASF licenses this file to You under the Apache License, Version 2.0
(the "License"); you may not use this file except in compliance with
the License. You may obtain a copy of the License at

    http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
}

<Context antiResourceLocking="false" privileged="true" >
  <Valve className="org.apache.catalina.valves.RemoteAddrValve"
    value="192.168.1.0/24"></Valve></Context>
</Context>
<Manager sessionAttributeValueClassNameFilter="java.lang.(?!Boolean|Integer|Long|Number|String|org.apache.catalina.filters.CerfPreventionFilter|ThreadCache)(?=$|[a-z]|\\d)*>" />

```

Стало:

```
zartdinov@localhost:~$ cat /etc/tomcat/conf/context.xml
<?xml version="1.0" encoding="UTF-8"?>
<!--
  Licensed to the Apache Software Foundation (ASF) under one or more
  contributor license agreements.  See the NOTICE file distributed with
  this work for additional information regarding copyright ownership.
  The ASF licenses this file to You under the Apache License, Version 2.0
  (the "License"); you may not use this file except in compliance with
  the License.  You may obtain a copy of the License at
  http://www.apache.org/licenses/LICENSE-2.0
  Unless required by applicable law or agreed to in writing, software
  distributed under the License is distributed on an "AS IS" BASIS,
  WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
  See the License for the specific language governing permissions and
  limitations under the License.
-->
<Context antiResourceLocking="false" privilege="true" >
  <Valve className="org.apache.catalina.valves.RemoteAddrValve"
    allow="127\.\d+\.\d+\.\d+:::1|0:0:0:0:0:0:0:1" />
  <Manager sessionAttributeValueClassNameFilter="java.lang.(?:Boolean|Integer|Long|Number|String|org.apache.catalina.filters.CorsPreventionFilter|FlowCache(?:Filter)?|java.util(?:\.(?:Linked)?HashMap)?)" />
</Context>
```

В конфигурационном файле context.xml изменили:

Было:

```
<Valve className="org.apache.catalina.valves.RemoteAddrValve"
  allow="127\.\d+\.\d+\.\d+:::1|0:0:0:0:0:0:0:1" />
```

Стало:

```
<Valve className="org.apache.catalina.valves.RemoteAddrValve"
  allow="\d+\.\d+\.\d+\.\d+" />
```

Установим сетевую утилиту net-tools:

```
$ sudo dnf -y install net-tools
```

Смотрим не занят ли порт 8080:

```
$ sudo netstat -tulnt | grep "8080"
```

Если порт 8080 не занят идем в раздел создания конфигурационного файла старта, остановки и автостарта tomee:

```
zartdinov@localhost:~$ sudo netstat -tulnp | grep "8080"
[zartdinov@localhost ~]$
```

Если порт 8080 занят, меняем его на другой:

```
zartdinov@localhost:~$ sudo netstat -tulnp | grep "8080"
tcp6      0      0 :::8080          :::*              LISTEN      1904/java
[zartdinov@localhost ~]$
```

```
$ sudo cp /opt/tomee/conf/server.xml /opt/tomcat/conf/server.xml.old
```

```
$ sudo vim /opt/tomee/conf/server.xml
```

```

zafiro@localhost:~$ cat /etc/xdg/xdg-desktop/portal-gnome.desktop
# GNOME Desktop Portal
#
# This file is part of the GNOME Desktop Portal.
#
# Copyright (C) 2018 Canonical Ltd.
#
# This program is free software: you can redistribute it and/or modify
# it under the terms of the GNU General Public License as published by
# the Free Software Foundation, either version 3 of the License, or
# (at your option) any later version.
#
# This program is distributed in the hope that it will be useful,
# but WITHOUT ANY WARRANTY; without even the implied warranty of
# MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
# GNU General Public License for more details.
#
# You should have received a copy of the GNU General Public License
# along with this program. If not, see <http://www.gnu.org/licenses/>.

[Desktop Entry]
Name=GNOME Desktop Portal
Exec=/usr/bin/gnome-desktop-portal
Icon=gnome-desktop-portal
Type=Application
Categories=GNOME;GTK;
Keywords=GNOME;GTK;
StartupNotify=true

```

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В конфигурационном файле `server.xml` изменили:

Было:

```
<Connector connectionTimeout="20000" port="8080" protocol="HTTP/1.1"
redirectPort="8444" server="Apache TomEE" xpoweredBy="false"/>
```

Стало:

```
<Connector connectionTimeout="20000" port="9090" protocol="HTTP/1.1"
redirectPort="8444" server="Apache TomEE" xpoweredBy="false"/>
```

Создадим конфигурационный файл старта, остановки и автостарта tomed:

```
$ sudo touch /etc/systemd/system/tomee.service
```

Сделаем резервную копию конфигурационного файла `config.yaml`:

```
$ sudo cp /opt/tomee/webapps/ScanCodeService/WEB-INF/classes/config.yaml /opt/tomee/webapps/ScanCodeService/WEB-INF/classes/config.yaml.old
```

Отредактируем конфигурационный файл `config.yaml`:

```
$ sudo vim /opt/tomee/webapps/ScanCodeService/WEB-INF/classes/config.yaml
```

```
mc [root@localhost.localdomain] /opt/tomee/webapps/ScanCodeService/WEB-INF/classes
/opt/tomee/webapps/ScanCodeService/WEB-INF/classes/config.yaml
# Configuration
configScanCode:
  # ComPort
  comPort: /dev/ttyACM0
  comPortExcludes: /dev/ttyS0;/dev/ttyS1;COM1
  checkComPorts: false
  checkComPortsInterval: 15

configPrinter:
  # printerName or default
  printerName: default
configLibrary:
  # path to Rutoken native library
  libRutokenFile: rtpkcs11lec

configScheduler:
  checkTerminals: false
  checkTerminalsInterval: 15

configCADES:
  # url to TSP service https://www.cryptopro.ru/tsp/tsp.srf http://pki.skbkontur.ru/tsp/tsp.srf http://tsp.ncarf.ru/tsp/tsp.srf
  urlTSPService: http://tsp.ncarf.ru/tsp/tsp.srf

configCryptoProJCP:
  keyMediatype: HDImageStore
  keyAlias: test2020
  keyPassword: 12345678

configPfxFile:
  fileName: c:\Work\ScanCodeService\test\pl2.pfx
  filePassword: 12345678
  aliasName: cp_exported
  keyPassword: 12345678
```

В конфигурационном файле config.yaml прописывается keyAlias и keyPassword сертификата:

```
configCryptoProJCP:
  keyMediatype: HDImageStore
  keyAlias: test2020
  keyPassword: 12345678
```

В конфигурационном файле config.yaml прописываем режим работы сканера штрих-кодов и кардридера. Устанавливаем режим опроса сканера checkComPorts: true или отключаем (false), аналогично для кардридера checkTerminals: true. Режим опроса необходим, если предполагается считывание полисов по событиям вставки электронного полиса и сканированию штрих-кода бумажного полиса. Указывается интервал опроса checkComPortsInterval: 15 в миллисекундах. Указывается порт сканера comPort: /dev/ttyACM0.

```
configScanCode:
  comPort: /dev/ttyACM0
  comPortExcludes: /dev/ttyS0;/dev/ttyS1;COM1
  checkComPorts: true
  checkComPortsInterval: 15
configScheduler:
  checkTerminals: true
  checkTerminalsInterval: 15
```

systemd

Отредактируем конфигурационный файл tomee.service:

```
$ sudo vim /etc/systemd/system/tomee.service
```

```
[Unit]
Description=TomEE
After=network.target

[Service]
Type=forking

Environment=JAVA_HOME=/usr/lib/jvm/java-1.8.0-openjdk-1.8.0.262.b10-0.el8_2.x86_64
Environment=CATALINA_PID=/opt/tomee/temp/tomee.pid
Environment=CATALINA_HOME=/opt/tomee
Environment=CATALINA_BASE=/opt/tomee
Environment="CATALINA_OPTS=-Xms512M -Xmx1024M -server -XX:+UseParallelGC"
Environment="JAVA_OPTS=-Djava.awt.headless=true -Djava.security.egd=file:/dev/./urandom"

ExecStart=/opt/tomee/bin/startup.sh
ExecStop=/opt/tomee/bin/shutdown.sh

User=tomee
Group=tomee

ExecReload=/bin/kill $MAINPID
RemainAfterExit=yes

[Install]
WantedBy=multi-user.target
```

Перезагружаем конфигурацию сервиса:

```
$ sudo systemctl daemon-reload
```

Запускаем сервис tomee:

```
$ sudo systemctl start tomee.service
```

Проверяем, запущен ли сервис с детальным выводом состояния сервиса:

```
$ sudo systemctl status tomeet.service
```

```
[root@localhost ~]# systemctl status tomcat.service
[sudo] password for root:
● tomcat.service - Tomcat
   Loaded: loaded (/usr/systemd/system/tomcat.service; disabled; vendor preset: disabled)
   Main PID: 4168 (java)
   Status: "active (running)" since Mon 2020-07-27 16:59:07 EDT; 1h 5min ago
   Process: 4168 ExecStart=/opt/tomcat/bin/startup.sh (code=exited, status=0/SUCCESS)
   Main PID: 4178 (java)
   Tasks: 65 (limit 31463)
   Memory: 671.3M
   CGroup: /system.slice/tomcat.service
           └─l175 /usr/lib/jvm/java-1.8.0-openjdk-1.8.0_262.b10-0.el8.x86_64/bin/java -Djava.util.logging.config.file=/opt/tomcat/conf/logging.properties -Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager -jreagent:/opt/...
Jul 27 16:50:07 localhost.localdomain systemd[1]: Starting TomcE...
Jul 27 16:50:07 localhost.localdomain systemd[1]: Started Tomcat.
[root@localhost ~]#
```

Активируем сервис (позволяет стартовать во время запуска системы):

```
$ sudo systemctl enable tomee.service
```

Открываем порт 8080 на firewall:

```
$ sudo firewall-cmd --add-port=8080/tcp --permanent
```

Перезапускаем firewall:

```
sudo firewall-cmd --reload
```

Создадим каталог tomee:

```
$ sudo mkdir /var/opt/cprocsp/keys/tomee/
```

Распакуем архив esiatest.000.zip:

```
$ sudo unzip esiatest.000.zip -d /var/opt/cprocsp/keys/tomee/
```

Назначаем владельца каталога /var/opt/cprocsp/keys/tomee/ tomee:

```
$ sudo chown -R tomee: /var/opt/cprocsp/keys/tomee/
```

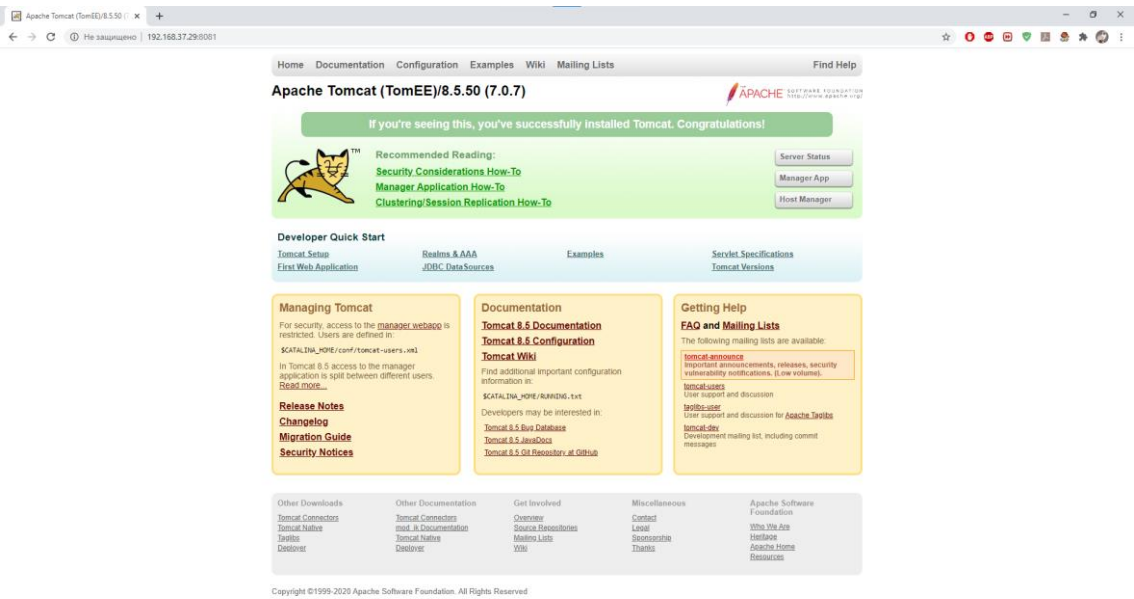
Останавливаем tomee:

```
$ sudo systemctl stop tomee.service
```

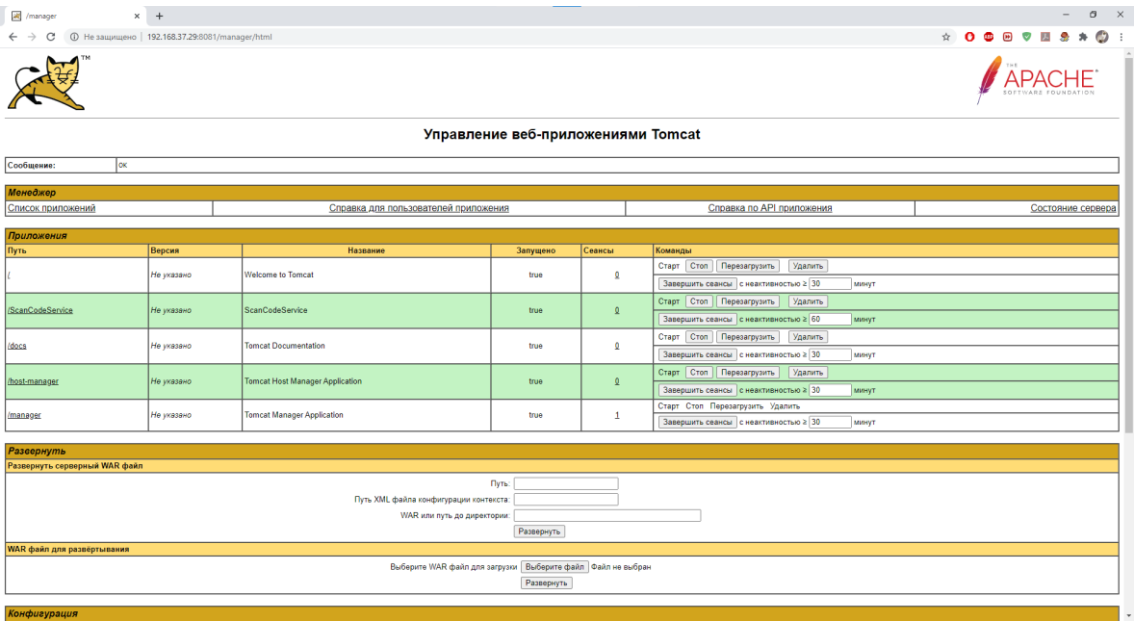
Запускаем tomee:

```
$ sudo systemctl start tomee.service
```

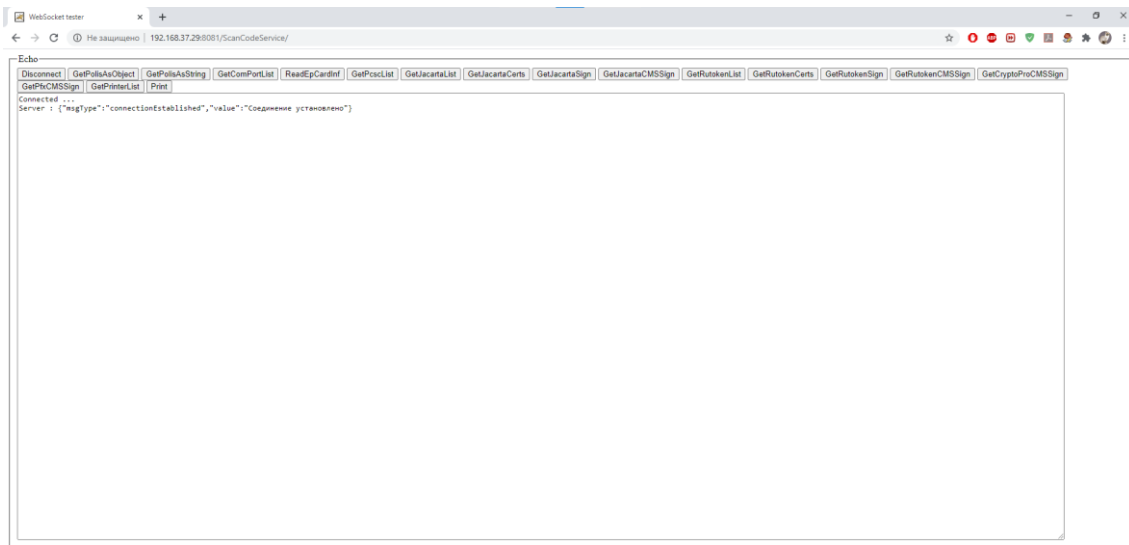

Открываем tomee в браузере:



Переходим в панель Manager App:

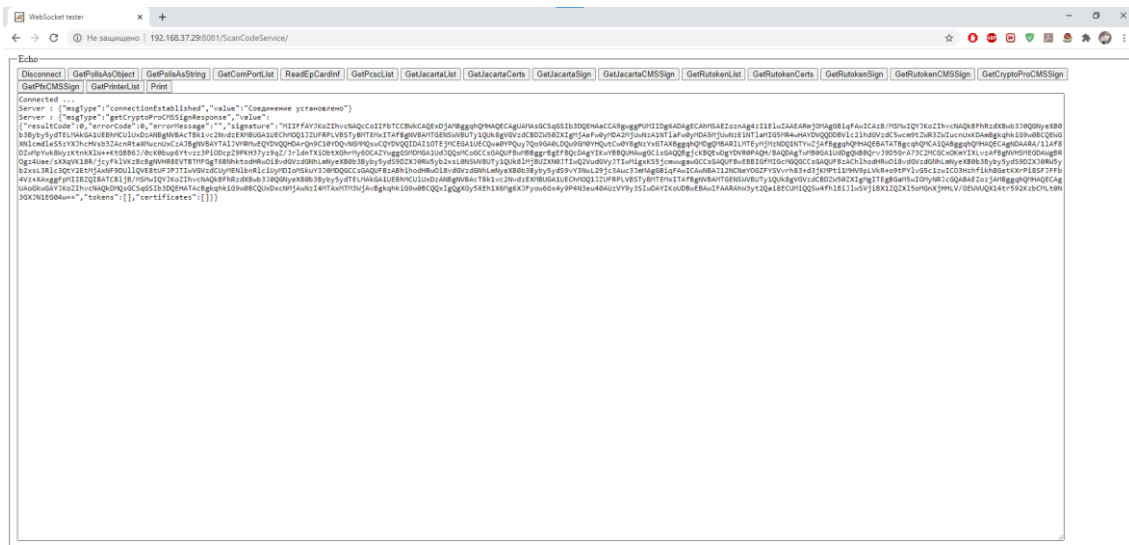


Переходим в servlet ScanCodeService:



Проверяем работу servlet ScanCodeServices нажатием на кнопку GetCryptoProCMSSign:

Если CriptoPRO и TomEE настроены правильно, в ответ должны получить приблизительно такой ответ от сервиса:



3 ЕСИА (ScanCodeService) Docker

3.1 Описание сервиса:

Служба поддержки внешних устройств ScanCodeService предназначена для работы с внешними устройствами, подключаемыми на клиентском компьютере. Набор устройств включает в себя: токены авторизации (Рутокен ЭЦП, Jacarta, ETOKEN), электронные полисы, сканеры штрих-кодов. Также служба поддерживает формирование электронной подписи на ключах, записанных в хранилище КриптоПро JCP.

3.2 Репозиторий в Git:

3.3 Примечание:

В контейнере защиты тестовый сертификат esiatest.000, keystore.jks и [tomcat-users.xml](#) для тестового развертывания.

Для проверки работы веб-сокетов реализована html-страница <http://localhost:8080/ScanCodeService/>. Названия кнопок соответствуют названиям тестируемых методов.(проверка работы servlet ScanCodeServices нажатием на кнопку GetCryptoProCMSSign)

3.4 Развертывание с использованием docker-образа

3.4.1 Необходимое ПО

10. docker v19.03
11. docker-compose 1.25

3.4.2 Структура папок монтируемых на host-машину

/usr/local/tomee/

├─ logs - папка с логами

├─ webapps/ScanCodeService/WEB-INF/classes/config.yaml - конфигурационный файл сервиса

├─ webapps/host-manager/META-INF/context.xml - конфигурационный файл доступов

├─ webapps/manager/META-INF/context.xml - конфигурационный файл доступов

├─ conf/tomcat-users.xml - файл настройки пользователей tomcat

├─ conf/keystore.jks - java keystore

└─ constants.js - файл настроек сервера

/var/opt/cprosp/keys/root/имя_контейнер_крипто-про.000

3.4.3 Для развертывания необходимо

- Создать папку развертывания
- В корне папки развертывания создать файл [config.yaml](#)

- Создать папки **logs**
- Скопировать в текущую папку, папку-контейнер крипто-про
- Создать в папке развертывания файл [docker-compose.yaml](#)
- Создать конфигурационный файл доступов tomcat [context.xml](#)
- Создать файл настройки пользователей tomcat [tomcat-users.xml](#)
- Скопировать в текущую папку файл с парами ключей keystore.jks (контейнер сертификатов для закрытия сервиса по https. Ключ для контейнера должен быть "123456", временно, он зашит в конфиг контейнера)
- Проверить синтаксис конфигурации docker-compose командой: **docker-compose config**
- Запустить сервис с помощью команды: **docker-compose up -d**

```

# Раздел содержит настройки сканера.
configScanCode:
  # Наименование COM-порта в системе
  comPort: /dev/ttyACM0
  comPortExcludes: /dev/ttyS0;/dev/ttyS1;COM1
  checkComPorts: false
  checkComPortsInterval: 15

# Раздел содержит настройки принтера.
configPrinter:
  # Наименование принтера в системе (по умолчанию default).
  printerName: default

# path to Rutoken native library
configLibrary:
  libRutokenFile: librtpkcs11ecp.so

# Раздел содержит настройки расписания опроса внешних устройств. Опрос
необходим при работе со смарткартами и сканером штрихкода для детекции
подключения устройства и немедленного чтения данных.
# В других случаях опрос излишне потребляет ресурсы.
configScheduler:
  # Включить/выключить опрос устройств
  checkTerminals: false
  # Интервал опроса (сек)
  checkTerminalsInterval: 15

# Раздел содержит параметры для квалифицированной подписи
configCADES:
  # URL службы штампов времени https://www.cryptopro.ru/tsp/tsp.srf
http://pki.skbkontur.ru/tsp/tsp.srf http://tsp.ncarf.ru/tsp/tsp.srf
  urlTSPService: http://tsp.ncarf.ru/tsp/tsp.srf

# Раздел содержит параметры подписи на ключе КриптоПро
configCryptoProJCP:
  keyMediatype: HDImageStore
  # Алиас ключа
  keyAlias: esiatest
  # Пароль ключа
  keyPassword: 12345678

configPfxFile:
  fileName: pl2.pfx
  filePassword: 12345678
  aliasName: cp_exported
  keyPassword: 12345678

```

Code Block 46 config.yaml

```

version: '3.3'

services:
  scancode:
    image: d-repo.rtmis.ru/promed/scancode:1.0.0
    container_name: scancode
    volumes:
      - ./config.yaml:/usr/local/tomee/webapps/ScanCodeService/WEB-INF/classes/config.yaml
      - ./tomcat-users.xml:/usr/local/tomee/conf/tomcat-users.xml
      - ./logs:/usr/local/tomee/logs/
      # Контейнер JCP
      - ./esiatest.000:/var/opt/cproscsp/keys/root/esiatest.000
      # Контейнер java keystore
      - ./keystore.jks:/usr/local/tomee/conf/keystore.jks
      - ./context.xml:/usr/local/tomee/webapps/host-manager/META-INF/context.xml
      - ./context.xml:/usr/local/tomee/webapps/manager/META-INF/context.xml
    environment:
      TZ: Asia/Yekaterinburg
      # Раскомментировать при наличии лицензии
      # KEY_LICENSE
      # JCP_KEY:
      # COMPANY_NAME
      # JCP_NAME:
      CATALINA_OPTS: "-Xms512M -Xmx1024M -server -XX:+UseParallelGC"
      JAVA_OPTS: "-Djava.awt.headless=true -Djava.security.egd=file:/dev/./urandom"
    ports:
      - 8080:8080
      - 8089:8089
      - 8443:8443
      - 8005:8005
      - 8009:8009

```

Code Block 47 docker-compose.yaml

```

<?xml version="1.0" encoding="UTF-8"?>

<Context antiResourceLocking="false" privileged="true" >
  <Valve className="org.apache.catalina.valves.RemoteAddrValve"
    allow="\d+\.\d+\.\d+\.\d+" />
  <Manager
    sessionAttributeValueClassNameFilter="java\.lang\.(?:Boolean|Integer|Long|Number|string)|org\.apache\.catalina\.filters\.CsrfPreventionFilter|LruCache(?:\$1)?|java\.util\.(?:Linked)?HashMap"/>
</Context>

```

Code Block 48 context.xml

```
<?xml version="1.0" encoding="UTF-8"?>

<tomcat-users xmlns="http://tomcat.apache.org/xml"
               xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
               xsi:schemaLocation="http://tomcat.apache.org/xml tomcat-
users.xsd"
               version="1.0">

  <role rolename="manager-gui"/>
  <role rolename="admin-gui"/>
  <user username="tomcat" password="secret" roles="manager-gui,admin-gui"/>

</tomcat-users>
```

Code Block 49 tomcat-users.xml

4 ECHA (ScanCodeService) OLD

ОС	Version	Разрядность
CentOS minimal	8.2.2004	x86_64 bit

Application	Version
Java	1.8.0-openjdk-devel
CriptoPro JCP	2.0.40035
Apache Tomcat(TomEE)	8.5.50(7.0.7)
net-tools	
unzip	

Проверяем установлено ли на сервере java:

```
$ sudo java -version
```



```
centos@centos-test:~$ java -version
openjdk version "1.8.0_252"
OpenJDK Runtime Environment (build 1.8.0_252-b09-1-j6.04-b09)
OpenJDK 64-Bit Server VM (build 25.252-b09, mixed mode)
centos@centos-test:~$
```

Если на сервере не установлена java

Установка Java

Обновляем список packages из repository:

```
$ sudo dnf -y update
```

Устанавливаем Java:

```
$ sudo dnf -y install java-1.8.0-openjdk-devel
```

Установка net-tools

Устанавливаем net-tools:

```
$ sudo apt install net-tools
```

Установка Apache Tomcat (TomEE)/8.5.50 (7.0.7)

Создаем директорию tomee:


```
$ sudo mkdir /opt/tomee
```

Создаем группу tomee:

```
$ sudo groupadd tomee
```

Создаем пользователя tomee:

```
$ sudo useradd -s /bin/false -g tomee -d /opt/tomee tomee
```

Apache Tomcat(TomEE)

[Apache Tomcat\(TomEE\): ScanCodeServices](#)

Пример скачивания Apache Tomcat(TomEE): ScanCodeServices

```
curl -o ScanCodeServices_v202003.zip https://cloud.swan-it.ru/index.php/s/ZaNWYP3zF7DGR9A/download
```

Переходим в каталог tomee:

```
$ cd /opt/tomee
```

```
$ sudo chmod -R g+r conf
```

```
$ sudo chmod g+x conf
```

Назначаем пользователя tomee владельцем каталога tomee:

```
$ sudo chown -R tomee /opt/tomee
```

```
$ sudo update-java-alternatives -l
```

```
$ sudo vim /etc/systemd/system/tomee.service
```

Создаем даемон запуска, остановки и запуска при старте системы:

```

[Unit]
Description=TomEE
After=network.target

[Service]
Type=forking

Environment=JAVA_HOME=/usr/lib/jvm/java-1.8.0-openjdk-amd64
Environment=CATALINA_PID=/opt/tomee/temp/tomee.pid
Environment=CATALINA_HOME=/opt/tomee
Environment=CATALINA_BASE=/opt/tomee
Environment="CATALINA_OPTS=-Xms512M -Xmx1024M -server -XX:+UseParallelGC"
Environment="JAVA_OPTS=-Djava.awt.headless=true -Djava.security.egd=file:/dev/./urandom"

ExecStart=/opt/tomee/bin/startup.sh
ExecStop=/opt/tomee/bin/shutdown.sh

User=tomee
Group=tomee

ExecReload=/bin/kill $MAINPID
RemainAfterExit=yes

[Install]
WantedBy=multi-user.target

```

Перезапускаем daemon:

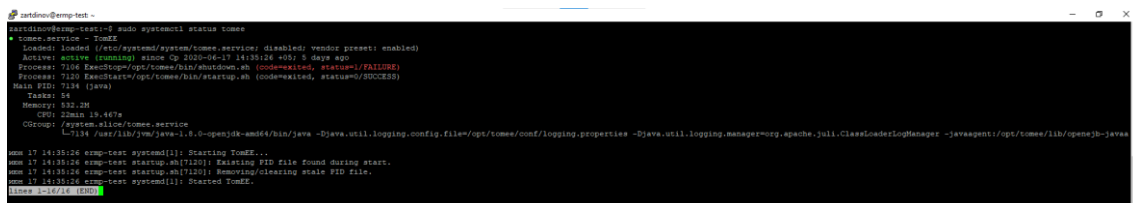
```
$ sudo systemctl daemon-reload
```

Запускаем daemon tomee:

```
$ sudo systemctl start tomcat
```

Проверяем статус запуска daemon tomee:

```
$ systemctl status tomcat
```



```

cat@cat:~$ systemctl status tomcat
* tomcat.service - TomEE
   Loaded: loaded (/etc/systemd/system/tomcat.service; disabled; vendor preset: enabled)
   Active: active (running) since 2020-06-17 14:39:26 +05; 5 days ago
     Process: 7104 ExecStop=/opt/tomee/bin/shutdown.sh (code=exited, status=0/FALLING)
     Process: 7130 ExecStart=/opt/tomee/bin/startup.sh (code=exited, status=0/SUCCESS)
    Main PID: 7134 (java)
      Tasks: 54
     Memory: 532.2M
        CPU: 22min 19.407s
   CGroup: /system.slice/tomee.service
           └─7134 /usr/lib/jvm/java-1.8.0-openjdk-amd64/bin/java -Djava.util.logging.config.file=/opt/tomee/conf/logging.properties -Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager -Djavaagent=/opt/tomee/lib/openjib-java...

mon 17 14:39:26 crm-test systemd[1]: Starting TomEE...
mon 17 14:39:26 crm-test startup.sh[7201]: Existing PID file found during start.
mon 17 14:39:26 crm-test startup.sh[7130]: Removing/clearing stale PID file.
mon 17 14:39:26 crm-test systemd[1]: Started TomEE.

```

Включаем запуск при старте системы:

```
$ systemctl enable tomcat
```

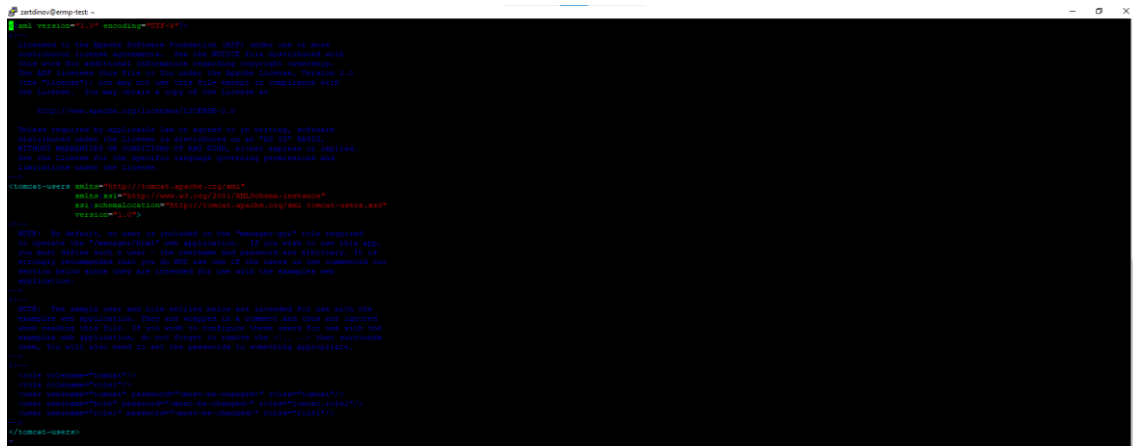
Настройка TomEE

Делаем резервную копию конфигурационного файла tomcat-users.xml:

```
$ sudo cp /opt/tomee/conf/tomcat-users.xml /opt/tomee/conf/tomcat-users.xml.old
```

Редактируем конфигурационный файл tomcat-users.xml:

```
$ sudo vim /opt/tomcat/conf/tomcat-users.xml
```



```
admin@temp-test:~$ vim /opt/tomcat/conf/tomcat-users.xml
...
<!--
  Licensed to the Apache Software Foundation (ASF) under one or more
  contributor license agreements.  See the NOTICE file distributed with
  this work for additional information regarding copyright ownership.
  The ASF licenses this file to You under the Apache License, Version 2.0
  (the "License"); you may not use this file except in compliance with
  the License.  You may obtain a copy of the License at
    http://www.apache.org/licenses/LICENSE-2.0
  Unless required by applicable law or agreed to in writing, software
  distributed under the License is distributed on an "AS IS" BASIS,
  WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
  See the License for the specific language governing permissions and
  limitations under the License.
-->

<tomcat-users xmlns="http://tomcat.apache.org/xml"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://tomcat.apache.org/xml tomcat-users.xsd"
  version="1.0">

  <!--
    NOTE: By default, no user is included in the "manager-gui" role required
    to operate the "manager-gui" web application.  If you wish to use this app
    you must define such a user - the username and password are arbitrary.  It is
    strongly recommended that you do NOT use one of the users in the commented out
    section below since they are intended for use with the examples web
    application.

    NOTE: The sample user and role entries below are provided for use with the
    manager web application.  They are wrapped in a comment and thus are ignored
    when reading this file.  If you wish to configure these users for use with the
    manager web application, you must first uncomment the lines and then remove
    them.  You will also need to set the password to something appropriate.

    -->
    <!--
    <role rolename="manager-gui"/>
    <role rolename="manager-full"/>
    <user username="manager" password="manager" roles="manager-gui,manager-full"/>
    <!--

    <!--
    <role rolename="host-manager"/>
    <role rolename="host-manager-full"/>
    <user username="host-manager" password="host-manager" roles="host-manager,host-manager-full"/>
    <!--

  -->

  <role rolename="manager-gui"/>
  <role rolename="manager-full"/>
  <user username="login" password="password" roles="admin-gui,manager-gui"/>
</tomcat-users>
```

Должно получиться:

```
tomcat-users.xml
<role rolename="admin-gui,manager-gui"/>
<user username="login" password="password" roles="admin-gui,manager-gui"/>
```



```
admin@temp-test:~$ vim /opt/tomcat/conf/tomcat-users.xml
...
<!--
  Licensed to the Apache Software Foundation (ASF) under one or more
  contributor license agreements.  See the NOTICE file distributed with
  this work for additional information regarding copyright ownership.
  The ASF licenses this file to You under the Apache License, Version 2.0
  (the "License"); you may not use this file except in compliance with
  the License.  You may obtain a copy of the License at
    http://www.apache.org/licenses/LICENSE-2.0
  Unless required by applicable law or agreed to in writing, software
  distributed under the License is distributed on an "AS IS" BASIS,
  WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
  See the License for the specific language governing permissions and
  limitations under the License.
-->

<tomcat-users xmlns="http://tomcat.apache.org/xml"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://tomcat.apache.org/xml tomcat-users.xsd"
  version="1.0">

  <!--
    NOTE: By default, no user is included in the "manager-gui" role required
    to operate the "manager-gui" web application.  If you wish to use this app
    you must define such a user - the username and password are arbitrary.  It is
    strongly recommended that you do NOT use one of the users in the commented out
    section below since they are intended for use with the examples web
    application.

    NOTE: The sample user and role entries below are provided for use with the
    manager web application.  They are wrapped in a comment and thus are ignored
    when reading this file.  If you wish to configure these users for use with the
    manager web application, you must first uncomment the lines and then remove
    them.  You will also need to set the password to something appropriate.

    -->
    <!--
    <role rolename="manager-gui"/>
    <role rolename="manager-full"/>
    <user username="manager" password="manager" roles="manager-gui,manager-full"/>
    <!--

    <!--
    <role rolename="host-manager"/>
    <role rolename="host-manager-full"/>
    <user username="host-manager" password="host-manager" roles="host-manager,host-manager-full"/>
    <!--

  -->

  <role rolename="manager-gui"/>
  <role rolename="manager-full"/>
  <user username="login" password="password" roles="admin-gui,manager-gui"/>
</tomcat-users>
```

Включение удаленного входа в Tomcat Manager и Host Manager:

Делаем резервную копию конфигурационного файла context.xml:

```
$ sudo cp /opt/tomee/webapps/manager/META-INF/context.xml
/opt/tomcat/webapps/manager/META-INF/context.xml.old
```

Редактируем конфигурационный файл context.xml:

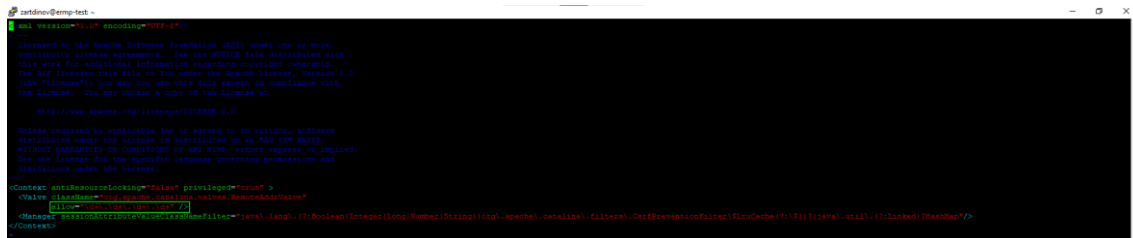
```
$ sudo vim /opt/tomee/webapps/manager/META-INF/context.xml
```

```
<Context antiResourceLocking="false" privileged="true" >
  <Valve className="org.apache.catalina.valves.RemoteAddrValve"
    allow="127\.\d+\.\d+\.\d+|::1|0:0:0:0:0:0:0:1" />
  <Manager
    sessionAttributeValueClassNameFilter="java\.lang\.(?:Boolean|Integer|Long|
    Number|String)|org\.apache\.catalina\.filters\.CsrfPreventionFilter\$LruCa
    che(?:\$1)?|java\.util\.(?:Linked)?HashMap"/>
  </Context>
```

A terminal window showing the status of the TomEE service. The command 'sudo systemctl status tomee' is executed, showing the service is active (running) since 2020-06-17 14:35:24 +05/5 days ago. The process is 7106, ExecStop=/opt/tomee/bin/shutdown.sh, Process=7107, ExecStart=/opt/tomee/bin/startup.sh, Main PID=7104 (java), Tasks=54, Memory=532.2M, CPU=23min 19.467s. Below this, the startup logs are shown, indicating that TomEE started successfully at 14:35:26.

Должно получиться:

```
<Context antiResourceLocking="false" privileged="true" >
  <Valve className="org.apache.catalina.valves.RemoteAddrValve"
    allow="\d+\.\d+\.\d+\.\d+" />
  <Manager
    sessionAttributeValueClassNameFilter="java\.lang\.(?:Boolean|Integer|Long|
    Number|String)|org\.apache\.catalina\.filters\.CsrfPreventionFilter\$LruCa
    che(?:\$1)?|java\.util\.(?:Linked)?HashMap"/>
  </Context>
```

A terminal window showing the contents of the context.xml file after editing. The file now contains the updated configuration with 'allow="\d+\.\d+\.\d+\.\d+"' and the same sessionAttributeValueClassNameFilter. The terminal also shows the Apache Software Foundation license text at the top of the file.

Смотрим используемые port:

```
$ sudo netstat -tulnp
```


5 ИЕМК

5.1 Разворачивание

Небольшое предисловие по сервису

Как мне сказал разработчик при запуске сервиса он создает необходимые БД и т.д. потому что при первом старте нужны будут права учетной записи выше, чем при использовании потом в работе.

В целом работа идет примерно следующим образом. раз в определенное время (сделал раз в 15 минут) служба репликатора запускается смотрит что в БД поменялось выгружает id этих данных в очередь ActiveMQ. Сервис прокси имеет слушателей в ActiveMQ. забирает id необходимых данных обращается к основной БД через swap-api. Приводит к виду из шаблона(об это ниже), подписывает и отправляет в федеральные службы. Так же он получает callback.

Все логи по работе сервиса swap-iemc-proxy с данными которые мы передали и получили он хранит в БД.

5.1.1 Установка с применением docker

5.1.1.1 Необходимое ПО

- docker v19.03
- docker-compose 1.25

5.1.1.2 Структура папок и файлов

```
/srv/hosts/iemk
├── api.yaml
├── keys
├── logs
│   ├── proxy
│   └── replicator
```

5.1.1.3 docker-compose.yml


```

version: "2"
services:
  activemq_iemk:
    image: docker.k-vrachu.ru/activemq:latest
    container_name: activemq_iemk
    ports:
      - "8161:8161"
      - "61616:61616"
    networks:
      net-fer:
        ipv4_address: 172.22.0.2
  api:
    image: docker.k-vrachu.ru/swan-api:1.0.52
    container_name: swanapi-iemk
    ports:
      - "8082:8080"
    volumes:
      - /srv/hosts/iemk/api.yaml:/opt/tomee/conf/api.yaml
    networks:
      net-fer:
        ipv4_address: 172.22.0.3
  replicator:
    image: docker.k-vrachu.ru/iemkreplicator:pglatest
    container_name: iemkreplicator
    volumes:
      - /srv/hosts/iemk/logs/replicator:/opt/tomee/logs
    environment:
      - "DB_MAIN_HOST="
      - "DB_MAIN_PORT="
      - "DB_MAIN_NAME="
      - "DB_MAIN_USER="
      - "DB_MAIN_PASS="
      - "DB_LOG_HOST="
      - "DB_LOG_PORT="
      - "DB_LOG_NAME=log_service"
      - "DB_LOG_USER="
      - "DB_LOG_PASS="
      - "ACTIVEMQHOST=172.22.0.2:61616"
      - "filterLpu=102"
      - "filterLpuUse=0"
      - "filterLpuBuilding=10010817"
      - "filterLpuBuildingUse=0"
      - "filterMedStaffFact=99560009698"
      - "filterMedStaffFactUse=0"
      - "filterMedSpecOms=99560009698"
      -
      "filterDiag=34,383,384,385,386,387,5,75,76,77,78,79,80,81,82,83,84,253,324,325,326,327,328,329,330,331,332,333,334,335,336,26"
      - "filterDiagUse=0"
    networks:
      net-fer:
        ipv4_address: 172.22.0.4
  proxy:
    image: docker.k-vrachu.ru/swaniemkproxy:pglatest
    container_name: swaniemkproxy
    ports:
      - "8080:8080"
    volumes:
      - /srv/hosts/iemk/keys:/var/opt/cprocsp/keys/root
      - /srv/hosts/iemk/logs/proxy:/opt/tomee/logs
      - /srv/configs/tomee.xml:/opt/tomee/conf/tomee.xml
      -
      /srv/configs/iemk_configs/crypto.properties:/opt/tomee/webapps/swan-iemc-proxy/WEB-INF/classes/crypto.properties

```

```

environment:
  - "DB_LOG_HOST="
  - "DB_LOG_PORT="
  - "DB_LOG_NAME=log_service"
  - "DB_LOG_USER="
  - "DB_LOG_PASS="
  - "ACTIVEMQHOST=172.22.0.2:61616"
  - "cryptoUser=test"
  - "cryptoPassword=12345678"
  - "cryptoSignatureAlgorithm=SIGNATURE_V2_ALGORITHM_2012_256"
  -
  "cryptoSignatureDigestAlgorithm=SIGNATURE_V2_DIGEST_ALGORITHM_2012_256"
  #- "JCP_KEY_LICENSE="
  #- "JCP_COMPANY_NAME="
extra_hosts:
  - "ips.rosminzdrav.ru:10.41.19.39"
networks:
  net-fer:
    ipv4_address: 172.22.0.5

networks:
  net-fer:
    driver: bridge
    ipam:
      driver: default
      config:
        - subnet: 172.22.0.0/16
          gateway: 172.22.0.254

```

Code Block 50 docker-compose.yml

5.1.2 Установка напрямую на ОС

5.1.2.1 Необходимое ПО

5.1.2.2 Установка TomEE

5.1.2.3 Настройка TomEE как сервиса

5.2 Описание конфигурации.

Настройка swap-арі описана [по ссылке](#). swap-арі должен сатроеть на основную БД промеда

Все остальные сервисы настраиваются через environvent к каждому сервису.
Описание настроек сервисов

DB_MAIN_HOST - IP адрес основной БД ЕЦП.МИС

DB_MAIN_PORT - Порт основной БД ЕЦП.МИС

DB_MAIN_NAME - Имя основной БД ЕЦП.МИС

DB_MAIN_USER - Пользователь для авторизации в основной БД ЕЦП.МИС

DB_MAIN_PASS - Пароль для авторизации в основной БД ЕЦП.МИС

DB_LOG_HOST - IP адрес БД log_service

DB_LOG_PORT - Порт БД log_service

DB_LOG_NAME - Имя БД log_service. По умолчанию это БД называется log_service

DB_LOG_USER - Пользователь для авторизации в БД log_service

DB_LOG_PASS - Пароль для авторизации в БД log_service

ACTIVEMQHOST - Адрес для ActiveMQ. Вместе с портом

filterLpu=0 - Фильтр ЛПУ - по умолчанию 0.Параметр нужен, если выгрузка по

конкретному(-ым) лпу, тогда в параметр через запятую пишем Lpu_id
filterLpuUse=0 - Включить фильтр ЛПУ (0,1)- по умолчанию 0. Если нужна выгрузка по конкретным Лпу, то ставим= 1.
filterLpuBuilding =0 -Фильтр по подразделениям. Аналогично filterLpu.
filterLpuBuildingUse =0
filterMedStaffFact = 0-Фильтр по MedStaffFact_id. (Ставка врача). Аналогично filterLpu.
filterMedStaffFactUse =0
filterMedSpecOms =0 - Фильтр по медицинским специальностям .Аналогично filterLpu.
filterMedSpecOmsUse =0 - Включить фильтр по медицинским специальностям (0,1)
filterDiag =0 -Фильтр по диагнозам. Если указаны диагнозы ,то они не передаются. Нужно ,если регионы не хотят по конкретным диагнозам передавать данные. Аналогично filterLpu.
filterDiagUse =0
cryptoUser - Имя контейнера КриптоПро с открытым и закрытым ключом, для подписания отправляемых документов.
cryptoPassword - Пароль от контейнера КриптоПро
cryptoSignatureAlgorithm - Алгоритм используемого ключа. Можно использовать какой в примере указан, так как сейчас ИЕМК поддерживает в основном GOST 2012_256
cryptoSignatureDigestAlgorithm - Алгоритм используемого ключа. Можно использовать какой в примере указан, так как сейчас ИЕМК поддерживает в основном GOST 2012_256

```

<?xml version="1.0" encoding="UTF-8"?>
<tomee>
  <Resource id="iemcDatabase" type="DataSource">
    JdbcDriver org.postgresql.Driver
    JdbcUrl
jdbc:postgresql://<DB_LOG_HOST>:<DB_LOG_PORT>/<DB_LOG_NAME>?stringtype=unspecified
    UserName <DB_LOG_USER>
    Password <DB_LOG_PASS>
    validationQuery = SELECT 1
    JtaManaged true
  </Resource>
  <Resource id="iemcDatabaseUnmanaged" type="DataSource">
    JdbcDriver org.postgresql.Driver
    JdbcUrl
jdbc:postgresql://<DB_LOG_HOST>:<DB_LOG_PORT>/<DB_LOG_NAME>?stringtype=unspecified
    UserName <DB_LOG_USER>
    Password <DB_LOG_PASS>
    validationQuery = SELECT 1
    JtaManaged false
  </Resource>
  <Resource id="IEMCJmsResourceAdapter"
type="ActiveMQResourceAdapter">
    BrokerXmlConfig =
    ServerUrl = tcp://<ACTIVEMQHOST>
    DataSource = iemcDatabase
  </Resource>
  <Resource id="IEMCJmsConnectionFactory"
type="javax.jms.ConnectionFactory"
    class-
name="org.apache.activemq.ActiveMQConnectionFactory">
    poolMaxSize = 40
    ConnectionMaxIdleMinutes = 15
    ConnectionMaxWaitMilliseconds = 5000
    ResourceAdapter = IEMCJmsResourceAdapter
    brokerURL = tcp://<ACTIVEMQHOST>
    userName =
    password =
  </Resource>

  <Container id="IEMCJmsMdbContainer" ctype="MESSAGE">
    ResourceAdapter = IEMCJmsResourceAdapter
  </Container>
  <Resource id="PROMED.IN.QUEUE" type="javax.jms.Queue" />
  <Resource id="PROMED.OUT.QUEUE" type="javax.jms.Queue" />
</tomee>

```

Code Block 51 tomee.xml

```

# crypto provider settings
org.apache.ws.security.crypto.provider=ru.swan.soap.crypto.LocalMerlin
org.apache.ws.security.crypto.merlin.keystore.provider=JCP
org.apache.ws.security.crypto.merlin.keystore.type=HDImageStore

# crypto storage account settings
crypto.user=<cryptoUser>
crypto.signatureUser=<cryptoUser>
crypto.password=<cryptoPassword>

# trust settings
crypto.isTrustAllCerts=true

#signature digest algorithm
# CryptoPro
# v1 gostr3411 signature digest algorithm
#crypto.signature.digest.algorithm=SIGNATURE_DIGEST_ALGORITHM
# v2 gostr3411 signature digest algorithm
#crypto.signature.digest.algorithm=SIGNATURE_V2_DIGEST_ALGORITHM
# v2 gostr34112012-256 signature digest algorithm
crypto.signature.digest.algorithm=SIGNATURE_V2_DIGEST_ALGORITHM_2012_256
# v2 gostr34112012-512 signature digest algorithm
#crypto.signature.digest.algorithm=SIGNATURE_V2_DIGEST_ALGORITHM_2012_512

#signature algorithm
# CryptoPro
# v1 gostr3411 signature algorithm
#crypto.signature.algorithm=SIGNATURE_ALGORITHM
# v2 gostr34102001-gostr3411 signature algorithm
#crypto.signature.algorithm=SIGNATURE_V2_ALGORITHM
# v2 gostr34102012-gostr34112012-256 signature algorithm
crypto.signature.algorithm=SIGNATURE_V2_ALGORITHM_2012_256
# v2 gostr34102012-gostr34112012-512 signature algorithm
#crypto.signature.algorithm=SIGNATURE_V2_ALGORITHM_2012_512/

```

Code Block 52 crypto.properties

Так же часть настроек находятся в БД в таблице В БД log_service. Будет в описании БД log_service

5.3 Описание БД log_service для использования сервиса ИЕМК

5.3.1 iemc.integrationservicesystemoption

Это БД с основными настройками сервиса ИЕМК

system	title	uniqueid	value
1	Адрес сервиса evn/EvnPS	promedServiceEvnPS	/evn/EvnPS
1	Адрес сервиса person/PersonState	promedServicePersonState	/person/PersonState

system	title	uniqueid	value
1	Адрес сервиса of person/PersonPrivilege	promedServicePersonPrivilege	/person/PersonPrivilege
1	Адрес сервиса login	promedServiceLogin	/login
1	Период релоадинга настроек (сек)	optionsReloadingPeriod	600
1	Регион	region	r59
1	Количество потоков для отправки сообщений	queue.listener.count	10
1	Уровень логирования в базе данных (INFO,DEBUG)	queue.listener.count	DEBUG
1	Временная зона	timezone	GMT+05
1	Идентификатор МИС (MIS GUID)	mis.guid	
1	Адрес каллбека для асинхронных сервисов	callback.uri	<a href="http://<IEMK_IP>/swan-iemc-test/webservices/CallbackSoapService?wsdl">http://<IEMK_IP>/swan-iemc-test/webservices/CallbackSoapService?wsdl
1	Адрес АПИ ПроМед	restful.base.path	<a href="http://<API_IP>/swan-api/rest-api">http://<API_IP>/swan-api/rest-api
1	Пароль пользователя промед для авторизации в RESTfull сервисе	promedPass	
1	Имя пользователя промед для авторизации в RESTfull сервисе	promedUser	

Примечания к настройкам в БД:

promedServiceEvnPS, promedServicePersonState, promedServicePersonPrivilege, promedServiceLogin - можно не менять

optionsReloadingPeriod - время обновления конфига из БД. указывается в секундах, но всё равно лучше перезапустить сервис.

promedUser, promedPass - логин и пароль от пользователя в Промеде. это обязательно. нужно для авторизации в АПИ

restful.base.path - Адрес и путь до swan-api, он должен быть виден сервису swan-iemc-проху

callback.uri - Адрес коллбека нашего сервиса. Для тестовой среды он должен быть виден из интернета. Для рабочей среды должен быть виден из ЗСПД. Регистрировать его не нужно. просто актуальный можно прописать сюда.

mis.guid - идентификатор. получить его можно при регистрации системы.

5.3.2 iemc.integrationserviceeventtype

В этой таблице находятся шаблоны для ответов в ИЕМК. приходят с обновлением БД

id	action	ас ун с	evenid	serviceuri	title	intem platei d	outte mplat eid
2011	urn:ihe:iti:2007:RetrieveDocumentSet	1	RETRIEVE.DOCUMENT	http://api-iemc-test.rosminzdrav.ru/xds/xdsClientRep?wsdl	Выборка документов СЭМД из ИЭМК	103	100
2012	urn:ihe:iti:2007:RegistryStoredQuery	1	RETRIEVE.DOCUMENT.METADATA	http://api-iemc-test.rosminzdrav.ru/xds/xdsClientReg?wsdl	Выборка метаданных СЭМД из ИЭМК	104	105
2013	urn:hl7-org:v3:PRPA_IN201305	0	RETRIEVE.PATIENT	https://ips-test.rosminzdrav.ru/52d76ffc06419	Запрос данных о пациенте	107	106
2014	urn:hl7-org:v3:PRPA_IN201302	0	CHANGE.PATIENT	https://ips-test.rosminzdrav.ru/52d76ffc06419	Изменение пациента	108	109
2016	urn:ihe:iti:2007:ProvideAndRegisterDocumentSet-b	1	SEND.EPICRISIS	https://ips-test.rosminzdrav.ru/52f0d9db3c8c0	Регистрация эпикриза стационара	113	112
2017	urn:ihe:iti:2007:ProvideAndRegisterDocumentSet-b	1	SEND.AMBULATORY	https://ips-test.rosminzdrav.ru/52f0d9db3c8c0	Регистрация амбулаторного эпикриза	113	118
2018	urn:ihe:iti:2007:ProvideAndRegisterDocumentSet-b	1	CHANGE.AMBULATORY	https://ips-test.rosminzdrav.ru/52f0d9db3c8c0	Изменение амбулаторного эпикриза	113	120
2019	urn:ihe:iti:2007:ProvideAndRegisterDocumentSet-b	1	SEND.DIRECTION	https://ips-test.rosminzdrav.ru/52f0d9db3c8c0	Регистрация направления	113	122

id	action	ac yn c	evenid	serviceuri	title	intem platei d	outte mplat eid
					на госпита лизации ю		
2 1 0	urn:ihe:iti:2007:Provide AndRegisterDocumentSet-b	1	SEND.PROTOCOLLAB	https://ips-test.rosminzdrav.ru/52f0d9db3c8c0	Регистрация протокола лабораторного исследования	113	126
2 1 1	urn:ihe:iti:2007:Provide AndRegisterDocumentSet-b	1	SEND.PROTOCOLCONS	https://ips-test.rosminzdrav.ru/52f0d9db3c8c0	Регистрация протокола консультации	113	128
2 0 5	urn:hl7-org:v3:PRPA_IN201301	0	REGISTER.PATIENT	https://ips-test.rosminzdrav.ru/52d76ffc06419	Регистрация пациента	110	111

в этой таблице меняются только адреса serviceuri

В данном примере актуальные тестовые адреса.

Для перевода в рабочий режим в таблице необходимо будет заменить

<https://ips-test.rosminzdrav.ru/52d76ffc06419> на <https://ips.rosminzdrav.ru/52dd1bfaca6c5>

<https://ips-test.rosminzdrav.ru/52f0d9db3c8c0> на <https://ips.rosminzdrav.ru/52f3408e550d7>

При этом ips.rosminzdrav.ru нужно чтобы работал через ЗСПД

5.3.3 iemc.integrationserviceeventlog

В этой таблице находятся логи работы системы. По ней и определяется как работает система.

6 Разворачивание ФЭР

6.1 Установка с применением docker

6.1.1 Необходимое ПО

- docker v19.03
- docker-compose 1.25

6.1.2 Структура папок и файлов

/srv/hosts/fercon/

```
├── dbPG.properties
├── db.properties
└── fer.properties
```

6.1.3 docker-compose.yml

```
version: '2'
services:
  activemq_instance1:
    image: docker.k-vrachu.ru/activemq:latest
    container_name: activemq_fercon_1
    ports:
      - "8161:8161"
    networks:
      net-fer:
        ipv4_address: 172.23.0.2

  activemq_instance2:
    image: docker.k-vrachu.ru/activemq:latest
    container_name: activemq_fercon_2
    ports:
      - "8162:8161"
    networks:
      net-fer:
        ipv4_address: 172.23.0.3

  fercon_instance1:
    image: docker.k-vrachu.ru/fercon:pglatest
    container_name: fercon_1
    environment:
      - CATALINA_OPTS=-Xms2048M -Xmx4096M -server -XX:+UseParallelGC
      -Dfile.encoding=UTF-8
      - INSTANCE=1
      - ACTIVEMQ=172.23.0.2:61616
    ports:
      - "8080:8080"
    volumes:
      - "/srv/hosts/fercon:/srv/config:ro"
    networks:
      net-fer:
        ipv4_address: 172.23.0.4
    depends_on:
      - activemq_instance1

  fercon_instance2:
    image: docker.k-vrachu.ru/fercon:pglatest
    container_name: fercon_2
    environment:
      - CATALINA_OPTS=-Xms1024M -Xmx3072M -server -XX:+UseParallelGC
      -Dfile.encoding=UTF-8
      - INSTANCE=2
      - ACTIVEMQ=172.23.0.3:61616
    volumes:
      - "/srv/hosts/fercon:/srv/config:ro"
    networks:
      net-fer:
        ipv4_address: 172.23.0.5
    depends_on:
      - activemq_instance2

networks:
  net-fer:
    driver: bridge
    ipam:
      driver: default
      config:
        - subnet: 172.23.0.0/16
          gateway: 172.23.0.254
```

Code Block 53 docker-compose.yml

6.2 Описание файлов конфигурации

Настройки db.properties и dbPG.properties дублируются

необходимо заменить на соответствующие

<SERVER_IP> - адрес сервера БД

<SERVER_PORT> - порт сервера БД

<DATABASE> - имя БД

<USERNAME> - логин для авторизации БД

<PASSWORD> - пароль авторизации в БД

baseProp - отвечает за то, какую БД будет использовать сервис. 0 - MSSQL, 1 - PostgreSQL

```

# db connection settings
db.driver=com.microsoft.sqlserver.jdbc.SQLServerDriver
db.url=jdbc:sqlserver://<SERVER_IP>;databaseName=<DATABASE>;selectMethod=c
ursor;
db.username = <USERNAME>
db.password = <PASSWORD>

# identified patient 0|1 logic - 0 -MSSQL, 1 - Postgress
baseProp = 1

# identified patient 0|1 logic
patientIdentify = 0

#Lpu Available Attachment filter, comma-separated list or 0
lpuAvailFilter = -1

#9990000055
#Lpu Available Attachment filter, comma-separated list or 0
lpuAlwaysAvailFilter = 22,23,25,26,'9990000096',150185

#actual MO 0|1 logic
actualMainMoAttachment = 1
#person MO attachment 0|1 logic
mainMOAttachment = 0
#0|1 logic
gynecologMOAttachment = 1
#0|1 logic
stomatMOAttachment = 1
#0|1 logic
officeMOAttachment = 1
#0|1 logic
moMainTerritory = 0

#0|1 logic
assignMainAttachment = 0
#0|1 logic
noMainAttachmentAll = 0
#0|1 logic
noMainAttachmentAllTer = 0
#0|1 logic
assignNoMainAttachment = 0
#unspecified sign no main Attachment (region!) 0|1 logic

#Main Attachment nsi.MedSpec filter, comma-separated list or 0
filterNsiMedSpec = 8, 10, 11, 14, 16, 17, 19, 20, 22, 27, 30, 31, 118, 81,
260, 145, 42, 173, 174, 176, 175, 177, 178
#Other MO Main Attachment nsi.MedSpec filter, comma-separated list or 0
otherMOfilterNsiMedSpec = 173,174,176,175,177,178,8, 207, 10
#Other MO NO Main Attachment nsi.MedSpec filter, comma-separated list or 0
noMainfilterNsiMedSpec = 8,207,173,174,175,176,177,178

#age
ageGrown = 18
#NO child nsi.MedSpec filter, comma-separated list or 0
noChildfilterNsiMedSpec = 27
#NO grown nsi.MedSpec filter, comma-separated list or 0
noGrownfilterNsiMedSpec = 22, 173, 11,
41,42,43,44,45,46,47,48,49,50,51,73,77,79,80,81,82,83,84,85,86,89,90,91,92
,93,94,95,96,149,174
#NO male nsi.MedSpec filter, comma-separated list or 0
noMalefilterNsiMedSpec = 8,207
#NO female nsi.MedSpec filter, comma-separated list or 0
noFemalefilterNsiMedSpec = 0

#date
dateAvail = 14

```

```

#LpuUnitType_id filter, 0|1 logic
policlinicAvail=1
#LpuUnit_IsEnabled filter, 0|1 logic
operatorEntry = 1

#recType filter, comma-separated list or 0
recType = 1

#shaduleTimeOpen filter, comma-separated list or 0
shaduleTimeOpen = 20:00
#shaduleTimeCloseTomorrow filter, comma-separated list or 0
shaduleTimeCloseTomorrow = 17:00
#diffTime filter, comma-separated list or 0
diffTime = 30

#client
#misId test conc-50159-rmis      production conc-50114-rmis
misId = conc-50114-rmis
#EpguUserId
epguUserId = 999900
#sourceSlot, comma-separated list or 0
sourceSlot = 0
#timeFailApp, comma-separated list or 0
timeFailApp = 30

```

Code Block 54 db.properties

```

# db connection settings
db.driver=org.postgresql.Driver
db.url=jdbc:postgresql://<SERVER_IP>:<SERVER_PORT>/<DATABASE>?stringtype=unspecified
db.username = <USERNAME>
db.password = <PASSWORD>

# identified patient 0|1 logic - 0 -MSSQL, 1 - Postgress
baseProp = 1

# identified patient 0|1 logic
patientIdentify = 0

#Lpu Available Attachment filter, comma-separated list or 0
lpuAvailFilter = -1

#actual MO 0|1 logic
actualMainMoAttachment = 0
#person MO attachment 0|1 logic
mainMOAttachment = 1
#0|1 logic
gynecologMOAttachment = 0
#0|1 logic
stomatMOAttachment = 0
#0|1 logic
officeMOAttachment = 0
#0|1 logic
moMainTerritory = 0

#0|1 logic
assignMainAttachment = 0
#0|1 logic
noMainAttachmentAll = 1
#0|1 logic
noMainAttachmentAllTer = 0
#0|1 logic
assignNoMainAttachment = 0
#unspecified sign no main Attachment (region!) 0|1 logic

#Main Attachment nsi.MedSpec filter, comma-separated list or 0
filterNsiMedSpec = -1
#Other MO Main Attachment nsi.MedSpec filter, comma-separated list or 0
otherMOfilterNsiMedSpec = -1
#Other MO NO Main Attachment nsi.MedSpec filter, comma-separated list or 0
noMainfilterNsiMedSpec =
3,8,16,22,27,33,34,35,36,171,173,174,175,176,177,178,179

#age
ageGrown = 18
#NO child nsi.MedSpec filter, comma-separated list or 0
noChildfilterNsiMedSpec = 0
#NO grown nsi.MedSpec filter, comma-separated list or 0
noGrownfilterNsiMedSpec =
11,22,41,42,43,44,45,46,47,48,49,50,51,73,77,79,80,81,82,83,84,85,86,88,89
,90,91,92,93,94,95,96,174,149
#NO male nsi.MedSpec filter, comma-separated list or 0
noMalefilterNsiMedSpec = 8,207
#NO female nsi.MedSpec filter, comma-separated list or 0
noFemalefilterNsiMedSpec = 0

#date
dateAvail = 14

#LpuUnitType_id filter, 0|1 logic
policlinicAvail=1
#LpuUnit_IsEnabled filter, 0|1 logic

```

```

operatorEntry = 1

#recType filter, comma-separated list or 0
recType = 1

#shaduleTimeOpen filter, comma-separated list or 0
shaduleTimeOpen = 21:00
#shaduleTimeCloseTomorrow filter, comma-separated list or 0
shaduleTimeCloseTomorrow = 17:00
#diffTime filter, comma-separated list or 0
diffTime = 15

#client
#misId test conc-50143-rmis      production
misId = conc-50143-rmis
#misIdHC test conc-50143-rmis    production
misIdHC = conc-50239-rmis
#EpguUserId
epguUserId = 999900
#sourceSlot, comma-separated list or 0
sourceSlot = 1
#timeFailApp, comma-separated list or 0
timeFailApp = 1

```

Code Block 55 dbPG.properties

Пояснения по конфигу db.properties и dbPG.properties:

misId - ID сервиса записи к врачу. Для тестового и рабочего они разные. получить их можно через менеджера, после регистрации системы в соответствующей системе.

misIdHC - ID сервиса вызова на дом. Для тестового и рабочего они разные. получить их можно через менеджера, после регистрации системы в соответствующей системе.

sourceSlot = 0 должен стоять в первом экземпляре и 1 во втором. Настраивается автоматически от переменной в докере INSTANCE

```

# fer service
service.url=http://fer-
concentrator.egisz.rosminzdrav.ru/concentrator_ws/ws/mis/
serviceHouseCall.url=http://fer-
concentrator.egisz.rosminzdrav.ru/concentrator_ws/ws/housecallstatus/house
callstatus.wsdl

# soap settings
soap.is12=true
soap.isLog=true

# listener settings
fer.UpdateAppointmentStatus.listener.count = 4
fer.HouseCallStatus.listener.count = 5

```

Code Block 56 fer.properties

Пояснения по конфигу fer.properties :

service.url - адрес для работы сервиса Запись к врачу. для тестового http://test-api2-fer.rt-eu.ru/concentrator_ws/ws/mis/mis.wsdl Для рабочего http://fer-concentrator.egisz.rosminzdrav.ru/concentrator_ws/ws/mis/

serviceHouseCall.url - адрес для работы сервиса Вызов на дом. Для тестового http://test-api2-fer.rt-eu.ru/concentrator_ws/ws/housecallstatus/housecallstatus.wsdl для рабочего http://fer-concentrator.egisz.rosminzdrav.ru/concentrator_ws/ws/housecallstatus/housecallstatus.wsdl

Рабочие должны работать через ЗСПД

6.2.1 job.xml

Они находятся в отдельной папке внутри контейнера и берутся нужные в зависимости от номера экземпляра.

Их можно заменить на свой при необходимости.

1 Экземпляр сервис FerConcentrator

Путь в контейнере. /srv/job/ins1/FerConcentrator-2.0.0/WEB-INF/classes/job.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<job-scheduling-data
  xmlns="http://www.quartz-scheduler.org/xml/JobSchedulingData"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.quartz-
scheduler.org/xml/JobSchedulingData http://www.quartz-
scheduler.org/xml/job_scheduling_data_1_8.xsd"
  version="1.8">
  <schedule>
    <job>
      <name>UpdateAppointmentStatusReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по биркам</description>
      <job-class>ru.swan.client.SlotReplicatorJob</job-class>
    </job>

    <trigger>
      <cron>
        <name>SlotReplicatorTrigger</name>
        <job-name>UpdateAppointmentStatusReplicatorJob</job-name>
        <job-group>ferConcentrator</job-group>
        <cron-expression>0/30 * * * * ?</cron-expression>
      </cron>
    </trigger>
  </schedule>
</job-scheduling-data>
```

Code Block 57 job.xml

1 Экземпляр сервис FerConcentrator-2.0.0

Путь в контейнере. /srv/job/ins1/FerConcentrator-2.0.0/WEB-INF/classes/job.xml


```

<?xml version="1.0" encoding="UTF-8"?>
<job-scheduling-data
  xmlns="http://www.quartz-scheduler.org/xml/JobSchedulingData"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.quartz-
scheduler.org/xml/JobSchedulingData http://www.quartz-
scheduler.org/xml/job_scheduling_data_1_8.xsd"
  version="1.8">
  <schedule>
    <job>
      <name>UpdateAppointmentStatusSlotReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по биркам</description>
      <job-class>ru.swan.client.SlotReplicatorJob</job-class>
    </job>

    <job>
      <name>UpdateAppointmentStatusCancelReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по биркам</description>
      <job-class>ru.swan.client.SlotCancelReplicatorJob</job-class>
    </job>

    <job>
      <name>UpdateAppointmentStatusAppearReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по биркам</description>
      <job-class>ru.swan.client.SlotAppearReplicatorJob</job-class>
    </job>

    <job>
      <name>HCCancelReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по вызовам</description>
      <job-class>ru.swan.client.HCCancelReplicatorJob</job-class>
    </job>

    <job>
      <name>HCNotReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по вызовам</description>
      <job-class>ru.swan.client.HCNotReplicatorJob</job-class>
    </job>

    <job>
      <name>HCVisitReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по вызовам</description>
      <job-class>ru.swan.client.HCVisitReplicatorJob</job-class>
    </job>

    <job>
      <name>HCAccompReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по вызовам</description>
      <job-class>ru.swan.client.HCAccompReplicatorJob</job-class>
    </job>

    <trigger>
      <cron>
        <name>HCCancelReplicatorJob</name>
        <job-name>HCCancelReplicatorJob</job-name>
        <job-group>ferConcentrator</job-group>
        <cron-expression>0 0/10 * * * ?</cron-expression>
      </cron>
    </trigger>
    <trigger>
      <cron>
        <name>HCNotReplicatorJob</name>

```

```

        <job-name>HCNotReplicatorJob</job-name>
        <job-group>ferConcentrator</job-group>
        <cron-expression>0 0/10 * * * ?</cron-expression>
    </cron>
</trigger>
<trigger>
    <cron>
        <name>HCVizitReplicatorJob</name>
        <job-name>HCVizitReplicatorJob</job-name>
        <job-group>ferConcentrator</job-group>
        <cron-expression>0 0/10 * * * ?</cron-expression>
    </cron>
</trigger>
<trigger>
    <cron>
        <name>HCAccompReplicatorJob</name>
        <job-name>HCAccompReplicatorJob</job-name>
        <job-group>ferConcentrator</job-group>
        <cron-expression>0 0/10 * * * ?</cron-expression>
    </cron>
</trigger>
<trigger>
    <cron>
        <name>UpdateAppointmentStatusSlotReplicatorJob</name>
        <job-name>UpdateAppointmentStatusSlotReplicatorJob</job-
name>
        <job-group>ferConcentrator</job-group>
        <cron-expression>0 0/10 * * * ?</cron-expression>
    </cron>
</trigger>
    <trigger>
        <cron>
            <name>UpdateAppointmentStatusCancelReplicatorJob</name>
            <job-name>UpdateAppointmentStatusCancelReplicatorJob</job-
name>
            <job-group>ferConcentrator</job-group>
            <cron-expression>0 0/10 * * * ?</cron-expression>
        </cron>
    </trigger>
    <trigger>
        <cron>
            <name>UpdateAppointmentStatusAppearReplicatorJob</name>
            <job-name>UpdateAppointmentStatusAppearReplicatorJob</job-
name>
            <job-group>ferConcentrator</job-group>
            <cron-expression>0 0 13 * * ?</cron-expression>
        </cron>
    </trigger>
</schedule>
</job-scheduling-data>

```

Code Block 58 job.xml

1 Экземпляр сервис FerConcentrator-3.0.0

Путь в контейнере. /srv/job/ins1/FerConcentrator-3.0.0/WEB-INF/classes/job.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<job-scheduling-data
  xmlns="http://www.quartz-scheduler.org/xml/JobSchedulingData"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.quartz-
scheduler.org/xml/JobSchedulingData http://www.quartz-
scheduler.org/xml/job_scheduling_data_1_8.xsd"
  version="1.8">
  <schedule>
    <job>
      <name>UpdateAppointmentStatusReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по биркам</description>
      <job-class>ru.swan.client.SlotReplicatorJob</job-class>
    </job>

    <trigger>
      <cron>
        <name>SlotReplicatorTrigger</name>
        <job-name>UpdateAppointmentStatusReplicatorJob</job-name>
        <job-group>ferConcentrator</job-group>
        <cron-expression>0/30 * * * * ?</cron-expression>
      </cron>
    </trigger>

  </schedule>
</job-scheduling-data>

```

Code Block 59 job.xml

1 Экземпляр сервис FerConcentratorHC

Путь в контейнере. /srv/job/ins1/FerConcentratorHC/WEB-INF/classes/job.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<job-scheduling-data
  xmlns="http://www.quartz-scheduler.org/xml/JobSchedulingData"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.quartz-
scheduler.org/xml/JobSchedulingData http://www.quartz-
scheduler.org/xml/job_scheduling_data_1_8.xsd"
  version="1.8">
  <schedule>
    <job>
      <name>UpdateAppointmentStatusReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по биркам</description>
      <job-class>ru.swan.client.SlotReplicatorJob</job-class>
    </job>

    <trigger>
      <cron>
        <name>SlotReplicatorTrigger</name>
        <job-name>UpdateAppointmentStatusReplicatorJob</job-name>
        <job-group>ferConcentrator</job-group>
        <cron-expression>0/30 * * * * ?</cron-expression>
      </cron>
    </trigger>

  </schedule>
</job-scheduling-data>

```

Code Block 60 job.xml

2 Экземпляр сервис FerConcentrator-2.0.0

Путь в контейнере. /srv/job/ins2/FerConcentrator-2.0.0/WEB-INF/classes/job.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<job-scheduling-data
  xmlns="http://www.quartz-scheduler.org/xml/JobSchedulingData"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.quartz-
scheduler.org/xml/JobSchedulingData http://www.quartz-
scheduler.org/xml/job_scheduling_data_1_8.xsd"
  version="1.8">
  <schedule>

    <job>
      <name>UpdateAppointmentStatusRecordReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по биркам</description>
      <job-class>ru.swan.client.SlotRecordReplicatorJob</job-class>
    </job>

    <job>
      <name>UpdateAppointmentStatusSlotReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по биркам</description>
      <job-class>ru.swan.client.SlotReplicatorJob</job-class>
    </job>

    <job>
      <name>UpdateAppointmentStatusCancelReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по биркам</description>
      <job-class>ru.swan.client.SlotCancelReplicatorJob</job-class>
    </job>

    <job>
      <name>UpdateAppointmentStatusAppearReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по биркам</description>
      <job-class>ru.swan.client.SlotAppearReplicatorJob</job-class>
    </job>

    <job>
      <name>HCCancelReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по вызовам</description>
      <job-class>ru.swan.client.HCCancelReplicatorJob</job-class>
    </job>

    <job>
      <name>HCNotReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по вызовам</description>
      <job-class>ru.swan.client.HCNotReplicatorJob</job-class>
    </job>

    <job>
      <name>HCVizitReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по вызовам</description>
      <job-class>ru.swan.client.HCVizitReplicatorJob</job-class>
    </job>

    <job>
      <name>HCAccompReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по вызовам</description>
      <job-class>ru.swan.client.HCAccompReplicatorJob</job-class>
    </job>

    <trigger>
      <cron>

```

```

        <name>HCCancelReplicatorJob</name>
        <job-name>HCCancelReplicatorJob</job-name>
        <job-group>ferConcentrator</job-group>
        <cron-expression>0 0/10 * * * ?</cron-expression>
    </cron>
</trigger>
<trigger>
    <cron>
        <name>HCNotReplicatorJob</name>
        <job-name>HCNotReplicatorJob</job-name>
        <job-group>ferConcentrator</job-group>
        <cron-expression>0 0/10 * * * ?</cron-expression>
    </cron>
</trigger>
<trigger>
    <cron>
        <name>HCVisitReplicatorJob</name>
        <job-name>HCVisitReplicatorJob</job-name>
        <job-group>ferConcentrator</job-group>
        <cron-expression>0 0/10 * * * ?</cron-expression>
    </cron>
</trigger>
<trigger>
    <cron>
        <name>HCAccompReplicatorJob</name>
        <job-name>HCAccompReplicatorJob</job-name>
        <job-group>ferConcentrator</job-group>
        <cron-expression>0 0/10 * * * ?</cron-expression>
    </cron>
</trigger>

name>
    <trigger>
        <cron>
            <name>UpdateAppointmentStatusRecordReplicatorJob</name>
            <job-name>UpdateAppointmentStatusRecordReplicatorJob</job-

            <job-group>ferConcentrator</job-group>
            <cron-expression>0 0/5 * * * ?</cron-expression>
        </cron>
    </trigger>

name>
    <trigger>
        <cron>
            <name>UpdateAppointmentStatusSlotReplicatorJob</name>
            <job-name>UpdateAppointmentStatusSlotReplicatorJob</job-

            <job-group>ferConcentrator</job-group>
            <cron-expression>0 0/5 * * * ?</cron-expression>
        </cron>
    </trigger>
    <trigger>
        <cron>
            <name>UpdateAppointmentStatusCancelReplicatorJob</name>
            <job-name>UpdateAppointmentStatusCancelReplicatorJob</job-

name>
            <job-group>ferConcentrator</job-group>
            <cron-expression>0 0/5 * * * ?</cron-expression>
        </cron>
    </trigger>
    <trigger>
        <cron>

```

```

        <name>UpdateAppointmentStatusAppearReplicatorJob</name>
        <job-name>UpdateAppointmentStatusAppearReplicatorJob</job-
name>
        <job-group>ferConcentrator</job-group>
        <cron-expression>0 5 13 * * ?</cron-expression>
        </cron>
    </trigger>

</schedule>
</job-scheduling-data>

```

Code Block 61 job.xml

2 Экземпляр сервис FerConcentrator-3.0.0

Путь в контейнере. /srv/job/ins2/FerConcentrator-3.0.0/WEB-INF/classes/job.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<job-scheduling-data
  xmlns="http://www.quartz-scheduler.org/xml/JobSchedulingData"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.quartz-
scheduler.org/xml/JobSchedulingData http://www.quartz-
scheduler.org/xml/job_scheduling_data_1_8.xsd"
  version="1.8">
  <schedule>
    <job>
      <name>UpdateAppointmentStatusSlotReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по биркам</description>
      <job-class>ru.swan.client.SlotReplicatorJob</job-class>
    </job>

    <job>
      <name>UpdateAppointmentStatusCancelReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по биркам</description>
      <job-class>ru.swan.client.SlotCancelReplicatorJob</job-class>
    </job>

    <job>
      <name>UpdateAppointmentStatusAppearReplicatorJob</name>
      <group>ferConcentrator</group>
      <description>Запрос данных по биркам</description>
      <job-class>ru.swan.client.SlotAppearReplicatorJob</job-class>
    </job>

    <trigger>
      <cron><!--Добавление посещений по записям-->
        <name>UpdateAppointmentStatusSlotReplicatorJob</name>
        <job-name>UpdateAppointmentStatusSlotReplicatorJob</job-
name>
        <job-group>ferConcentrator</job-group>
        <cron-expression>0 0 3 ? * * </cron-expression>
      </cron>
    </trigger>

    <trigger>
      <cron><!--Отмена записи-->
        <name>UpdateAppointmentStatusCancelReplicatorJob</name>
        <job-name>UpdateAppointmentStatusCancelReplicatorJob</job-
name>
        <job-group>ferConcentrator</job-group>
        <cron-expression>0 0 4 ? * * </cron-expression>
      </cron>
    </trigger>

    <trigger>
      <cron><!--Записи без посещений в течении периода-->
        <name>UpdateAppointmentStatusAppearReplicatorJob</name>
        <job-name>UpdateAppointmentStatusAppearReplicatorJob</job-
name>
        <job-group>ferConcentrator</job-group>
        <cron-expression>0 0 5 ? * * </cron-expression>
      </cron>
    </trigger>

  </schedule>
</job-scheduling-data>

```

Code Block 62 job.xml

6.3 Действия после установки

После установки необходимо написать заявку на подключение вашей системы к тестовой, а потом и к продуктивной среде.

После того как заявку примут выдадут id сервиса, который нужно будет прописать в настройках системы.

Адрес wsdl для предоставления заявки должен быть виден из интернета. необходимо настроить будет сервис через балансировщик

адрес wsdl в сервисе:

Запись к
врачу: `http://<IP_SERVER>:<PORT>/FerConcentrator/services/FerConcentrator.svc?wsdl`

Вызов на дом: `http://<IP_SERVER>:<PORT>/FerConcentratorHC/HouseCallPortal?wsdl`

Пример настройки балансировщика привожу ниже:

```
server {
    listen                80;
    server_name           fer.promedweb.ru;
    open_file_cache_errors off;

    location /FerConcentrator/ {
        proxy_pass
http://<IP_SERVER>:<PORT>/FerConcentrator/;
        proxy_redirect    off;
        proxy_set_header  Host
$host:$server_port;
        proxy_set_header  X-Real-IP           $remote_addr;
        proxy_set_header  X-Forwarded-For
$proxy_add_x_forwarded_for;
        proxy_connect_timeout    5;
        proxy_send_timeout      60s;
        proxy_read_timeout      600s;
        proxy_http_version      1.1;
        proxy_set_header        Upgrade           $http_upgrade;
        proxy_set_header        Connection
$connection_upgrade;
    }

    location /FerConcentratorHC/ {
        proxy_pass
http://<IP_SERVER>:<PORT>/FerConcentratorHC/;
        proxy_redirect    off;
        proxy_set_header  Host
$host:$server_port;
        proxy_set_header  X-Real-IP           $remote_addr;
        proxy_set_header  X-Forwarded-For
$proxy_add_x_forwarded_for;
        proxy_connect_timeout    5;
        proxy_send_timeout      60s;
        proxy_read_timeout      600s;
        proxy_http_version      1.1;
        proxy_set_header        Upgrade           $http_upgrade;
        proxy_set_header        Connection
$connection_upgrade;
    }
}
```

Code Block 63 fer.conf (nginx)

7 КУ ФЭР Профосмотры (Dispensary)

7.1 Разворачивание

7.1.1 Установка с применением docker

7.1.1.1 Необходимое ПО

- docker v19.03
- docker-compose 1.25

7.1.1.2 Структура папок

/srv/hosts/disp - основная папка сервиса
├─ conf - папка с конфигами (сами файлы описываются ниже)
└─ logs - папка с логами

7.1.1.3 docker-compose.yml

```
version: '2'
services:
  dispensary:
    image: docker.k-vrach.ru/dispensary:pglatest
    environment:
      - "CATALINA_OPTS=-Xms256M -Xmx1024M -server -XX:+UseParallelGC -Dfile.encoding=UTF-8"
    ports:
      - 8080:8080
    extra_hosts:
      - "fer-concentrator.egisz.rosminzdrav.ru:10.41.19.36"
    volumes:
      - "/srv/hosts/disp/logs:/opt/tomee/logs"
      - "/srv/hosts/disp/conf/application.properties:/opt/tomee/webapps/swan-dispensary-service/WEB-INF/classes/application.properties:ro"
      # Если используется PostgreSQL База Данных
      - "/srv/hosts/disp/conf/db.postgres.xml:/opt/tomee/webapps/swan-dispensary-service/WEB-INF/classes/db.postgres.xml:ro"
      - "/srv/hosts/disp/conf/db.postgresql.properties:/opt/tomee/webapps/swan-dispensary-service/WEB-INF/classes/db.postgresql.properties:ro"
      # Если используется MSSQL База Данных
      #- "/srv/hosts/disp/conf/db.mssql.xml:/opt/tomee/webapps/swan-dispensary-service/WEB-INF/classes/db.mssql.xml:ro"
      #- "/srv/hosts/disp/conf/db.mssql.properties:/opt/tomee/webapps/swan-dispensary-service/WEB-INF/classes/db.mssql.properties:ro"
```

Code Block 64 docker-compose.yml

7.1.2 Установка напрямую на ОС

7.1.2.1 Необходимое ПО

Для работы сервиса необходимо использовать Java 8 и Apache TomEE - сервер приложений JavaEE версии 7.1

Скачать можно по ссылке: <https://tomee.apache.org/download-ng.html>

7.1.2.2 Установка TomEE

Производится согласно документации размещенной на сайте: <https://tomee.apache.org/docs.html>

7.1.2.3 Настройка TomEE как сервиса

После установки TomEE скопировать дополнительные библиотеки, в папку lib сервера приложений и перезапустить TomEE

Дополнительные библиотеки находятся в репозитории git:

<https://git.promedweb.ru/rtmis/disp/-/tree/master/tomee-lib>

7.2 Описание файлов конфигурации

Файл application.properties

```
# System User Id
swan.system.user.id = 1
swan.rmis.id = conc-<ID>-rmis
swan.dap.sys.nick = profosmotr
swan.dap.therapy.codes =
B01.047.001.001,B01.047.001.001,B04.047.002,02003509,B02.000.003,B04.026.0
02,B04.047.002,B04.047.002.999,B04.047.004,B04.047.004.999
swan.manual.update.pool = 10

db.data.source = db.postgres.xml
#db.data.source = db.mssql.xml

#scheduling the top of every hour of every day.
scheduling.job.cron=0 0 * * * *

#scheduling check service every 3 minute
scheduling.job.cron.check.service=0 0/3 * * * *

#scheduling from 20:00 to 06:00
#scheduling.job.cron=0 0 20-23,0-6 * * *

# Web Service
# Для подключения к рабочей среде
# spring.ws.dispensary.callback.uri = http://fer-
concentrator.egisz.rosminzdrav.ru/examination-
callback/DispensaryCallbackServicece
# spring.ws.booking.update.uri = https://fer-
concentrator.egisz.rosminzdrav.ru/update-booking-
details/UpdateBookingDetailsService
# Для подключения к тестовой среде
spring.ws.dispensary.callback.uri = http://test-api2-fer.rt-
eu.ru/examination-callback/DispensaryCallbackService
spring.ws.booking.update.uri = http://test-api2-fer.rt-eu.ru/update-
booking-details/UpdateBookingDetailsService
```

Code Block 65 application.properties

Пояснения к файлу application.properties

swan.system.user.id = 1 - id пользователя, от имени которого производятся записи в БД.

swan.rmis.id - ID сервиса. Для тестового и рабочего они разные. получить их можно через менеджера, после регистрации системы в соответствующей системе.

swan.dap.sys.nick - тип услуги, которая используется при записи на ДВН.

swan.dap.therapy.codes - коды услуг , которые могут осуществлять диспансеризацию взрослого населения

swan.manual.update.pool - количество потоков, которое будет использоваться при передаче измененных в Промеде направлений на диспансеризацию, когда этот метод вызывается REST запросом

db.data.source - в случае подключения к postgresql серверу подключаем db.postgres.xml и пробрасываем в контейнер файлы db.postgres.xml и db.postgresql.properties. Если у нас подключение к MSSQL серверу прописываем настройку db.mssql.xml и в контейнер пробрасываем файлы db.mssql.xml и db.mssql.properties

scheduling.job.cron - расписание для автоматического запуска выгрузки обновленных в Промеде направлений.

scheduling.job.cron.check.service - расписание для автоматического запуска проверки доступности федерального сервиса

spring.ws.dispensary.callback.uri и **spring.ws.booking.update.uri** - Для тестовой и рабочей среды уже прописаны выше. можно просто раскомментировать и закомментировать нужные строки. Но если сервис работает в продуктивной (рабочей) среде необходимо чтобы адрес fer-concentrator.egisz.rosminzdrav.ru работал через ЗСПД (должен соответствовать адресу 10.41.19.36)

Файлы для конфигурации PostgreSQL

```

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE configuration PUBLIC "-//mybatis.org//DTD Config 3.0//EN"
"http://mybatis.org/dtd/mybatis-3-config.dtd">
<configuration>
  <properties resource="db.postgresql.properties" />
  <environments default="development">
    <environment id="development">
      <transactionManager type="JDBC" />
      <dataSource type="POOLED">
        <property name="driver" value="${db.driver}" />
        <property name="url" value="${db.url}" />
        <property name="username" value="${db.username}" />
        <property name="password" value="${db.password}" />
      </dataSource>
    </environment>
  </environments>
  <databaseIdProvider type="DB_VENDOR">
    <property name="PostgreSQL" value="postgres"/>
  </databaseIdProvider>
  <mappers>
    <mapper
resource="ru/swan/dispensary/db/postgres/ConcentratorSessionMapper.xml" />
    <mapper
resource="ru/swan/dispensary/db/postgres/IdentifyPatientMapper.xml" />
    <mapper
resource="ru/swan/dispensary/db/postgres/DispensaryInfoMapper.xml" />
    <mapper
resource="ru/swan/dispensary/db/postgres/QuestionTypeMapper.xml" />
    <mapper
resource="ru/swan/dispensary/db/postgres/ServicesSlotsMapper.xml" />
    <mapper
resource="ru/swan/dispensary/db/postgres/BookingDataMapper.xml" />
    <mapper
resource="ru/swan/dispensary/db/postgres/ReplicatorJobMapper.xml" />
    <mapper
resource="ru/swan/dispensary/db/postgres/UpdateBookingMapper.xml" />
  </mappers>
</configuration>

```

Code Block 66 db.postgres.xml

```

db.driver=org.postgresql.Driver
db.url=jdbc:postgresql://<IP_SERVER>:<PORT_SERVER>/<DB>
db.username = <USERNAME>
db.password = <PASSWORD>

```

Code Block 67 db.postgresql.properties

Файлы конфигурации MSSQL

```

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE configuration PUBLIC "-//mybatis.org//DTD Config 3.0//EN"
"http://mybatis.org/dtd/mybatis-3-config.dtd">
<configuration>
  <properties resource="db.mssql.properties" />
  <environments default="development">
    <environment id="development">
      <transactionManager type="JDBC" />
      <dataSource type="POOLED">
        <property name="driver" value="${db.driver}" />
        <property name="url" value="${db.url}" />
        <property name="username" value="${db.username}" />
        <property name="password" value="${db.password}" />
      </dataSource>
    </environment>
  </environments>
  <databaseIdProvider type="DB_VENDOR">
    <property name="SQL Server" value="mssql"/>
    <property name="PostgreSQL" value="postgres"/>
  </databaseIdProvider>
  <mapppers>
    <mapper
resource="ru/swan/dispensary/db/mssql/ConcentratorSessionMapper.xml" />
    <mapper
resource="ru/swan/dispensary/db/mssql/IdentifyPatientMapper.xml" />
    <mapper
resource="ru/swan/dispensary/db/mssql/DispensaryInfoMapper.xml" />
    <mapper
resource="ru/swan/dispensary/db/mssql/QuestionTypeMapper.xml" />
    <mapper
resource="ru/swan/dispensary/db/mssql/ServicesSlotsMapper.xml" />
    <mapper
resource="ru/swan/dispensary/db/mssql/BookingDataMapper.xml" />
    <mapper
resource="ru/swan/dispensary/db/mssql/ReplicatorJobMapper.xml" />
    <mapper
resource="ru/swan/dispensary/db/mssql/UpdateBookingMapper.xml" />
  </mapppers>
</configuration>

```

Code Block 68 db.mssql.xml

```

# db connection settings
db.driver=com.microsoft.sqlserver.jdbc.SQLServerDriver
db.url=jdbc:sqlserver://<IP_SERVER>;databaseName=<DB>;selectMethod=cursor;
db.username = <USERNAME>
db.password = <PASSWORD>

```

Code Block 69 db.mssql.properties

7.3 Действия после установки

После установки необходимо написать заявку на подключение вашей системы к тестовой, а потом и к продуктивной среде.

После того как заявку примут выдадут id сервиса, который нужно будет прописать в настройках системы.

Адрес wsdl для предоставления заявки должен быть виден из интернета. необходимо настроить будет сервис через балансировщик

адрес wsdl в сервисе `http://<IP_ADDRESS>:<PORT>/swan-dispensary-service/ws/dispensaryCommons.wsdl?wsdl`

Пример настройки балансировщика привожу ниже:

```
server {
    listen                80;
    server_name           disp.promedweb.ru;
    open_file_cache_errors off;

    location /swan-dispensary-service/ {
        proxy_pass        http://<IP_SERVER>:<PORT>/swan-
dispensary-service/;
        proxy_redirect     off;
        proxy_set_header   Host
$host:$server_port;
        proxy_set_header   X-Real-IP           $remote_addr;
        proxy_set_header   X-Forwarded-For
$proxy_add_x_forwarded_for;
        proxy_connect_timeout 5;
        proxy_send_timeout   60s;
        proxy_read_timeout   600s;
        proxy_http_version   1.1;
        proxy_set_header     Upgrade           $http_upgrade;
        proxy_set_header     Connection
$connection_upgrade;
    }
}
```

Code Block 70 fer.conf (nginx)

8 Взаимодействие с ЕГИСЗ. Витрина данных

8.1 Установка с применением docker

8.1.1 Необходимое ПО

- docker v20.10+
- docker-compose 1.27+

8.1.2 Состав дистрибутива

Дистрибутив поставляется в виде docker-образа, устанавливаемого с помощью утилиты docker-compose. При установке используется конфигурационный файл docker-compose.yml.

8.2 Описание файлов конфигурации

Имя файла	Описание	Относительный путь до артефактов
docker-compose.yml	конфигурация docker-compose	./

8.2.1 docker-compose.yml

```
version: "3.9"

services:

  fer-dtm:
    image: d-repo.rtmis.ru/ferdtm:2.0.0
    restart: unless-stopped
    environment:
      - TZ=Europe/Moscow
      - SPRING_LIFECYCLE_SHUTDOWN_TIMEOUT=600s
      - DEBUG=false
      - SERVER_PORT=8080
      -
      SPRING_DATASOURCE_ECP_URL=jdbc:postgresql://192.168.37.7:6432/promedadygea_session?stringtype=unspecified
      - SPRING_DATASOURCE_ECP_USERNAME=login
      - SPRING_DATASOURCE_ECP_PASSWORD=pw
      - SPRING_DATASOURCE_ECP_DRIVER=org.postgresql.Driver
      - SPRING_DATASOURCE_DTM_URL=jdbc:prostore://d02-nsud.rtmis.ru:19002/misd02
      - SPRING_DATASOURCE_DTM_DRIVER=ru.datamart.prostore.jdbc.Driver
      - SPRING_DATASOURCE_DTM_CACHE_URL=jdbc:prostore://d02-nsud.rtmis.ru:19002/misd02_book
      - SPRING_DATASOURCE_DTM_CACHE_DRIVER=ru.datamart.prostore.jdbc.Driver
      - SPRING_KAFKA_BOOTSTRAP_SERVERS=192.168.37.7:29002
      - SPRING_KAFKA_TOPIC_PREFIX=m02.
      - APP_INIT_SLOT_BEGIN=2022-04-25
      - APP_INIT_BOOK_BEGIN=2022-04-25
      - APP_INIT_TIME=00:05:00
      - APP_SCHEDULE_BASE=0 0 0/2 * * *
      - APP_SCHEDULE_SLOT=0/2 * * * * *
      - APP_SCHEDULE_BOOK=0 0/10 * * * *
      - MYBATIS_ECP_VARIABLE_LPU_AVAILABLE_FILTER=-1
      - MYBATIS_ECP_VARIABLE_LPU_ALWAYS_AVAILABLE_FILTER=0
      - MYBATIS_ECP_VARIABLE_POLYCLINIC_AVAILABLE=1
      - MYBATIS_ECP_VARIABLE_OPERATOR_ENTRY=1
      - MYBATIS_ECP_VARIABLE_FILTER_NSI_MED_SPECIALTY=-1
      - MYBATIS_ECP_VARIABLE_OTHER_MO_FILTER_NSI_MED_SPECIALTY=-1
      - MYBATIS_ECP_VARIABLE_NO_MAIN_FILTER_NSI_MED_SPECIALTY=12, 13, 14, 16, 17, 23, 24, 25, 27, 28, 31, 37, 39, 41, 42, 43, 44, 60, 63, 80, 83, 86, 91, 92, 179, 180, 182, 191, 192, 194, 195
      - MYBATIS_ECP_VARIABLE_RMIS_ID=test-rmis
      - MYBATIS_ECP_VARIABLE_EPGU_USER_ID=999900
      - MYBATIS_ECP_VARIABLE_LOCK_TIME_OUT=10
      - JAVA_OPTS=-XX:NativeMemoryTracking=summary -Xmx4g -Xms1g
```

```
ports:
  - "8080:8080"
  - "8091:8091"
```

8.3 Порядок запуска сервиса

Образы сервиса:

Имя сервиса	Путь в d-repo.rtmis.ru	Первая передаваемая версия
fer-dtm	d-repo.rtmis.ru/ferdtm	d-repo.rtmis.ru/ferdtm:2.0.0

Порядок запуска сервиса

Запуск:

- Создать и отредактировать файл docker-compose.yml
- Запустить контейнер командой:

```
docker-compose -f docker-compose.yml up
```

Остановка:

- Выполнить команду и дождаться остановки контейнера (параметр 600 задать равным значению SPRING_LIFECYCLE_SHUTDOWN_TIMEOUT) :

```
docker-compose -f docker-compose.yml down -t 600
```

Перезапуск:

- Выполнить остановку, а затем запуск контейнера

8.4 Prometheus metrics

Приложение отдает метрики для prometheus через Spring actuator.

URL для получения метрик в prometheus формате:

```
<schema>://<application_domain>:<management_application_port>/<application_context_path>/actuator/prometheus
```

8.5 Первоначальная загрузка данных

- Для доступа к web-интерфейсу Витрины необходимо:
- в файл hosts прописать доменное имя datamart-test40.is-mis.ru (точные данные у РП):
10.61.57.11 datamart-test40.is-mis.ru

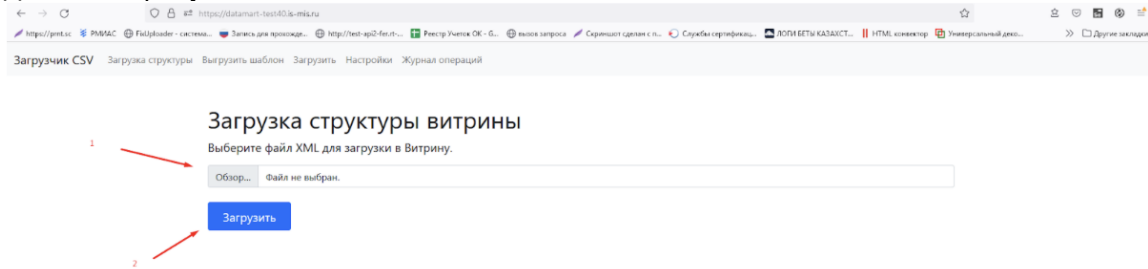
8.5.1 Доступ к IP 10.61.57.11

В процессе выполнения инструкции потребуются выполнять запросы через Postman. Для облегчения задачи можно загрузить коллекцию запросов: Витрина. Первичная загрузка данных и Проверка загруженных данных

8.5.2 Загрузка схемы

Перейти на сайт <https://datamart-test40.is-mis.ru/> и загрузить XML файл с моделью витрины для требуемого региона (Витрина ЕПГУ.Информация по регионам внедрения)(точная ссылка и файл получается у РП).

Для этого требуется нажать кнопки 1→2



- После этого, появится сообщение об успешной загрузке:

Загрузка структуры витрины

Выберите файл XML для загрузки в Витрину.

Выберите файл 4fcec27c-45d2-4ab3-964d-7d82211677b5.xml

Загрузить

09:04:31
Структура витрины успешно создана

- Убедиться в этом можно, посмотрев структуру витрины по ссылке: <https://datamart-test40.is-mis.ru/template>

Выгрузка шаблона CSV

Выберите таблицы для выгрузки:

misdm40.attachment	misdm40.book	misdm40.mo
misdm40.patient	misdm40.referral	misdm40.resource
misdm40.service	misdm40.slot	misdm40.unaccessible_period

Выгрузить Выгрузить все

misdm40 - название БД региона (уточняется у РП)

8.5.3 Проверка связи через ПОДД-агент.

- В postman выполнить запрос “Проверка связи со СМЭВ 4” из коллекции ([Витрина. Первичная загрузка данных](#)), либо в соответствии с настройкой:

POST <https://datamart-test40.is-mis.ru/query> (Адрес получается у РП)
Проверить что настройки выполнены по образцу

Тело запроса

Params

Authorization

Headers (10)

Body

Pre-request Script

Tests

Settings

Headers

Hide auto-generated headers

KEY	VALUE	DESCRIPTION
☒ Cache-Control ⓘ	no-cache	
☒ Postman-Token ⓘ	<calculated when request is sent>	
☒ Content-Type ⓘ	application/json	
☒ Content-Length ⓘ	<calculated when request is sent>	
☒ Host ⓘ	<calculated when request is sent>	
☒ User-Agent ⓘ	PostmanRuntime/7.29.0	
☒ Accept ⓘ	*/*	
☒ Accept-Encoding ⓘ	gzip, deflate, br	
☒ Connection ⓘ	keep-alive	
☒ Accept-Version ⓘ	1	
Key	Value	Description

```
"sql": {
  "sql": "SELECT 1"
}
```

Корректный ответ

```
"created_at": "2022-04-28T08:22:54Z",
"query_id": "1ecc6cc6-5dca-6865-a3a6-07103e5f64fa",
"meta": [
  {
    "name": "EXPR$0",
    "type": "INTEGER"
  }
],
"rows": [
  [
    "1"
  ]
]
```

Получение ответа по образцу говорит о корректной настройке и установке связи со СМЭВ 4.

8.5.4 Возможные ошибки выполнения запросов к ПОДД:

- Если запрос выполняется больше 5 секунд, то запрос необходимо выполнить заново.
- При ошибке выполнения запроса через kafka ПОДД агента:

```
{
  "created_at": "2022-04-28T05:11:39Z",
  "query_id": "1eccccfb0-25e1-69aa-b238-af9ac2dbdf8b",
  "error": "StateAwareInputStreamException: Ошибка во входящем потоке :
  RuntimeException: RuntimeException: Ошибка при передаче SQL запроса в
  ядро : IOException: Отсутствуют активные подключения:
  [PulsarClient(pulsar://[ip]:[port]) : Suppressed:[IOException: Ошибка
  при передаче сообщения через PulsarClient(pulsar://[ip]:[port]) :
  PulsarClientException.AlreadyClosedException: Producer already closed]"
}
```

- При ошибке в запросе (например, неправильно задана схема/поле):

```
{
  "created_at": "2022-04-28T05:00:48Z",
  "query_id": "1eccccf97-ec25-68e1-b238-c3c66616e467",
  "error": "StateAwareInputStreamException: Ошибка во входящем потоке :
  CustomRSocketException: StreamingException: INTERNAL:
  ValidationException: org.apache.calcite.runtime.CalciteContextException:
  At line 1, column 14: Unknown identifier '*'
}
```

- При ошибке настройки криптоконтейнера:

```
{
  "created_at": "2022-04-28T05:17:10Z",
  "query_id": "1eccccfbc-8132-6263-853c-c3ba9e065e50",
  "error": "StateAwareInputStreamException: Ошибка во входящем потоке :
  RuntimeException: RuntimeException: Ошибка при передаче SQL запроса в
  ядро : IllegalStateException: Ошибка при получении токена: HTTP/1.1 400
  Bad Request: <html><head><title>400 No required SSL certificate was
  sent</title></head><body><center><h1>400 Bad
  Request</h1></center><center>No required SSL certificate was
  sent</center><hr><center>nginx/1.16.1</center></body></html>"
}
```

8.5.5 Патч

- Применить патч (выполняется эксплуатацией)
- На стороне витрины выполняется java приложение с патчем структуры БД витрины. В патче используется Java 11.

После загрузки необходимо запустить патч базы данных, можно скачать отсюда dtm-patch-standalone-dev.jar

```
java -jar -DSPRING_DATASOURCE_URL=jdbc:prostore://d40-nsud.rtmis.ru:19005/misd40 -
DAPP_DB_NAME=misd40 -DAPP_KAFKA_PREFIX=m40 -DAPP_MIGRATE=true dtm-patch-
standalone-dev.jar
```

SPRING_DATASOURCE_URL - доступ до базы простор витрины;
 APP_DB_NAME - наименование БД витрины на регионе;
 APP_KAFKA_PREFIX - префикс топиков кафки на регионе.
 APP_MIGRATE - если база пустая, необходимо выставить false. в противном случае true, для миграции старых данных. (по умолчанию: false)

При успешном запуске выполнение заканчивается сообщением: DATAMART PATCHED SUCCESSFULLY.....

При ошибке будет выведена детализация ошибки.

После успешного применения патча, необходимо применить индексы на PostgreSQL базу данных витрины:

- misdm02 заменить на название базы региона

Действия по созданию индексов выполняются через SSH консоль технологического пользователя на машине Витрины.

- Выполнить вход в консоль PostgreSQL внутри контейнера Docker:

```
sudo docker exec -it postgresql -d test -U dtm
```

- Ввести команды для создания индексов:

```
set search_path to <dbname>;

CREATE INDEX idx_attachment_actual_mo_id ON attachment_actual USING btree (mo_id, COALESCE(sys_to, '9223372036854775807'::bigint));
CREATE INDEX idx_attachment_actual_patient_id ON attachment_actual USING btree (patient_id, COALESCE(sys_to, '9223372036854775807'::bigint));
CREATE INDEX idx_referral_actual_patient_id ON referral_actual USING btree (patient_id, COALESCE(sys_to, '9223372036854775807'::bigint));
CREATE INDEX idx_resource_actual_mo_id ON resource_actual USING btree (mo_id, COALESCE(sys_to, '9223372036854775807'::bigint));
CREATE INDEX idx_resource_actual_post_id ON resource_actual USING btree (post_id, COALESCE(sys_to, '9223372036854775807'::bigint));
CREATE INDEX idx_service_actual_resource_id ON service_actual USING btree (resource_id, COALESCE(sys_to, '9223372036854775807'::bigint));
CREATE INDEX idx_patient_actual_snils ON patient_actual USING btree (snils, COALESCE(sys_to, '9223372036854775807'::bigint));
CREATE INDEX idx_patient_actual_oms_number ON patient_actual USING btree (oms_number, COALESCE(sys_to, '9223372036854775807'::bigint));
CREATE INDEX idx_slot_resource_id ON slot USING btree (resource_id);

set search_path to <dbname>_book;

CREATE INDEX idx_book_persist_actual_patient_id ON book_persist_actual USING btree (patient_id, COALESCE(sys_to, '9223372036854775807'::bigint));
CREATE INDEX idx_book_cache_patient_id ON book_cache USING btree (patient_id);
```

- В команде запуска указать данные согласно инструкции к патчу.

При успешном выполнении патча, появляется сообщение "INFO: DATAMART PATCHED SUCCESSFULLY..."

```

$ java -cp dtm-jdbc-5.4.0.jar -jar DbPatch-fat-1.0.0-SNAPSHOT.jar -DjdbcUrl=jdbc
:adtm://d89-nsud.rtmis.ru:19089/ -DdbName=misd89
29, 2022 9:11:13 AM ru.itone.mis.db.Patch main
INFO: Using default file
29, 2022 9:11:13 AM ru.itone.mis.db.Patch main
INFO: executing sql: use misd89
29, 2022 9:11:14 AM ru.itone.mis.db.Patch main
INFO: executing sql: drop table misd89.slot
29, 2022 9:11:14 AM ru.itone.mis.db.Patch main
INFO: executing sql: create table misd89.slot_hidden( resource_id varchar no
t null, id varchar not null, tag_type varchar not null, tag_age varchar
not null, visittime timestamp not null, duration int not null, create_
ts timestamp not null, update_ts timestamp not null, status varchar, pr
imary key (id)) distributed by (id)
29, 2022 9:11:14 AM ru.itone.mis.db.Patch main
INFO: executing sql: create database misd89_cache
29, 2022 9:11:14 AM ru.itone.mis.db.Patch main
INFO: executing sql: use misd89_cache
29, 2022 9:11:14 AM ru.itone.mis.db.Patch main
INFO: executing sql: create table misd89_cache.slot( id varchar not null,
update_ts timestamp not null, status varchar, primary key (id)) distribut
ed by (id)
29, 2022 9:11:14 AM ru.itone.mis.db.Patch main
INFO: executing sql: use misd89
29, 2022 9:11:14 AM ru.itone.mis.db.Patch main
INFO: executing sql: create view misd89.slot as SELECT m.resource_id, m.i
d, m.tag_type, m.tag_age, m.visittime, m.duration, m.create_ts,
CASE WHEN (c.id is NULL or c.update_ts < m.update_ts) THEN m
.update_ts ELSE c.update_ts END AS update_ts, CASE WHEN
(c.id is NULL or c.update_ts < m.update_ts) THEN m.status ELSE
c.status END AS status FROM misd89.slot_hidden m LEFT JOIN misd
m89_cache.slot c ON m.id = c.id
29, 2022 9:11:14 AM ru.itone.mis.db.Patch main
INFO: DATAMART PATCHED SUCCESSFULLY.....

```

Для проверки применения патча перейти на вкладку <https://datamart-test40.is-mis.ru/template>

Убедится, что таблицы пропали (misd40.book, misd40.slot, misd40.unaccessible_period), появилась новая таблица (misd40_book.book_persist) Они пропадают только после успешного применения патча

Выгрузка шаблона CSV

Выберите таблицы для выгрузки:

misd05.attachment	misd05.mo	misd05.patient
misd05.referral	misd05.resource	misd05.service
misd05_book.book_persist		

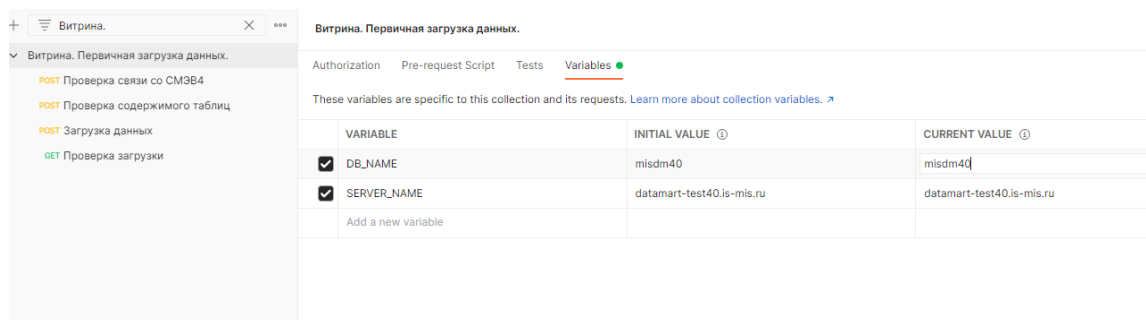
Выгрузить

Выгрузить все

8.5.6 Загрузка данных

В postman предварительно выставить настройки на вкладке Variables

- в поле DB_NAME указать мнемонику соответствующую региону в поле SERVER_NAME указать адрес сервера (запрашивать у РП).



- выполнить запрос “Загрузка данных” из коллекции (Витрина. Первичная загрузка данных), либо в соответствии с настройками:

```
POST https://datamart-test40.is-mis.ru/FerDtm/services/api/loadData

{
  "force": true,
  "refresh": false
}
```

Пример ответа:

```
{
  "processNumber": 1,
  "status": "IN_PROGRESS",
  "parameters": {
    "force": true,
    "refresh": false,
    "include": null
  },
  "result": []
}
```

- Предыдущий запрос запускает процесс загрузки данных в витрину. Для отслеживания процесса, необходимо выполнить запрос “Проверка загрузки” из коллекции (Витрина. Первичная загрузка данных), либо в соответствии с настройками:

GET https://datamart-test40.is-mis.ru/FerDtm/services/api/loadDataStatus

Пример ответа в процессе загрузки:


```

"processNumber": 2,
"status": "IN_PROGRESS",
"parameters": {
  "force": true,
  "refresh": false,
  "include": null
},
"result": [
  {
    "begTime": "10-09-2022 09:42:53",
    "endTime": "10-09-2022 10:02:47",
    "action": "PatientLoader",
    "totalLoaded": 2317234,
    "totalUpdated": 0,
    "executionInfo": "StopWatch 'processPatients': running time =
1193857947933 ns; [loadPatients] took 513212777 ns = 0%; [load] took
397457585675 ns = 33%; [upsert patient from kafka] took 795887149481 ns =
67%"
  }
]

```

Значение "IN_PROGRESS" в поле "status" указывает на то, что процесс загрузки еще не завершен.

Пример ответа при окончании загрузки:

```

{
  "processNumber": 2,
  "status": "DONE",
  "parameters": {
    "force": true,
    "refresh": false,
    "include": null
  },
  "result": [
    {
      "begTime": "10-09-2022 09:42:53",
      "endTime": "10-09-2022 10:02:47",
      "action": "PatientLoader",
      "totalLoaded": 2317234,
      "totalUpdated": 0,
      "executionInfo": "StopWatch 'processPatients':
running time = 1193857947933 ns; [loadPatients] took
513212777 ns = 0%; [load] took 397457585675 ns = 33%;
[upsert patient from kafka] took 795887149481 ns = 67%"
    },
    {
      "begTime": "10-09-2022 10:02:47",
      "endTime": "10-09-2022 10:31:19",
      "action": "AttachmentLoader",
      "totalLoaded": 8124164,
      "totalUpdated": 0,
      "executionInfo": "StopWatch 'processAttachment':
running time = 1711868345239 ns; [load mo list] took
62439320 ns = 0%; [getAttachmentFromEcp, offset: 0] took
436784903 ns = 0%; [loadAttachments] took 45179 ns = 0%;
[send attachments to kafka] took 274440010 ns = 0%;
[getAttachmentFromEcp, offset: 1000] took 203531946 ns = 0%;
[loadAttachments] took 50603 ns = 0%; [send attachments to
kafka] took 272628539 ns = 0%; [getAttachmentFromEcp,
offset: 2000] took 175007761 ns = 0%; [loadAttachments] took

```

```

49521 ns = 0%; [send attachments to kafka] took 254689319 ns
= 0%; [getAttachmentFromEcp, offset: 3000] took 194238095 ns
= 0%; [loadAttachments] took 48042 ns = 0%; [send
attachments to kafka] took 253407983 ns = 0%;
[getAttachmentFromEcp, offset: 4000] took 186902335 ns = 0%;
[loadAttachments] took 49051 ns = 0%; [send attachments to
kafka] took 257342583 ns = 0%; [getAttachmentFromEcp,
offset: 5000] took 161082972 ns = 0%; [loadAttachments] took
51886 ns = 0%; [send attachments to kafka] took 256900212 ns
= 0%; [getAttachmentFromEcp, offset: 6000] took 182095238 ns
= 0%; [loadAttachments] took 50578 ns = 0%; [send
attachments to kafka] took 256238877 ns = 0%;
[getAttachmentFromEcp, offset: 7000] took 169690519 ns = 0%;
[loadAttachments] took 59948 ns = 0%; [send attachments to
kafka] took 253483956 ns = 0%; [getAttachmentFromEcp,
offset: 8000] took 171110526 ns = 0%; [loadAttachments] took
54484 ns = 0%; [send attachments to kafka] took 259246393 ns
= 0%; [getAttachmentFromEcp, offset: 9000] took 161572409 ns
= 0%; [loadAttachments] took 44121 ns = 0%; [send
attachments to kafka] took 252962472 ns = 0%;
[getAttachmentFromEcp, offset: 10000] took 152164743 ns =
0%; [loadAttachments] took 63767 ns = 0%; [send attachments
to kafka] took 254250011 ns = 0%; [getAttachmentFromEcp,
offset: 11000] took 162217898 ns = 0%; [loadAttachments]
took 51552 ns = 0%; [send attachments to kafka] took
253151610 ns = 0%; [getAttachmentFromEcp, offset: 12000]
took 147696016 ns = 0%; [loadAttachments] took 55158 ns =
0%; [send attachments to kafka] took 250499673 ns = 0%;
[getAttachmentFromEcp, offset: 13000] took 150638297 ns =
0%; [loadAttachments] took 49656 ns = 0%; [send attachments
to kafka] took 248602835 ns = 0%; [getAttachmentFromEcp,
offset: 14000] took 147055075 ns = 0%; [loadAttachments]
took 46834 ns = 0%; [send attachments to kafka] took
250447391 ns = 0%; [getAttachmentFromEcp, offset: 15000]
took 148611904 ns = 0%; [loadAttachments] took 49172 ns =
0%; [send attachments to kafka] took 249731888 ns = 0%;
[getAttachmentFromEcp, offset: 16000] took 144319013 ns =
0%; [loadAttachments] took 58242 ns = 0%; [send attachments
to kafka] took 249938342 ns = 0%; [getAttachmentFromEcp,
offset: 17000] took 144563295 ns = 0%; [loadAttachments]
took 46697 ns = 0%; [send attachments to kafka] took
246754166 ns = 0%; [getAttachmentFromEcp, offset: 18000]
took 145165086 ns = 0%; [loadAttachments] took 50774 ns =
0%; [send attachments to kafka] took 235153810 ns = 0%;
[getAttachmentFromEcp, offset: 19000] took 145562624 ns =
0%; [loadAttachments] took 53041 ns = 0%; [send attachments
to kafka] took 235712249 ns = 0%; [getAttachmentFromEcp,
offset: 20000] took 179756760 ns = 0%; [loadAttachments]
took 51542 ns = 0%; [send attachments to kafka] took
237594507 ns = 0%; [getAttachmentFromEcp, offset: 21000]
took 144914200 ns = 0%; [loadAttachments] took 101393 ns =
0%; [send attachments to kafka] took 235742559 ns = 0%;
[getAttachmentFromEcp, offset: 22000] took 146439705 ns =
0%; [loadAttachments] took 54586 ns = 0%; [send attachments
to kafka] took 235131243 ns = 0%; [getAttachmentFromEcp,
offset: 23000] took 150948737 ns = 0%; [loadAttachments]
took 44346 ns = 0%; [send attachments to kafka] took
245964438 ns = 0%; [getAttachmentFromEcp, offset: 24000]
took 154971777 ns = 0%; [loadAttachments] took 44932 ns =
0%; [send attachments to kafka] took 249595202 ns = 0%;
[getAttachmentFromEcp, offset: 25000] took 156809908 ns =
0%; [loadAttachments] took 71830 ns = 0%; [send attachments
to kafka] took 246385137 ns = 0%; [getAttachmentFromEcp,
offset: 26000] took 157696735 ns = 0%; [loadAttachments]
took 49709 ns = 0%; [send attachments to kafka] took
236629863 ns = 0%; [getAttachmentFromEcp, offset: 27000]

```

```

took 157117705 ns = 0%; [loadAttachments] took 45767 ns =
0%; [send attachments to kafka] took 235264379 ns = 0%;
[getAttachmentFromEcp, offset: 28000] took 180251940 ns =
0%; [loadAttachments] took 46756 ns = 0%; [send attachments
to kafka] took 235208649 ns = 0%; [getAttachmentFromEcp,
offset: 29000] took 155129859 ns = 0%; [loadAttachments]
took 85538 ns = 0%; [send attachments to kafka] took
235705544 ns = 0%; [getAttachmentFromEcp, offset: 30000]
took 145284387 ns = 0%; [loadAttachments] took 62935 ns =
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[getAttachmentFromEcp, offset: 52000] took 157251146 ns =
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to kafka] took 242507916 ns = 0%; [getAttachmentFromEcp, offset: 77000] took 165011957 ns = 0%; [loadAttachments] took 52540 ns = 0%; [send attachments to kafka] took 246390687 ns = 0%; [getAttachmentFromEcp, offset: 78000] took 163731394 ns = 0%; [loadAttachments] took 58535 ns = 0%; [send attachments to kafka] took 242313269 ns = 0%; [getAttachmentFromEcp, offset: 79000] took 164506671 ns = 0%; [loadAttachments] took 55159 ns = 0%; [send attachments to kafka] took 238715855 ns = 0%; [getAttachmentFromEcp, offset: 80000] took 166832198 ns = 0%; [loadAttachments] took 57548 ns = 0%; [send attachments to kafka] took 247705892 ns = 0%; [getAttachmentFromEcp, offset: 81000] took 195024583 ns = 0%; [loadAttachments] took 55789 ns = 0%; [send attachments to kafka] took 238814274 ns = 0%; [getAttachmentFromEcp, offset: 82000] took 206266495 ns = 0%; [loadAttachments] took 56139 ns = 0%; [send attachments to kafka] took 243060940 ns = 0%; [getAttachmentFromEcp, offset: 83000] took 163704986 ns = 0%; [loadAttachments] took 58913 ns = 0%; [send attachments to kafka] took 239004052 ns = 0%; [getAttachmentFromEcp, offset: 84000] took 185822006 ns = 0%; [loadAttachments] took 161844 ns = 0%; [send attachments to kafka] took 240544965 ns = 0%; [getAttachmentFromEcp, offset: 85000] took 176367047 ns = 0%; [loadAttachments] took 49396 ns = 0%; [send attachments to kafka] took 244715677 ns = 0%; [getAttachmentFromEcp, offset: 86000] took 192138983 ns = 0%; [loadAttachments] took 53060 ns = 0%; [send attachments to kafka] took 242518464 ns = 0%; [getAttachmentFromEcp, offset: 87000] took 165305367 ns = 0%; [loadAttachments] took 45050 ns = 0%; [send attachments to kafka] took 238195402 ns = 0%; [getAttachmentFromEcp, offset: 88000] took 196571479 ns = 0%; [loadAttachments] took 53140 ns = 0%; [send attachments to kafka] took 237746955 ns = 0%; [getAttachmentFromEcp, offset: 89000] took 171613669 ns = 0%; [loadAttachments] took 48092 ns = 0%; [send attachments to kafka] took 611336100 ns = 0%; [getAttachmentFromEcp, offset: 90000] took 190698954 ns = 0%; [loadAttachments] took 55442 ns = 0%; [send attachments to kafka] took 279439084 ns = 0%; [getAttachmentFromEcp, offset: 91000] took 182340431 ns = 0%; [loadAttachments] took 45667 ns = 0%; [send attachments to kafka] took 280703121 ns = 0%; [getAttachmentFromEcp, offset: 92000] took 191186879 ns = 0%; [loadAttachments] took 58348 ns = 0%; [send attachments to kafka] took 282914680 ns = 0%; [getAttachmentFromEcp, offset: 93000] took 197058505 ns = 0%; [loadAttachments] took 47974 ns = 0%; [send attachments to kafka] took 285108847 ns = 0%; [getAttachmentFromEcp, offset: 94000] took 214546897 ns = 0%; [loadAttachments] took 51426 ns = 0%; [send attachments to kafka] took 287059999 ns = 0%; [getAttachmentFromEcp, offset: 95000] took 200325193 ns = 0%; [loadAttachments] took 50093 ns = 0%; [send attachments to kafka] took 247445838 ns = 0%; [getAttachmentFromEcp, offset: 96000] took 173669508 ns = 0%; [loadAttachments] took 47955 ns = 0%; [send attachments to kafka] took 252385426 ns = 0%; [getAttachmentFromEcp, offset: 97000] took 167177576 ns = 0%; [loadAttachments] took 51608 ns = 0%; [send attachments to kafka] took 252422371 ns = 0%; [getAttachmentFromEcp, offset: 98000] took 196949380 ns = 0%; [loadAttachments] took 48629 ns = 0%; [send attachments to kafka] took 246863145 ns = 0%; [getAttachmentFromEcp, offset: 99000] took 168411459 ns = 0%; [loadAttachments] took 97958 ns = 0%; [send attachments to kafka] took 246113769 ns = 0%; [getAttachmentFromEcp, offset: 100000] took 171465487 ns = 0%; [loadAttachments] took 121783 ns = 0%; [send attachments to kafka] took 246486449 ns = 0%; [getAttachmentFromEcp, offset: 101000] took 170291859 ns = 0%; [loadAttachments]

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[getAttachmentFromEcp, offset: 151000] took 179241010 ns =
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offset: 1790000] took 597374643 ns = 0%; [loadAttachments]
took 39209 ns = 0%; [send attachments to kafka] took
469598765 ns = 0%; [getAttachmentFromEcp, offset: 1791000]
took 583354732 ns = 0%; [loadAttachments] took 62237 ns =
0%; [send attachments to kafka] took 455653825 ns = 0%;
[getAttachmentFromEcp, offset: 1792000] took 602026539 ns =
0%; [loadAttachments] took 27004 ns = 0%; [send attachments
to kafka] took 450468158 ns = 0%; [getAttachmentFromEcp,
offset: 1793000] took 652492772 ns = 0%; [loadAttachments]
took 34929 ns = 0%; [send attachments to kafka] took
435891124 ns = 0%; [getAttachmentFromEcp, offset: 1794000]
took 547077573 ns = 0%; [loadAttachments] took 38937 ns =
0%; [send attachments to kafka] took 229020641 ns = 0%;
[truncateAttachmentHistory] took 9676253895 ns = 1%; [upsert
attachments from kafka] took 561535953587 ns = 33%"
    },
    {
        "begTime": "10-09-2022 10:31:19",
        "endTime": "10-09-2022 10:31:24",
        "action": "ReferralLoader",
        "totalLoaded": 1838,
        "totalUpdated": 0,
        "executionInfo": "StopWatch 'processReferral':
running time = 4684360683 ns; [getReferrals] took 442092183
ns = 9%; [load] took 462617215 ns = 10%; [upsert referral
from kafka] took 3779651285 ns = 81%"
    },
    {
        "begTime": "10-09-2022 10:31:24",
        "endTime": "10-09-2022 10:31:25",
        "action": "MoLoader",
        "totalLoaded": 0,
        "totalUpdated": 0,
        "executionInfo": "StopWatch 'processMO': running
time = 391926698 ns; [selectMOList from ecp] took 369549796
ns = 94%; [selectMOList from dtm] took 21808728 ns = 6%;
[send mo to kafka] took 568174 ns = 0%"
    },
    {
        "begTime": "10-09-2022 10:31:25",
        "endTime": "10-09-2022 10:31:27",
        "action": "ResourceLoader",
        "totalLoaded": 0,
        "totalUpdated": 0,
        "executionInfo": "StopWatch 'processResources':
running time = 134435323 ns; [selectMOList] took 113430828
ns = 84%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResourc
es] took 659095 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResourc
es] took 571400 ns = 0%; [process

```

```

ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 345933 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 3938424 ns = 3%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 2630137 ns = 2%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 1450241 ns = 1%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 3354142 ns = 2%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 118627 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 152477 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 159667 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 195471 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 127641 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 137509 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 99936 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 100288 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 93522 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 120123 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 138522 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 625548 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 625818 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 531241 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 976293 ns = 1%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 509459 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 496174 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 931528 ns = 1%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 385177 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 522528 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 385187 ns = 0%; [process
ru.rtmis.ferdtm.db.mapper.EcpDataMapper.getSpecialistResources] took 622387 ns = 0%"
    },
    {
        "begTime": "10-09-2022 10:31:27",
        "endTime": "10-09-2022 10:33:11",
        "action": "SlotLoader",
        "totalLoaded": 45071,
        "totalUpdated": 0,
        "executionInfo": "StopWatch 'processSlot':
running time = 103841037291 ns; [load] took 103841037291 ns
= 100%"
    },
    {

```

```

        "begTime": "10-09-2022 10:33:11",
        "endTime": "10-09-2022 10:33:14",
        "action": "SpecialistBookLoader",
        "totalLoaded": 884,
        "totalUpdated": 0,
        "executionInfo": "StopWatch 'processBook':
running time = 3521291023 ns; [loadBook] took 27798 ns = 0%;
[load] took 275111170 ns = 8%; [upsert book from kafka] took
3246152055 ns = 92%"
      },
      {
        "begTime": "10-09-2022 10:33:15",
        "endTime": "10-09-2022 10:33:15",
        "action": "UnaccessiblePeriodLoader",
        "totalLoaded": 39,
        "totalUpdated": 0,
        "executionInfo": "StopWatch
'processUnaccessiblePeriod': running time = 110601758 ns;
[getAnnotations] took 50382164 ns = 46%; [send periods to
kafka] took 60219594 ns = 54%"
      }
    ]
  }
}

```

Значение "DONE" в поле "status" указывает на то, что процесс загрузки завершен. Поле "exсerption" должно отсутствовать, иначе значение поля указывает на то, что процесс загрузки завершился с ошибкой.

- Проверить, что данные загрузились в Витрину. Для этого в Postman выполнить запрос "Проверка содержимого таблиц" из коллекции Витрина. Первичная загрузка данных , либо в соответствии с настройками:

POST <https://datamart-test40.is-mis.ru/query> (Адрес получается у РП)

Проверить что настройки выполнены по образцу

Params Authorization Headers (10) Body Pre-request Script Tests Settings			
Headers Hide auto-generated headers			
KEY	VALUE	DESCRIP	
☒ Cache-Control ①	no-cache		
☒ Postman-Token ①	<calculated when request is sent>		
☒ Content-Type ①	application/json		
☒ Content-Length ①	<calculated when request is sent>		
☒ Host ①	<calculated when request is sent>		
☒ User-Agent ①	PostmanRuntime/7.29.0		
☒ Accept ①	*/*		
☒ Accept-Encoding ①	gzip, deflate, br		
☒ Connection ①	keep-alive		
☒ Accept-Version	1		
Key	Value	Descripti	

Тело запроса

```
"sql": {
  "sql": "SELECT count(*) FROM misdm40.attachment LIMIT 1"
}
```

Корректный ответ

```
"created_at": "2022-04-29T09:54:29Z",
"query_id": "1ecc7a25-afec-6845-b213-1f572825474a",
"meta": [
  {
    "name": "EXPR_0",
    "type": "LONG"
  }
],
"rows": [
  [
    "1098"
  ]
]
```

Получение ответа по образцу и наличие ненулевого результата в разделе “rows” говорит о корректной загрузке данных в таблицу.

- Повторить запрос с предыдущего шага для всех таблиц Витрины. Для этого в теле запроса поменять имя таблицы (attachment) поочередного на имена остальных таблиц:
 - attachment
 - book
 - mo
 - patient
 - referral
 - resource
 - service
 - slot
 - unaccessible_period

8.5.7 Проверка данных о пациенту:

Для проверки успешной загрузки по конкретному пациенту выполнить следующие шаги:

8.5.7.1 Предварительная настройка коллекции:

- на вкладке Variables выставить параметры:
 - SERVER_NAME - адрес сервера (получить по запросу от РП региона);
 - DB_NAME - мнемоника соответствующая БД региона (получить по запросу от РП региона);
 - SNILS - СНИЛС пациента, по которому требуется провести проверку;
 - FROM - начало периода проверки (рекомендуется текущий день)
 - TO - конец периода проверки (+14дней от текущей)
 - PATIENT_ID - идентификатор пациента, заполняется после выполнения поиска id пациента по указанному снилс из шага "Поиск пациента по снилс"

Проверка загруженных данных

POST Проверка связи со СМЭБ4

POST Поиск пациента по снилс

POST Проверка прикрепленного пациента

POST Проверка активных МО

POST Проверка наличия врачей в МО

POST Проверка наличия доступных слотов...

Проверка загруженных данных

AuthorizationPre-request ScriptTestsVariables

These variables are specific to this collection and its requests. [Learn more about collection variables.](#)

VARIABLE	INITIAL VALUE	CURRENT VALUE		Persist All	Reset All
☒ DB_NAME	misdm05	misdm05			
☒ SNILS	13125279831	13125279831			
☒ PATIENT_ID	50101000267689	50101000267689			
☒ FROM	2022-09-10 08:00:00.000	2022-09-10 08:00:00.000			
☒ TO	2022-09-24 08:00:00.000	2022-09-25 08:00:00.000			
☒ SERVER_NAME	datamart-05.ecp-mis.ru	datamart-05.ecp-mis.ru			
Add a new variable					

8.5.7.2 Выполнение проверок

- Выполнить запрос из шага "Поиск пациента по снилс", либо выполнить шаг в соответствии с настройками:

Params	Authorization	Headers (10)	Body	Pre-request Script	Tests	Settings
Headers Hide auto-generated headers						
KEY	VALUE	DESCRIP				
☒ Cache-Control	no-cache					
☒ Postman-Token	<calculated when request is sent>					
☒ Content-Type	application/json					
☒ Content-Length	<calculated when request is sent>					
☒ Host	<calculated when request is sent>					
☒ User-Agent	PostmanRuntime/7.29.0					
☒ Accept	*/*					
☒ Accept-Encoding	gzip, deflate, br					
☒ Connection	keep-alive					
☒ Accept-Version	1					
Key	Value	Descripti				

POST <https://datamart-test40.is-mis.ru/query> (Адрес получается у РП)

Тело запроса

```
{
  "sql": {
    "sql": "SELECT id FROM {{DB_NAME}}.patient where snils =
'{{SNILS}}' LIMIT 1"
  }
}
```

Корректный ответ:

```
{
  "created_at": "2022-09-10T07:57:24Z",
  "query_id": "1ed30de3-4988-6f0e-9159-bb0dafc066b9",
  "meta": [
    {
      "name": "id",
      "type": "STRING"
    }
  ],
  "rows": [
    [
      "50101000267689"
    ]
  ]
}
```

Подставить значения в ответе поля "rows" в PATIENT_ID

- Выполнить шаг "Проверка прикреплений пациента" из коллекции, либо в соответствии с настройками:

Тело запроса

```
{
  "sql": {
    "sql": "select 'Count of active attachments: ', count(1) from
{{DB_NAME}}.Attachment as a join {{DB_NAME}}.MO as m on m.id = a.mo_id
where patient_id = '{{PATIENT_ID}}' and a.status = 'DONE' and m.enabled
<> 'NONE' LIMIT 1"
  }
}
```

Корректный ответ:

```
{
  "created_at": "2022-09-10T07:57:33Z",
  "query_id": "1ed30de3-a288-624f-9159-95338d86a647",
  "meta": [
    {
      "name": "EXPR_0",
      "type": "STRING"
    },
    {
      "name": "EXPR_1",
      "type": "LONG"
    }
  ],
  "rows": [
    [
      "Count of active attachments: ",
      "2"
    ]
  ]
}
```

В поле rows отображается количество активных прикреплений.

- Выполнить шаг "Проверка активных МО", либо в соответствии с настройками:

Тело запроса

```
{
  "sql": {
    "sql": "select 'Count of active mo: ', count(distinct a.mo_id)
from {{DB_NAME}}.Attachment as a join {{DB_NAME}}.MO as m on m.id =
a.mo_id where patient_id = '{{PATIENT_ID}}' and a.status = 'DONE' and
m.enabled <> 'NONE' LIMIT 1"
  }
}
```

Корректный ответ:


```

{
  "created_at": "2022-09-10T11:51:07Z",
  "query_id": "1ed30fed-a8fb-6043-9159-f99d700c96dd",
  "meta": [
    {
      "name": "EXPR_0",
      "type": "STRING"
    },
    {
      "name": "EXPR_1",
      "type": "LONG"
    }
  ],
  "rows": [
    [
      "Count of active mo: ",
      "2"
    ]
  ]
}

```

В поле rows отображается количество активных МО из прикрепления.

- Выполнить шаг "Проверка наличия врачей в МО", либо в соответствии с настройками:

Тело запроса

```

{
  "sql": {
    "sql": "select 'Count of active resource: ', count(distinct
r.id), 'Count of active mo: ', count(distinct a.mo_id) from
{{DB_NAME}}.Attachment as a join {{DB_NAME}}.MO as m on m.id = a.mo_id
join {{DB_NAME}}.resource r on r.mo_id = a.mo_id where patient_id =
'{{PATIENT_ID}}' and a.status = 'DONE' and m.enabled <> 'NONE' and
r.type = 'SPECIALIST' and r.enabled <> 'NONE' LIMIT 1"
  }
}

```

Корректный ответ:

```

{
  "created_at": "2022-09-10T07:57:54Z",
  "query_id": "1ed30de4-674d-6ae1-9159-cd96e63c34a8",
  "meta": [
    {
      "name": "EXPR_0",
      "type": "STRING"
    },
    {
      "name": "EXPR_1",
      "type": "LONG"
    },
    {
      "name": "EXPR_2",
      "type": "STRING"
    },
    {
      "name": "EXPR_3",
      "type": "LONG"
    }
  ],
  "rows": [
    [
      "Count of active resource: ",
      "41",
      "Count of active mo: ",
      "1"
    ]
  ]
}

```

В ответе в поле rows отображается количество активных врачей и количество активных МО, в которых есть активные врачи.

- Выполнить шаг "Проверка наличия доступных слотов для записи на заданный период", либо в соответствии с настройками:

Тело запроса

```

{
  "sql": {
    "sql": "select  'Count of active slots: ', count(distinct
s.id), 'Count of active resource: ', count(distinct r.id),  'Count of
active mo: ', count(distinct a.mo_id) from {{DB_NAME}}.Attachment as a
join {{DB_NAME}}.MO as m on m.id = a.mo_id join {{DB_NAME}}.resource r
on r.mo_id = a.mo_id join {{DB_NAME}}.slot s on r.id = s.resource_id and
a.mo_id = r.mo_id where patient_id = '{{PATIENT_ID}}' and a.status =
'DONE' and m.enabled <> 'NONE' and r.type = 'SPECIALIST' and r.enabled
<> 'NONE' and s.status = 'AVAILABLE' and s.tag_type in ('EPGU',
'ORDINARY') and s.visittime>='{{FROM}}' and s.visittime< '{{TO}}'  LIMIT
1"
  }
}

```

Корректный ответ:

```

{
  "created_at": "2022-09-10T07:58:05Z",
  "query_id": "1ed30de4-cefa-6352-9159-97ae24f1d5ef",
  "meta": [
    {
      "name": "EXPR_0",
      "type": "STRING"
    },
    {
      "name": "EXPR_1",
      "type": "LONG"
    },
    {
      "name": "EXPR_2",
      "type": "STRING"
    },
    {
      "name": "EXPR_3",
      "type": "LONG"
    },
    {
      "name": "EXPR_4",
      "type": "STRING"
    },
    {
      "name": "EXPR_5",
      "type": "LONG"
    }
  ],
  "rows": [
    [
      "Count of active slots: ",
      "1878",
      "Count of active resource: ",
      "20",
      "Count of active mo: ",
      "1"
    ]
  ]
}

```

В ответе в поле rows отображается количество доступных слотов за указанный период, количество активных врачей, по которым доступна запись, количество активных МО по которым есть доступные для пациента слоты.

9 РЭМД (Электронные медицинские документы)

9.1 Разворачивание

9.1.1 Установка с применением docker

9.1.1.1 Необходимое ПО

9.1.1.2 Структура папок
/srv/hosts/remd

```
├── config
├── keys
└── logs
```

9.1.1.3 docker-compose.yml

```
version: '2'

services:
  remd:
    image: docker.promedweb.ru/remd:pglatest
    environment:
      - "CATALINA_OPTS=-Xms512M -Xmx1536M -server -XX:+UseParallelGC -Dfile.encoding=UTF-8"
      #- "JCP_KEY_LICENSE="
      #- "JCP_COMPANY_NAME="
    extra_hosts:
      - "ips.rosminzdrav.ru:10.41.19.39"
    volumes:
      - "./config/application.properties:/opt/tomee/webapps/Remd/WEB-INF/classes/application.properties:ro"
      - "./config/crypto.properties:/opt/tomee/webapps/Remd/WEB-INF/classes/crypto.properties:ro"
      - "./logs:/opt/tomee/logs"
      - "./keys:/var/opt/cproscsp/keys/root/"
    ports:
      - "8080:8080"
```

Code Block 71 docker-compose.yml

9.1.2 Установка напрямую на ОС

9.1.2.1 Необходимое ПО

9.1.2.2 Установка TomEE

9.1.2.3 Настройка TomEE как сервиса

9.2 Описание конфигурации.

9.2.1 Описание настроек сервиса

```
# crypto provider settings
org.apache.ws.security.crypto.provider=ru.swan.soap.crypto.LocalMerlin
org.apache.ws.security.crypto.merlin.keystore.provider=JCP
org.apache.ws.security.crypto.merlin.keystore.type=HDImageStore

# crypto storage account settings
crypto.user=${crypto.user}
crypto.signatureUser=${crypto.user}
crypto.password=${crypto.password}
crypto.signature.algorithm=${crypto.signature.algorithm}
crypto.signature.digest.algorithm=${crypto.signature.digest.algorithm}

# trust settings
crypto.isTrustAllCerts=true
```

Code Block 72 crypto.properties

```

#CONNECTION DEVELOP
spring.datasource.url = jdbc:postgresql://${DB_HOST}:${DB_PORT}/${DB_NAME}
spring.datasource.username = ${DB_USER}
spring.datasource.password = ${DB_PASS}

# KEEP THE CONNECTION ALIVE IF IDLE FOR A LONG TIME (NEEDED IN PRODUCTION)
spring.datasource.testWhileIdle = true
spring.datasource.validationQuery = SELECT 1

# USE SPRING.JPA.PROPERTIES.* FOR HIBERNATE NATIVE PROPERTIES (THE PREFIX
IS
# STRIPPED BEFORE ADDING THEM TO THE ENTITY MANAGER).

# SHOW OR NOT LOG FOR EACH SQL QUERY
spring.jpa.show-sql = false
spring.jpa.hibernate.naming.physical-
strategy=org.hibernate.boot.model.naming.PhysicalNamingStrategyStandardImp
l

# HIBERNATE DDL AUTO (CREATE, CREATE-DROP, UPDATE): WITH "UPDATE" THE
DATABASE
# SCHEMA WILL BE AUTOMATICALLY UPDATED ACCORDINGLY TO JAVA ENTITIES FOUND
IN
# THE PROJECT
spring.jpa.hibernate.ddl-auto = none
spring.jpa.properties.hibernate.default_schema=EMD

# NAMING STRATEGY

#spring.jpa.hibernate.naming-strategy =
org.hibernate.cfg.ImprovedNamingStrategy

# =====
# = JPA / HIBERNATE
# =====
spring.datasource.driverClassName=org.postgresql.Driver
spring.jpa.properties.hibernate.show_sql = false
spring.jpa.properties.hibernate.format_sql = false
spring.jpa.properties.hibernate.globally_quoted_identifiers = true
spring.jpa.properties.hibernate.dialect =
org.hibernate.dialect.PostgreSQL94Dialect

#SYSTEM USER ID
swan.system.user.id = 1

#TRIAL MODE
swan.trial.mode = ${trial_mode}

#SCHEDULING FROM 20:00 TO 06:00
scheduling.job.cron=${schedule}

#IDENTIFICATION KEY RMIS IN IPS
rmis.identification.key = ${ident_key}

rmis.system.sid = ${system_sid}

rmis.download.url = ${promed_url}

#WEB SERVICE
spring.ws.remd.egisz.uri=${egisz_uri}
spring.ws.remd.callback.uri=http://www.w3.org/2005/08/addressing/anonymous
spring.ws.remd.callback.ips.uri={ips_url}

# Crypto settings

```



```

crypto.passwordCallbackClass=ru.swan.soap.crypto.PasswordFromCryptoPropertiesFileCallback
ips.handle.headers=true
ips.message.id=09fa0dfc-a975-42ce-9739-d8afac7df2d0
ips.action=registerDocument
ips.response.action=http://emu.callback.mis.service.nr.eu.rt.ru/Callback/sendResponseResponse

```

Code Block 73 application.properties

egisz_uri - для рабочего сервера <http://ips.rosminzdrav.ru/59a6aa9dcd045>, для тестового <http://ips-test.rosminzdrav.ru/598c424055f7d> . ips.rosminzdrav.ru - должен быть виден через ЗСПД

trial_mode - true или false. На рабочей системе trial должен быть отключен.

schedule - крон для запуска задания

ident_key - ключ формата UUID. получается после регистрации.

system_sid - ID системы. получается после регистрации.

promed_url - адрес ЕЦП.МИС для получения файлов ЕМД из папки export. если используется https то сертификат должен быть валидный. он должен быть виден сервису и виден через ЗСПД (доступен для запроса федеральными информационными ресурсами)

ips_url - адрес похож на egisz_uri. получается после регистрации.

crypto.user - имя контейнера КriptoПро для подписания документов

crypto.password - пароль от контейнера КriptoПро

crypto.signature.algorithm - алгоритм шифрования контейнера КriptoПро

crypto.signature.digest.algorithm - алгоритм шифрования контейнера КriptoПро

9.2.2 Написание настроек ЕЦП.МИС

```

/**
 * Электронные медицинские документы
 */
$db['emd'] = $db['default'];
$db['emd']['hostname'] = '192.168.0.0';
$db['emd']['database'] = 'promed';
$db['emd']['username'] = '';
$db['emd']['password'] = '';
$db['emd']['dbdriver'] = "postgre";
$db['emd']['pconnect'] = false;

```

Code Block 74 database.php

```

// Включить использование базы emd для хранения электронных медицинских документов
$config['EMD_ENABLE'] = true;
// Отключение проверки сертификата, в основном для теста
$config['EMD_DISABLE_CERT_CENTER_CHECK'] = true;

```

Code Block 75 promed.php

9.2.3 Настройка балансировщика nginx

```
map $http_upgrade $connection_upgrade {
    default upgrade;
    ''       close;
}

server {
    listen      80;
    server_name remd.ecp-mis.ru;

    location /Remd {
        proxy_pass http://localhost:8089/Remd;
        proxy_redirect      off;
        proxy_set_header    Host      $host;
        proxy_set_header     X-Real-IP $remote_addr;
        proxy_set_header     X-Forwarded-For $proxy_add_x_forwarded_for;
        proxy_connect_timeout      5;
        proxy_send_timeout         60s;
        proxy_read_timeout         600s;
        proxy_http_version         1.1;
        proxy_set_header           Upgrade $http_upgrade;
        proxy_set_header           Connection $connection_upgrade;
    }
}
```

Code Block 76 remd.conf

9.3 Действия после установки

После того как сервис развернут нужно зарегистрировать сервис WSDL сервиса для регистрации `http://<IP_SERVER>:<PORT_SERVER>/Remd/ws/EmdrClientCallback.wsdl`

Проверка версии и некоторых настроек сервиса
`http://<IP_SERVER>:<PORT_SERVER>/Remd/api/getRemdVersion`

10 ТФОМС

- [Настройка RabbitMQ](#)
 - d. [Устанавливаем epel и erlang](#)
 - e. [Далее устанавливаем сам RabbitMQ](#)
 - f. [Меняем ограничение на количество открытых файлов](#)
- [Настройка ЭЦП](#)
- [Настройка заданий ЭЦП](#)

10.1 Настройка RabbitMQ

Важно! RabbitMQ может быть как на нашей стороне, так и может располагаться на стороне ТФОМС. в последнем случае RabbitMQ разворачивать не нужно.

10.1.1 Устанавливаем epel и erlang

Установка epel и erlang

```
yum update
wget https://dl.fedoraproject.org/pub/epel/epel-release-latest-7.noarch.rpm
sudo rpm -Uvh epel-release-latest-7*.rpm
wget http://rpms.famillecollet.com/enterprise/remi-release-7.rpm
sudo rpm -Uvh remi-release-7*.rpm
```

10.1.2 Далее устанавливаем сам RabbitMQ

Установка RabbitMQ

```
cd /tmp
wget https://packagecloud.io/rabbitmq/rabbitmq-server/packages/el/7/rabbitmq-server-3.8.5-1.el7.noarch.rpm
rpm --import https://www.rabbitmq.com/rabbitmq-release-signing-key.as
yum -y install rabbitmq-server-3.6.11-1.el7.noarch.rpm
```

10.1.3 Меняем ограничение на количество открытых файлов

Открываем файл `/etc/systemd/system/rabbitmq-server.service.d/limits.conf` и выставим содержимое, что бы получилось вот так

```
[Service]
LimitNOFILE=infinity
```

Если указанного файла нет, то создаем его.

выполняем команду

```
systemctl --system daemon-reload
```

Помечаем rabbitmq для автоматического запуска при перезагрузках

```
chkconfig rabbitmq-server on
```

Запускаем сервер

```
service rabbitmq-server start
```

Ставим стандартные плагины

```
rabbitmq-plugins enable rabbitmq_management
chown -R rabbitmq:rabbitmq /var/lib/rabbitmq/
```

По умолчанию создается сразу юзер **guest** с одноименным паролем. У него админский доступ по localhost. Рекомендую создать собственного пользователя, а **guest** удалить.

Нужно создать учётки для администрирования, для ЕЦП.МИС и ТФОМС.

10.2 Настройка ЭЦП

```
$config['TFOMSAutoInteract'] = array(
    'host' => '<IP_SERVER>',
    'port' => '5672',
    'user' => '<USER_SERVER>',
    'password' => '<PASS_SERVER>',
    'publisher_queues' => array(
        'common' => 'test_input',
        'answer' => 'test_answer',
    ),
    'consumer_queues' => array(
        'common' => 'test_output',
        'answer' => 'tfomsToPromed.answer',
    ),
    'init_date' => '2020-01-01',
    'read_only' => false,
);

$config['ExchInspectPlan'] = array(
    'host' => '<IP_SERVER>',
    'port' => '5672',
    'user' => '<USER_SERVER>',
    'password' => '<PASS_SERVER>',
    'allowed_lpus' => array(100,101,102),
    'publisher_queues' => array(
        'common' => 'test_input',
        'answer' => 'test_answer',
    ),
    'consumer_queues' => array(
        'common' => 'test_output',
        'answer' => 'tfomsToPromed.answer',
    ),
    // 'allowed_lpus' => array(100,101,102), //ограничение доступа к
    // функции экспорта планов диспансеризации в ТФОМС
    'init_date' => '2020-01-01',
    'read_only' => true,
);
```

Code Block 77 promed.php

<IP_SERVER> - IP сервера RabbitMQ
<USER_SERVER>- Пользователь отRabbitMQ
<PASS_SERVER> - Пароль отRabbitMQ

10.3 Настройка заданий ЭЦП

```

currentDate=`date +%Y-%m-%d`
currentTime=`date +%Y-%m-%d %T`

# runPublisher - Диспансерное наблюдения
echo >> /var/logs/TFOMS/DN_$currentDate.txt
echo $currentTime >> /var/logs/TFOMS/DN_$currentDate.txt
0 20-23,00-08 * * * /usr/bin/curl
"http://<ECP_IP>:<ECP_PORT>/?c=TFOMSAutoInteract&m=runPublisher&packageType=DISP&packageLimit=100&getDebug=1&swtoken=<TOKEN>"
>>/var/logs/TFOMS/DN_$currentDate.txt

# runConsumer - Ответы от фонда
echo >> /var/logs/TFOMS/ANSWER_$currentDate.txt
echo $currentTime >> /var/logs/TFOMS/ANSWER_$currentDate.txt
0 20-23,00-08 * * * /usr/bin/curl
"http://<ECP_IP>:<ECP_PORT>/?c=TFOMSAutoInteract&m=runConsumer&packageLimit=100&getDebug=1&swtoken=<TOKEN>"
>>/var/logs/TFOMS/ANSWER_$currentDate.txt
0 20-23,00-08 * * * /usr/bin/curl
"http://<ECP_IP>:<ECP_PORT>/?c=TFOMSAutoInteract&m=runConsumer&queueNick=answer&packageLimit=100&getDebug=1&swtoken=<TOKEN>" >>
/var/logs/TFOMS/ANSWER_$currentDate.txt

# runPublisher - Участки и прикрепления
echo >> /var/logs/TFOMS/DISTRICT_PERS_$currentDate.txt
echo $currentTime >> /var/logs/TFOMS/DISTRICT_PERS_$currentDate.txt
0 20-23,00-08 * * * /usr/bin/curl
"http://<ECP_IP>:<ECP_PORT>/?c=TFOMSAutoInteract&m=runPublisher&packageType=PERS&packageLimit=100&getDebug=1&swtoken=<TOKEN>" >>
/var/logs/TFOMS/DISTRICT_PERS_$currentDate.txt
0 20-23,00-08 * * * /usr/bin/curl
"http://<ECP_IP>:<ECP_PORT>/?c=TFOMSAutoInteract&m=runPublisher&packageType=DISTRICT&packageLimit=100&getDebug=1&swtoken=<TOKEN>" >>
/var/logs/TFOMS/DISTRICT_PERS_$currentDate.txt
0 20-23,00-08 * * * /usr/bin/curl
"http://<ECP_IP>:<ECP_PORT>/?c=TFOMSAutoInteract&m=runPublisher&packageType=PERSONATTACHDISTRICT&packageLimit=100&getDebug=1&swtoken=<TOKEN>" >>
/var/logs/TFOMS/DISTRICT_PERS_$currentDate.txt

# runPublisher - ОНК, ВМП и прочее
echo >> <ECP_IP>:<ECP_PORT>ONKO_$currentDate.txt
echo $currentTime >> <ECP_IP>:<ECP_PORT>ONKO_$currentDate.txt
0 20-23,00-08 * * * /usr/bin/curl
"http://<ECP_IP>:<ECP_PORT>/?c=TFOMSAutoInteract&m=runPublisher&packageType=ONKOTRAMADOL&packageLimit=100&getDebug=1&swtoken=<TOKEN>" >>
/var/logs/TFOMS/ONKO_$currentDate.txt
0 20-23,00-08 * * * /usr/bin/curl
"http://<ECP_IP>:<ECP_PORT>/?c=TFOMSAutoInteract&m=runService&packageType=ONKODRUG&packageLimit=50&getDebug=1&swtoken=<TOKEN>" >>
/var/logs/TFOMS/ONKO_$currentDate.txt
0 20-23,00-08 * * * /usr/bin/curl
"http://<ECP_IP>:<ECP_PORT>/?c=TFOMSAutoInteract&m=runPublisher&packageType=HTMC_REFERRAL&packageLimit=100&getDebug=1&swtoken=<TOKEN>" >>
/var/logs/TFOMS/ONKO_$currentDate.txt
0 20-23,00-08 * * * /usr/bin/curl
"http://<ECP_IP>:<ECP_PORT>/?c=TFOMSAutoInteract&m=runPublisher&packageType=ECO_REFERRAL&packageLimit=10&getDebug=1&swtoken=<TOKEN>" >>
/var/logs/TFOMS/ONKO_$currentDate.txt
0 20-23,00-08 * * * /usr/bin/curl
"http://<ECP_IP>:<ECP_PORT>/?c=TFOMSAutoInteract&m=runPublisher&packageType=PERSCANCER&packageLimit=10&getDebug=1&swtoken=<TOKEN>" >>
/var/logs/TFOMS/ONKO_$currentDate.txt
0 20-23,00-08 * * * /usr/bin/curl
"http://<ECP_IP>:<ECP_PORT>/?c=TFOMSAutoInteract&m=runPublisher&packageType=

```

```
e=PERSHEPATITIS&packageLimit=10&getDebug=1&swtoken=<TOKEN>" >>  
/var/logs/TFOMS/ONKO_$(date +%Y%m%d).txt  
0 20-23,00-08 * * * /usr/bin/curl  
"http://<ECP_IP>:<ECP_PORT>/?c=TFOMSAutoInteract&m=runPublisher&packageTyp  
e=GEBT&packageLimit=50&getDebug=1&swtoken=<TOKEN>" >>  
/var/logs/TFOMS/ONKO_$(date +%Y%m%d).txt
```

Code Block 78 cron

<TOKEN> - токен авторизации описано как его получить [ТУТ](#)

<ECP_IP> - IP адрес веб сервера ЕЦП.МИС

<ECP_PORT> - ПОРТ веб сервера ЕЦП.МИС

11 ФРБТ / ФРВИЧ / ФР14Н

11.1 Принцип работы сервиса

По расписанию выполняется поиск пациентов по регистру соответствующего заболевания, данные по которым изменились

(описание что конкретно проверяется будет приложено позднее)

По каждому пациенту начинается сеанс обмена с patient.read;

Асинхронные ответы приходят на общий listener (реализованный в рамках FRMO), который по типу сессии распределяет ответы по очередям activeMQ

Сервис получает ответ через activeMQ и в зависимости от ответа выполняет дальнейшие действия.

Для отладки/тестирования есть страничка default-ext.html с которой можно задать список передачи и инициировать сессию вручную по конкретным пациентам

11.2 Развертывание

11.2.1 Необходимое ПО

URL проекта: <https://git.promedweb.ru/rtmis/javaapps/FRHIV>

Для сборки проекта необходимо:

4. java 1.8 (возможно использование openJDK) с установленным CryptoPro (использовалась версия jcsr-2.0.40035)
5. gradle 6.3 или старше
6. доступ к <https://repo.rtmis.ru>

сборка осуществляется командой

```
gradle clean assemble
```

В каталоге ./build/libs будет создан FRHIV-X.X.X.war

Для запуска сервиса необходимо:

- java 1.8 (возможно использование openJDK) с установленным CryptoPro (использовалась версия jcsr-2.0.40035)
- tomcat 9.X (под tomee сервис не работает)

Инструкции по сборке docker контейнера будут приложены позднее

11.2.2 Установка

Для установки необходимо

- развернуть содержимое FRHIV-X.X.X.war в tomcat/webapps/<желаемое имя сервиса>

- скопировать в /var/opt/cproscsp/keys/<tomcat user>/ ключ для подписывания документов

11.2.3 Настройка

- Настройка подписи документов
 - а. в tomcat/webapps/<желаемое имя сервиса>/WEB-INF/classes/crypto.properties установить
 - crypto.user =
 - crypto.signatureUser =
 - crypto.password=
- Настройка расписания
 - о в tomcat/webapps/<желаемое имя сервиса>/WEB-INF/classes/job.xml установить
 - <cron-expression>...</cron-expression>
- Настройка логирования - tomcat/webapps/<желаемое имя сервиса>/WEB-INF/classes/logback.xml
- Основная настройка сервиса - tomcat/webapps/<желаемое имя сервиса>/WEB-INF/classes/configuration.yaml

```
db:
  url: <jdbc url>
  username: <jdbc login>
  password: <jdbc password>
  driver: <jdbc driver>
  packagePrefixes:
    - ru.rtmis.srv
    - ru.swan.db
  databaseIds:
    "PostgreSQL": "postgres"
    "Microsoft SQL Server": "mssql"
send:
  systemId: <system ID>
  dest: <destination url - для тестового сервиса https://ips-
  test.rosminzdrav.ru/57234d87b0838>
  moId: <default moID>
JMS:
  listenerThreadCount: <кол-во потоков для чтения асинхронных ответов.
  рекомендованное значение 4>
  destinations: #описание очередей для получения асинхронных ответов.
  Если работают не все сервисы - закомментировать ненужное
    - frhiv.inqueue.destination
    - frbt.inqueue.destination
```

11.3 Описание конфигурации

11.4 Описание БД

12 ФРМО

12.1 Разворачивание

Список необходимого ПО:

1. Java JDK 1.8
2. TomEE Plus 1.7.4, в составе которого используется apache-cxf-2.6.16
3. Крипто Про JCP версии 2.0.40035
4. ActiveMQ 5.15

12.1.1 Установка напрямую на ОС

12.1.1.1 Установка Крипто Про JCP

Установить пакет Crypto Pro JCP 2.0. Для работы с ГОСТ 2012 требуется версия 2.0.40035 и выше. Согласно инструкции из пакета ЖТЯИ.00091-01 90 01. Инструкция по использованию.pdf нужно выполнить следующее:

Установка КриптоПро JCP должна проводиться администратором из командной строки, находясь в папке с инсталлятором:

`setup_console.bat <JRE> <JRE>` указывается как путь до папки JRE, не включая саму папку. КриптоПро JCP должен быть установлен в ту же папку JRE, с которой работает TomEE.

Скопируйте jar файлы которые находятся в папках dependencies и javadoc которые находятся в папке с КриптоПроJCP в папку `<JRE>/lib/ext/`

Если система не имеет графического интерфейса, то лицензию можно ввести путём или вызовом класса `ru.CryptoPro.JCP.tools.License` с параметрами:

```
<JRE>/bin/java ru.CryptoPro.JCP.tools.License -serial "serial_number" -company  
"company_name" -store
```

или

```
<JRE>/bin/java ru.CryptoPro.JCP.tools.License -serial "serial_number" -combase  
"company_name_in_base64" -store
```

Также можно проверить заданную лицензию без ее установки.

```
<JRE>/bin/java ru.CryptoPro.JCP.tools.License -serial "serial_number" -company  
"company_name"
```

или

```
<JRE>/bin/java ru.CryptoPro.JCP.tools.License -serial "serial_number" -combase  
"company_name_in_base64"
```

При использовании параметра `"-combase"` имя компании вводится в base64 кодировке.

Вызов класса `ru.CryptoPro.JCP.tools.License` без параметров проверит установленную лицензию.

Дату первой установки можно узнать с помощью команды:

```
<JRE>/bin/java ru.CryptoPro.JCP.tools.License -first
```

Для вывода справки:

```
<JRE>/bin/java ru.CryptoPro.JCP.tools.License ?
```

Подробнее о вводе лицензии можно ознакомиться в документации к КриптоПро JCP "Руководство администратора безопасности".

КриптоПро JCP должен быть установлен в ту же папку JRE, с которой работает TomEE (TomEE по умолчанию читает из системной переменной `JAVA_HOME`).

Далее региональный менеджер получает у региона ключ и регистрирует его в тестовой или рабочей среде. Это ключ нужно будет положить в директорию /var/opt/cproscsp/keys/<user>/

<user> - пользователь от которого работает TomEE

12.1.1.2 Установка TomEE 1.7.4

Скачать можно по ссылке

<https://repo.maven.apache.org/maven2/org/apache/openejb/apache-tomee/1.7.4/apache-tomee-1.7.4-plus.tar.gz>

```
#!/bin/bash
cd /tmp
curl https://repo.maven.apache.org/maven2/org/apache/openejb/apache-tomee/1.7.4/apache-tomee-1.7.4-plus.tar.gz -O apache-tomee-1.7.4-plus.tar.gz
tar -xvf apache-tomee-1.7.4-plus.tar.gz
mv ./apache-tomee-plus-1.7.4/ /opt/tomee-frmo/
useradd -r -s /sbin/nologin tomcat
chown -R tomcat: /opt/tomee-frmo
chmod +x /opt/tomee-frmo/bin/*.sh
apt update
apt install openjdk-8-jdk -y

cat <<EOF > /etc/systemd/system/tomee-frmo.service
[Unit]
Description=Apache TomEE
After=network.target

[Service]
Type=forking

Environment=JAVA_HOME=/usr/lib/jvm/java-1.8.0-openjdk-amd64/jre
Environment=JRE_HOME=/usr/lib/jvm/java-1.8.0-openjdk-amd64/jre
Environment=CATALINA_PID=/opt/tomee/temp/tomee.pid
Environment=CATALINA_HOME=/opt/tomee
Environment=CATALINA_BASE=/opt/tomee
Environment='CATALINA_OPTS=-Xms512M -Xmx1536M -server -XX:+UseParallelGC -Dfile.encoding=UTF-8'
ExecStart=/opt/tomee-frmo/bin/startup.sh
ExecStop=/opt/tomee-frmo/bin/shutdown.sh

User=tomcat
Group=tomcat
UMask=0007
RestartSec=10
Restart=always

[Install]
WantedBy=multi-user.target

EOF

systemctl daemon-reload
systemctl enable tomee-frmo.service
systemctl start tomee-frmo.service
```

Code Block 79 Tomee install Ubuntu

12.1.1.3 Настройка ActiveMQ

Скачать можно по

ссылке <http://www.apache.org/dyn/closer.cgi?filename=/activemq/5.15.12/apache-activemq-5.15.12-bin.tar.gz&action=download>

```
#!/bin/bash
cd /tmp

apt update
apt install -y \
    wget \
    openjdk-8-jdk

wget http://archive.apache.org/dist/activemq/5.15.12/apache-activemq-
5.15.12-bin.tar.gz
tar -xvf apache-activemq-5.15.12-bin.tar.gz
mv /tmp/apache-activemq-5.15.12 /opt/activemq

cat << EOF > /etc/systemd/system/activemq.service
[Unit]
Description=activemq message queue
After=network.target
[Service]
PIDFile=/opt/activemq/data/activemq.pid
Environment='ACTIVEMQ_OPTS=-Xms128M -Xmx1024M -server -XX:+UseParallelGC -
Dfile.encoding=UTF-8'
ExecStart=/opt/activemq/bin/activemq start
ExecStop=/opt/activemq/bin/activemq stop
User=root
Group=root
[Install]
WantedBy=multi-user.target
EOF

systemctl daemon-reload
systemctl enable activemq.service
systemctl start activemq.service
```

Code Block 80 Установка ActiveMQ на Ubuntu

12.1.2 Установка с помощью docker.

12.1.2.1 docker-compose.yml

```
version: '2'
services:
  activemq:
    image: docker.k-vrach.ru/activemq:latest
    container_name: activemq
    ports:
      - "8161:8161"
      - "61616:61616"
  frmo:
    image: docker.k-vrach.ru/frmo:pglatest
    container_name: frmo
    volumes:
      - /srv/hosts/FRMO/crypto.properties:/opt/tomee/webapps/FRMO/WEB-INF/classes/crypto.properties
      - /srv/hosts/FRMO/frmo.properties:/opt/tomee/webapps/FRMO/WEB-INF/classes/frmo.properties
      - /srv/hosts/FRMO/db.xml:/opt/tomee/webapps/FRMO/WEB-INF/classes/db.xml
      - /srv/hosts/FRMO/db.properties:/opt/tomee/webapps/FRMO/WEB-INF/classes/db.properties
      - /srv/hosts/FRMO/db.postgres.xml:/opt/tomee/webapps/FRMO/WEB-INF/classes/db.postgres.xml
      - /srv/hosts/FRMO/db.postgresql.properties:/opt/tomee/webapps/FRMO/WEB-INF/classes/db.postgresql.properties
      - /srv/hosts/FRMO/context.xml:/opt/tomee/webapps/FRMO/META-INF/context.xml
      - /srv/hosts/FRMO/keys:/var/opt/cproscsp/keys/root
      - /srv/hosts/FRMO/logs:/opt/tomee/logs
    ports:
      - "8080:8080"
    environment:
      #Такие параметры уже включены в контейнер можно изменить их при необходимости
      - TZ=Asia/Yekaterinburg
      - CATALINA_OPTS=-Xms512M -Xmx1536M -server -XX:+UseParallelGC -Dfile.encoding=UTF-8
      - JCP_KEY_LICENSE=''
      - JCP_COMPANY_NAME=''
    depends_on:
      - activemq
```

Code Block 81 docker-compose.yml

12.1.3 Установка и настройка сервиса ФРМО

Файлы сервиса можно получить по ссылке <https://cloud.swan-it.ru/index.php/s/Hd4gRDg32ktSmKe> в папке adygeya будет архив FRMO.zip

Установить под TomEE сервис FRMO, для чего скопировать папку FRMO с файлами сервиса в папку webapps TomEE.

1. В файле frmo.properties настраиваются следующие параметры:
2. Идентификатор сервиса, полученный в ИПС (Федеральной подсистеме интеграции прикладных систем): ips.clientEntityId=4005d388-3b63-4846-971b-7a0a13399bf8
3. Регион, например, Пермь: region=r59
4. Учетка для сервиса в БД Промед (user_id): user=1

5. Адрес федерального сервиса, к которому подключается сервис интеграции с ФРМО (ЕДИНЫЙ для всех регионов): `frmo.serviceUrl=http://ips-test.rosminzdrav.ru/57234d87b0838`
6. Адрес регионального сервиса обратного вызова в системе ИПС: `frmo.callbackUrl=http://ips-test.rosminzdrav.ru/xxxxxxxxxx`
7. В файле `crypto.properties` настраиваются следующие параметры:
8. `crypto.user`=имя контейнера ключей в КриптоПро JCP
9. `crypto.signatureUser`=имя контейнера ключей в КриптоПро JCP
10. `crypto.password`=пароль к контейнеру ключей
11. В файле `db.postgresql.properties` настраиваются следующие параметры:
12. `r59.url=jdbc:postgresql://192.168.36.24:5432/promedtest?stringtype=unspecified` -- подключение к БД
13. `r59.username` = учетка к БД
14. `r59.password` = пароль учетки
15. В файле `db.xml` настраиваются следующие параметры:
16. `<environments default="r59">` -- регион, где развернут сервис
17. для каждого региона вводится секция, имена переменных соответствуют указанным в `db.properties`

```

<!-- Buryatia -->
<environment id="r3">
<transactionManager type="JDBC" />
<dataSource type="POOLED">
<property name="driver" value="{db.driver}" />
<property name="url" value="{r3.url}" />
<property name="username" value="{r3.username}" />
<property name="password" value="{r3.password}" />
</dataSource>
</environment>

```
18. В файле `job.xml` настраиваются следующие параметры:
`<cron-expression>0 0/2 * * * ?</cron-expression>` -- расписание запуска службы в крон-формате (по умолчанию каждые 2 минуты)
19. В файле `context.xml` настраиваются следующие параметры:
20. `brokerURL="tcp://172.22.0.2:61616` -- url брокера очередей ActiveMQ
21. `<Resource name="jms/frmo.inqueue.destination" auth="Container" -- очередь сообщений для клиента ФРМО (строчку не менять)`
`type="org.apache.activemq.command.ActiveMQQueue"`
`factory="org.apache.activemq.jndi.JNDIReferenceFactory"`
`physicalName="ru.swan.frmo.answers" />` -- имя очереди сообщений для клиента ФРМО в ActiveMQ
22. `<Resource name="jms/frmr.sendResponse.destination" auth="Container" -- очередь сообщений для клиента ФРМП (строчку не менять)`
`type="org.apache.activemq.command.ActiveMQQueue"`
`factory="org.apache.activemq.jndi.JNDIReferenceFactory"`
`physicalName="ru.swan.frmr.sendResponse" />` -- имя очереди сообщений для клиента ФРМП в ActiveMQ
23. При развертывании в докере приложений под Linux необходимо указать кодировку по умолчанию при запуске JVM: `-Dfile.encoding=UTF-8`. Пример: переменная среды `CATALINA_OPTS`, значение `-Xms128M -Xmx1024M -server -XX:+UseParallelGC -Dfile.encoding=UTF-8`

24. Для тестового контура необходимо предоставить адрес до этого сервиса через интернет. Сделать можно через балансировщик. И передать адрес вида `http://<ADDRESS>/FRMO/callback.svc` менеджеру для регистрации в тестовой среде.

Для запуска сервиса нужно стартовать службу TomEE.

12.1.4 Описание файлов конфигурации

```
# crypto provider settings
org.apache.ws.security.crypto.provider=ru.swan.soap.crypto.LocalMerlin
org.apache.ws.security.crypto.merlin.keystore.provider=JCP
org.apache.ws.security.crypto.merlin.keystore.type=HDImageStore

# crypto storage account settings
crypto.user=<KEY_NAME>
crypto.signatureUser=<KEY_NAME>
crypto.password=<KEY_PASS>

# trust settings
crypto.isTrustAllCerts=true
crypto.signature.algorithm=SIGNATURE_V2_ALGORITHM_2012_256
crypto.signature.digest.algorithm=SIGNATURE_V2_DIGEST_ALGORITHM_2012_256
```

Code Block 82 crypto.properties

crypto.user - обычно совпадает с **crypto.signatureUser**. Это имя контейнера КриптоПро

crypto.password - Пароль контейнера КриптоПро


```

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE configuration
  PUBLIC "-//mybatis.org//DTD Config 3.0//EN"
  "http://mybatis.org/dtd/mybatis-3-config.dtd">
<configuration>
  <properties resource="db.postgresql.properties" />
  <settings>
    <setting name="defaultStatementTimeout" value="3600"/>
  </settings>
  <environments default="r59">
    <!-- Perm -->
    <environment id="r59">
      <transactionManager type="JDBC" />
      <dataSource type="POOLED">
        <property name="driver" value="${db.driver}" />
        <property name="url" value="${r59.url}" />
        <property name="username" value="${r59.username}" />
        <property name="password" value="${r59.password}" />
      </dataSource>
    </environment>
  </environments>
  <databaseIdProvider type="DB_VENDOR">
    <property name="PostgreSQL" value="postgres"/>
  </databaseIdProvider>
  <mapper>
    <mapper resource="ru/swan/frmo/data/postgres/SessionMapper.xml" />
    <mapper resource="ru/swan/frmo/data/postgres/MOMapper.xml" />
    <mapper resource="ru/swan/frmo/data/postgres/BuildingMapper.xml" />
    <mapper resource="ru/swan/frmo/data/postgres/DepartMapper.xml" />
    <mapper resource="ru/swan/frmo/data/postgres/StaffMapper.xml" />
    <mapper resource="ru/swan/frmo/data/postgres/LogServiceMapper.xml" />
    <mapper resource="ru/swan/frmo/data/postgres/MediaDataMapper.xml" />
  </mapper>
</configuration>

```

Code Block 83 db.xml

В этом конфиге нужно заменить схему БД с r59 на необходимую региональную схему.

```

db.driver=org.postgresql.Driver
r59.url=jdbc:postgresql://<DB_HOST>:<DB_PORT>/<DB_NAME>?stringtype=unspecified
r59.username = <DB_USER>
r59.password = <DB_PASS>

```

Code Block 84 db.properties

В данном конфиге описывается подключение к БД . используется основная БД ЕЦП.МИС

<DB_HOST> - IP адрес сервера БД

<DB_PORT> - порт сервера БД

<DB_NAME> - имя базы данных

<DB_USER> - имя пользователя для авторизации в БД

<DB_PASS> - пароль для авторизации в БД

```

<?xml version="1.0" encoding="UTF-8" ?>
<!DOCTYPE configuration
  PUBLIC "-//mybatis.org//DTD Config 3.0//EN"
  "http://mybatis.org/dtd/mybatis-3-config.dtd">
<configuration>
  <properties resource="db.postgresql.properties" />
  <settings>
    <setting name="defaultStatementTimeout" value="3600"/>
  </settings>
  <environments default="r59">
    <!-- Perm -->
    <environment id="r59">
      <transactionManager type="JDBC" />
      <dataSource type="POOLED">
        <property name="driver" value="${db.driver}" />
        <property name="url" value="${r59.url}" />
        <property name="username" value="${r59.username}" />
        <property name="password" value="${r59.password}" />
      </dataSource>
    </environment>
  </environments>
  <databaseIdProvider type="DB_VENDOR">
    <property name="PostgreSQL" value="postgres"/>
  </databaseIdProvider>
  <mapper>
    <mapper resource="ru/swan/frmo/data/postgres/SessionMapper.xml" />
    <mapper resource="ru/swan/frmo/data/postgres/MOMapper.xml" />
    <mapper resource="ru/swan/frmo/data/postgres/BuildingMapper.xml" />
    <mapper resource="ru/swan/frmo/data/postgres/DepartMapper.xml" />
    <mapper resource="ru/swan/frmo/data/postgres/StaffMapper.xml" />
    <mapper resource="ru/swan/frmo/data/postgres/LogServiceMapper.xml" />
    <mapper resource="ru/swan/frmo/data/postgres/MediaDataMapper.xml" />
  </mapper>
</configuration>

```

Code Block 85 db.poetgres.xml

В этом конфиге нужно заменить схему БД с r59 на необходимую региональную схему.

```

db.driver=org.postgresql.Driver
r59.url=jdbc:postgresql://<DB_HOST>:<DB_PORT>/<DB_NAME>?stringtype=unspeci
fied
r59.username = <DB_USER>
r59.password = <DB_PASS>

```

Code Block 86 db.postgresql.properties

В данном конфиге описывается подключение к БД . используется основная БД ЕЦП.МИС

<DB_HOST> - IP адрес сервера БД

<DB_PORT> - порт сервера БД

<DB_NAME> - имя базы данных

<DB_USER> - имя пользователя для авторизации в БД

<DB_PASS> - пароль для авторизации в БД

```

frmo.serviceUrl=http://ips-test.rosminzdrav.ru/57234d87b0838
frmo.callbackUrl=http://www.w3.org/2005/08/addressing/anonymous
frmo.callbackIpsUrl=https://ips-test.rosminzdrav.ru/XXXXXXXXXXXXX

# ips settings
ips.isHandleIpsHeaders=true
ips.clientEntityId=4005d388-3b63-4846-971b-7a0a13399bf8
ips.action=sendDocument
ips.responseAction=http://emu.callback.mis.service.nr.eu.rt.ru/Callback/sendResponseResponse

region=r59
# user id
user=1
# mode id: 1 = export to FRMO, 2=import from FRMO, 3=read FRMO only
mode=1
saveFileBasePath=/srv/files
saveFileRelativePath=frmo
# limitation of session execution time (hours)
sessionTimeLimit=24
# waiting delay time (milliseconds)
waitDelayTime=5000
# perform verification phase
isVerify=true
# perform FRMR call
isFRMRRun=true
# FRMR session ActionType code
# 51 -- list
sessionFRMRActionCode=10075
# test methods running
isTesting=true

```

Code Block 87 frmo.properties

frmo.serviceUrl - для рабочего сервера <https://ips.rosminzdrav.ru/57406573a4083>, для тестового <http://ips-test.rosminzdrav.ru/57234d87b0838> . ips.rosminzdrav.ru - должен быть виден через ЗСПД

frmo.callbackIpsUrl - адрес похож на frmo.serviceUrl . Получается после регистрации.

ips.clientEntityId - ID сервиса в формате UUID. Получается после регистрации.

region - Написать схему региона

saveFileBasePath=/srv/files

saveFileRelativePath=frmo - Тут напишу сразу по обоим настройкам. Скорее всего на данный момент артефакт. но на всякий случай можно сделать папку /srv/files/frmo (то есть в пусти собрать обе настройки и сделать из них путь)

```

<?xml version="1.0" encoding="UTF-8"?>
<job-scheduling-data
  xmlns="http://www.quartz-scheduler.org/xml/JobSchedulingData"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.quartz-
scheduler.org/xml/JobSchedulingData http://www.quartz-
scheduler.org/xml/job_scheduling_data_1_8.xsd"
  version="1.8">
  <schedule>
    <job>
      <name>FRMOJob</name>
      <group>frmo</group>
      <description>Проверка таблицы dbo.FRMOSession</description>
      <job-class>ru.swan.frmo.job.FRMOJob</job-class>
    </job>
    <trigger>
      <cron>
        <name>FRMOTrigger</name>
        <job-name>FRMOJob</job-name>
        <job-group>frmo</job-group>
        <cron-expression>0/45 * * * * ?</cron-expression>
      </cron>
    </trigger>
  </schedule>
</job-scheduling-data>

```

Code Block 88 job.xml

периодический запуск сервиса.

```

<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE xml>
<Context>
  <Resource
    name="jms/ConnectionFactory"
    auth="Container"
    type="org.apache.activemq.ActiveMQConnectionFactory"
    description="JMS Connection Factory"
    factory="org.apache.activemq.jndi.JNDIReferenceFactory"

    brokerURL="tcp://<ACTIVEMQ_HOST>:<ACTIVEMQ_PORT>?jms.redeliveryPolicy.maxi
mumRedeliveries=5&jms.redeliveryPolicy.backOffMultiplier=2&jms.redeliveryP
olicy.useExponentialBackOff=true"/>
    <Resource name="jms/frmo.inqueue.destination" auth="Container"
      type="org.apache.activemq.command.ActiveMQQueue"
      factory="org.apache.activemq.jndi.JNDIReferenceFactory"
      physicalName="ru.swan.frmo.answers" />
    <Resource name="jms/frmr.sendResponse.destination"
      auth="Container"
      type="org.apache.activemq.command.ActiveMQQueue"
      factory="org.apache.activemq.jndi.JNDIReferenceFactory"
      physicalName="ru.swan.frmr.sendResponse" />
    <Resource name="jms/frbt.inqueue.destination" auth="Container"
      type="org.apache.activemq.command.ActiveMQQueue"
      factory="org.apache.activemq.jndi.JNDIReferenceFactory"
      physicalName="ru.swan.frbt.answers" />
  </Context>

```

Code Block 89 context.xml

<ACTIVEMQ_HOST> - IP адрес сервера activemq

<ACTIVEMQ_PORT> - Порт адрес сервера activemq

12.1.5 Проверка работоспособности

1. В браузере на урл сервиса <http://frmo.swm.local> (без ?wsdl) должен быть получен wsdl со следующим заголовком:

```
<wsdl:definitions name="callback"
targetNamespace="http://emu.callback.mis.service.nr.eu.rt.ru/">
```

2. При работе сервиса формируется файл лога, по умолчанию в <путь к TomEE>\logs\FRMO\
3. Перед запуском в рабочую эксплуатацию нужно послать в сервис коллбэка команду ping, закодированную в base64 (т.е. <response>PHBpbmcvPg==</response>), направив на адрес коллбэка сервиса следующий запрос (это нужно, чтобы выполнилось кэширование данных подписи и следующие запросы выполнялись быстрее):

```

<?xml version="1.0" encoding="UTF-8"?>
<S:Envelope xmlns:S="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
  xmlns:wsa="http://www.w3.org/2005/08/addressing"
  xmlns:wss="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-
  wssecurity-secect-1.0.xsd" xmlns:wsu="http://docs.oasis-
  open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
  <S:Header>
    <To xmlns="http://www.w3.org/2005/08/addressing">https://ips-
    test.rosminzdrav.ru/wro0662w70vd9</To>
    <Action xmlns="http://www.w3.org/2005/08/addressing">sendResponse</Action>
    <ReplyTo xmlns="http://www.w3.org/2005/08/addressing">
      <Address>http://www.w3.org/2005/08/addressing/anonymous</Address>
    </ReplyTo>
    <FaultTo xmlns="http://www.w3.org/2005/08/addressing">
      <Address>http://www.w3.org/2005/08/addressing/anonymous</Address>
    </FaultTo>
    <MessageID xmlns="http://www.w3.org/2005/08/addressing">uuid:9a0532a2-
    58f4-4c65-b8cc-561149bb7f1a</MessageID>
    <egisz:transportHeader xmlns:egisz="http://egisz.rosminzdrav.ru">
    <egisz:authInfo>
    <egisz:clientEntityId>91b4b3b3-803b-4657-a370-
    db1957e05154</egisz:clientEntityId>
    </egisz:authInfo>
    </egisz:transportHeader>
    <wsse:Security>
    <ds:Signature><ds:SignedInfo><ds:CanonicalizationMethod
    Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"><ds:SignatureMethod
    Algorithm="http://www.w3.org/2001/04/xmldsig-more#gostr34102001-
    gostr3411"><ds:Reference URI="#body"><ds:Transforms><ds:Transform
    Algorithm="http://www.w3.org/2001/10/xml-exc-
    c14n#"></ds:Transforms><ds:DigestMethod
    Algorithm="http://www.w3.org/2001/04/xmldsig-
    more#gostr3411"><ds:DigestValue>gnikFCoiPCdcYPJB5Dh5emSlgWhzPJMpbjbIMkSK5
    B0=</ds:DigestValue></ds:Reference><ds:SignedInfo><ds:SignatureValue>fKzE
    tr8YYXr14fGTPtBgM2g3fvyxYby6HlnR/rnxYpel7GcauiSOn7hzqhJ8bDvlWqSiP8lgw5yFP
    Wv6Ofc/A==</ds:SignatureValue><ds:KeyInfo>
    <wsse:SecurityTokenReference><wsse:Reference URI="#CertId"
    ValueType="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-x509-
    token-profile-1.0#X509v3"/>
    </wsse:SecurityTokenReference></ds:KeyInfo>
    </ds:Signature>
    <wsse:BinarySecurityToken EncodingType="http://docs.oasis-
    open.org/wss/2004/01/oasis-200401-wss-soap-message-security-
    1.0#Base64Binary" ValueType="http://docs.oasis-open.org/wss/2004/01/oasis-
    200401-wss-x509-token-profile-1.0#X509v3"
    wsu:Id="CertId">MIICIzCCAdACCQCyOdIp7YlpEjAKBgYqhQMCAgMFADCB1zELMAkGA1UEBh
    MCULUxDzANBgNVBAgTBklvc2NvdzEPMA0GA1UEBxMGTW9zY293MQwwCgYDVQQKEwNOQ0kxDjAM
    BgNVBAsTBVHVSNaMSUwIwYDVQQDExxuci10ZXN0LmVnaXN6LnJvc21pbnpkcmF2LnJ1MSEwHw
    YJKoZIhvcNAQkBFhJlZ2lzei1hZG1AcnQtZXUucnUwHhcNMjgwNDEwMTg0MjU1WWhcNMjgwNDA3
    MTg0MjU1WjCB1zELMAkGA1UEBhMCULUxDzANBgNVBAgTBklvc2NvdzEPMA0GA1UEBxMGTW9zY2
    93MQwwCgYDVQQKEwNOQ0kxDjAMBgNVBAsTBVHVSNaMSUwIwYDVQQDExxuci10ZXN0LmVnaXN6
    LnJvc21pbnpkcmF2LnJ1MSEwHwYJKoZIhvcNAQkBFhJlZ2lzei1hZG1AcnQtZXUucnUwYzAcBg
    YqhQMCAhMwEgYHKOUDAgIjAQYHKOUDAgIeAQNDAARAIuHseEX9xIqlw6vXqBENPLtXwd3uh0tM
    s6zQjCSGWJSqaq+CQSP6U4FZOzUZZEKGE5Lw0Bujmf8hEY4ZmNbKpDAKBgYqhQMCAgMFAANBAK
    x6JQwWGLQGT7SYzUw/2hWO2ilaTjxrLl84nTiG82hN2QV8DUChRG/NoBJmQ64ydWsmbvW7IPzS
    HZ45M880zpo=</wsse:BinarySecurityToken>
    </wsse:Security>
  </S:Header>
  <S:Body wsu:Id="body">
    <ns2:sendResponse
    xmlns:ns2="http://emu.callback.mis.service.nr.eu.rt.ru/">
    <id>62BD7993-E9C2-446C-A902-8FE7F02847E7</id>
    <oid>1.2.643.5.1.13.13.120.0.0</oid>
    <response>PHBpbmcvPg==</response>
  </S:Body>
</Envelope>

```

```
</ns2:sendResponse>  
</S:Body>  
</S:Envelope>
```

P.S. такую проверку лучше проводить сразу после запуска сервиса. так как первый раз после запуска обычно отрабатывает долго. после данного "пинга" сервис начинает следующие запросы обрабатывать быстрее.

Если этот xml сохранить в файл request.xml, то из командной строки можно выполнить проверку следующей командой:

```
curl -X POST -H "SOAPAction=sendResponse" -H "Content-Type=text/xml;charset=UTF-8" -d  
@request.xml http://<IP\_SERVER>:8080/FRMO/callback.svc
```

Если в ответе есть <wsse:BinarySecurityToken - то сервис правильно подхватил ключ Кripto Про который мы настроили

13 ФРМР

13.1 Разворачивание

13.1.1 Установка с применением docker

13.1.1.1 Необходимое ПО

13.1.1.2 Структура папок и файлов

/srv/hosts/FRMR

- keys
- logs

13.1.1.3 docker-compose.yml

ВАЖНО! ActiveMQ должен быть тот же что и у сервиса FRMO

```
version: '2'
services:
  activemq:
    image: docker.k-vrachu.ru/activemq:latest
    container_name: activemq
    ports:
      - "8161:8161"
      - "61616:61616"
  frmr:
    image: docker.k-vrachu.ru/frmr:pglatest
    container_name: frmr
    volumes:
      - /srv/hosts/FRMR/tomee.xml:/opt/tomee/conf/tomee.xml
      - /srv/hosts/FRMR/context.xml:/opt/tomee/webapps/FRMR/META-INF/context.xml
      - /srv/hosts/FRMR/crypto.properties:/opt/tomee/webapps/FRMR/WEB-INF/classes/crypto.properties
      - /srv/hosts/FRMR/db.properties:/opt/tomee/webapps/FRMR/WEB-INF/classes/db.properties
      - /srv/hosts/FRMR/db.postgresql.properties:/opt/tomee/webapps/FRMR/WEB-INF/classes/db.postgresql.properties
      - /srv/hosts/FRMR/frmr.properties:/opt/tomee/webapps/FRMR/WEB-INF/classes/frmr.properties
      - /srv/hosts/FRMR/fer.properties:/opt/tomee/webapps/FRMR/WEB-INF/classes/fer.properties
      - /srv/hosts/FRMR/keys:/var/opt/cproscsp/keys/root
      - /srv/hosts/FRMR/logs:/opt/tomee/logs
    environment:
      #Такие параметры уже включены в контейнер можно изменить их при необходимости
      - TZ=Asia/Yekaterinburg
      - CATALINA_OPTS=-Xms512M -Xmx1536M -server -XX:+UseParallelGC -Dfile.encoding=UTF-8
      - JCP_KEY_LICENSE=''
      - JCP_COMPANY_NAME=''
    depends_on:
      - activemq
```

Code Block 90 docker-compose.yml

13.1.2 Установка напрямую на ОС

13.1.2.1 Необходимое ПО

13.1.2.2 Установка TomEE

13.1.2.3 Настройка TomEE как сервиса

13.2 Описание файлов конфигурации.

```
<?xml version="1.0" encoding="UTF-8"?>
<tomee>

<!-- внешний ActiveMQ -->

<Resource id="ConnectionFactoryResourceAdapter"
type="ActiveMQResourceAdapter">
# Do not start the embedded ActiveMQ broker
BrokerXmlConfig =
    ServerUrl = tcp://<ACTIVEMQ_HOST>:<ACTIVEMQ_PORT>
</Resource>

<Resource id="ConnectionFactory" type="javax.jms.ConnectionFactory">
ResourceAdapter = ConnectionFactoryResourceAdapter
</Resource>

<Resource id="frmr.sendResponse.destination" type="javax.jms.Queue">
destination = ru.swan.frmr.sendResponse
</Resource>

<Resource id="frmr.sendResponseSlot.destination" type="javax.jms.Queue">
destination = ru.swan.frmr.sendResponse
</Resource>

<Resource id="frmr.integrationSession.destination" type="javax.jms.Queue">
destination = ru.swan.frmr.integrationSession
</Resource>

<Resource id="frmr.FRMRSessionReplicatorJob.destination"
type="javax.jms.Queue">
destination = ru.swan.frmr.integrationSession
</Resource>

</tomee>
```

Code Block 91 tomee.xml

<ACTIVEMQ_HOST> - IP адрес ActiveMQ (Должен совпадать с адресом ActiveMQ ФРМО)

<ACTIVEMQ_PORT> - ПОРТ AvtiveMQ

```

<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE xml>
<Context>
    <Resource
        name="jms/ConnectionFactory"
        auth="Container"
        type="org.apache.activemq.ActiveMQConnectionFactory"
        description="JMS Connection Factory"
        factory="org.apache.activemq.jndi.JNDIReferenceFactory"

brokerURL="tcp://<ACTIVEMQ_HOST>:<ACTIVEMQ_PORT>?jms.redeliveryPolicy.maxi
mumRedeliveries=5&jms.redeliveryPolicy.backOffMultiplier=2&jms.redeliveryP
olicy.useExponentialBackOff=true"
    />

    <Resource name="jms/frmr.sendResponse.destination"
auth="Container"
        type="org.apache.activemq.command.ActiveMQQueue"
factory="org.apache.activemq.jndi.JNDIReferenceFactory"
        physicalName="ru.swan.frmr.sendResponse" />

    <Resource name="jms/frmr.integrationSession.destination"
auth="Container"
        type="org.apache.activemq.command.ActiveMQQueue"
factory="org.apache.activemq.jndi.JNDIReferenceFactory"
        physicalName="ru.swan.frmr.integrationSession" />

    <Resource name="jms/frmr.sendResponseSlot.destination"
auth="Container"
        type="org.apache.activemq.command.ActiveMQQueue"
factory="org.apache.activemq.jndi.JNDIReferenceFactory"
        physicalName="ru.swan.frmr.sendResponse" />

</Context>

```

Code Block 92 context.xml

<ACTIVEMQ_HOST> - IP адрес ActiveMQ (Должен совпадать с адресом ActiveMQ ФРМО)

<ACTIVEMQ_PORT> - ПОРТ ActiveMQ

```

org.apache.ws.security.crypto.provider=ru.swan.soap.crypto.LocalMerlin
org.apache.ws.security.crypto.merlin.keystore.provider=JCP
org.apache.ws.security.crypto.merlin.keystore.type=HDImageStore
crypto.user=<CRYPTO_USER>
crypto.signatureUser=<CRYPTO_USER>
crypto.password=<CRYPTO_PASS>
crypto.isTrustAllCerts=true
crypto.signature.algorithm=<CRYPTO_ALGORITHM>
crypto.signature.digest.algorithm=<CRYPTO_DIGEST_ALGORITHM>

```

Code Block 93 crypto.properties

<CRYPTO_USER> - имя контейнера КриптоПро

<CRYPTO_PASS> - пароль от контейнера КриптоПро

<CRYPTO_ALGORITHM> - алгоритм шифрования контейнера КриптоПро. пример для ГОСТ 2012_256 (SIGNATURE_V2_ALGORITHM_2012_256)

<CRYPTO_DIGEST_ALGORITHM> - алгоритм шифрования контейнера КриптоПро. пример для ГОСТ 2012_256 (SIGNATURE_V2_DIGEST_ALGORITHM_2012_256)

```

db.driver=org.postgresql.Driver
db.url=jdbc:postgresql://<DB_HOST>:<DB_PORT>/<DB_NAME>?stringtype=unspecif
ied
db.username = <DB_USER>
db.password = <DB_PASS>

frmrSnilsTest='13577513780'
frmrLpuTest='10010833'
frmrBulkLoad=0

```

Code Block 94 db.properties

<DB_HOST> - IP Адрес сервера БД
 <DB_PORT> - Порт сервера БД
 <DB_NAME> - Имя БД
 <DB_USER> - Пользователь для авторизации в БД
 <DB_PASS> - Пароль для авторизации в БД

misId - Идентификатор системы. получается после регистрации системы. Имеет вид conc-00000-rmis

frmrSnilsTest - Данная настройка используется для теста системы. СНИЛС тестовой организации

frmrLpuTest - Данная настройка используется для теста системы. Идентификатор тестовой организации

frmrBulkLoad - Данная настройка используется для теста системы.

ДАЛЕЕ НЕОБХОДИМО ОПИСАТЬ ВСЕ ОСТАВШИЕСЯ НАСТРОЙКИ

```

db.driver=org.postgresql.Driver
db.url=jdbc:postgresql://<DB_HOST>:<DB_PORT>/<DB_NAME>?stringtype=unspecif
ied
db.username = <DB_USER>
db.password = <DB_PASS>

frmrSnilsTest='13577513780'
frmrLpuTest='10010833'
frmrBulkLoad=0

```

Code Block 95 db.postgresql.properties

Совпадает с предыдущим конфигом. Описание можно посмотреть там.

```

frmo.serviceUrl=http://ips-test.rosminzdrav.ru/57234d87b0838
frmo.callbackUrl=http://www.w3.org/2005/08/addressing/anonymous
frmo.callbackIpsUrl=https://ips-test.rosminzdrav.ru/wro0662w70vd9

ips.isHandleIpsHeaders=true
ips.clientEntityId=
ips.action=sendDocument
ips.responseAction=http://emu.callback.mis.service.nr.eu.rt.ru/Callback/sendResponseResponse

region=r59
user=1

db=postgresql

```

Code Block 96 frmr.properties

frmo.serviceUrl - для рабочего сервера <https://ips.rosminzdrav.ru/57406573a4083>, для тестового <http://ips-test.rosminzdrav.ru/57234d87b0838> . ips.rosminzdrav.ru - должен быть виден через ЗСПД

frmo.callbackIpsUrl - адрес похож на frmo.serviceUrl . Получается после регистрации.

ips.clientEntityId - ID сервиса в формате UUID. Получается после регистрации.

region - Написать схему региона

db - postgresql или mssql в зависимости какую БД вы используете

```

service.url=http://test-api2-fer.rt-eu.ru:80/concentrator_ws/ws/mis/

soap.is12=true
soap.isLog=true

fer.integrationSession.listener.count = 10
fer.SendResponse.listener.count = 1

```

Code Block 97 fer.properties

14 Инструкция по внедрению сервиса ФРМР / ФРМО в МИС (РМИС)

1. Подключение МИС (РМИС) к тестовой версии сервиса ФРМР / ФРМО

При подключении одновременно ФРМО и ФРМР некоторые пункты необходимо выполнять только один раз. ФРМО и ФРМР — это практически один сервис, callback разворачивается один и так же, он используется при регистрации.

1) В первую очередь необходимо зарегистрировать систему в тестовой версии ИПС. Для этого необходимо прислать на электронный адрес СТП ЕГИСЗ egisz@rt-eu.ru заявку по форме, указанной в П.1.1. методических материалов по подключению, расположенных по адресу <https://portal.egisz.rosminzdrav.ru/materials/11> (заявка №1 архива с инструкцией) и приложить к ней сертификат открытого ключа в формате .cer. Данный сертификат будет использоваться в сервисах ИЭМК, ФРМО/ФРМР, РЭМД как сертификат для авторизации в фед. сервисах. Подается одна заявка для ФРМО и ФРМР.

2) Далее необходимо зарегистрировать тестовую версию web-службы в тестовой версии ИПС.

1. Поставить задачу эксплуатации на развертку тестовой web-службы. (Инструкция для Эксплуатации есть в архиве с инструкциями и заявками)

2. После выполнения по разворачивании тестовой web-службы, заполнить заявку согласно формам, приведенным в п.1.3 документа «Методические материалы по подключению к ИПС», размещенным на портале ЕГИСЗ по адресу: <http://portal.egisz.rosminzdrav.ru/materials/11>. (Заявка №2 архива с инструкциями) и приложить к ней сертификат открытого ключа в формате .cer.

3) Заявки оформляются в строгом соответствии с форматом. На заявках должна быть поставлена дата, подпись и расшифровка подписи ответственного лица органа государственной власти субъекта РФ в сфере охраны здоровья (для организаций, подведомственных ОУЗ) или МО (для иных ведомственных принадлежностей), печать органа исполнительной власти субъекта Российской Федерации в сфере здравоохранения. Также необходимо направить на электронный адрес службы технической поддержки ЕГИСЗ egisz@rt-eu.ru скан-копию подписанной заявки в формате PDF (JPG) и заполненную заявку в формате DOC (DOCX).

4) В течении 2 (двух) рабочих дней после получения заявки СТП ЕГИСЗ регистрирует ИС в тестовой версии ИПС и предоставляет идентификатор ИС в ИПС.

5) Следующая заявка подается на регистрацию в тестовой версии Системы. (Заявка №3 архива с инструкциями). Поля таблицы 2. Заявки №3, заполняются в соответствии с ранее полученными данными, а также важно заполнить правильно Методы, используемые в системе. Список возможных доступных методов, находится в документе ФРМО_Описание_интеграционных_профилей.doc. Актуальная версия документа размещена по адресу: <https://portal.egisz.rosminzdrav.ru/materials/481>. Подаются 2 отдельных заявки для ФРМО и ФРМР

6) В течение 2 (двух) рабочих дней после получения заявки СТП ЕГИСЗ регистрирует ИС в тестовой версии Системы и предоставляет подтверждение о регистрации ИС в ответ на заявку.

2. Тестирование и массовые испытания ФРМР / ФРМО

1) Для создания отчета о тестировании по ФРМО/ФРМР просто копируем из логов сообщения и добавляем их в новый xml файл. Обычно требуются запрос, синхронный ответ, асинхронный ответ и асинхронный запрос. Проводится так же как массовая выгрузка только в меньшем объеме. Инструкция на проведение Массовой выгрузки находится в Conf: [Сервис интеграции с ФРМР](#)

2) В течение 30 (тридцати) рабочих дней со дня выделения идентификатора ИС необходимо провести тестирование при взаимодействии с тестовой версией Системы и направить отчет о результатах тестирования, а также протокол приемочных испытаний на адрес СТП ЕГИСЗ (egisz@rt-eu.ru), в соответствии с формой, приведенной в данном архиве (№4 Отчет о проведении тестирования). В рамках тестирования должны быть пройдены все проверки в соответствии с программой и методикой испытаний интеграции ИС с Системой. Результатом тестирования является успешное выполнение всех проверок.

3) В случае успешного прохождения тестирования интеграционного взаимодействия СТП ЕГИСЗ в ответном письме уведомляет нас о необходимости проведения массовой загрузки/выгрузки данных в тестовую версию Системы.

СТП ЕГИСЗ в течение 4 (четырёх) рабочих дней с момента получения отчета о проведении тестирования ожидает заявки. Заявки мы должны направить в соответствии с формой, приведенной в архиве (№5 Заявка на массовую выгрузку). Дата и время проведения и время проведения ФРМО и ФРМР может различаться. Рекомендуем ставить дату проведения с разницей не более 1 недели.

4) Согласно плановой дате проведения массовой загрузки/выгрузки ИС осуществляет массовую загрузку/выгрузку данных в тестовую версию Системы, но плановая дата должна быть не раньше ответа от СТП о том, что можно проводить массовую выгрузку согласно заявке №5.

Минимальное количество запросов на каждую доступную подсистему и каждый из ее методов при массовой загрузке должно составлять 20. Данное значение указано в документе ФРМР_Описание_интеграционных_профилей.doc. Актуальная версия документа размещена по адресу: <http://portal.egisz.rosminzdrav.ru/materials/483>. ФРМО_Описание_интеграционных_профилей.doc. Актуальная версия документа размещена по адресу: <https://portal.egisz.rosminzdrav.ru/materials/481>.

5) После выгрузки необходимо уведомить СТП ЕГИСЗ, что была проведена массовая выгрузка С ... ПО ... Вставить время по часовому поясу MSK и указать дату проведения. Также рекомендуется приложить идентификатор ИПС тестовой среды.

Пример: "Была проведена массовая выгрузка ФРМР проведена 7:57-11:32 MSK. Дата 21.07.2020, идентификатор системы в тестовой версии ИПС Ярославской Области - 61073f90-ae31-4486-3f61-b35a04aacc58"

В течении 4 рабочих дней СТП ЕГИСЗ проверяет нашу выгрузку и направляет заключение об успешности проведения массовой загрузки/выгрузки данных и о возможности подключения к промышленной версии.

3. Подключение МИС(РМИС) к продуктивной версии сервиса ФРМР

1) Получить квалифицированную электронную подпись в аккредитованном УЦ, зарегистрировать ИС в рабочей версии ИПС. Подпись предоставляет регион. Обязательна подпись должна соответствовать ГОСТ Р 34.10-2012 (256 бит). Другой ГОСТ или разрядность сертификата СТП ЕГИСЗ не примет, например ГОСТ Р 34.10-2012 (512 бит) не принимается по причинам несоответствия разрядности. Заявка №6 Данного Архива. Ключ приобретается регионом в 1 экземпляре, для работы ФРМО и ФРМР.

2) Делаем задачу на разворачивание рабочей версии веб службы, на эксплуатацию (группу ОЭИР. РМИС). Им необходимо предоставить. Лицензию JSP для крипто про. По одной для ФРМО или 2 если ставим сразу ФРМР. Также прикладываем ключ для обмена, его предоставляет нам регион. Так же необходим Закрытый ключ (контейнер) от сертификата, запрашиваем одновременно с сертификатом, регион может потребовать официальное письмо для предоставления контейнера, закрытый ключ (контейнер) нужен от сертификата, который мы регистрировали в СТП ЕГИСЗ на предыдущем шаге.

3) После настройки рабочей версии web-службы, потребуется передать региону IP-адреса для настройки сети ЗСПД. Доступ на указанные IP-адреса настраивает МИАЦ региона. Так-же потребовать от региона чтобы они сделали доступ к 2IP Адресам

федерального сервиса. Возможны корректировки нужных IP. Актуальные IP можно взять с <http://portal.egisz.rosminzdrav.ru/materials/11> Пункт 2.3.2. Порядок публикации веб-службы документации "Методические материалы по подключению к сервису ИПС". На данный момент актуальны IP:

1. Открытая сеть - 185.194.33.39;
2. Закрытая сеть - 10.41.19.39.

4) После настройки рабочей версии web-службы. Подаем заявку №7 (В архиве). на адрес СТП ЕГИСЗ (egisz@rt-eu.ru) согласно формам, приведенным в п.1.4 документа «Методические материалы по подключению к ИПС», размещенным на портале ЕГИСЗ по адресу: <http://portal.egisz.rosminzdrav.ru/materials/11>. Одновременно сканированную копию заявки направить в Минздрав России, по адресу: di@rosminzdrav.ru.

5) Регистрируем ИС в промышленной версии Системы. Заполняем Заявку №3 Данного архива и подчеркиваем в заявке Промышленная версия ИС. Отправляем заявку в СТП ЕГИСЗ (egisz@rt-eu.ru). Одновременно сканированную копию заявки направить в Минздрав России, по адресу: di@rosminzdrav.ru.

В течение 2 (двух) рабочих дней после получения заявки СТП ЕГИСЗ логин/пароль доступа, а также ссылку к web-интерфейсу рабочей версии системы.

6) Передаем информацию эксплуатации для внесения изменений в настройки рабочей версии ФРМР.

4. Архив со всеми необходимыми заявками

Файл предоставляется разработчиком Сервиса.

14.1 Общая информация

ФРМО - Федеральный Реестр Медицинских организаций.

ФРМР - Федеральный Реестр Медицинских Работников.

Оба модуля проверяются на рабочих серверах.

Существуют следующие режимы работы:

5. регулярный режим запуска
6. Режим первого запуска
7. Массовая выгрузка (только ФРМР)

При работе модулей могут выполняться следующие действия:

2. Передача новых данных(create) - осуществляется передача данных из РМИС в систему ФРМО/ФРМР.
3. Обновление уже существующих данных(update) - сервис передает измененные данные в систему ФРМО/ФРМР.
4. Удаление существующих данных(delete) - удаление данных из систем ФРМО/ФРМР
5. Чтение существующих данных (read) - считываем данные из систем ФРМО/ФРМР.

14.2 Способы тестирования

!!!ВАЖНО!!!:

Должно быть полное соответствие данных на портале ФРМО/ФРМР и в РМИС для успешного выполнения сервиса.

Для проверки обновления данных в РМИС должны быть одинаковые ключи на портале и в РМИС.

Для ФРМО ключи - OID, для ФРМР - СНИЛС, ФИО.

!!!!

14.2.1 Регулярный запуск

Регулярный, или обычный режим запуска. Для проверки необходим доступ АРМ Цод, формы Журнал работы сервисов.

Запуск сервиса ФРМО/ФРМР производится с формы. При этом

2. Передача данных в сервис ФРМО/ФРМР - выполняется list/create/update/delete данных
3. Сервис обновления ФРМО - выполняется read и обновление/создание/удаление данных в РМИС

Логи и ошибки смотрятся в детальном логе работы сервисов.

14.2.1 Режим первого запуска

Осуществляется в том случае, если сервис ранее не запускался.

Для тестирования переводится в режим первого запуска вручную через Админов/Разработчиков.

Во время режима первого запуска запускаются и проверяются оба сервиса. Проверка начинается с ФРМО.

Для успешного прохождения необходима полное соответствие структуры на портале и в РМИС. Если есть какое либо несоответствие(пример: не совпали название отделение, тип отделения, или отделения вообще нет) - будет ошибка.

После выполнения успешного выполнения ФРМО автоматически будет запущен ФРМР, который произведет выгрузки медперсонала.

14.2.2 Режим массовой выгрузки

Режим используется в ФРМР.

Перед массовой выгрузкой производится выгрузка 1 медработника и составление отчета (собираются синхронные и асинхронные запросы/ответы из логов. на каждый регион свои логи, ссылку уточнять отдельно через hd).

Для массовой выгрузки создается не менее 100 людей, 20 - добавляются в систему как врачи, 80 - остаются массовой.

Для успешного проведения массовой выгрузки у врачей должно быть полностью одинаковые данные об образовании.

При создании данных об образовании и выборе учебных заведений - лучше сверяться со справочником psi, но это не всегда может помочь.

Массовая выгрузка проводится на новых регионах, для проведения необходим доступ к БД.

Данные для выгрузки собираются в таблицу, запуск сервиса производится через скрипты из БД.

Все запросы/ответы смотрятся через ошибки. Во время проведения массовой выгрузки **НЕ ДОЛЖНО БЫТЬ ОШИБОК**.

Если в процессе проведения массовой выгрузки были получены ошибки, то изменяются данные врачей/массовки:

- СНИЛС - если был выполнен запрос person.create - **МЕНЯЕТСЯ ВСЕГДА. !!!ВАЖНО!!! СНИЛС ПЕРЕД ОТПРАВКОЙ/ДОБАВЛЕНИЕМ В ТАБЛИЦУ - ВСЕГДА ПРОВЕРЯТЬ НА ВАЛИДНОСТЬ !!!!**
- Паспортные данные - если был выполнен метод document.create, то меняется номер и серия паспорта. **!!! ВАЖНО !!! СМОТРИМ И ВЫБИРАЕМ ТАКИЕ НОМЕР И СЕРИЮ, ЧТО БЫ НЕ ПЕРЕСЕКАЛИСЬ С РЕАЛЬНЫМИ ЛЮДЬМИ !!!!**

14.2.3 Дополнительная информация и ссылки

Для создания отчета по ФРМО/ФРМП просто копируем из логов сообщения и добавляем их в новый xml файл. Обычно требуются запрос, синхронный ответ, асинхронный ответ и асинхронный запрос.

На новых регионах ФРМО/ФРМП может отсутствовать в журнале работы сервисов. Тогда запускается через БД, или через разработку добавляются сервисы.

При проверке ФРМО/ФРМП всегда **ВАЖНО СООТВЕТСТВИЕ ДАННЫХ**.

Если для ФРМП меняются данные врача, особенно для массовой выгрузки - менять **ТОЛЬКО ЧЕРЕЗ ПЕРЕОДИКИ**

[SQL Скрипты и порядок действий для массовой выгрузки](#)

Для первого запуска есть [инструкция как привести структуру в порядок](#) и есть [Отчет о расхождении структуры МО в РМИС и ФРМО](#)

15 Postgre ФРМО. Отчет о тестировании и массовая выгрузка.

15.1 Общие сведения:

15.1.1 Для запуска единичной сессии ФРМО можно использовать скрипт FRMOsession_run.sql:

```
do
$$
DECLARE
RC int;
Lpu_id bigint;
FRMOsession_Name varchar(100);
FRMOsession_begDT timestamp;
FRMOsessionMode_id bigint = 1 ;-- 1 - экспорт в ФРМО 2 -- импорт из ФРМО 3 -- только
чтение данных из ФРМО
pmUser_id bigint;
Error_Code VARCHAR;
Error_Message VARCHAR(4000);
begin

p_Lpu_id := 10010833; -- 13004038 -- 10011030 -- 13101710
p_FRMOsession_Name := 'FRMO export test';
p_FRMOsession_begDT := '2020-08-18';
p_pmUser_id := 1;

/*SELECT s.FRMOsession_id, st.FRMOsessionActionType_Code,
st.FRMOsessionHist_doneDT, st.FRMOsessionHist_pid
FROM dbo.FRMOsession s
left join lateral (select a.FRMOsessionActionType_Code, h.FRMOsessionHist_doneDT,
h.FRMOsessionHist_pid
from dbo.FRMOsessionHist h
inner join dbo.FRMOsessionActionType a on a.FRMOsessionActionType_id =
h.FRMOsessionActionType_id
```

```

where s.FRMOSession_id = h.FRMOSession_id
order by h.FRMOSessionHist_insDT desc
limit 1
) st on true
WHERE and s.FRMOSession_endDT is NULL and s.FRMOSession_Service = 'FRMO' and
s.Lpu_id = Lpu_id;*/

select fnc.Error_Code,fnc.Error_Message
into Error_Code,Error_Message
from
dbo.p_FRMOSession_run(Lpu_id,FRMOSession_Name,FRMOSession_begDT,FRMOSession
Mode_id,pmUser_id) fnc;

if (Error_Code is not null)
then
RAISE USING ERRCODE = error_code,MESSAGE =Error_Message;
end if;
end;
$$;

```

В параметрах указываются:

- 1) Режим сессии FRMOSessionMode_id bigint := 1 -- 1 - экспорт в ФРМО 2 -- импорт из ФРМО 3 -- только чтение данных из ФРМО
- 2) МО: Lpu_id := 10010833 -- 13004038 -- 10011030 -- 13101710
- 3) имя сессии: FRMOSession_Name := 'FRMO export test'
- 4) дата запуска сессии: FRMOSession_begDT := '2020-08-18'
- 5) пользователь: pmUser_id := 1

15.1.2 Ошибки по сессии можно посмотреть по скрипту FRMOSessionError.sql:

--В ФРМО отсутствует подразделение с ОИД подразделения
1.2.643.5.1.13.13.12.2.59.5834.0.17454

--В ФРМО отсутствует отделение с ОИД подразделения
1.2.643.5.1.13.13.12.2.59.5834.0.17454 ОИД отделения
1.2.643.5.1.13.13.12.2.59.5834.0.17454.159761

--Для отделения Кабинет функциональной диагностики стационара Параклиника ЖК с
ОИД 1.2.643.5.1.13.13.12.2.59.5834.0.34090 в НСИ указан другой ОИД
1.2.643.5.1.13.13.12.2.59.5834.0.17454

--ОИД подразделения 1.2.643.5.1.13.13.12.2.59.5834.0.35803 ставка 149 отсутствует в
РМИС

```

select
FE.FRMOSessionError_id, fe.FRMOSessionHist_id, st.FRMOSessionHist_id
, coalesce(fet.FRMOSessionErrorType_Name, fe.FRMOSessionError_Message) as error_text
, a.FRMOSessionActionType_descr
, L.Lpu_Nick
, lb.LpuBuildingPass_Name, lu.LpuUnit_Name, LS.LpuSection_Name, fe.LpuStaff_Num,
lu.LpuUnit_ID, FE.LpuSection_id, fe.LpuBuildingPass_id
, fe.FRMOSessionError_Message
, FE.FRMOSessionError_insdt
FROM dbo.FRMOSession ses
inner join v_Lpu L on L.Lpu_id = ses.Lpu_id
left join lateral (select h.FRMOSessionHist_id, h.FRMOSessionHist_insDT
from dbo.FRMOSessionHist h
inner join dbo.FRMOSessionActionType a on a.FRMOSessionActionType_id =
h.FRMOSessionActionType_id
where ses.FRMOSession_id = h.FRMOSession_id and a.FRMOSessionActionType_code in
(60,64)

```

```

-- and h.FRMOSessionHist_id = 1334
order by h.FRMOSessionHist_id desc
limit 1
) st on true
inner join dbo.FRMOSessionError fe on fe.FRMOSession_id = ses.FRMOSession_id and
fe.FRMOSessionHist_id >= st.FRMOSessionHist_id
inner join dbo.FRMOSessionHist h on fe.FRMOSessionHist_id = h.FRMOSessionHist_id
inner join dbo.FRMOSessionActionType a on a.FRMOSessionActionType_id =
h.FRMOSessionActionType_id
left join dbo.FRMOSessionErrorType fet on fe.FRMOSessionErrorType_id =
fet.FRMOSessionErrorType_id
left JOIN dbo.v_LpuBuildingPass AS lb ON lb.LpuBuildingPass_id = fe.LpuBuildingPass_id
left JOIN dbo.v_LpuUnit AS lu ON lu.LpuUnit_id = fe.LpuUnit_id
left join v_LpuSection LS on LS.LpuSection_id = FE.LpuSection_id
where (1 = 1) and ses.FRMOSession_id = :FRMOSession_id
and h.FRMOSessionHist_insDT >= coalesce(st.FRMOSessionHist_insDT,
ses.FRMOSession_insDT)
-- and fe.LpuBuildingPass_id in (383, 2400)
order by error_text, fe.FRMOSessionHist_id

Параметр Ид сессии: :FRMOSession_id bigint = 1.

```

15.2 Запуск массовой выгрузки:

15.3 Запуск массовой выгрузки выполняется скриптом MassiveTestCycle0.sql:

```

do
$$
DECLARE
p_lpu_id bigint := 13101710; -- 150007 -- Карелия -- 12600015 -- Вологда 21 -- Уфа 150519 --
13003272 -- Астра 150001 -- Пенза 150519 -- Крым 150447 -- Хакасия -- 13003345 --Псков --
10010833 Пермь
p_pmUser_id bigint := 1;
p_today timestamp := getDate();

-- для теста Обновления mo.update
p_LpuPmuType_id bigint := 3;
p_LpuPmuType_nid bigint := 35;

-- здание для создания нового /удаления, которое не используется в подразделениях и
медоборудовании
p_LpuBuildingPass_id bigint := 1874; -- Ярославль 383 -- Уфа Административное здание
305 -- Хакасия 10185 -- Карелия Тестовое здание 369 -- Псков Здание поликлиники 193 --
Астра Поликлиническое отделение 752 --Пенза Гараж 1 -- 147 -- Вологда 17 -- ПЕРМЬ раб
Поликлиника 72 -- Вологда Тестовая площадка 2400 -- Уфа Николаевская Амбул 283 --
193 -- Astra Поликлиническое отделение 752 -- Пенза Гараж 1 1620 -- Крым ООВП (СМ)
с.Межводное 282 -- Хакасия 283 -- Псков
p_MOArea_id bigint := 10004 ;-- Яросл 1526 -- Уфа 25 -- Хакасия 23 -- Карелия 46 -- Псков
780 -- Пермь рабоч 32 -- Вологда 993 -- Уфа Николаевская амб 336 -- Astra
Поликлиническое отделение №1 616 -- Неверкино Гараж 1 25 -- Тест Ширинская РБ --1 --
Псков
-- площадка для нового здания
p_MOArea_nid bigint := 10003; -- Яросл 1528 -- Уфа 75 -- Хакасия 24 -- Карелия 48 -- Псков
645 -- Astra Поликлиническое отделение №1 тест --1022 -- Крым Хмелевский ФАП 77 --
Вологда Первомайская 993 -- Уфа Николаевская амб 336 -- Astra Поликлиническое
отделение №1 605 -- Неверкино Поликлиннака 25 -- Тест Ширинская РБ --1 --Псков
-- для теста создания/удаления здания
p_LpuBuildingPass_Name_new varchar(50) := 'Здание в парке'; -- Ufa 'Тестовое здание' --
Karelia, Nakasia 'Здание поликлиники' -- Pskov Крым 'Здание тестовое нов 22'--Vologda

```

p_LpuBuildingPass_Name_old varchar(50) := 'Здание в саду'; -- Ufa 'Тестовое здание' -- Karelia, Nakasia 'Здание поликлиники' -- Pskov -- Крым 'Здание тестовое' --Vologda 'Николаевская врачебная амбулатория' --Astra 'ФАП Благодатка' --Пенза 'ООВП (СМ) с Межводное' -- Крым --Шира, Хак '5эт.здание больницы с поликлиникой' -- Псков здесь сохранить оригинальное название здания

-- для теста Обновления mo_building.update
 -- здание для редактирования, которое можно использовать в подразделениях
 p_LpuBuildingPass2_id bigint := 1873; -- Ярослав 2400 -- Уфа Николаевская Амбул 282 -- Хакасия Большое здание больницы с поликлиникой 76 -- Карелия Поликлиника 283 -- Псков 5эт.здание больницы с поликлиникой 192 -- Astra Женская консультация -- 366 -- Крым Поликлинико-административное здание 100 -- Вологда Базовый корпус
 p_LpuBuildingPass_YearBuilt_new timestamp := '20180101'::timestamp;
 p_LpuBuildingPass_YearBuilt_old timestamp := '2003-01-01 00:00:00.000'::timestamp;-- Псков Astra Крым '1987-01-01 00:00:00.000'-- Пенза здесь сохранить оригинальное год постройки

-- подразделение для создания/удаления, которое не используется в штатке
 p_LpuUnit_id bigint := 99560015008; -- Ярослав 252 -- Ufa Травмпункт 344 -- Хакасия Стомат 30920 -- Карелия здравпункты 495 --Pskov Клинико-диагностическая лаборатория 440 -- Астра Дневной стационар -- 45 -- Пенза Яснополянская ВА 3306 -- Крым Межводное ОВП 1819 -- Вологда Рентгенологическое отделение 5758 -- Уфа Пол-ка Николаевская -- 2008 - Astra Поликлиническое отделение №1 (ул. С. Перовской, д. 71) 48 -- Пенза Благодатский ФАП 3306 -- Крым Межводное ООВП 344 -- Хакасия Стомат 1001 -- Хакасия --761 -- Псков

-- для создания/удаления подразделения
 p_LpuUnit_Name_new varchar(50) := 'Полка вторая'; -- Ufa 'Стоматологическая поликлиника' -- Nakasia 'Здравпункты' -- Karelia 'Клинико-диагностическая лаборатория' -- Pskov 'Женская консультация №1 стационар' --Astra -- Крым --'Яснополянская врачебная амбулатория' -- Пенза 'Рентгенологическое отделение новое 22' -- Вологда
 p_LpuUnit_Name_old varchar(50) := 'Полка 2'; -- Ярослав -- Ufa 'Стоматологическая поликлиника' -- Nakasia 'Здравпункты' -- Karelia 'Клинико-диагностическая лаборатория' -- Pskov 'Женская консультация №1 стационар' --Astra -- Крым -- 'Яснополянская врачебная амбулатория' -- Пенза 'Рентгенологическое отделение' -- Вологда -- 'Поликлиника Николаевская ВА' --'Благодатский ФАП' -- здесь сохранить оригинальное название Подразделения

-- для теста Обновления mo_depart.update
 -- подразделение для редактирования
 p_LpuUnit_id2 bigint := 99560015007; -- Yarosl 5758 -- Ufa Поликлиника Николаевская ВА 1001 -- Nakasia Коммунаровская поликлиника 30919 -- Карелия Центр здоровья 761 -- Pskov поликлиника 276 -- Astra Женская консультация 2153 -- Крым ООВП см Новосельское
 p_LpuUnitProfile_fid_new bigint := 1043 ;-- Yarosl --Ufa Ambulatory
 -- а также для подготовки LpuUnit к create
 p_LpuUnitProfile_fid_old bigint := 1011; --Yarosl Амбулатории -- Ufa 1124 -- Nakasia 1189 -- Карелия Центры здоровья для взрослых --1005 --Pskov Консультативно-диагностические центры 1000 -- Astra Акушерско-гинекологические 1005 -- Крым, Пенза ООВП см Новосельское 1005 -- 1021 --Vologda 1005 -- Астра, Уфа, Крым 1175 -- Функциональной диагностики 1005 -- Амбулатории

-- для создания/удаления расписания
 p_LpuStaff_id bigint := 2; --Яросл 14 -- Уфа 94 -- Nakasia 9 -- Карелия 70 -- Pskov 81 -- Astra 55 -- 102 -- Пенза 55 -- Crimea 184 -- Vologda расписание №55 85 -- Vologda 14 -- Ufa 55 -- Crimea 69 -- Псков 20 -- Astra 94 -- Пенза 40 -- Хакасия
 p_LpuStaff_NumOld varchar(10) := '2'; -- Ярослав -- Ufa '2' -- Pskov '1' -- Astra '34' -- Пенза-- '55' --Vologda '1' --Астра, Пенза, Хакасия, Крым
 p_LpuStaff_NumNew varchar(10) := '3'; -- Вологда, Pskov нов '2' --Астра, Пенза, Хакасия
 p_LpuStaff_BeginDate_new timestamp := '20170101';
 p_LpuStaff_EndDate_new timestamp := '20171231';
 p_LpuStaff_BeginDate_old timestamp := '20180101';
 p_LpuStaff_EndDate_old timestamp := '20181231';

-- для обновления расписания
 -- LpuStaff_id = 336 -- Ufa 98 -- Nakasia 73 -- Karelia 69 -- Pskov

```

p_Staff_id varchar(10) := '22'; -- Ярослав Врач-гастроэнтеролог 42193 -- Ufa Врач-терапевт
8711 -- Hakasia 60041 -- Karelia 16153 -- Pskov
p_Staff_RateNew varchar(10) := '10'; -- Ярослав Karelia, Ufa, Pskov
p_Staff_RateOld varchar(10) := '100'; -- Ярослав Karelia, Ufa 4 -- Pskov

-- для Обновления mo_equipment.update
p_MedProductCard_id2 bigint := 135854 ;
p_MedProductCard_id bigint := 135853;
p_MedProductCard_SerialNumber_old varchar(100) := '2';
p_MedProductCard_SerialNumber_new varchar(100) := '3';
-- для создания/удаления mo_equipment.delete
p_MedProductCard_InventoryNumber_old varchar(100) := '11';
p_MedProductCard_InventoryNumber_new varchar(100) := '12';
p_RegCertificate_id bigint := 80158;
p_MedProductOrg_id_old bigint := 6880000889;
p_MedProductOrg_id_new bigint := 68320115679;

p_RC int;
p_FRMOSession_Name varchar(100);
p_FRMOSession_begDT timestamp;
Error_Code varchar;
Error_Message varchar(4000);

p_i int := 16;
p_count int := 22;

p_timestamp timestamp := dbo.tzGetDate();
p_FRMOSession_id bigint := null;
p_FRMOSessionActionType_Code int := null;
p_FRMOSessionHist_doneDT timestamp := null;
p_FRMOSessionHist_pid bigint := null;
p_FRMOSessionHist_id bigint := null;
p_err varchar;

begin
while (p_i < p_count)
loop
-- ТАКТ 1 обработки данных при массовой выгрузке
if (p_i % 2 = 0) then
RAISE notice 'такт 1 % %', p_i, GetDate() ;
-- mo.update
-- присваиваем новое значение
update dbo.Lpu set LpuPmuType_id = p_LpuPmuType_nid where Lpu_id=p_Lpu_id;

-- mo_building.update
-- присваиваем новое значение
update dbo.LpuBuildingPass set LpuBuildingPass_YearBuilt =
p_LpuBuildingPass_YearBuilt_new where LpuBuildingPass_id=p_LpuBuildingPass2_id;

-- mo_building.create+delete
-- присваиваем новое название и адрес
update dbo.LpuBuildingPass set
LpuBuildingPass_Name = p_LpuBuildingPass_Name_new || ' '||p_i::varchar,
LpuBuildingPass_FRMOName = p_LpuBuildingPass_Name_new || ' '||p_i::varchar,
MOArea_id = p_MOArea_nid
where LpuBuildingPass_id=p_LpuBuildingPass_id;

-- mo_depart.update
-- присваиваем новое значение
update dbo.LpuUnit set LpuUnitProfile_fid = p_LpuUnitProfile_fid_new where
LpuUnit_id=p_LpuUnit_id2;

```

```

-- тест mo_depart.delete+create
-- присваиваем новое название
update dbo.LpuUnit set LpuUnit_Name = p_LpuUnit_Name_new + ' '+LTRIM(str(p_i)) where
LpuUnit_id=p_LpuUnit_id;
--1.2.643.5.1.13.13.12.2.35.3259.0.33920 Vologda old
--1.2.643.5.1.13.13.12.2.35.3259.0.34484 Vologda new

-- тест mo_staff.delete
-- присваиваем новый номер
update dbo.LpuStaff set
LpuStaff_Num = p_LpuStaff_NumNew || p_i::varchar,
LpuStaff_begDate = p_LpuStaff_BeginDate_new,
LpuStaff_ApprovalDT = p_LpuStaff_BeginDate_new,
LpuStaff_endDate = p_LpuStaff_EndDate_new
where LpuStaff_id = p_LpuStaff_id;

-- mo_staff.update
-- присваиваем новое значение
update persis.Staff set Rate = p_Staff_RateNew where Staff.id = p_Staff_id;

-- mo_equipment.update
-- присваиваем новое значение
update passport.MedProductCard set MedProductCard_SerialNumber =
p_MedProductCard_SerialNumber_new where MedProductCard_id=p_MedProductCard_id2;

-- тест mo_equipment.delete+create
-- присваиваем новый инвентарный номер
update passport.MedProductCard set MedProductCard_InventoryNumber =
p_MedProductCard_InventoryNumber_new where MedProductCard_id=p_MedProductCard_id;
update passport.RegCertificate set Org_prid = p_MedProductOrg_id_new where
RegCertificate_id = p_RegCertificate_id;

else
-- ТАКТ 2 обработки данных при массовой выгрузке
-- mo_building.update
RAISE notice 'такт 2 % %', p_i, GetDate() ;
-- mo.update
-- возвращаем настоящее значение
update dbo.Lpu set LpuPmuType_id = p_LpuPmuType_id where Lpu_id=p_Lpu_id;

-- возвращаем настоящее значение
update dbo.LpuBuildingPass set LpuBuildingPass_YearBuilt =
p_LpuBuildingPass_YearBuilt_old where LpuBuildingPass_id=p_LpuBuildingPass2_id;

-- mo_building.create+delete
-- возвращаем настоящее название
update dbo.LpuBuildingPass set
LpuBuildingPass_Name = p_LpuBuildingPass_Name_old,
LpuBuildingPass_FRMOName = p_LpuBuildingPass_Name_old,
MOArea_id = p_MOArea_id
where LpuBuildingPass_id=p_LpuBuildingPass_id;

-- mo_depart.update
-- возвращаем прежнее значение
update dbo.LpuUnit set LpuUnitProfile_fid = p_LpuUnitProfile_fid_old where
LpuUnit_id=p_LpuUnit_id2;

-- тест mo_depart.delete+create
-- возвращаем настоящее название

```

```

update dbo.LpuUnit set LpuUnit_Name = p_LpuUnit_Name_old where
LpuUnit_id=p_LpuUnit_id;
--1.2.643.5.1.13.13.12.2.35.3259.0.34485 Vologda new 2

-- тест mo_staff.delete
-- возвращаем прежний номер
update dbo.LpuStaff set
LpuStaff_Num = p_LpuStaff_NumOld,
LpuStaff_begDate = p_LpuStaff_BeginDate_old,
LpuStaff_ApprovalDT = p_LpuStaff_BeginDate_old,
LpuStaff_endDate = p_LpuStaff_EndDate_old
where LpuStaff_id = p_LpuStaff_id;

-- mo_staff.update
-- возвращаем старое значение
update persis.Staff set Rate = p_Staff_RateOld where Staff.id = p_Staff_id;

-- mo_equipment.update
-- возвращаем настоящее значение
update passport.MedProductCard set MedProductCard_SerialNumber =
p_MedProductCard_SerialNumber_old where MedProductCard_id=p_MedProductCard_id2;

-- тест mo_equipment.delete+create
-- возвращаем настоящий инвентарный номер
update passport.MedProductCard set MedProductCard_InventoryNumber =
p_MedProductCard_InventoryNumber_old where MedProductCard_id=p_MedProductCard_id;
update passport.RegCertificate set Org_prid = p_MedProductOrg_id_old where
RegCertificate_id = p_RegCertificate_id;
end if;

/*select LpuBuildingPass_Name, LpuBuildingPass_YearBuilt, LpuBuildingPass_BuildingIdent
from dbo.LpuBuildingPass where LpuBuildingPass_id in (p_LpuBuildingPass_id,
p_LpuBuildingPass2_id);

select LpuUnit_Name, LpuUnitProfile_fid, LpuUnit_IsHomeVisit, UnitDepartType_fid,
LpuUnit_Phone
from dbo.LpuUnit where LpuUnit_id in (p_LpuUnit_id, p_LpuUnit_id2);

select * from dbo.v_LpuStaff where Lpu_id = p_Lpu_id;

select mc.MedProductCard_InventoryNumber, mc.MedProductCard_SerialNumber, rc.Org_prid
from passport.MedProductCard mc
left join passport.RegCertificate rc on rc.MedProductCard_id = mc.MedProductCard_id
where mc.MedProductCard_id in (p_MedProductCard_id, p_MedProductCard_id2);*/

p_FRMOSession_Name := 'frmo test '||p_i::varchar(2);
p_FRMOSession_begDT := dbo.tzGetDate();

SELECT s.FRMOSession_id, st.FRMOSessionActionType_Code,
st.FRMOSessionHist_doneDT, st.FRMOSessionHist_pid
into
p_FRMOSession_id,p_FRMOSessionActionType_Code,p_FRMOSessionHist_doneDT,p_FRM
OSessionHist_pid
FROM dbo.FRMOSession s
left join lateral (select a.FRMOSessionActionType_Code, h.FRMOSessionHist_doneDT,
h.FRMOSessionHist_pid
from dbo.FRMOSessionHist h
inner join dbo.FRMOSessionActionType a on a.FRMOSessionActionType_id =
h.FRMOSessionActionType_id
where s.FRMOSession_id = h.FRMOSession_id

```

```

order by h.FRMOSessionHist_insDT desc
limit 1 ) st on true
WHERE (1 = 1) and s.FRMOSession_endDT is NULL and s.FRMOSession_Service = 'FRMO'
and s.Lpu_id = p_Lpu_id
limit 1;

if p_FRMOSession_id is null then
select fnc.Error_Code,fnc.Error_Message,FRMOSession_id
into Error_Code,Error_Message,p_FRMOSession_id
from dbo.p_FRMOSession_ins (
FRMOSession_id := p_FRMOSession_id ,
FRMOSession_Name := p_FRMOSession_Name,
FRMOSession_begDT := p_FRMOSession_begDT,
Lpu_id := p_Lpu_id,
FRMOSession_Service := 'FRMO',
pmUser_id := p_pmUser_id) fnc;

if (Error_Code is not null)
then
RAISE USING ERRCODE = error_code,MESSAGE =Error_Message;
end if;
else
RAISE '*** ERROR CREATING SESSION';
end if;

RAISE notice 'FRMOSession_id=% %', p_FRMOSession_id,
p_FRMOSessionActionType_Code;

RAISE notice 'WAITING VERIFICATION PHASE %', GetDate() ;
p_FRMOSessionHist_id := null;

while (p_FRMOSessionHist_id is null) loop
-- select 'WAITING VERIFICATION PHASE'
SELECT pg_sleep(1);
select h.FRMOSessionHist_id
into p_FRMOSessionHist_id
from dbo.FRMOSessionHist h
where p_FRMOSession_id = h.FRMOSession_id and h.FRMOSessionActionType_id = 10057;
end loop;
RAISE notice 'WAITING ERRORS %', GetDate();
SELECT pg_sleep(1);
RAISE notice 'FRMOSessionHist_id=%', p_FRMOSessionHist_id;

if (exists (select * FROM dbo.FRMOSessionError fe WHERE fe.FRMOSessionHist_id =
p_FRMOSessionHist_id)) then
RAISE notice 'DELETING ERRORS';
delete FROM dbo.FRMOSessionError WHERE FRMOSessionHist_id =
p_FRMOSessionHist_id;
end if;

while ((SELECT s.FRMOSession_success FROM dbo.FRMOSession s
where p_FRMOSession_id = s.FRMOSession_id limit 1) is NULL)
loop
-- select 'WAITING SESSION COMPLETED'
SELECT pg_sleep(3);
end loop;

RAISE notice 'SESSION № % IS DONE %',p_i, GetDate();

SELECT coalesce(s.FRMOSession_comment,'') into p_err FROM dbo.FRMOSession s

```



```
where p_FRMOSession_id = s.FRMOsession_id  
limit 1;
```

```
if (p_err <> '') then  
p_err:= '*** ERROR EXECUTING SESSION '|| p_err;  
raise '%',p_err;  
end if;
```

```
p_i := p_i + 1;  
end loop;  
end;  
$$;
```

```
--1.2.643.5.1.13.13.12.2.2.145.0.35074
```

В течение циклов происходит редактирование, создание и удаление объектов структуры МО

Указываются параметры:

12. Начальный счетчик циклов p_i int = 0

13. Количество циклов p_count int = 20

14. МО: p_Lpu_id = 10010833 -- 13004038 -- 10011030 -- 13101710

15. пользователь: p_pmUser_id = 1

-- для теста Обновления mo.update

- p_LpuPmuType_id bigint = 3
- p_LpuPmuType_nid bigint = 35

-- здание для создания нового /удаления, которое не используется в подразделениях и медоборудовании

- p_LpuBuildingPass_id bigint = 1874
- p_MOArea_id bigint = 10004 -- площадка здания

-- площадка для нового здания

- p_MOArea_nid bigint = 10003

-- для теста создания/удаления здания

- p_LpuBuildingPass_Name_new varchar(50) = 'Здание в парке'
- p_LpuBuildingPass_Name_old varchar(50) = 'Здание в саду'

-- для теста Обновления mo_building.update

-- здание для редактирования, которое можно использовать в подразделениях

- p_LpuBuildingPass2_id bigint = 1873
- p_LpuBuildingPass_YearBuilt_new timestamp= '20180101'
- p_LpuBuildingPass_YearBuilt_old timestamp= '2003-01-01 00:00:00.000'

-- подразделение для создания/удаления, которое не используется в штатке

- p_LpuUnit_id bigint = 99560015008 -- для создания/удаления подразделения
- p_LpuUnit_Name_new varchar(50) = 'Полка вторая'
- p_LpuUnit_Name_old varchar(50) = 'Полка 2'

- для теста Обновления mo_depart.update
- подразделение для редактирования
- p_LpuUnit_id2 bigint = 99560015007
- p_LpuUnitProfile_fid_new bigint = 1043
- p_LpuUnitProfile_fid_old bigint = 1011

- для создания/удаления расписания
- p_LpuStaff_id bigint = 2
- p_LpuStaff_NumOld varchar(10) = '2'
- p_LpuStaff_NumNew varchar(10) = '3'
- p_LpuStaff_BeginDate_new timestamp= '20170101'
- p_LpuStaff_EndDate_new timestamp= '20171231'
- p_LpuStaff_BeginDate_old Datetime = '20180101'
- p_LpuStaff_EndDate_old Datetime = '20181231'

- для обновления расписания
- p_Staff_id varchar(10) = 22
- p_Staff_RateNew varchar(10) = 10
- p_Staff_RateOld varchar(10) = 100

16 Postgre ФРМР. Отчет о тестировании и массовая выгрузка. Подробная инструкция.

- [Общие сведения](#)
- [Подготовка.](#)
- [Проверка ФРМР.](#)
 - [Создание врача.](#)
 - i. [Заполнение персональных данных человека.](#)
 - ii. [Заполнение данных об образовании](#)
 - iii. [Заполнение данных о месте работы.](#)
- [Составление отчета о тестировании.](#)
- [Массовая выгрузка.](#)
 - a. [Проведение Массовой выгрузки.](#)
 - b. [Составление отчета](#)
- [SQL Scripts](#)
 - [Проверка и подготовка Сессии.](#)
 - [Запуск методов ФРМР:](#)

- [Работа с данными](#)
- [Проверка данных Врача](#)

16.1 Общие сведения

Массовая выгрузка ФРМР подразумевает под собой передачу данных сразу по нескольким врачам. Как правило, для тестирования создаются 100 тестовых людей, из которых 20 людей являются врачами, и 80 - массовой. Проводится массовая выгрузка только после успешно проведенной выгрузки ФРМО, т.к при выгрузке так же передается значение OID структурного подразделения. Так же следует учитывать, что при выгрузке ФРМО так же должны быть выгружены штатное расписание и должности, при этом количество ставок на должности должно быть не менее 100.

Сама массовая выгрузка делится на 3 этапа:

- Подготовка
- Проверка ФРМР.
- Массовая выгрузка

16.2 Подготовка.

Перед проведение проведением массовой выгрузки и началом работы с новым регионом необходимо будет выполнить следующие шаги:

- Установить [DBeaver](#) или любой аналогичный клиент для работы с БД. [Подробнее, как установить DBeaver](#)
- Запросить доступ к БД региона, на котором проводится массовая выгрузка. При этом:
 - Если выгрузка проводится с тестового сервера региона, то доступ необходим к тестовой БД
 - Если выгрузка проводится с рабочего сервера региона, то доступ необходим к рабочей БД.
 - В обоих случаях, доступ к БД необходим с правами на чтение, редактирование, добавление, удаление
- Подключиться через DBeaver или аналогичный клиент для работы с БД к той БД, к которой был предоставлен доступ. [Подробнее о том, как настроить подключение к DBeaver](#)

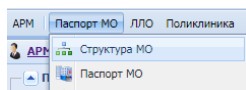
После выполнения этих шагов можно переходить к дальнейшим этапам.

16.3 Проверка ФРМР.

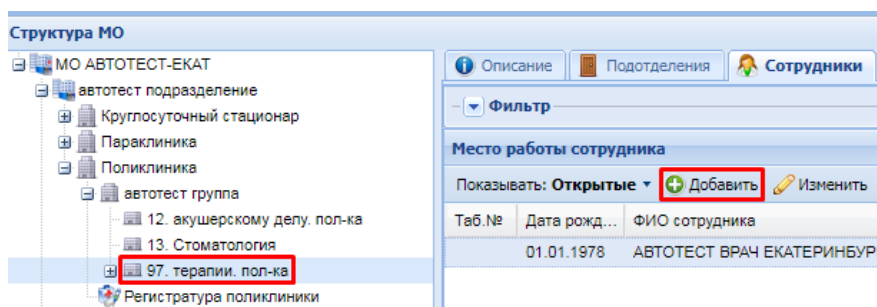
Данный необходим для проверки работы ФРМР и подразумевает под собой создание 1 тестового врача, выгрузка его на портал и составление отчета о результатах.

16.3.1 Создание врача.

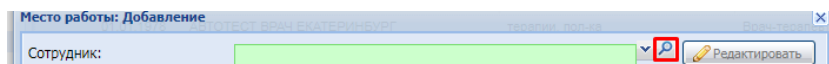
При проверке ФРМР создается только 1 врач. Для этого, зайти и авторизоваться в РМИС Промед. В верхнем меню найти кнопку "Паспорт МО", в выпадающем меню выбрать "Структура МО":



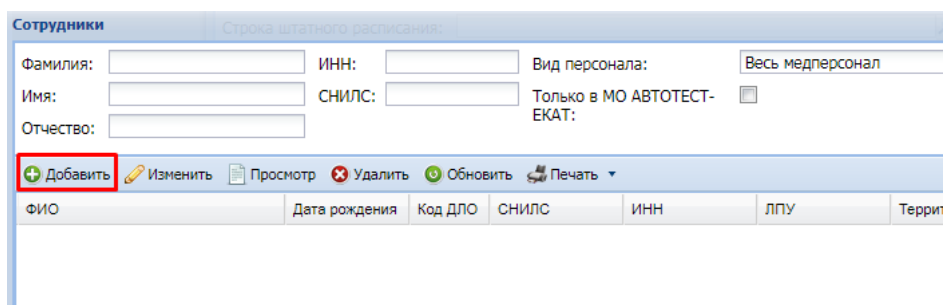
Раскрываем дерево МО и выбираем подразделение МО. Нажимаем кнопку "Добавить"



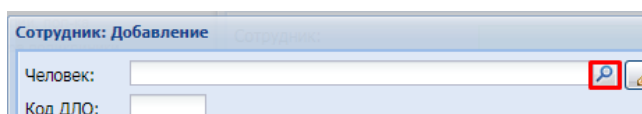
В открывшейся форме "Место работы: Добавление" нажимаем на изображение лупы напротив поля сотрудник:



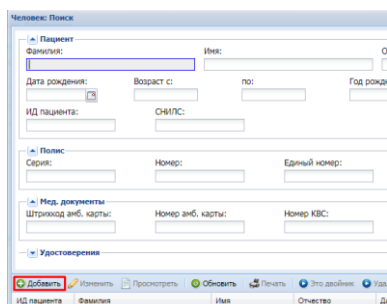
На форме "Сотрудники" снова нажимаем добавить:



На форме "Сотрудники: Добавление" ищем изображение лупы напротив поля "Человек" и нажимаем на него:



И последним шагом в этой цепочке - нажать на кнопку "Добавить" на форме "Человек: Поиск"



16.3.1.1 Заполнение персональных данных человека.

На форме "Человек: Поиск" заполняем следующие поля:

2. ФИО человека: ТЕСТ ФРМР ОДИН
3. Дата рождения: любая дата, например 01.01.1980
4. Телефон человека: любой телефон, например: +71111111111
5. Пол человека.
6. СНИЛС человека: СНИЛС обязательно должен быть валидным, и не должен использоваться ранее для выгрузки на этом регионе. Валидность СНИЛС проверяется по [формуле](#), или можно воспользоваться [генератором](#) (СНИЛС в генераторе получаются почти всегда валидными. Но из-за почти всегда - лучше проверять)

7. Социальный статус.
8. Адрес проживания и Адрес регистрации. Лучший вариант при заполнении - указывать ул.Ленина, номер дома 999, квартира 999,
9. Заполняются данные полиса. Важными при заполнении параметрами будут - номер, который тоже должен быть валидным(используем [генератор](#)).
10. Заполняются паспортные данные. При заполнении серии и номера необходимо учитывать, что бы серия и номер не пересекались с серией и номером реально существующих людей. Например, если на регионе есть люди, серия и номер которых начинаются на 5*** и 1*****, то серия и номер для ПД создаваемого челока не должны начинаться с указанных цифр. Определить диапазон можно простым SQL запросом в таблицу v_personstate.
11. Заполняется место работы. Местом работы указывается МО, на которую добавляется врач. Должность должна соответствовать той должности, на которую добавляется врач.
12. ИНН человека. Он тоже должен быть валидным, и высчитывается по [формуле](#). Или используется все тот же генератор.
13. Проверяем еще раз введенные данные и сохраняем человека.

Пример итогового результат заполнения формы "Человек: Добавление":

16.3.1.2 Заполнение данных об образовании

После сохранения человека необходимо добавить информацию об образовании врача. Для этого на форме "Сотрудники: Добавление" заполняются:

- На вкладке Квалификационная категория, добавляется 1 квалификационная категория. Специальность выбирается с id = 13. Категория - высшая. Дату прохождения указываем 2017 год

- На вкладке Специальности по диплому. Добавляются специальность по диплому для Высшего и Среднего образования.

- Выбирается учебное заведение: примера нет, на каждом регионе будет какое то свое учебное заведение, которое зависит от справочников на регионе, как давно их обновили, от справочников на портале ФРМО и как давно их обновили.
- Год поступления/год окончания - должен попадать в период работы учебного заведения. Например, если УЗ - работало с 1995 по 2005, то врач должен учиться в период с 2001 по 2004
- Серия диплома - случайные 4 цифры. ***ВАЖНО* ЦИФР ДОЛЖНО БЫТЬ - 4. НЕ 3, НЕ 5, А ИМЕННО 4**
- Номер диплома - случайные 6(для среднего образования) и случайные 7(для высшего образования) цифр.
- Дата выдачи диплома. Не должна превышать дату работы УЗ.
- Тип образования - Среднее образования для Среднего образования. Высшее образование - для Высшего образования.
- Специальность - Врач с кодом 15
- Квалификация - Врач общей практики.

Среднее образование	Высшее образование

- На вкладке Послевузовское образование. Создается 1 послевузовское образование и заполняются поля:
 - Выбирается учебное заведение: примера нет
 - Даты начала, окончания, получения диплома. Главное - что бы даты попадали в диапазон работы УЗ
 - Серия и номер диплома - случайные цифры. Важно, что бы Серия была - не больше и не меньше 4 цифр. Номер диплома - должен быть 5 цифр.
 - Тип образования - аспирантура
 - Специальность - для интернатуры выбираем специальность с кодом 75. Для аспирантуры - Микробиология
 - Ученая степень - Доктор медицинских наук

Пример заполнения Послевузовского образования:

- На вкладке Курсы Переподготовки создаем запись об 1 курсе. Заполняются следующие поля:
 - Выбирается учебное заведение: примера нет
 - Год прохождения. Так же главное, что бы попадало в период действия УЗ
 - Количество часов - 360
 - Серия и номер документа. Рандомные цифры, но важно, что бы Серия была не более и не менее 3х цифр, Номер - 4 цифры.
 - Дата получения документа.
 - Специальность - выбираем специальность с кодом 3200

Пример заполнения Курса Переподготовки

- На вкладке Курсы Повышения Квалификации создаем 1 запись о повышении квалификации. Заполняем следующие поля:
 - Выбирается учебное заведение: примера нет
 - Цикл - указываем 1 цикл
 - Год прохождения. И он снова должен попадать в период действия УЗ
 - Количество часов. Указываем 240
 - Серия и Номер документа. Рандомные цифры, но ВАЖНО - Серия должна быть 3 цифры, не больше и не меньше. Номер документа должен быть не больше и не меньше 5 цифр.
 - Дата получения документа. Как и ранее, должен попадать в действие УЗ
 - Специальность - выбираем специальность с кодом 17

Пример заполнения Курса Повышения Квалификации

- На вкладке Сертификаты создается 1 запись о сертификате. Заполняются следующие поля:
 - Выбирается учебное заведение: примера нет
 - Серия и Номер сертификата. Рандомные цифры, НО! Сертификат должен быть - 1 цифра, Номер Сертификата - 3 цифры.
 - Специальность - выбираем специальность с кодом 36.

- Дата сдачи экзамена и Дата получения сертификата. Как и все заполняемые ранее даты должна попадать в период работы УЗ

Пример заполнения данных о Сертификате:

7. На вкладке Награды. Добавляем 1 награду, заполняем все 4 поля и не важно, какими данными.

Пример заполнения данных о Награде

Дополнительные сведения не заполняются, как и Аккредитация (Федералы убрали необходимость в аккредитации и с 2019 года она ими при выгрузке не принимается).

После добавления всех необходимых данных об образовании сохраняем Врача и переходим к заполнению следующих форм.

16.3.1.3 Заполнение данных о месте работы.

При заполнении данных о месте работы Врача учитываем, что у Врача не должно быть других ставок. Заполняются следующие поля:

- Запись на начало - указываем Принят
- Прибыл - Из мед. организации данного субъекта Российской Федерации
- Номер приказа - 1к
- Дата приема - не должна совпадать ни с одной датой, указанной в данных об обучении.

Пример:

- Тип занятия должности - всегда должна быть основная должность!
- Ставка - 1

- Режим работы - работающий на постоянной работе.
- Отношение к военной службе - Военнообязанный

Пример:

16.4 Составление отчета о тестировании.

После создания Врача и добавления его в структуру можно приступить непосредственно к выгрузке.

Для этого через DBeaver запускаем последовательно SQL скрипты

- проверка таблицы для хранения Врача
- создание таблицы хранения Врача (опционально, если таблицы нет на регионе)
- добавление данных Врача
- проверка данных Врача. Если какие то данные отличаются/отсутствуют - исправляем и проверяем еще раз.
- **Скрипты ниже**
- комментируем данные Врача (все, кроме person)
- Запускаем скрипт create
- Переходим в логи. У каждого сервера свой адрес для доступа к логам. В самих логах необходимо найти папку frmг/дата_отправки.log. Ищем отправленный запрос. Находим полученный синхронный ответ. Копируем message_id, и ищем по нему асинхронный ответ. Если асинхронный ответ пришел без ошибок, то сохраняем все запросы и ответы по данному методу. **Важно:** Отправленный запрос, синхронный ответ, асинхронный ответ, асинхронный запрос, каждый должен быть в отдельно xml файле, т.е должно получиться 4 файла. **В итоге:** Должен получиться архив с файлами XML и для каждого запрос/ответа свой XML.

Пример названия файлов для одного метода.

 person.create	Документ XML
 person.create.sync_async	Документ XML
 person.create_async	Документ XML
 person.create_sync	Документ XML

- Если после отправки в ответе были получены ошибки, то внимательно читаем, в чем заключается ошибка и исправляем. При этом у Врача перед следующим запуском необходимо будет изменить СНИЛС и ПД(если ошибка случалась после метода person_document.create)
- Переходим в DBeaver, комментируем person и раскомментируем common (Среднее образование)(комментируем и раскомментируем строго по порядку, т.е сначала 1 метод в 1 блоке, потом 1 метод во втором блоке и т.д)
- Повторяем пункты 6,7,8(в 8 пункте меняется каждый раз метод).

- Повторяем, пока по всем данным не будет выполнен create
- ????
- Profit! Все методы create успешно выполнены, ошибок нет и можно перейти к следующему методу - update
- Повторяем пункты 6(только будет запуска скрипта update), 7, 8
- ???
- Если ошибок не было, то переходим на метод read и снова повторяем пункты 6, 7, 8
- После выполнения всех read раскоментируем все строки и запускаем delete. При этом по person и qualification

№	Метод
1	create
2	update
3	read
4	delete

16.5 Массовая выгрузка.

Проведение Массовой выгрузки по шагам ничем не отличается от этапа проверки ФРМР. За исключением того, что Врачей необходимо будет создать 20+ раз.

Остальные 80+ представляют собой массовку, которая не добавляется в штатную структуру.

При создании врачей все данные, за исключением СНИЛС, ПД и Серий и Номеров документов должны быть одинаковы. Т.е все должны жить в одной квартире по одному адресу, закончить одно и тоже УЗ по одной и той же специальности, работать в одной и той же МО на одной и тоже ставке.

Если на каком либо враче данные отличаются от остальных при проверке - срочно меняем на правильные.

16.5.1 Проведение Массовой выгрузки.

Массовая выгрузка проводится аналогично шагам, указанным в этапе Проверка ФРМР.

Единственное отличие заключается в том, что сначала все действия проводятся над Врачами, массовка предварительно комментится в 'zzz'.

После успешного завершения всех действий над Врачами массовка раскоментируется и выполняется(Врачей при этом можно закоментировать в *название_метода1* или вовсе удалить). После выполнения person.create проверяем, что у нас при отправке массовой вернулось не менее 80 успешных ответов(т.е не должно быть ошибок).

16.5.2 Составление отчета

Т.к при массовой выгрузке отправляется очень много данных, то ответы в xml не собираются.

Вместо этого фиксируем общее время по МСК старта(т.е когда был запущен первый метод) и общее время завершения(т.е когда все методы выполнили, получили последний ответ и больше ничего запускать не надо).

При запуске метода - фиксируем время по МСК, когда был запущен метод.

16.6 SQL Scripts

Список всех используемых в работе SQL Скриптов.

16.6.1 Проверка и подготовка Сессии.

--проверяем, есть ли ФРМП/ФРМО сессия на сервере

```
select * from FRMRIntegrationSession
```

```
select * from FRMOSession
```

----создание сессии при проверке, если ее не нашли.

```
do
$$
DECLARE FRMOSessionActionType_id BIGINT;
Error_Code VARCHAR;
Error_Message VARCHAR(4000);
begin
select fnc.Error_Code,fnc.Error_Message
into Error_Code,Error_Message
from dbo.p_FRMRIntegrationSession_ins(
FRMOSession_id := ::bigint,--подставить id найденной/созданной сессии, -- bigint
FRMRIntegrationSession_isSuccess := 2::bigint, -- bigint
-- FRMRSession_Guid := NULL, -- uniqueidentifier
--FRMRIntegrationSession_ErrorText: = "", -- varchar(200)
lpu_id := ::bigint,--подставить lpu_id, -- bigint
lpu_oid := ::varchar, --подставить OID , -- varchar(256)
FRMRIntegrationSession_isUsed := 2::bigint, -- bigint
FRMOSessionActionType_id:= 10053::bigint, -- bigint
pmUser_id := 1::bigint) fnc;
if (Error_Code is not null)
then
RAISE USING ERRCODE = error_code,MESSAGE =Error_Message;
end if;
end;
$$;
```

16.6.2 Запуск методов ФРМП:

--выполнение create

```
do
$$
DECLARE
Error_Code VARCHAR;
Error_Message VARCHAR(4000);
begin
select fnc.Error_Code,fnc.Error_Message
into Error_Code,Error_Message
from dbo.p_FRMRIntegrationSession_upd (FRMRIntegrationSession_id := ::bigint, -- bigint
FRMOSession_id := ::bigint, -- bigint
lpu_id := ::bigint,
lpu_oid:=::varchar,-- varchar
FRMRIntegrationSession_isUsed:=NULL,
FRMOSessionActionType_id:=10054::bigint,
pmUser_id := 1::bigint) fnc;
if (Error_Code is not null)
then
RAISE USING ERRCODE = error_code,MESSAGE =Error_Message;
end if;
```

```

end;
$$;

--update
do
$$
DECLARE
Error_Code VARCHAR;
Error_Message VARCHAR(4000);
begin
select fnc.Error_Code,fnc.Error_Message
into Error_Code,Error_Message
from dbo.p_FRMRIntegrationSession_upd (FRMRIntegrationSession_id := ::bigint, -- bigint
FRMOSession_id := ::bigint, -- bigint
lpu_id := ::bigint,
Lpu_oid:=::varchar,-- varchar
FRMRIntegrationSession_isUsed:=NULL,
FRMOSessionActionType_id:=10050::bigint,
pmUser_id := 1::bigint) fnc;
if (Error_Code is not null)
then
RAISE USING ERRCODE = error_code,MESSAGE =Error_Message;
end if;
end;
$$;

--read
do
$$
DECLARE
Error_Code VARCHAR;
Error_Message VARCHAR(4000);
begin
select fnc.Error_Code,fnc.Error_Message
into Error_Code,Error_Message
from dbo.p_FRMRIntegrationSession_upd (FRMRIntegrationSession_id := ::bigint, -- bigint
FRMOSession_id := ::bigint, -- bigint
lpu_id := ::bigint,
Lpu_oid:=::varchar,-- varchar
FRMRIntegrationSession_isUsed:=NULL,
FRMOSessionActionType_id:=10053::bigint,
pmUser_id := 1::bigint) fnc;
if (Error_Code is not null)
then
RAISE USING ERRCODE = error_code,MESSAGE =Error_Message;
end if;
end;
$$;

--delete
do
$$
DECLARE
Error_Code VARCHAR;
Error_Message VARCHAR(4000);
begin
select fnc.Error_Code,fnc.Error_Message
into Error_Code,Error_Message
from dbo.p_FRMRIntegrationSession_upd (FRMRIntegrationSession_id := ::bigint, -- bigint
FRMOSession_id := ::bigint, -- bigint
lpu_id := ::bigint,
Lpu_oid:=::varchar,-- varchar

```

```

FRMRIntegrationSession_isUsed:=NULL,
FRMOSessionActionType_id:=10052::bigint,
pmUser_id := 1::bigint) fnc;
if (Error_Code is not null)
then
RAISE USING ERRCODE = error_code,MESSAGE =Error_Message;
end if;
end;
$$;

```

16.6.3 Работа с данными

--Создание таблицы FRMRUpload. в ней хранится Врач

```

CREATE table if not exists tmp.FRMRUpload (
FRMRUpload_id bigint NOT NULL GENERATED BY DEFAULT AS IDENTITY,
FRMRUpload_Method varchar (60) ,
Snils_id varchar (60) NULL,
FRMRUpload_insDT timestamp NULL,
FRMRUpload_updDT timestamp null,
CONSTRAINT pk_FRMRUpload_id PRIMARY KEY (FRMRUpload_id)
);

```

--поиск врачей и вывод их снилсов

```

SELECT ''||Person_Snils||''||','||Person_SecNameR,* FROM v_personstate
WHERE Person_SurNameR='TECT' AND Person_FirNameR='ФПМР' /*AND
Person_SecName NOT LIKE '%тест'*/ ORDER BY Person_id
limit 1;

```

--добавление методов по врачам в таблицу. добавить метод в таблицу,
закомментировать строку и раскомментировать следующую

```

INSERT INTO tmp.FRMRUpload (FRMRUpload_Method, Snils_id)
select --'zzz'
'person',
--'document',
--'common',
--'address',
--'prof',
--'postgraduate',
--'ext',
--'cert',
--'accreditation',
--'qualification',
--'card',
--'nomination',
v_PersonState.Person_Snils
/*DISTINCT,
v_PersonState.Person_FirName,v_PersonState.Person_SecName,
v_PersonState.Person_SurName,v_PersonState.Sex_id,
v_PersonState.Person_BirthDay,v_PersonState.Person_Inn,
'1' as citizenShipId,'171' as oksmId, --Страна
MilitaryRelation_id,v_PersonState.Person_Phone*/
from dbo.v_PersonState
WHERE Person_Snils IN
(--подставить снилс Врача)
ORDER BY Person_id
limit 105;

```

```

--вывод добавленных методов
select * from tmp.FRMUpload
SELECT * FROM tmp.FRMUpload limit 10000;

--удаление всех методов, которые не называются 'zzz'
delete from tmp.FRMUpload
where FRMUpload_Method != 'zzz';

-----
--update для игнорирования методом.
--3
UPDATE tmp.FRMUpload SET FRMUpload_Method='card1' WHERE
FRMUpload_Method='card';
UPDATE tmp.FRMUpload SET FRMUpload_Method='qualification1' WHERE
FRMUpload_Method='qualification';
--2.5
UPDATE tmp.FRMUpload SET FRMUpload_Method='ext1' WHERE
FRMUpload_Method='ext';
--
UPDATE tmp.FRMUpload SET FRMUpload_Method='postgraduate1' WHERE
FRMUpload_Method='postgraduate';
UPDATE tmp.FRMUpload SET FRMUpload_Method='accreditation1' WHERE
FRMUpload_Method='accreditation';
UPDATE tmp.FRMUpload SET FRMUpload_Method='nomination1' WHERE
FRMUpload_Method='nomination';
--2
UPDATE tmp.FRMUpload SET FRMUpload_Method='prof1' WHERE
FRMUpload_Method='prof';
--1
UPDATE tmp.FRMUpload SET FRMUpload_Method='address1' WHERE
FRMUpload_Method='address';
UPDATE tmp.FRMUpload SET FRMUpload_Method='document1' WHERE
FRMUpload_Method='document';
UPDATE tmp.FRMUpload SET FRMUpload_Method='common1' WHERE
FRMUpload_Method='common';
--0
UPDATE tmp.FRMUpload SET FRMUpload_Method='person1' WHERE
FRMUpload_Method='person';

update tmp.FRMUpload set FRMUpload_Method='zzz' where
FRMUpload_Method='person';

--DELETE FROM tmp.FRMUpload WHERE FRMUpload_Method!='zzz';
-----

--update что бы метод увидел
--3
UPDATE tmp.FRMUpload SET FRMUpload_Method='card' WHERE
FRMUpload_Method='card1';
UPDATE tmp.FRMUpload SET FRMUpload_Method='qualification' WHERE
FRMUpload_Method='qualification1';
--2.5
UPDATE tmp.FRMUpload SET FRMUpload_Method='cert' WHERE
FRMUpload_Method='cert1';
UPDATE tmp.FRMUpload SET FRMUpload_Method='ext' WHERE
FRMUpload_Method='ext1';
--

```

```

UPDATE tmp.FRMRIUpload SET FRMRIUpload_Method='postgraduate' WHERE
FRMRIUpload_Method='postgraduate1';
UPDATE tmp.FRMRIUpload SET FRMRIUpload_Method='accreditation' WHERE
FRMRIUpload_Method='accreditation1';
UPDATE tmp.FRMRIUpload SET FRMRIUpload_Method='nomination' WHERE
FRMRIUpload_Method='nomination1';
--2
UPDATE tmp.FRMRIUpload SET FRMRIUpload_Method='prof' WHERE
FRMRIUpload_Method='prof1';
--1
UPDATE tmp.FRMRIUpload SET FRMRIUpload_Method='address' WHERE
FRMRIUpload_Method='address1';
UPDATE tmp.FRMRIUpload SET FRMRIUpload_Method='document' WHERE
FRMRIUpload_Method='document1';
UPDATE tmp.FRMRIUpload SET FRMRIUpload_Method='common' WHERE
FRMRIUpload_Method='common1';
--0
UPDATE tmp.FRMRIUpload SET FRMRIUpload_Method='person' WHERE
FRMRIUpload_Method='person1';

--массовка

```

```

update tmp.FRMRIUpload set FRMRIUpload_Method='person' where
FRMRIUpload_Method='zzz';

```

ВАЖНО. Запускать от меньшего к большему. Т.е начинаем с нуля и поднимаемся к 3

16.6.4 Проверка данных Врача

-----ищем и выводим данные для метода person

```

select distinct
Person_Snils,
Person_FirName,
Person_SecName,
Person_SurName,
Sex_id,
Person_BirthDay,
Person_Inn,
'1' as citizenShipId,
'171' as oksmId, --Страна
'2' AS MilitaryRelation_id,
Person_Phone
from dbo.v_personstate
where Person_Snils IN (SELECT snils_id FROM tmp.FRMRIUpload where
FRMRIUpload_Method='person')
ORDER BY Person_SecName;

```

-----ищем и выводим данные для метода document

```

SELECT
v_PersonState.Person_Snils,
v_PersonDocument.Document_Ser,
v_PersonDocument.Document_Num,
v_PersonDocument.PersonDocument_updDT,
v_Document.Document_begDate,
v_Document.Document_updDT,
v_Org.Org_Nick,
v_DocumentType.Frmr_id
FROM persis.MedWorker v_MedStaffFactCache
LEFT JOIN LATERAL(

```

```

SELECT lpu_id,MilitaryRelation_id FROM
persis.WorkPlace
INNER JOIN persis.v_Staff staff ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id
limit 1) AS staff on true
INNER JOIN lateral (select * from dbo.v_PersonState
where v_PersonState.Person_id = v_MedStaffFactCache.Person_id limit 1) v_PersonState on
true
INNER JOIN dbo.v_PersonDocument ON v_PersonDocument.Person_id =
v_PersonState.Person_id
INNER JOIN dbo.v_Document ON v_Document.Document_id =
v_PersonDocument.Document_id
INNER JOIN dbo.v_DocumentType ON v_DocumentType.DocumentType_id =
v_Document.DocumentType_id
left JOIN dbo.OrgDep ON OrgDep.OrgDep_id = v_Document.OrgDep_id
left JOIN dbo.v_Org ON v_Org.Org_id = OrgDep.Org_id
where v_PersonState.Person_Snils IN (SELECT snils_id FROM tmp.FRMRUpload where
FRMRUpload_Method='document')
AND v_Document.Document_begDate IS NOT NULL
AND Org_Nick IS NOT NULL
AND Person_Snils is not NULL
ORDER BY Person_Snils;

```

-----выводим данные для метода common

```

SELECT
Person_Snils,
coalesce (EducationInstitution.name,OtherEducationalInstitution) AS institution,
DiplomaSeries AS docSerial,--Серия аттестата docSerial
DiplomaNumber AS docNumber,--Номер аттестата docNumber
SpecialityDiploma.insDT AS docDate--Дата выдачи аттестата docDate
FROM persis.MedWorker v_MedStaffFactCache
LEFT JOIN LATERAL(
SELECT MedWorker_id,staff.Lpu_id FROM
persis.WorkPlace
INNER JOIN persis.v_Staff staff ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id
limit 1) AS staffon on true
INNER JOIN lateral (select * from dbo.v_PersonState
where v_PersonState.Person_id = v_MedStaffFactCache.Person_id limit 1) v_PersonState on
true
--LEFT JOIN dbo.v_MedPersonal ON v_MedPersonal.Person_id = v_PersonState.Person_id
--LEFT JOIN dbo.v_MedPersonal ON
LEFT JOIN persis.SpecialityDiploma ON SpecialityDiploma.MedWorker_id =
v\_MedStaffFactCache.id AND EducationType_id=2
LEFT JOIN persis.EducationInstitution ON EducationInstitution.id =
SpecialityDiploma.EducationInstitution_id
WHERE
v_PersonState.Person_Snils IN (SELECT snils_id FROM tmp.FRMRUpload where
FRMRUpload_Method='common')
AND v\_MedStaffFactCache.id IS NOT NULL
AND DiplomaSeries IS NOT NULL
AND DiplomaNumber IS NOT NULL
AND SpecialityDiploma.insDT IS NOT NULL
AND Person_Snils is not null
ORDER BY Person_Snils;

```

-----address

```

SELECT
v_PersonState.Person_Snils,

```



```

ua.Address_updDT as regDate,
CASE WHEN ua.Address_id=v_PersonState.UAddress_id THEN 1 ELSE 2 end as
addressTypeId,
ua.Address_id,
coalesce (KLTown_AOID,KLCity_AOID) AS aoidArea,--Идентификатор населенного пункта
по ФИАС aoidArea
KLStreet_AOID as aoidStreet,--Идентификатор улицы по ФИАС aoidStreet
ua.KLRgn_id as region,--Код региона region(id)
coalesce(KLTown_Name,KLCity_Name) AS areaName,--Наименование населенного пункта
areaName
coalesce(v_KLTown.KLSocr_Nick,v_KLCity.KLSocr_Nick) AS prefixArea,--Префикс
населенного пункта prefixArea
v_KLStreet.KLStreet_Name AS streetName,--Наименование улицы streetName
v_KLSocr.KLSocr_Nick,--Префикс улицы prefixStreet
dbo.ConcatPunkt(dbo.ConcatPunkt('д',CAST(Address_House AS VARCHAR(30))),",3,0),
dbo.ConcatPunkt(' к',CAST(Address_Corpus AS VARCHAR(30))),",3,0)","0,null) AS house,--
Номер дома, корпуса, строения в формате дХ кХ сХ house
Address_Flat AS flat--Номер квартиры flat
FROM persis.MedWorker v_MedStaffFactCache
LEFT JOIN LATERAL(
SELECT Ipu_id,MilitaryRelation_id
FROM persis.WorkPlace
INNER JOIN persis.v_Staff staff ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id
limit 1) AS staff on true
INNER JOIN lateral (select * from dbo.v_PersonState
where v_PersonState.Person_id = v_MedStaffFactCache.Person_id limit 1) v_PersonState on
true
left JOIN dbo.v_Address ua ON ua.Address_id=v_PersonState.UAddress_id OR
ua.Address_id=v_PersonState.PAddress_id
LEFT JOIN dbo.v_KLTown on v_KLTown.KLTown_id = ua.KLTown_id
LEFT JOIN dbo.v_KLCity on v_KLCity.KLCity_id = ua.KLCity_id
LEFT JOIN dbo.v_KLStreet ON v_KLStreet.KLStreet_id = ua.KLStreet_id
LEFT join dbo.v_KLSocr ON v_KLSocr.KLSocr_id = v_KLStreet.KLSocr_id
WHERE Person_Snils IS NOT NULL
AND ua.Address_updDT IS NOT NULL
AND KLStreet_AOID IS NOT null
AND Person_Snils IN (SELECT snils_id FROM tmp.FRMUpload where
FRMUpload_Method='address')
limit 50;

```

-----prof

```

SELECT
Person_Snils,
CASE WHEN EducationInstitution_id IS null THEN 2 ELSE 0 end as educPlace,
EducationType.Frmr_id AS educationTypeid , --уровень образования
CASE WHEN IsSpecSet=1 THEN 'true' ELSE 'false' end as isTargeted,
CASE WHEN IsSpecSet=1 THEN FRMPTerritories_id ELSE null end as targetedRegionId ,
YearOfAdmission AS beginYear, --год поступления
YearOfGraduation,
DocumentRecieveDate AS docDate, --дата выдачи
DiplomaSpeciality.frmr_id AS specId, --специальность
CASE WHEN EducationInstitution_id IS null THEN OtherEducationallInstitution ELSE null end
AS foreignInstitution,--Образовательная организация institution
DiplomaSeries AS docSerial,--Серия аттестата docSerial
DiplomaNumber AS docNumber,--Номер аттестата docNumber
SpecialityDiploma.insDT AS docDate,--Дата выдачи аттестата docDate
--EducationInstitution.code AS institutionId ,
Qualification_id as qualificationId

```

```

FROM persis.MedWorker v_MedStaffFactCache
LEFT JOIN LATERAL(
SELECT MedWorker_id,staff.Lpu_id FROM
persis.WorkPlace
INNER JOIN persis.v_Staff staff ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id
limit 1
) AS staff on true
INNER JOIN lateral (select * from dbo.v_PersonState
where v_PersonState.Person_id = v_MedStaffFactCache.Person_id limit 1) v_PersonState on
true
LEFT JOIN persis.SpecialityDiploma ON SpecialityDiploma.MedWorker_id =
v\_MedStaffFactCache.id AND EducationType_id IN (3,1,6,7)
INNER JOIN persis.DiplomaSpeciality ON DiplomaSpeciality.id =
SpecialityDiploma.DiplomaSpeciality_id
INNER JOIN persis.EducationType ON EducationType.id =
SpecialityDiploma.EducationType_id
left JOIN persis.EducationInstitution ON EducationInstitution.id =
SpecialityDiploma.EducationInstitution_id
WHERE v\_MedStaffFactCache.id IS NOT NULL
AND DiplomaSeries IS NOT NULL
AND DiplomaNumber IS NOT NULL
AND SpecialityDiploma.insDT IS NOT NULL
AND
Person_Snils IS NOT NULL
AND Person_Snils IN (-указываем СНИЛС выгружаемого врача)
limit 50;

```

-----postgraduate

```

SELECT Person_Snils, CASE WHEN PostgraduateEducation.EducationInstitution_id IS null
THEN 2 ELSE 0 end as educPlace,
EducationInstitution.code AS institutionId , PostgraduateEducationType_id AS
educationStageId,
CAST(YEAR(startDate) AS int) AS beginYear, --год поступления
CASE WHEN endDate IS null THEN 'true' ELSE 'false' end AS isStudying,
PostgraduateEducation.DiplomaSeries AS docSerial,--Серия аттестата docSerial
PostgraduateEducation.DiplomaNumber AS docNumber,--Номер аттестата docNumber
graduationDate AS docDate, --дата выдачи
CASE WHEN PostgraduateEducationType_id IN (3,4,5) AND endDate IS Not null THEN
AcademicMedicalDegree.Frmr_id
ELSE null end as academicDegreeId,
CASE WHEN PostgraduateEducationType_id IN (1,2) THEN Speciality.code ELSE
PostgraduateEducation.SpecialityAspirant_id end as allSpecId,
coalesce(PostgraduateEducation.ScienceBranch_id,
SpecialityAspirantScienceLink.ScienceBranch_id) AS scienceBranchId,
CASE WHEN PostgraduateEducationType_id IN (1,2) THEN Speciality.code ELSE null end as
specId,
CASE WHEN PostgraduateEducationType_id IN (3,4) THEN
PostgraduateEducation.SpecialityAspirant_id ELSE null end as doctSpecId,
--'408' as doctSpecId,
CASE WHEN PostgraduateEducationType_id not IN (3,4,5) AND
coalesce(PostgraduateEducation.IsSpecSet,44)=1
THEN 'true' WHEN PostgraduateEducationType_id not IN (3,4,5) AND
coalesce(PostgraduateEducation.IsSpecSet,44)=0
THEN 'false' ELSE null end as isTargeted, CASE WHEN
coalesce(PostgraduateEducation.IsSpecSet,44)=1
THEN FRMPTerritories_id ELSE null end as targetedRegionId
FROM persis.MedWorker v_MedStaffFactCache

```

```

LEFT JOIN LATERAL ( SELECT MedWorker_id,staff.Lpu_id FROM persis.WorkPlace
INNER JOIN persis.v_Staff staff ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id limit 1) AS staff on true
INNER JOIN dbo.v_PersonState ON v_PersonState.Person_id =
v_MedStaffFactCache.Person_id
inner join persis.PostgraduateEducation ON PostgraduateEducation.MedWorker_id =
v\_MedStaffFactCache.id
INNER JOIN persis.AcademicMedicalDegree ON AcademicMedicalDegree.id =
PostgraduateEducation.AcademicMedicalDegree_id
INNER JOIN persis.Speciality ON Speciality.id = PostgraduateEducation.Speciality_id
INNER JOIN persis.EducationInstitution ON EducationInstitution.id =
PostgraduateEducation.EducationInstitution_id
left join nsi.SpecialityAspirantScienceLink ON
SpecialityAspirantScienceLink.SpecialityAspirant_id =
PostgraduateEducation.SpecialityAspirant_id
WHERE Person_Snils IN (SELECT snils_id FROM tmp.FRMUpload where
FRMUpload_Method='postgraduate')
and v\_MedStaffFactCache.id IS NOT NULL
AND PostgraduateEducation.DiplomaSeries IS NOT NULL
AND PostgraduateEducation.DiplomaNumber IS NOT NULL
AND coalesce(Speciality.code,PostgraduateEducation.SpecialityAspirant_id) IS NOT null
AND Person_Snils IS NOT NULL
limit 50;

```

-----ext

```

SELECT
Person_Snils AS snils,
EducationInstitution.code AS institutionId,
'1' as profEducationKindId,
QualificationImprovementCourse.hourscount AS hoursCount,
DocumentSeries AS docSerial,
DocumentNumber AS docNumber,
QualificationImprovementCourse.DocumentRecieveDate AS docDate,
--Speciality.code,
DiplomaSpeciality.frmr_id AS code,
CASE WHEN position('/') in Speciality.name)-1>0 THEN
SUBSTRING(Speciality.name,0,position('/') in Speciality.name)-1) ELSE Speciality.name END
as name
FROM persis.MedWorker v_MedStaffFactCache
LEFT JOIN LATERAL(
SELECT MedWorker_id,staff.Lpu_id FROM
persis.WorkPlace
INNER JOIN persis.v_Staff staff ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id limit 1
) AS staff on true
INNER JOIN dbo.v_PersonState ON v_PersonState.Person_id =
v_MedStaffFactCache.Person_id
LEFT JOIN persis.SpecialityDiploma ON SpecialityDiploma.MedWorker_id =
v\_MedStaffFactCache.id AND EducationType_id IN (3,1,6,7)
INNER JOIN persis.DiplomaSpeciality ON DiplomaSpeciality.id =
SpecialityDiploma.DiplomaSpeciality_id
INNER JOIN persis.EducationType ON EducationType.id =
SpecialityDiploma.EducationType_id
INNER JOIN persis.QualificationImprovementCourse AS QualificationImprovementCourse ON
QualificationImprovementCourse.MedWorker_id = v\_MedStaffFactCache.id
LEFT join persis.Speciality AS Speciality ON Speciality.id =
QualificationImprovementCourse.Speciality_id
INNER JOIN persis.EducationInstitution ON EducationInstitution.id =
QualificationImprovementCourse.EducationInstitution_id

```

```

WHERE
v_MedStaffFactCache.id IS NOT NULL
and DocumentSeries IS NOT NULL
and DocumentNumber IS NOT NULL
AND Person_Snils IS NOT NULL
AND QualificationImprovementCourse.DocumentRecieveDate IS NOT NULL
and Person_Snils IN (SELECT snils_id FROM tmp.FRMRUpload where
FRMRUpload_Method='ext')
UNION
SELECT
Person_Snils AS snils,
EducationInstitution.code AS institutionId,
'3' as profEducationKindId,
RetrainingCourse.hourscount AS hoursCount,
DocumentSeries AS docSerial,
DocumentNumber AS docNumber,
RetrainingCourse.DocumentRecieveDate AS docDate,
--Speciality.code,
DiplomaSpeciality.frmr_id AS code,
CASE WHEN position('/') in Speciality.name)-1>0 THEN
SUBSTRING(Speciality.name,0,position('/') in Speciality.name)-1) ELSE Speciality.name END
as name
FROM persis.MedWorker v_MedStaffFactCache
LEFT JOIN LATERAL(
SELECT MedWorker_id,staff.Lpu_id FROM
persis.WorkPlace
INNER JOIN persis.v_Staff staff ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id
limit 1
) AS staff on true
INNER JOIN dbo.v_PersonState ON v_PersonState.Person_id =
v_MedStaffFactCache.Person_id
LEFT JOIN persis.SpecialityDiploma ON SpecialityDiploma.MedWorker_id =
v\_MedStaffFactCache.id AND EducationType_id IN (3,1,6,7)
INNER JOIN persis.DiplomaSpeciality ON DiplomaSpeciality.id =
SpecialityDiploma.DiplomaSpeciality_id
INNER JOIN persis.EducationType ON EducationType.id =
SpecialityDiploma.EducationType_id
INNER JOIN persis.RetainingCourse ON RetainingCourse.MedWorker_id =
v\_MedStaffFactCache.id
LEFT join persis.Speciality ON Speciality.id = RetainingCourse.Speciality_id
INNER JOIN persis.EducationInstitution ON EducationInstitution.id =
RetainingCourse.EducationInstitution_id
WHERE v\_MedStaffFactCache.id IS NOT NULL
AND DocumentSeries IS NOT NULL
AND DocumentNumber IS NOT null
AND Person_Snils IS NOT NULL
AND RetrainingCourse.DocumentRecieveDate IS NOT NULL
and Person_Snils IN (SELECT snils_id FROM tmp.FRMRUpload where
FRMRUpload_Method='ext')
limit 50;

```

-----cert

```

SELECT
Certificate.updDT,
Person_Snils,
EducationInstitution.code AS institutionId,
Speciality.code AS specId,
Certificate_ExamDate as examDate,

```

```

CertificateReceipDate AS passDate,
CertificateSeries as certSerial,
CertificateNumber AS certNumber
FROM persis.MedWorker v_MedStaffFactCache
LEFT JOIN LATERAL
(SELECT MedWorker_id,staff.Lpu_id FROM
persis.WorkPlace
INNER JOIN persis.v_Staff staff ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id
limit 1
) AS staff on true
INNER JOIN dbo.v_PersonState ON v_PersonState.Person_id =
v_MedStaffFactCache.Person_id
INNER JOIN persis.Certificate ON Certificate.MedWorker_id = v\_MedStaffFactCache.id
LEFT join persis.Speciality AS Speciality ON Speciality.id = Certificate.Speciality_id
INNER JOIN persis.EducationInstitution ON EducationInstitution.id =
Certificate.EducationInstitution_id
WHERE
--v_PersonState.Person_Snils IN (SELECT snils_id FROM tmp.FRMRUpload where
FRMRUpload_Method='cert')
Person_Snils IN (--указать СИЛС выгружаемых врачей)
-- and CertificateNumber IS NOT NULL
--AND Certificate_ExamDate IS NOT NULL
--AND Person_Snils IS NOT NULL
--AND EducationInstitution_id IS NOT NULL
--AND Speciality.code IS NOT NULL
limit 50;

-----qualification

SELECT
Person_Snils AS snils,
Category.code AS qualifyCategoryId,
AssignmentDate AS beginDate,
Speciality.code AS specId
FROM persis.MedWorker v_MedStaffFactCache
LEFT JOIN LATERAL
(SELECT MedWorker_id,staff.Lpu_id FROM
persis.WorkPlace
INNER JOIN persis.v_Staff staff ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id
limit 1
) AS staff on true
INNER JOIN dbo.v_PersonState ON v_PersonState.Person_id =
v_MedStaffFactCache.Person_id
INNER JOIN persis.QualificationCategory ON QualificationCategory.MedWorker_id =
v\_MedStaffFactCache.id
INNER JOIN persis.Category ON Category.id = QualificationCategory.Category_id
INNER JOIN persis.Speciality ON Speciality.id = QualificationCategory.Speciality_id
WHERE
Person_Snils IS NOT NULL AND Category.code IS NOT NULL AND Speciality.code IS NOT
NULL
AND AssignmentDate IS NOT NULL
and Person_Snils IN (SELECT snils_id FROM tmp.FRMRUpload where
FRMRUpload_Method='qualification')
limit 50;

-----card

SELECT
MedStaffFact_id,
Person_Snils AS snils,

```

```

PassportToken_tid AS organizationId,
'false' AS targeted,
LpuUnit_FRMOUnitID AS nrPmuDepartId,
LpuSection_FRMOBuildingOid AS nrPmuDepartHospitalSubdivisionId,
Frmr_id AS postId,
CASE WHEN PostOccupationType_id=3 THEN null ELSE CAST(MedStaffFact_Stavka AS
decimal(16,4)) END AS rate,
v_MedStaffFactCache.WorkData_begDate beginDate,
v_MedStaffFactCache.WorkData_endDate endDate,
CASE WHEN DismissalReasonType_id IN (2,3) THEN 2 WHEN DismissalReasonType_id NOT
IN (2,3) THEN 1 ELSE null END AS endTypeId,
DismissalReasonType_id AS fireReasonId,
PostOccupationType.code AS positionTypeId
FROM persis.v_MedWorker
INNER JOIN dbo.v_MedStaffFactCache ON v_MedStaffFactCache.Person_id =
v_MedWorker.Person_id
INNER JOIN fed.PassportToken ON PassportToken.Lpu_id = v_MedStaffFactCache.Lpu_id
--отделение
INNER JOIN dbo.v_LpuSection ON v_LpuSection.LpuSection_id =
v_MedStaffFactCache.LpuSection_id
--подразделение
INNER JOIN v_Lpuunit ON v_LpuUnit.LpuUnit_id = v_MedStaffFactCache.LpuUnit_id
inner join persis.v_Post Post on v_MedStaffFactCache.Post_id = Post.id
INNER JOIN persis.FRMPPost ON Post.frmppEntry_id= FRMPPost.id
INNER JOIN persis.PostOccupationType ON PostOccupationType.id =
v_MedStaffFactCache.PostOccupationType_id
where LpuUnit_FRMOUnitID IS NOT NULL
and Person_Snils IN (SELECT snils_id FROM tmp.FRMUpload where
FRMUpload_Method='card')
AND CAST(MedStaffFact_Stavka AS decimal(16,4)) != 0.0000
AND CAST(MedStaffFact_Stavka AS decimal(16,4)) != 0.0000
limit 50;

-----nomination

SELECT
name AS nomination,
Person_Snils AS Snils,
FRMPNomination_id AS nominationId,
number AS nomNumber,
date AS nomDate
FROM persis.MedWorker v_MedStaffFactCache
LEFT JOIN LATERAL
(SELECT MedWorker_id,staff.Lpu_id FROM persis.WorkPlace
INNER JOIN persis.v_Staff staff ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id
limit 1
) AS staff on true
INNER JOIN dbo.v_PersonState ON v_PersonState.Person_id =
v_MedStaffFactCache.Person_id
INNER JOIN persis.Reward ON Reward.MedWorker_id = staff.MedWorker_id
WHERE
Person_Snils IN (SELECT snils_id FROM tmp.FRMUpload where
FRMUpload_Method='nomination')
and name IS NOT NULL
AND Person_Snils IS NOT NULL
AND FRMPNomination_id IS NOT NULL
AND number IS NOT NULL
AND date IS NOT null
limit 50;

```


17 ФРМО/ФРМР. Инструкция по внедрению.

17.1 Порядок подключения ИС к Системе.

Для обеспечения обмена данными между Системой и ИС посредством интеграционных профилей необходимо обеспечить подключение ИС к версиям Системы, расположенным на тестовой площадке ЕГИСЗ и основной площадке ЕГИСЗ, и пройти необходимые проверки (контрольные примеры) в соответствии с порядком, определенным программой и методикой испытаний ИС с Системой.

Версия Системы, расположенная на тестовой площадке ЕГИСЗ, находится по адресу: <https://nr-test.egisz.rosminzdrav.ru>.

Версия Системы, расположенная на основной площадке ЕГИСЗ, находится по адресу <https://nr.egisz.rosminzdrav.ru>.

Для получения возможности работы с тестовой средой Системы через web-интерфейс с целью проверки результатов работы по средствам интеграционного взаимодействия, сотруднику, ответственному за отладку интеграционного взаимодействия, предоставляется возможность получить доступ к Системе.

Необходимость получения доступа к тестовой среде Системы, а также присваиваемую пользователю роль, для разработчиков ИС определяет лицо от ответственной организации, эксплуатирующей информационную систему.

Для получения доступа в тестовую версию Системы учетная запись на едином портале государственных услуг не нужна. Авторизация происходит с помощью логина и пароля, направленного от СТП ЕГИСЗ в ответ на заявку.

Разработчики ИС, ответственные за отладку интеграционного взаимодействия, не допускаются на промышленную среду Системы. Проверка результатов работы интеграционного взаимодействия на промышленной среде Системы осуществляется ответственными сотрудниками МО и/или ответственной организацией.

Для получения возможности работы с тестовой версией Системы через web-интерфейс лицо от ответственной организации, эксплуатирующей информационную систему, направляет соответствующую заявку в формате Word, а также сканированную копию с подписью ответственного лица и печатью организации на адрес СТП ЕГИСЗ (egisz@rt-eu.ru) согласно форме, приведенной в Приложении 1 документа, расположенного по адресу <https://portal.egisz.rosminzdrav.ru/materials/481> для доступа в ФРМО, и Приложении 1 документа, расположенного по адресу <https://portal.egisz.rosminzdrav.ru/materials/483> для ФРМР.

Если в субъекте РФ для работы в Системе необходимо подключить более одной ИС, процедура, описанная ниже, выполняется для каждой информационной системы.

17.2 Подключение к тестовой версии сервисов ФРМР/ФРМО.

- **Сгенерировать самоподписанную электронную подпись(эксплуатация), зарегистрировать ИС в тестовой версии ИПС.**

Для этого ответственная организация направляет заявку на адрес СТП ЕГИСЗ (egisz@rt-eu.ru) согласно формам, приведенным в п.1.1 документа «Методические материалы по подключению к ИПС», размещенным на портале ЕГИСЗ по адресу: <http://portal.egisz.rosminzdrav.ru/materials/11>. При заполнении заявки необходимо указать тестовую среду. Заявки в обязательном порядке подаются в 2 форматах – DOCX и PDF, при этом заявка в формате PDF должна содержать подпись и расшифровку подписи ответственного лица, подтвержденную печатью организации. К заявке нужно приложить сертификат в формате cer. В течение 2 (двух) рабочих дней после получения заявки СТП ЕГИСЗ регистрирует ИС в тестовой версии ИПС и предоставляет идентификатор информационной системы в ИПС.

2. **Опубликовать тестовую версию web-службы в тестовой версии ИПС.**

Для этого ответственная организация направляет заявку на адрес СТП ЕГИСЗ (egisz@rt-eu.ru) согласно формам, приведенным в п.1.3 документа «Методические материалы по подключению к ИПС», размещенным на портале ЕГИСЗ по адресу: <http://portal.egisz.rosminzdrav.ru/materials/11>. В столбце "Прямой адрес веб-службы" нужно указать адрес колбэка, который предоставляет эксплуатация. Версия веб службы - SOAP 1.1. Тип веб-службы - асинхронный. При заполнении заявки необходимо указать тестовую среду. Для ФРМО и ФРМР нужно формировать отдельные заявки, но с одинаковым колбэком. Заявки в обязательном порядке подаются в 2 форматах – DOCX и PDF, при этом заявка в формате PDF должна содержать подпись и расшифровку подписи ответственного лица, подтвержденную печатью организации.

Необходимо помнить, что колбэк для сервисов ФРМО и ФРМР используется один. Как в тестовой версии, так и в продуктивной. Инструкции по разворачиванию сервисов для эксплуатации находятся здесь: [ФРМО](#), [ФРМР](#).

3. Зарегистрировать ИС в тестовой версии Системы.

Для этого ответственная организация направляет заявку на адрес СТП ЕГИСЗ (egisz@rt-eu.ru) в соответствии с формой, приведенной в Приложении 2 документа, расположенного по адресу <https://portal.egisz.rosminzdrav.ru/materials/481> для доступа в ФРМО, и Приложении 2 документа, расположенного по адресу <https://portal.egisz.rosminzdrav.ru/materials/483> для ФРМР. Заявки в обязательном порядке подаются в 2 форматах – DOCX и PDF, при этом заявка в формате PDF должна содержать подпись и расшифровку подписи ответственного лица, подтвержденную печатью организации.

4. В течение 2 (двух) рабочих дней после получения заявки СТП ЕГИСЗ регистрирует ИС в тестовой версии Системы и предоставляет подтверждение о регистрации ИС в ответ на заявку.

17.3 Отчет о тестировании:

1. В течение 30 (тридцати) рабочих дней со дня выделения идентификатора ИС необходимо провести тестирование при взаимодействии с тестовой версией Системы и направить отчет о результатах тестирования, а также протокол приемочных испытаний на адрес СТП ЕГИСЗ (egisz@rt-eu.ru), в соответствии с формой, приведенной в Приложении 3 документа, расположенного по адресу <https://portal.egisz.rosminzdrav.ru/materials/481> для доступа в ФРМО, и Приложении 3 документа, расположенного по адресу <https://portal.egisz.rosminzdrav.ru/materials/483> для ФРМР.

Пример приложения к отчету (запросы отправленные и полученные при взаимодействии): [Пример результатов тестирования ФРМО и ФРМР.zip](#)

Отчет и протокол в обязательном порядке подаются в 2 форматах – DOCX и PDF, при этом документы в формате PDF должны содержать подпись и расшифровку подписи ответственного лица, подтвержденную печатью организации. В рамках тестирования должны быть пройдены все проверки в соответствии с программой и методикой испытаний интеграции ИС с Системой. Результатом тестирования является успешное выполнение всех проверок. В случае необходимости консультирования по техническим вопросам, сотрудник ответственной организации направляет описание проблемы в виде описания последовательности произведенных действий с указанием ссылок обращений и с приложением файлов запросов и ответов сервиса ИС на адрес СТП ЕГИСЗ (egisz@rt-eu.ru). В течение 3 (трех) рабочих дней после получения запроса, СТП ЕГИСЗ предоставляет ответ или направляет запрос на предоставление дополнительных сведений необходимых для выявления причин проблемы.

2. СТП ЕГИСЗ в ответном письме направляет заключение об успешном прохождении тестирования или о необходимости доработки ИС и проведения повторного тестирования. Заключение предоставляется в течение 4 (четырех) рабочих дней с момента получения отчета о проведении тестирования.

3. В случае успешного прохождения тестирования интеграционного взаимодействия СТП ЕГИСЗ в ответном письме уведомляет ИС о необходимости проведения массовой загрузки/выгрузки данных в тестовую версию Системы.

17.4 Массовая выгрузка:

Для прохождения этапа массовой выгрузки необходимо, после успешного проведения отчета о тестировании по ФРМО и ФРМР, отправить заявку на проведение массовой выгрузки в соответствии с формой, приведенной в Приложении 4 документа, расположенного по адресу <https://portal.egisz.rosminzdrav.ru/materials/481> для доступа в ФРМО, и Приложении 4 документа, расположенного по адресу <https://portal.egisz.rosminzdrav.ru/materials/483> для ФРМР.

1. Согласно плановой дате проведения массовой загрузки/выгрузки ИС осуществляет массовую загрузку/выгрузку данных в тестовую версию Системы, предварительно направив уведомление на адрес СТП ЕГИСЗ (egisz@rt-eu.ru).

Минимальное количество запросов на каждую доступную подсистему и каждый из ее методов при массовой загрузке должно составлять 20.

2. По результату анализа журнала аудита интеграционных профилей СТП ЕГИСЗ в ответном письме направляет заключение об успешности проведения массовой загрузки/выгрузки данных и о возможности подключения к промышленной версии Системы или необходимости доработки ИС и проведения повторного тестирования и массовой загрузки/выгрузки данных. Массовая загрузка/выгрузка считается успешно выполненной, если число корректных запросов достигает 100 %. Если при первой попытке массовой загрузки/выгрузки не был получен необходимый результат, достижение 100 %-ой корректности массовой загрузки/выгрузки осуществляется в несколько подходов:

- если количество корректных запросов составило 95 % и более, то необходимо повторить массовую загрузку/выгрузку только для тех подсистем, в методах которых были выявлены ошибки. Повторная загрузка/выгрузка выполняется для всех методов подсистемы, а не только для ошибочных.

- если количество корректных запросов составило менее 95 %, то необходимо повторить массовую загрузку/выгрузку в полном объеме.

Подробная инструкция по составлению отчета о тестировании и проведению массовой выгрузки по ФРМО: [ФРМО. Отчет о тестировании и массовая выгрузка.](#)

Подробная инструкция по составлению отчета о тестировании и проведению массовой выгрузки по ФРМР: [ФРМР. Отчет о тестировании и массовая выгрузка.](#)
[Подробная инструкция.](#)

Заключение предоставляется в течении 4 (четырёх) рабочих дней с момента получения уведомления от ИС об осуществлении массовой загрузки/выгрузки данных в тестовую версию Системы.

17.5 Подключение к промышленной версии:

- Получить квалифицированную электронную подпись в аккредитованном УЦ, зарегистрировать ИС в рабочей версии ИПС.

Для этого сотрудник ответственной организации направляет заявку на адрес СТП ЕГИСЗ (egisz@rt-eu.ru) согласно формам, приведенным в п.1.2 документа «Методические материалы по подключению к ИПС», размещенным на портале ЕГИСЗ по адресу: <http://portal.egisz.rosminzdrav.ru/materials/11>. При заполнении заявки необходимо указать промышленную среду. Заявки в обязательном порядке подаются в 2 форматах – DOCX и PDF, при этом заявка в формате PDF должна содержать подпись и расшифровку подписи ответственного лица, подтвержденную печатью организации. Одновременно сканированную копию заявки направить в Минздрав России, по адресу: di@rosminzdrav.ru.

- Опубликовать рабочую версию web-службы в рабочей версии ИПС. Для этого сотрудник ответственной организации направляет заявку на адрес СТП ЕГИСЗ (egisz@rt-eu.ru) согласно формам, приведенным в п.1.4 документа «Методические материалы по подключению к ИПС», размещенным на портале ЕГИСЗ по адресу: <http://portal.egisz.rosminzdrav.ru/materials/11>. В столбце "Прямой адрес веб-службы" нужно указать адрес колбэка, который предоставляет эксплуатация. Версия веб-службы - SOAP 1.1. Тип веб-службы - асинхронный. При заполнении заявки необходимо указать промышленную среду. Для ФРМО и ФРМР нужно формировать отдельные заявки, но с одинаковым колбэком. Заявки в обязательном порядке подаются в 2 форматах – DOCX и PDF, при этом заявка в формате PDF должна содержать подпись и расшифровку подписи ответственного лица, подтвержденную печатью организации.
- Необходимо помнить, что колбэк для сервисов ФРМО и ФРМР используется один. Как в тестовой версии, так и в продуктивной. Инструкции по разворачиванию сервисов для эксплуатации находятся здесь: [ФРМО](#), [ФРМР](#).**
- Заявки в обязательном порядке подаются в 2 форматах – DOCX и PDF, при этом заявка в формате PDF должна содержать подпись и расшифровку подписи ответственного лица, подтвержденную печатью организации. Одновременно сканированную копию заявки направить в Минздрав России, по адресу: di@rosminzdrav.ru.
- Зарегистрировать ИС в промышленной версии Системы. Для этого сотрудник ответственной организации направляет заявку на адрес СТП ЕГИСЗ (egisz@rt-eu.ru) в соответствии с формой, приведенной в Приложении 2 документа, расположенного по адресу <https://portal.egisz.rosminzdrav.ru/materials/481> для доступа в ФРМО, и Приложении 2 документа, расположенного по адресу <https://portal.egisz.rosminzdrav.ru/materials/483> для ФРМР. Заявки в обязательном порядке подаются в 2 форматах – docx и pdf, при этом заявка в формате PDF должна содержать подпись и расшифровку подписи ответственного лица, подтвержденную печатью организации. Одновременно сканированную копию заявки направить в Минздрав России, по адресу: di@rosminzdrav.ru.
 - В течение 2 (двух) рабочих дней после получения заявки СТП ЕГИСЗ предоставляет идентификатор ИС (идентификатор генерируется на основании алгоритма генерации, настроенного в БД рабочей версии Системы), логин/пароль доступа, а также ссылку к web-интерфейсу рабочей версии системы.
 - В случае необходимости осуществить настройку ИС и начать взаимодействие с рабочей версией Системы.
 - В случае возникновения ошибок при интеграционном взаимодействии с рабочей версией Системы на стороне ИС, которые будут отрицательно влиять на функционирование и производительность Системы, ИС будет отключен от работы с интеграционными профилями промышленной площадки с уведомлением лица, от ответственной организации за эксплуатацию ИС, до восстановления корректного интеграционного взаимодействия на тестовой среде. После устранения ошибок интеграционного взаимодействия на тестовой среде необходимо направить отчет о результатах тестирования и протокол приемочных испытаний на адрес СТП ЕГИСЗ (egisz@rt-eu.ru), в соответствии с формой, приведенной в приложении (Приложение 3). СТП ЕГИСЗ в ответном письме направляет заключение о восстановлении возможности работы с промышленной версией Системы или о необходимости доработки ИС и проведения повторного тестирования. Заключение предоставляется в течение 3 (трех) рабочих дней с момента получения отчета о проведении тестирования.

18 ФРМО. Отчет о тестировании и массовая выгрузка.

18.1 Общие сведения:

Отчет о тестировании включает для каждого метода данные четырех сообщений: 1) запрос клиента в ФРМО, 2) GUID асинхронного ответа из синхронного ответа ФРМО, 3) асинхронный ответ ФРМО. 4) ответ клиента на асинхронный ответ ФРМО

Все эти данные могут быть получены из логов сервиса. Логирование осуществляется параллельно в файлы <папка tomee>\logs\catalina.<дата логов>.log и <папка tomee>\logs\frmo\frmo<дата логов>.log.

Данные запроса <?xml ... </SOAP-ENV:Envelope> в логе следуют за фразой **INFO: *** SOAP message to send:**

GUID асинхронного ответа и данные асинхронного ответа <ips_response_id>f0fb959d-d1a0-440f-85f0-c066cff9259b</ips_response_id><?xml ... </departs> в логе следуют за фразой: **INFO: *** Working answer from the queue:**

Данные ответа клиента на асинхронный ответ <?xml ...</SOAP-ENV:Envelope>следуют за фразой **INFO: Ответ на асинхронный ответ:**

В процессе подготовки отчетов и для проведения массовой выгрузки используются sql-скрипты. Ниже приведены варианты запросов для MSSQL. Имеются варианты для PostgreSQL (во вложении на примере для Якутской ГБЗ [YGB3-Scripts.ZIP](#)).

18.1.1 Для запуска единичной сессии ФРМО можно использовать скрипт FRMOSession_run.sql (альтернатива способу запуска через Промед):

```
DECLARE @RC int
DECLARE @Lpu_id bigint
DECLARE @FRMOSession_Name varchar(100)
DECLARE @FRMOSession_begDT datetime
declare @FRMOSessionMode_id bigint = 1 -- 1 - экспорт в ФРМО 2 -- импорт из ФРМО 3 --
только чтение данных из ФРМО
DECLARE @pmUser_id bigint
DECLARE @Error_Code int
DECLARE @Error_Message varchar(4000)

set @Lpu_id = 10010833
set @FRMOSession_Name = 'FRMO export test'
set @FRMOSession_begDT = '2020-08-18'
set @pmUser_id = 1

SELECT top 1 s.FRMOsession_id, st.FRMOsessionActionType_Code,
st.FRMOsessionHist_doneDT, st.FRMOsessionHist_pid
FROM dbo.FRMOsession s (NOLOCK)
outer apply (select top 1 a.FRMOsessionActionType_Code, h.FRMOsessionHist_doneDT,
h.FRMOsessionHist_pid
from dbo.FRMOsessionHist h (NOLOCK)
inner join dbo.FRMOsessionActionType a (NOLOCK) on a.FRMOsessionActionType_id =
h.FRMOsessionActionType_id
where s.FRMOsession_id = h.FRMOsession_id
order by h.FRMOsessionHist_insDT desc
) st
WHERE (1 = 1) and s.FRMOsession_endDT is NULL and s.FRMOsession_Service = 'FRMO'
and s.Lpu_id = @Lpu_id

EXECUTE @RC = [dbo].[p_FRMOSession_run]
@Lpu_id
,@FRMOSession_Name
```

```
,@FRMOSession_begDT
,@FRMOSessionMode_id
,@pmUser_id
,@Error_Code OUTPUT
,@Error_Message OUTPUT
select @Error_Code ,@Error_Message
```

18.1.2 Описание скрипта:

В параметрах указываются:

- 1) Режим сессии @FRMOSessionMode_id bigint = 1 -- 1 - экспорт в ФРМО 2 -- импорт из ФРМО 3 -- только чтение данных из ФРМО
- 2) МО: @Lpu_id = 10010833 -- 13004038 -- 10011030 -- 13101710
- 3) имя сессии: @FRMOSession_Name = 'FRMO export test'
- 4) дата запуска сессии: @FRMOSession_begDT = '2020-08-18'
- 5) пользователь: @pmUser_id = 1

18.1.3 Ошибки по сессии можно посмотреть по скрипту FRMOSessionError.sql (также доступны в Промеде):

```
declare @FRMOSession_id bigint = 1
select
FE.FRMOSessionError_id, fe.FRMOSessionHist_id, st.FRMOSessionHist_id
, ISNULL(fet.FRMOSessionErrorType_Name, fe.FRMOSessionError_Message) as error_text
, a.FRMOSessionActionType_descr
, L.Lpu_Nick
, lb.LpuBuildingPass_Name, lu.LpuUnit_Name, LS.LpuSection_Name, fe.LpuStaff_Num,
lu.LpuUnit_ID, FE.LpuSection_id, fe.LpuBuildingPass_id
, fe.FRMOSessionError_Message
, FE.FRMOSessionError_insdt
FROM dbo.FRMOSession ses (NOLOCK)
inner join v_Lpu L with (nolock) on L.Lpu_id = ses.Lpu_id
outer apply (select top 1 h.FRMOSessionHist_id, h.FRMOSessionHist_insDT
from dbo.FRMOSessionHist h (NOLOCK)
inner join dbo.FRMOSessionActionType a (NOLOCK) on a.FRMOSessionActionType_id =
h.FRMOSessionActionType_id
where ses.FRMOSession_id = h.FRMOSession_id and a.FRMOSessionActionType_code in
(60,64)
-- and h.FRMOSessionHist_id = 1334
order by h.FRMOSessionHist_id desc
) st
inner join [dbo].[FRMOSessionError] fe (NOLOCK) on fe.FRMOSession_id =
ses.FRMOSession_id and fe.FRMOSessionHist_id >= st.FRMOSessionHist_id
inner join dbo.FRMOSessionHist h (NOLOCK) on fe.FRMOSessionHist_id =
h.FRMOSessionHist_id
inner join dbo.FRMOSessionActionType a (NOLOCK) on a.FRMOSessionActionType_id =
h.FRMOSessionActionType_id
left join [dbo].[FRMOSessionErrorType] fet (NOLOCK) on fe.FRMOSessionErrorType_id =
fet.FRMOSessionErrorType_id
left JOIN dbo.v_LpuBuildingPass AS lb with (NOLOCK) ON lb.LpuBuildingPass_id =
fe.LpuBuildingPass_id
left JOIN dbo.v_LpuUnit AS lu with (NOLOCK) ON lu.LpuUnit_id = fe.LpuUnit_id
left join v_LpuSection LS with (nolock) on LS.LpuSection_id = FE.LpuSection_id
WHERE (1 = 1) and ses.FRMOSession_id = @FRMOSession_id
and h.FRMOSessionHist_insDT >= isnull(st.FRMOSessionHist_insDT,
ses.FRMOSession_insDT)
-- and fe.LpuBuildingPass_id in (383, 2400)
order by error_text, fe.FRMOSessionHist_id
```

18.1.4 Описание скрипта:
Параметр Ид сессии: @FRMOSession_id bigint = 1.

18.2 Запуск массовой выгрузки:

18.2.1 Для запуска массовой выгрузки необходимо создание контрольного примера структуры МО: одна МО и по две единицы структурных элементов каждого типа. Описание данных с указанием форм Системы изложены в инструкции:

18.2.2 Описание данных для массовой выгрузки ФРМО

18.2.3 Запуск массовой выгрузки выполняется скриптом MassiveTestCycle.sql. Этот скрипт также может использоваться для получения тестовых отчетов. Перед запуском скрипта должна быть выполнена правка ошибок форматно-логического контроля, полученных на стадии верификации сессии экспорта в ФРМО. Во время выполнения скрипта должно быть гарантировано, что данные используемых объектов структуры МО не будут изменяться каким-либо внешним процессом.

18.2.4 Версия для MSSQL:

```
declare @lpu_id bigint = 13101710
declare @pmUser_id bigint = 1
declare @today Datetime = GetDate()

-- для теста Обновления mo.update
declare @LpuPmuType_id bigint = 3
declare @LpuPmuType_nid bigint = 35

-- здание для создания нового /удаления, которое не используется в подразделениях и
-- медоборудовании
declare @LpuBuildingPass_id bigint = 1874
declare @MOArea_id bigint = 10004
-- площадка для нового здания
declare @MOArea_nid bigint = 10003
-- для теста создания/удаления здания
declare @LpuBuildingPass_Name_new varchar(50) = 'Здание в парке'
declare @LpuBuildingPass_Name_old varchar(50) = 'Здание в саду'

-- для теста Обновления mo_building.update
-- здание для редактирования, которое можно использовать в подразделениях
declare @LpuBuildingPass2_id bigint = 1873
declare @LpuBuildingPass_YearBuilt_new Datetime = '20180101'
declare @LpuBuildingPass_YearBuilt_old Datetime = '2003-01-01 00:00:00.000'

-- подразделение для создания/удаления, которое не используется в штатке
declare @LpuUnit_id bigint = 99560015008
-- для создания/удаления подразделения
declare @LpuUnit_Name_new varchar(50) = 'Полка вторая'
declare @LpuUnit_Name_old varchar(50) = 'Полка 2' -- Яросл

-- для теста Обновления mo_depart.update
-- подразделение для редактирования
declare @LpuUnit_id2 bigint = 99560015007
declare @LpuUnitProfile_fid_new bigint = 1043
-- а также для подготовки LpuUnit к create
declare @LpuUnitProfile_fid_old bigint = 1011

-- для создания/удаления расписания
declare @LpuStaff_id bigint = 2
declare @LpuStaff_NumOld varchar(10) = '2'
```

```

declare @LpuStaff_NumNew varchar(10) = '3'
declare @LpuStaff_BeginDate_new Datetime = '20170101'
declare @LpuStaff_EndDate_new Datetime = '20171231'
declare @LpuStaff_BeginDate_old Datetime = '20180101'
declare @LpuStaff_EndDate_old Datetime = '20181231'

-- для обновления расписания
-- LpuStaff_id = 336
declare @Staff_id varchar(10) = 22
declare @Staff_RateNew varchar(10) = 10
declare @Staff_RateOld varchar(10) = 100

-- для Обновления mo_equipment.update
declare @MedProductCard_id2 bigint = 135854
declare @MedProductCard_id bigint = 135853
declare @MedProductCard_SerialNumber_old varchar(100) = '2'
declare @MedProductCard_SerialNumber_new varchar(100) = '3'
-- для создания/удаления mo_equipment.delete
declare @MedProductCard_InventoryNumber_old varchar(100) = '11'
declare @MedProductCard_InventoryNumber_new varchar(100) = '12'
declare @RegCertificate_id bigint = 80158
declare @MedProductOrg_id_old bigint = 6880000889
declare @MedProductOrg_id_new bigint = 68320115679

DECLARE @RC int
DECLARE @FRMOsession_Name varchar(100)
DECLARE @FRMOsession_begDT datetime
DECLARE @Error_Code int
DECLARE @Error_Message varchar(4000)

declare @i int = 0
declare @count int = 20

begin try

while (@i < @count) begin

-- ТАКТ 1 обработки данных при массовой выгрузке
if (@i % 2 = 0) begin

select 'такт 1', @i, GetDate()

-- mo.update
-- присваиваем новое значение
update dbo.Lpu set LpuPmuType_id = @LpuPmuType_nid where Lpu_id=@Lpu_id

-- mo_building.update
-- присваиваем новое значение
update dbo.LpuBuildingPass set LpuBuildingPass_YearBuilt =
@LpuBuildingPass_YearBuilt_new where LpuBuildingPass_id=@LpuBuildingPass2_id

-- mo_building.create+delete
-- присваиваем новое название и адрес
update dbo.LpuBuildingPass set LpuBuildingPass_Name = @LpuBuildingPass_Name_new +
'+LTRIM(str(@i)), LpuBuildingPass_FRMOname = @LpuBuildingPass_Name_new + '
'+LTRIM(str(@i)), MOArea_id = @MOArea_nid
where LpuBuildingPass_id=@LpuBuildingPass_id

-- mo_depart.update
-- присваиваем новое значение
update dbo.LpuUnit set LpuUnitProfile_fid = @LpuUnitProfile_fid_new where
LpuUnit_id=@LpuUnit_id2

-- тест mo_depart.delete+create
-- присваиваем новое название
update dbo.LpuUnit set LpuUnit_Name = @LpuUnit_Name_new + ' '+LTRIM(str(@i)) where

```

```

LpuUnit_id=@LpuUnit_id
--1.2.643.5.1.13.13.12.2.35.3259.0.33920 Vologda old
--1.2.643.5.1.13.13.12.2.35.3259.0.34484 Vologda new

-- тест mo_staff.delete
-- присваиваем новый номер
update dbo.LpuStaff set LpuStaff_Num = @LpuStaff_NumNew + LTRIM(str(@i)),
LpuStaff_begDate = @LpuStaff_BeginDate_new, LpuStaff_ApprovalDT =
@LpuStaff_BeginDate_new, LpuStaff_endDate = @LpuStaff_EndDate_new where LpuStaff_id
= @LpuStaff_id

-- mo_staff.update
-- присваиваем новое значение
update persis.Staff set Rate = @Staff_RateNew where Staff.id = @Staff_id

-- mo_equipment.update
-- присваиваем новое значение
update passport.MedProductCard set MedProductCard_SerialNumber =
@MedProductCard_SerialNumber_new where MedProductCard_id=@MedProductCard_id2

-- тест mo_equipment.delete+create
-- присваиваем новый инвентарный номер
update passport.MedProductCard set MedProductCard_InventoryNumber =
@MedProductCard_InventoryNumber_new where MedProductCard_id=@MedProductCard_id
update passport.RegCertificate set Org_prid = @MedProductOrg_id_new where
RegCertificate_id = @RegCertificate_id

end else begin

-- ТАКТ 2 обработки данных при массовой выгрузке
-- mo_building.update

select 'такт 2', @i, GetDate()

-- mo.update
-- возвращаем настоящее значение
update dbo.Lpu set LpuPmuType_id = @LpuPmuType_id where Lpu_id=@Lpu_id

-- возвращаем настоящее значение
update dbo.LpuBuildingPass set LpuBuildingPass_YearBuilt =
@LpuBuildingPass_YearBuilt_old where LpuBuildingPass_id=@LpuBuildingPass2_id

-- mo_building.create+delete
-- возвращаем настоящее название
update dbo.LpuBuildingPass set LpuBuildingPass_Name = @LpuBuildingPass_Name_old,
LpuBuildingPass_FRMOname = @LpuBuildingPass_Name_old, MOArea_id = @MOArea_id
where LpuBuildingPass_id=@LpuBuildingPass_id

-- mo_depart.update
-- возвращаем прежнее значение
update dbo.LpuUnit set LpuUnitProfile_fid = @LpuUnitProfile_fid_old where
LpuUnit_id=@LpuUnit_id2

-- тест mo_depart.delete+create
-- возвращаем настоящее название
update dbo.LpuUnit set LpuUnit_Name = @LpuUnit_Name_old where LpuUnit_id=@LpuUnit_id
--1.2.643.5.1.13.13.12.2.35.3259.0.34485 Vologda new 2

-- тест mo_staff.delete
-- возвращаем прежний номер
update dbo.LpuStaff set LpuStaff_Num = @LpuStaff_NumOld, LpuStaff_begDate =
@LpuStaff_BeginDate_old, LpuStaff_ApprovalDT = @LpuStaff_BeginDate_old,
LpuStaff_endDate = @LpuStaff_EndDate_old where LpuStaff_id = @LpuStaff_id

-- mo_staff.update
-- возвращаем старое значение
update persis.Staff set Rate = @Staff_RateOld where Staff.id = @Staff_id

```

```

-- mo_equipment.update
-- возвращаем настоящее значение
update passport.MedProductCard set MedProductCard_SerialNumber =
@MedProductCard_SerialNumber_old where MedProductCard_id=@MedProductCard_id2

-- тест mo_equipment.delete+create
-- возвращаем настоящий инвентарный номер
update passport.MedProductCard set MedProductCard_InventoryNumber =
@MedProductCard_InventoryNumber_old where MedProductCard_id=@MedProductCard_id
update passport.RegCertificate set Org_prid = @MedProductOrg_id_old where
RegCertificate_id = @RegCertificate_id
end

select LpuBuildingPass_Name, LpuBuildingPass_YearBuilt, LpuBuildingPass_BuildingIdent
from dbo.LpuBuildingPass where LpuBuildingPass_id in (@LpuBuildingPass_id,
@LpuBuildingPass2_id)

select LpuUnit_Name, LpuUnitProfile_fid, LpuUnit_IsHomeVisit, UnitDepartType_fid,
LpuUnit_Phone from dbo.LpuUnit where LpuUnit_id in (@LpuUnit_id, @LpuUnit_id2)

select * from dbo.v_LpuStaff where Lpu_id = @Lpu_id

select mc.MedProductCard_InventoryNumber, mc.MedProductCard_SerialNumber, rc.Org_prid
from passport.MedProductCard mc with (nolock) left join passport.RegCertificate rc with
(nolock) on rc.MedProductCard_id = mc.MedProductCard_id
where mc.MedProductCard_id in (@MedProductCard_id, @MedProductCard_id2)

set @FRMOSession_Name = 'frmo test '+str(@i,2)
set @FRMOSession_begDT = dbo.tzGetDate()

declare @datetime datetime = dbo.tzGetDate()
declare @FRMOSession_id bigint = null
declare @FRMOSessionActionType_Code int = null
declare @FRMOSessionHist_doneDT datetime = null
declare @FRMOSessionHist_pid bigint = null
declare @FRMOSessionHist_id bigint = null

SELECT top 1 @FRMOSession_id = s.FRMOsession_id, @FRMOSessionActionType_Code =
st.FRMOsessionActionType_Code, @FRMOSessionHist_doneDT =
st.FRMOsessionHist_doneDT, @FRMOSessionHist_pid = st.FRMOsessionHist_pid
FROM dbo.FRMOsession s (NOLOCK)
outer apply (select top 1 a.FRMOsessionActionType_Code, h.FRMOsessionHist_doneDT,
h.FRMOsessionHist_pid
from dbo.FRMOsessionHist h (NOLOCK)
inner join dbo.FRMOsessionActionType a (NOLOCK) on a.FRMOsessionActionType_id =
h.FRMOsessionActionType_id
where s.FRMOsession_id = h.FRMOsession_id
order by h.FRMOsessionHist_insDT desc
) st
WHERE (1 = 1) and s.FRMOsession_endDT is NULL and s.FRMOsession_Service = 'FRMO'
and s.Lpu_id = @Lpu_id

if @FRMOSession_id is null begin
EXECUTE [dbo].[p_FRMOsession_ins]
@FRMOSession_id = @FRMOSession_id output,
@FRMOSession_Name = @FRMOSession_Name,
@FRMOSession_begDT = @FRMOSession_begDT,
@Lpu_id = @Lpu_id,
@FRMOSession_Service = 'FRMO',
@pmUser_id = @pmUser_id,
@Error_Code = @Error_Code OUTPUT,
@Error_Message = @Error_Message OUTPUT

if (ISNULL(@Error_Message, '') <> '')
RAISERROR (@Error_Message, 16, 1)

```



```

end else begin
RAISERROR ('*** ERROR CREATING SESSION', 16, 1)
end
select 'FRMOSession_id=', @FRMOSession_id, @FRMOSessionActionType_Code

select 'WAITING VERIFICATION PHASE', GetDate()
set @FRMOSessionHist_id = null
while (@FRMOSessionHist_id is null) begin
-- select 'WAITING VERIFICATION PHASE'
WAITFOR DELAY '00:00:01';
set @FRMOSessionHist_id = (select top 1 h.FRMOSessionHist_id from dbo.FRMOSessionHist
h (NOLOCK)
where @FRMOSession_id = h.FRMOSession_id and h.FRMOSessionActionType_id = 10057)
end
select 'WAITING ERRORS', GetDate()
WAITFOR DELAY '00:00:10';
select 'FRMOSessionHist_id=', @FRMOSessionHist_id

if (exists (select * FROM [dbo].[FRMOSessionError] fe (NOLOCK) WHERE
fe.FRMOSessionHist_id = @FRMOSessionHist_id)) begin
select 'DELETING ERRORS'
delete FROM [dbo].[FRMOSessionError] WHERE FRMOSessionHist_id =
@FRMOSessionHist_id
end

while ((SELECT top 1 s.FRMOSession_success FROM dbo.FRMOSession s (NOLOCK)
where @FRMOSession_id = s.FRMOSession_id) is NULL)
begin
-- select 'WAITING SESSION COMPLETED'
WAITFOR DELAY '00:00:03';
end

select 'SESSION №'+STR(@i)+' IS DONE', GetDate()

declare @err varchar(200) = (SELECT top 1 isnull(s.FRMOSession_comment,") FROM
dbo.FRMOSession s (NOLOCK)
where @FRMOSession_id = s.FRMOSession_id)

if (@err <> ") begin
set @err = '*** ERROR EXECUTING SESSION '+ @err
RAISERROR (@err, 16, 1)
end

set @i = @i + 1
end

end try
begin catch
set @Error_Code = error_number()
set @Error_Message = error_message()
end catch

select 'Error', @Error_Code, @Error_Message

```

18.2.5 Версия для PostgreSQL:

/*

-- Создание таблицы параметров

```

drop table if exists tmp$parameters;
create temp table tmp$parameters as
select
null::bigint as error_code,
null::varchar(4000) as error_message,

```

```

null::boolean as success,
null::int as RC,
null::varchar(100) as FRMOsession_Name,
null::timestamp as FRMOsession_begDT,
null::int as i,
null::int as count,
null::bigint as lpu_id,
null::bigint as pmUser_id,
null::timestamp as today,
null::bigint as LpuPmuType_id,
null::bigint as LpuPmuType_nid,
null::bigint as LpuBuildingPass_id,
null::bigint as MOArea_id,
null::bigint as MOArea_nid,
null::varchar(50) as LpuBuildingPass_Name_new,
null::varchar(50) as LpuBuildingPass_Name_old,
null::bigint as LpuBuildingPass2_id,
null::timestamp as LpuBuildingPass_YearBuilt_new,
null::timestamp as LpuBuildingPass_YearBuilt_old,
null::bigint as LpuUnit_id,
null::varchar(50) as LpuUnit_Name_new,
null::varchar(50) as LpuUnit_Name_old,
null::bigint as LpuUnit_id2,
null::bigint as LpuUnitProfile_fid_new,
null::bigint as LpuUnitProfile_fid_old,
null::bigint as LpuStaff_id,
null::varchar(10) as LpuStaff_NumNew,
null::varchar(10) as LpuStaff_NumOld,
null::timestamp as LpuStaff_BeginDate_new,
null::timestamp as LpuStaff_EndDate_new,
null::timestamp as LpuStaff_BeginDate_old,
null::timestamp as LpuStaff_EndDate_old,
null::bigint as Staff_id,
null::float8 as Staff_RateNew,
null::float8 as Staff_RateOld,
null::bigint as MedProductCard_id2,
null::bigint as MedProductCard_id,
null::varchar(100) as MedProductCard_SerialNumber_old,
null::varchar(100) as MedProductCard_SerialNumber_new,
null::varchar(100) as MedProductCard_InventoryNumber_old,
null::varchar(100) as MedProductCard_InventoryNumber_new,
null::bigint as RegCertificate_id,
null::bigint as MedProductOrg_id_old,
null::bigint as MedProductOrg_id_new,

null::bigint as FRMOsession_id,
null::boolean as FRMOsession_success,
null::bigint as FRMOsessionHist_pid,
null::bigint as FRMOsessionHist_id,
null::int as FRMOsessionActionType_Code,
null::timestamp as FRMOsessionHist_doneDT;

update tmp$parameters set error_code = 0, error_message = null, success = true
, i = 0, count = 2

-- Данные для Якутской ГБ №3
, lpu_id = 7, pmUser_id = 1, today = dbo.GetDate()

-- для теста Обновления mo.update
, LpuPmuType_id = 3
, LpuPmuType_nid = 35

```

```

-- здание для создания нового /удаления, которое не используется в подразделениях и
медоборудовании
, LpuBuildingPass_id = 1401010000000008
, MOArea_id = 1401010000000002
-- площадка для нового здания
, MOArea_nid = 1401010000000002

-- для теста создания/удаления здания
, LpuBuildingPass_Name_new = 'Здание тест новое'
, LpuBuildingPass_Name_old = 'Здание тест'

-- для теста Обновления mo_building.update
-- здание для редактирования, которое можно использовать в подразделениях
, LpuBuildingPass2_id = 1401010000000007
, LpuBuildingPass_YearBuilt_new = '20070101'
, LpuBuildingPass_YearBuilt_old = '2005-01-01 00:00:00.000'

-- подразделение для создания/удаления, которое не используется в штатке
, LpuUnit_id = 1401010000000069
-- для создания/удаления подразделения
, LpuUnit_Name_new = 'Дневной стационар при стационаре новый'
, LpuUnit_Name_old = 'Дневной стационар при стационаре'

-- для теста Обновления mo_depart.update
-- подразделение для редактирования
, LpuUnit_id2 = 1401010000000086
, LpuUnitProfile_fid_new = 1043
-- а также для подготовки LpuUnit к create
, LpuUnitProfile_fid_old = 1005

-- для создания/удаления расписания
, LpuStaff_id = 1401010000000015
, LpuStaff_NumOld = '3'
, LpuStaff_NumNew = '4'
, LpuStaff_BeginDate_new = '2018-01-01 00:00:00'
, LpuStaff_EndDate_new = '2018-12-31 00:00:00'
, LpuStaff_BeginDate_old = '2018-01-01 00:00:00'
, LpuStaff_EndDate_old = '2018-12-01 00:00:00'

-- для обновления расписания
, Staff_id = 140101000011108
, Staff_RateNew = 20
, Staff_RateOld = 10

-- для Обновления mo_equipment.update
, MedProductCard_id2 = 135854
, MedProductCard_id = 135853
, MedProductCard_SerialNumber_old = '2'
, MedProductCard_SerialNumber_new = '3'
-- для создания/удаления mo_equipment.delete
, MedProductCard_InventoryNumber_old = '11'
, MedProductCard_InventoryNumber_new = '12'
, RegCertificate_id = 80158
, MedProductOrg_id_old = 6880000889
, MedProductOrg_id_new = 68320115679;

*/
--select * from tmp$parameters;

-- Выполнение одного шага цикла

do $$
declare
vars tmp$parameters%ROWTYPE;

```

```

begin
select * from tmp$parameters into vars limit 1;

SELECT s.FRMOSession_id, st.FRMOSessionActionType_Code,
st.FRMOSessionHist_doneDT, st.FRMOSessionHist_pid
INTO vars.FRMOSession_id, vars.FRMOSessionActionType_Code,
vars.FRMOSessionHist_doneDT, vars.FRMOSessionHist_pid
FROM dbo.FRMOSession s
left join lateral (select a.FRMOSessionActionType_Code, h.FRMOSessionHist_doneDT,
h.FRMOSessionHist_pid
from dbo.FRMOSessionHist h
inner join dbo.FRMOSessionActionType a on a.FRMOSessionActionType_id =
h.FRMOSessionActionType_id
where s.FRMOSession_id = h.FRMOSession_id
order by h.FRMOSessionHist_insDT desc
limit 1 ) st on true
WHERE (1 = 1) and s.FRMOSession_endDT is NULL and s.FRMOSession_Service = 'FRMO'
and s.Lpu_id = vars.Lpu_id
limit 1;

if vars.FRMOSession_id is not null then
raise sqlstate 'U0002';
end if;

if (vars.error_code = 0) and (vars.i < vars.count) then
if (vars.i % 2 = 0) then

raise notice 'такт 1: шаг % время %', vars.i, dbo.GetDate();

-- mo.update
-- присваиваем новое значение
update dbo.Lpu set LpuPmuType_id = vars.LpuPmuType_nid where Lpu_id=vars.Lpu_id;

-- mo_building.update
-- присваиваем новое значение
update dbo.LpuBuildingPass set LpuBuildingPass_YearBuilt =
vars.LpuBuildingPass_YearBuilt_new where LpuBuildingPass_id=vars.LpuBuildingPass2_id;

-- mo_building.create+delete
-- присваиваем новое название и адрес
update dbo.LpuBuildingPass set LpuBuildingPass_Name = vars.LpuBuildingPass_Name_new ||
'' || cast(vars.i as varchar), LpuBuildingPass_FRMOMName = vars.LpuBuildingPass_Name_new
|| '' || cast(vars.i as varchar), MOArea_id = vars.MOArea_nid
where LpuBuildingPass_id=vars.LpuBuildingPass_id;

-- mo_depart.update
-- присваиваем новое значение
update dbo.LpuUnit set LpuUnitProfile_fid = vars.LpuUnitProfile_fid_new where
LpuUnit_id=vars.LpuUnit_id2;

-- тест mo_depart.delete+create
-- присваиваем новое название
update dbo.LpuUnit set LpuUnit_Name = vars.LpuUnit_Name_new || '' || cast(vars.i as varchar)
where LpuUnit_id=vars.LpuUnit_id;

-- тест mo_staff.delete
-- присваиваем новый номер
update dbo.LpuStaff set LpuStaff_Num = vars.LpuStaff_NumNew || CAST(vars.i as varchar),
LpuStaff_begDate = vars.LpuStaff_BeginDate_new, LpuStaff_ApprovalDT =
vars.LpuStaff_BeginDate_new, LpuStaff_endDate = vars.LpuStaff_EndDate_new where
LpuStaff_id = vars.LpuStaff_id;

```

```

-- mo_staff.update
-- присваиваем новое значение
update persis.Staff set Rate = vars.Staff_RateNew where Staff.id = vars.Staff_id;

-- mo_equipment.update
-- присваиваем новое значение
-- update passport.MedProductCard set MedProductCard_SerialNumber =
vars.MedProductCard_SerialNumber_new where
MedProductCard_id=vars.MedProductCard_id2

-- тест mo_equipment.delete+create
-- присваиваем новый инвентарный номер
-- update passport.MedProductCard set MedProductCard_InventoryNumber =
vars.MedProductCard_InventoryNumber_new where
MedProductCard_id=vars.MedProductCard_id
-- update passport.RegCertificate set Org_prid = vars.MedProductOrg_id_new where
RegCertificate_id = vars.RegCertificate_id

else

-- ТАКТ 2 обработки данных при массовой выгрузке
-- mo_building.update

raise notice 'такт 2: шаг % время %', vars.i, dbo.GetDate();

-- mo.update
-- возвращаем настоящее значение
update dbo.Lpu set LpuPmuType_id = vars.LpuPmuType_id where Lpu_id=vars.Lpu_id;

-- возвращаем настоящее значение
update dbo.LpuBuildingPass set LpuBuildingPass_YearBuilt =
vars.LpuBuildingPass_YearBuilt_old where LpuBuildingPass_id=vars.LpuBuildingPass2_id;

-- mo_building.create+delete
-- возвращаем настоящее название
update dbo.LpuBuildingPass set LpuBuildingPass_Name = vars.LpuBuildingPass_Name_old,
LpuBuildingPass_FRMOName = vars.LpuBuildingPass_Name_old, MOArea_id =
vars.MOArea_id where LpuBuildingPass_id=vars.LpuBuildingPass_id;

-- mo_depart.update
-- возвращаем прежнее значение
update dbo.LpuUnit set LpuUnitProfile_fid = vars.LpuUnitProfile_fid_old where
LpuUnit_id=vars.LpuUnit_id2;

-- тест mo_depart.delete+create
-- возвращаем настоящее название
update dbo.LpuUnit set LpuUnit_Name = vars.LpuUnit_Name_old where
LpuUnit_id=vars.LpuUnit_id;

-- тест mo_staff.delete
-- возвращаем прежний номер
update dbo.LpuStaff set LpuStaff_Num = vars.LpuStaff_NumOld, LpuStaff_begDate =
vars.LpuStaff_BeginDate_old, LpuStaff_ApprovalDT = vars.LpuStaff_BeginDate_old,
LpuStaff_endDate = vars.LpuStaff_EndDate_old where LpuStaff_id = vars.LpuStaff_id;

-- mo_staff.update
-- возвращаем старое значение
update persis.Staff set Rate = vars.Staff_RateOld where Staff.id = vars.Staff_id;

```

```

-- mo_equipment.update
-- возвращаем настоящее значение
-- update passport.MedProductCard set MedProductCard_SerialNumber =
vars.MedProductCard_SerialNumber_old where
MedProductCard_id=vars.MedProductCard_id2

-- тест mo_equipment.delete+create
-- возвращаем настоящий инвентарный номер
-- update passport.MedProductCard set MedProductCard_InventoryNumber =
vars.MedProductCard_InventoryNumber_old where
MedProductCard_id=vars.MedProductCard_id
-- update passport.RegCertificate set Org_prid = vars.MedProductOrg_id_old where
RegCertificate_id = vars.RegCertificate_id
end if;

select dbo.GetDate() into vars.FRMOSession_begDT;
select 'frmo test ' || cast(vars.i as varchar) into vars.FRMOSession_Name;

select fnc.FRMOSession_id, cast(fnc.Error_Code as bigint), fnc.Error_Message
into vars.FRMOSession_id, vars.error_code, vars.error_message
from dbo.p_FRMOSession_ins (
FRMOSession_id := vars.FRMOSession_id,
FRMOSession_Name := vars.FRMOSession_Name,
FRMOSession_begDT := vars.FRMOSession_begDT,
FRMOSessionMode_id := 1,
Lpu_id := vars.Lpu_id,
FRMOSession_Service := 'FRMO',
pmUser_id := vars.pmUser_id) fnc;

if coalesce(vars.error_code, 0) != 0 then
raise sqlstate 'U0001';
end if;

raise notice 'FRMOSession_id= % FRMOSessionName= % created', vars.FRMOSession_id,
vars.FRMOSession_Name;

select vars.i + 1 into vars.i;
update tmp$parameters set i = vars.i, FRMOSession_id = vars.FRMOSession_id,
FRMOSession_name = vars.FRMOSession_name;

else
raise notice 'CYCLES ARE OVER';
end if;

exception
when others then
if SQLSTATE = 'U0002' then
vars.error_code := 2;
vars.error_message := 'Session already exists';
else
if SQLSTATE != 'U0001' then
vars.error_code := 1;
vars.error_message := SQLSTATE || ': ' || SQLERRM;
end if;
end if;
vars.success := case when vars.error_code = 0 then 1 else 0 end;
update tmp$parameters set error_code = vars.error_code, error_message =
vars.error_message, success = vars.success, FRMOSession_id = null;
end $$;

```

```

do $$
declare
vars tmp$parameters%ROWTYPE;
begin
perform pg_sleep(1);
select * from tmp$parameters into vars limit 1;

if (vars.i <= vars.count) and (vars.error_code = 0) then

raise notice 'Processing FRMOSession_id= % FRMOSession_Name= % ',
vars.FRMOSession_id, vars.FRMOSession_Name;

raise notice 'WAITING VERIFICATION PHASE';
select null into vars.FRMOSessionHist_id;
while (vars.FRMOSessionHist_id is null) loop
perform pg_sleep(1);
select h.FRMOSessionHist_id into vars.FRMOSessionHist_id
from dbo.FRMOSessionHist h
where vars.FRMOSession_id = h.FRMOSession_id and h.FRMOSessionActionType_id =
10057 limit 1;
end loop;
raise notice 'WAITING ERRORS';
perform pg_sleep(10);
raise notice 'FRMOSessionHist_id= % ', vars.FRMOSessionHist_id;

raise notice 'DELETING ERRORS';
delete FROM dbo.FRMOSessionError WHERE FRMOSessionHist_id =
vars.FRMOSessionHist_id;

end if;

exception
when others then
vars.error_code := 1;
vars.error_message := SQLSTATE || ' ' || SQLERRM;
vars.success := case when vars.error_code = 0 then 1 else 0 end;
update tmp$parameters set error_code = vars.error_code, error_message =
vars.error_message, success = vars.success, FRMOSession_id = vars.FRMOSession_id;
end $$;

do $$
declare
vars tmp$parameters%ROWTYPE;
begin
perform pg_sleep(1);
select * from tmp$parameters into vars limit 1;

if (vars.i <= vars.count) and (vars.error_code = 0) then

select null into vars.FRMOSession_success;
while (vars.FRMOSession_success is NULL) loop
SELECT s.FRMOSession_success into vars.FRMOSession_success
FROM dbo.FRMOSession s where vars.FRMOSession_id = s.FRMOSession_id limit 1;
raise notice 'WAITING SESSION COMPLETED';
PERFORM pg_sleep(10);
end loop;

raise notice 'SESSION № % name % IS DONE', vars.i, vars.FRMOSession_Name;

SELECT coalesce(s.FRMOSession_comment, '') into vars.error_message
FROM dbo.FRMOSession s where vars.FRMOSession_id = s.FRMOSession_id limit 1;
if (vars.error_message <> '') then
raise sqlstate 'U0003';
end if;

```

```

end if;
exception
when others then
if SQLSTATE = 'U0003' then
vars.error_code := 3;
vars.error_message := '*** ERROR EXECUTING SESSION ' || vars.error_message;
else
vars.error_code := 1;
vars.error_message := SQLSTATE || ': ' || SQLERRM;
end if;
vars.success := case when vars.error_code = 0 then 1 else 0 end;
update tmp$parameters set error_code = vars.error_code, error_message =
vars.error_message, success = vars.success, FRMOsession_id = vars.FRMOsession_id;
end $$;

select i, error_code, error_message, success, FRMOsession_id from tmp$parameters;

```

Описание скрипта:

Скрипт содержит цикл, на каждом шаге которого запускается сессия экспорта в ФРМО и отрабатывают все необходимые методы. Для этого на каждом шаге выполняется изменение данных структуры МО в БД Промед, что влечет за собой посылку в ФРМО сообщений create, update и delete. В процессе участвует два здания МО, два подразделения МО, два штатных расписания. Один из этих объектов служит для метода update, для чего изменяется его неключевое поле, другой для методов create + delete, для чего изменяются его ключевые поля в ФРМО. Нужно учитывать, что здание для методов create + delete не должно использоваться в посылаемых подразделениях, а подразделение для методов create + delete не должно использоваться в штатных расписаниях.

Параметры скрипта включают в себя ключи таблиц, которые могут быть получены выполнением скриптов для МО get_MO, для зданий get_Buildings, для подразделений get_Departments, для штатного расписания get_Staff.

Версия для MSSQL запускается однократно. В консоли сообщений отображается ход процесса. По завершении цикла на вкладке результатов запроса выводится результат: ошибка, если есть, успешность/неуспешность.

Версия для PostgreSQL запускается в несколько шагов. На первом шаге инициализируется временная таблица параметров. Код представлен в закомментированном блоке "Создание таблицы параметров" и запускается как выделенный фрагмент. Затем запускается скрипт столько раз, сколько шагов должно быть выполнено. Каждый шаг завершается выводом в консоль сообщений текста "SESSION № ### name frmo test ## IS DONE". Также на вкладке результатов запроса выводится результат на шаге: ошибка, если есть, успешность/неуспешность и идентификатор сессии. Для прохождения массовой выгрузки должно быть выполнено 20 успешных шагов.

Параметры скрипта:

- Начальный счетчик циклов @i int = 0
- Количество циклов @count int = 20 (для тестовых отчетов можно указать 2)
- Id МО: @Lpu_id = 10010833
- Id пользователя: @pmUser_id = 1

-- для теста Обновления mo.update меняем вид медицинской деятельности

4. Имеющееся значение @LpuPmuType_id bigint = 3 (можно получить скриптом get_MO)
5. Значение для подстановки @LpuPmuType_nid bigint = 35


```

-- здание для создания нового /удаления, которое не используется в подразделениях и
медоборудовании
4. Id здания @LpuBuildingPass_id bigint = 1874 (можно получить скриптом get_Buildings)
5. Имеющееся наименование здания @LpuBuildingPass_Name_old varchar(50) = 'Здание
в саду'
6. Id площадки здания @MOArea_id bigint = 10004 (можно получить скриптом get_
Buildings)
7. Наименование здания для подстановки @LpuBuildingPass_Name_new varchar(50) =
'Здание в парке'
8. Id площадки здания для подстановки @MOArea_nid bigint = 10003 (можно получить
скриптом get_Buildings)
-- для теста Обновления mo_building.update
-- здание для метода update, которое можно использовать в подразделениях
• Id здания @LpuBuildingPass2_id bigint = 1873 (можно получить скриптом get_Buildings)
• Год постройки здания имеющийся @LpuBuildingPass_YearBuilt_old Datetime = '2003-
01-01 00:00:00.000'
• Год постройки здания для подстановки @LpuBuildingPass_YearBuilt_new Datetime =
'20180101'

-- для теста создания+удаления mo_depart.create + mo_depart.delete
-- подразделение для создания/удаления, которое не используется в штатке
1. Id подразделения @LpuUnit_id bigint = 99560015008 (можно получить скриптом get_
Departments)
2. Наименование подразделения имеющееся @LpuUnit_Name_old varchar(50) = 'Полка 2'
3. Наименование подразделения для подстановки @LpuUnit_Name_new varchar(50) =
'Полка вторая'

-- для теста Обновления mo_depart.update
-- подразделение для редактирования
1. Id подразделения @LpuUnit_id2 bigint = 99560015007 (можно получить скриптом get_
Departments)
2. Профиль подразделения имеющийся @LpuUnitProfile_fid_old bigint = 1011 (можно
получить скриптом get_Departments)
3. Профиль подразделения для подстановки @LpuUnitProfile_fid_new bigint = 1043

-- для создания/удаления расписания
1. Id расписания @LpuStaff_id bigint = 2 (можно получить скриптом get_Staff)
2. Номер расписания имеющийся @LpuStaff_NumOld varchar(10) = '2'
3. Номер расписания для подстановки @LpuStaff_NumNew varchar(10) = '3'
4. Дата начала действия расписания @LpuStaff_BeginDate_old Datetime = '20180101'
(можно получить скриптом get_Staff)
5. Дата окончания действия расписания @LpuStaff_EndDate_old Datetime =
'20181231'(можно получить скриптом get_Staff)

```

6. Дата начала действия расписания для подстановки @LpuStaff_BeginDate_new
Datetime = '20170101'
7. Дата окончания действия расписания для подстановки @LpuStaff_EndDate_new
Datetime = '20171231'

-- для обновления расписания

- Id должности @Staff_id varchar(10) = 22 (можно получить скриптом get_Staff)
- Кол-во ставок по должности имеющееся @Staff_RateOld varchar(10) = 100
- Кол-во ставок по должности для подстановки @Staff_RateNew varchar(10) = 10

18.2.6 Скрипт get_MO.sql для Медицинской организации, экспортируемой в ФРМО:
-- ОИД МО

```
declare @oid varchar(100)
set @oid = '1.2.643.5.1.13.13.12.2.59.5834'

select
Org.Org_Id,
PassportToken.PassportToken_id,
PassportToken.PassportToken_tid as lpu_oid,
Lpu.Lpu_id as Lpuid,
Lpu.Lpu_Name as FullName,
ISNULL(Lpu.Lpu_Nick,"") as ShortName,
Lpu.LpuPmuType_id,
LpuPmuType.LpuPmuType_Code,
ISNULL(Lpu.Lpu_Email,"") as SEmail,
ISNULL(Org.Org_INN,"") as Inn,
ISNULL(Org.Org_KPP,"") as Kpp,
ISNULL(Lpu.Lpu_OGRN,"") as Ogrn,
ISNULL(Lpu.LpuOwnership_id,0) as organizationType,
mainbuild.MOArea_id,

case when Okfs.Okfs_OID in (5,4,10,9) then 1 else 0 end as stateOrganization,
case when (Lpu.LpuOwnership_id = 3) or
(isnull(PassportTokenLpuHead.PassportToken_tid,'0') = '0') then null else
PassportTokenLpuHead.PassportToken_tid end as par_lpu_oid,

-- Ведомственная принадлежность
case when Lpu.LpuOwnership_id = 3 then null else DepartAffilType.DepartAffilType_Code end
as DepartAffilType_Code, --ID Идентификатор
DepartAffilType.DepartAffilType_Name, --Name Имя
DepartAffilTypeParent.DepartAffilType_Code as DepartAffilType_Parent, --Parent Родитель

-- Форма собственности
case when Okfs.Okfs_OID in (5,4,10,9) and PassportTokenLpuHead.PassportToken_tid is
NULL then Okfs.Okfs_OID else null end as Okfs_Code,
Okfs.Okfs_Name, --Name Имя
OkfsParent.Okfs_OID as Okfs_Parent, --Parent Родитель

-- Организационно-правовая форма
Okopf.Okopf_OID as Okopf_Code, --ID Идентификатор
Okopf.Okopf_Name, --Name Имя
OkopfParent.Okopf_OID as Okopf_Parent, --Parent Родитель

-- Адрес
Address.Address_id,
```

Address.AddressType_id, --ID long Идентификатор
 Address.Address_Zip, --PostIndex int Почтовый индекс
 LOWER(Address.KLArea_AOID) as KLArea_AOID, -- код территории по ФИАС
 LOWER(Address.KLStreet_AOID) as KLStreet_AOID, -- код улицы по ФИАС
 convert(bigint, null) as houseid, -- Идентификатор дома по ФИАС

 Address.KLRgn_id,
 Address.KLArea_id,
 Address.AddressType_Name, --Name string Имя
 Address.Area_Prefix,
 Address.Street_Prefix,
 Address.Address_Flat, --Квартира
 Address.Address_Corpus, --Корпус
 Address.Address_House, --Дом
 Address.Address_KLAdr, --КЛАДР Идентификатор
 Address.Address_Level, --Уровень
 Address.Street_Name,
 Address.KLArea_Name,
 STR(mainbuild.LpuBuildingPass_CoordLat,9,6) as latitude,
 STR(mainbuild.LpuBuildingPass_CoordLong,9,6) as longitude,

 Address.Address_Parent, --Родитель
 convert(bigint, null) as Address_ParentType, --Тип родителя

 0 as deleted, --Флаг удаления
 convert(datetime, null) as deleteDate,
 convert(varchar(100), null) as deleteReason,

 convert(int, dbo.getRegion()) as region,
 Lpu.Lpu_insDT,
 Lpu.Lpu_updDT,
 Lpu.Lpu_begDate,
 Lpu.Lpu_endDate,
 Lpu.Lpu_Founder as founder,

 convert(bigint, 2) as medicalSubjectId, -- 2 = Медицинская организация
 Okved.Okved_Name as ProfileLpu, -- Профиль учреждения

 case when Lpu.LpuOwnership_id = 3 then null else MOAreaFeature.MOAreaFeature_code end
 as TerritoryId,
 --case when Lpu.LpuOwnership_id = 3 then null else case when LpuLevel.LpuLevel_code
 between 1 and 3 then LpuLevel.LpuLevel_code else 4 end end as LevelId,
 case when Lpu.LpuOwnership_id = 3 then null else LpuLevel.LpuLevel_code end as LevelId,

 org.Org_OKATO as OKATO, --okato
 org.Org_OKDP as OKDP, --okdp
 Okfs.Okfs_code as Okfs, --okfs,
 Okopf.Okopf_code as Okopf, --okopf
 org.Org_OKPO as OKPO, --okpo
 Okved.Okved_code as Okved, --okved

 --Тип учреждения
 case when Lpu.LpuOwnership_id = 3 then null else
 isnull(LpuPmuTypeParent.LpuPmuType_Code, LpuPmuType.LpuPmuType_Code) end as
 InstTypeParent_Code, -- Идентификатор вида деятельности корневые fed.LpuPmuType
 LpuPmuTypeParent.LpuPmuType_Name as InstType_Name_Parent, --Parent string Родитель
 case when Lpu.LpuOwnership_id = 3 or LpuPmuTypeParent.LpuPmuType_Code is NULL then
 null else LpuPmuType.LpuPmuType_Code end as InstType_Code, -- Идентификатор
 профиля деятельности дочерние fed.LpuPmuType
 LpuPmuType.LpuPmuType_Name as InstType_Name, --Name string Имя

 Lpu.Lpu_RegDate as RegDate, --RegDate DateTime Дата регистрации
 Lpu.Lpu_DocReg as RegDoc, --RegDoc string Документ о регистрации
 Lpu.Lpu_RegNum as RegNumber, --RegNumber string Регистрационный номер

```

OrgRegistration.Org_Name as RegOrgName --RegOrgName string Наименование
регистрирующего органа

from dbo.v_Lpu Lpu with (nolock)
inner join dbo.v_Org Org with (nolock) on Lpu.Org_id = Org.Org_id
inner join fed.v_PassportToken PassportToken with (nolock) on Lpu.Lpu_id =
PassportToken.Lpu_id
left join fed.v_PasportMO PassportMO with (nolock) on Lpu.Lpu_id = PassportMO.Lpu_id
left join fed.v_PassportToken PassportTokenLpuHead with (nolock) on PassportMO.Lpu_gid =
PassportTokenLpuHead.Lpu_id
left join fed.v_DepartAffilType DepartAffilType with (nolock) on PassportMO.DepartAffilType_id
= DepartAffilType.DepartAffilType_id
left join fed.v_DepartAffilType DepartAffilTypeParent with (nolock) on
DepartAffilType.DepartAffilType_pid = DepartAffilTypeParent.DepartAffilType_id
left join dbo.v_Okfs Okfs with (nolock) on Org.Okfs_id = Okfs.Okfs_id
left join dbo.v_Okfs OkfsParent WITH (NOLOCK) ON Okfs.Okfs_pid = OkfsParent.Okfs_id
left join dbo.v_Okopf Okopf with (nolock) on Org.Okopf_id = Okopf.Okopf_id
left join dbo.v_Okopf OkopfParent WITH (NOLOCK) ON Okopf.Okopf_pid =
Okopfparent.Okopf_id
left join fed.v_LpuPmuType LpuPmuType with (nolock) on LpuPmuType.LpuPmuType_id =
Lpu.LpuPmuType_id
left join fed.v_LpuPmuType LpuPmuTypeParent with (nolock) on
LpuPmuType.LpuPmuType_pid = LpuPmuTypeParent.LpuPmuType_id
left join fed.MOAreaFeature MOAreaFeature with (nolock) on Lpu.MOAreaFeature_id =
MOAreaFeature.MOAreaFeature_id
left join fed.LpuLevel LpuLevel with (nolock) on PassportMO.LpuLevel_id =
LpuLevel.LpuLevel_id

left join dbo.v_LpuBuildingPass mainbuild with (NOLOCK) on mainbuild.LpuBuildingPass_id =
Lpu.LpuBuildingPass_mid

-- Адреса
outer apply (select top 1
Address_id,
KLRgn_id,
PArea.KLArea_id,
case when Address_id = Org.UAddress_id then 1 else 2 end as AddressType_id,
case when Address_id = Org.UAddress_id then 'Юридический' else 'Фактический' end as
AddressType_Name,
rtrim(ltrim(PAddress.Address_House)) as Address_House,
rtrim(ltrim(PAddress.Address_Zip)) as Address_Zip,
rtrim(ltrim(PAddress.Address_Flat)) as Address_Flat,
rtrim(ltrim(PAddress.Address_Corpus)) as Address_Corpus,
PAddress.KLADR_Code as Address_Kladr,
5 as Address_Level,
PStreet.KLStreet_Name as Street_Name,
PArea.KLArea_Name as KLArea_Name,
PArea.KLAdr_Code as Address_Parent,
PArea.KLArea_AOID, PStreet.KLStreet_AOID,
SStreet.KLSocr_Nick as Street_Prefix, SArea.KLSocr_Nick as Area_Prefix
from dbo.v_Address_KLAdr PAddress with (nolock)
left join dbo.v_KLStreet PStreet with (nolock) on PAddress.KLStreet_id = PStreet.KLStreet_id
left join dbo.v_KLSocr SStreet with (nolock) on PStreet.KLSocr_id = PStreet.KLSocr_id
left join dbo.v_KLArea PArea with (nolock) on PStreet.KLArea_id = PArea.KLArea_id
left join dbo.v_KLSocr SArea with (nolock) on SArea.KLSocr_id = PArea.KLSocr_id
where Address_id in (Org.UAddress_id)
) Address

-- Регистрационные данные
left join dbo.v_Org OrgRegistration with (nolock) on Lpu.Org_id = OrgRegistration.Org_id
-- Классификационные данные
left join dbo.v_Okved Okved with (nolock) on org.Okved_id = Okved.Okved_id

```

```

where (1 = 1)
and PassportToken.PassportToken_tid is not null

-- Даты закрытия
and isnull(Lpu_begDate, dbo.tzGetDate()) <= dbo.tzGetDate() and (Lpu_endDate >
dbo.tzGetDate() or Lpu_endDate is null)
and PassportToken.PassportToken_tid = @oid

```

18.2.7 Скрипт get_Buildings.sql для списка зданий, экспортируемых в ФРМО:
-- Ид МО

```

declare @lpu_id bigint = 13101706

select
LpuBuildingPass.LpuBuildingPass_id,
LpuBuildingPass.MOArea_id,
Address.Address_id,
Lpu.Lpu_id as Lpu_Id,
PassportToken.PassportToken_tid as oid,
LpuBuildingPass.LpuBuildingPass_id as id,
LpuBuildingPass.LpuBuildingPass_Name AS buildName,
YEAR(LpuBuildingPass.LpuBuildingPass_YearBuilt) AS buildYear,--Дата постройки
LpuBuildingPass.LpuBuildingPass_Floors AS floorCount,--Этажность
CASE when ISNULL(LpuBuildingPass.LpuBuildingPass_IsBuildEmerg,0) = 2 then 'True' else
'False' end as hasTrouble,--Находится в аварийном состоянии
LpuBuildingPass.LpuBuildingPass_insDT,
LpuBuildingPass.LpuBuildingPass_updDT,
LpuBuildingPass.LpuBuildingPass_BuildingIdent,

-- Адрес
Address.Address_Zip, --PostIndex int Почтовый индекс
LOWER(Address.KLArea_AOID) as KLArea_AOID, -- код территории по ФИАС
LOWER(Address.KLStreet_AOID) as KLStreet_AOID, -- код улицы по ФИАС
convert(varchar(36), null) as houseid, -- Идентификатор дома по ФИАС
Address.KLRgn_id,
Address.Area_Prefix,
Address.Street_Prefix,
Address.Address_Flat, --Квартира
Address.Address_Corpus, --Корпус
Address.Address_House, --Дом
Address.Address_KLAdr, --КЛАДР Идентификатор
Address.Address_Level, --Уровень
Address.Street_Name,
Address.KLArea_Name,
Address.KLArea_id, Address.KLStreet_id,
STR(LpuBuildingPass.LpuBuildingPass_CoordLat,9,6) as latitude,
STR(LpuBuildingPass.LpuBuildingPass_CoordLong,9,6) as longitude

from dbo.v_Lpu Lpu with (nolock)
inner join dbo.v_Org Org with (nolock) on Lpu.Org_id = Org.Org_id
inner join fed.v_PassportToken PassportToken with (nolock) on Lpu.Lpu_id =
PassportToken.Lpu_id

inner JOIN dbo.v_LpuBuildingPass AS LpuBuildingPass with (NOLOCK) ON
LpuBuildingPass.Lpu_id = Lpu.Lpu_id
LEFT JOIN fed.v_MOArea AS MOArea with (NOLOCK) ON LpuBuildingPass.MOArea_id =
MOArea.MOArea_id
left join nsi.v_OKATO nsiOKATO with (nolock) on nsiOKATO.OKATO_id = MOArea.OKATO_id
left join dbo.v_Address_KLAdr MOAreaAddress with (NOLOCK) ON MOArea.Address_id =
MOAreaAddress.Address_id

```

```

outer apply (select top 1
--coord.KLHouseCoords_id,
Address_id,
KLRgn_id,
rtrim(ltrim(PAddress.Address_House)) as Address_House,
rtrim(ltrim(PAddress.Address_Zip)) as Address_Zip,
rtrim(ltrim(PAddress.Address_Flat)) as Address_Flat,
rtrim(ltrim(PAddress.Address_Corpus)) as Address_Corpus,
PAddress.KLADR_Code as Address_Kladr,
5 as Address_Level,
PStreet.KLStreet_Name as Street_Name,
PArea.KLArea_Name as KLArea_Name,
PArea.KLAdr_Code as Address_Parent,
PArea.KLArea_AOID, PStreet.KLStreet_AOID,
SStreet.KLSocr_Nick as Street_Prefix, SArea.KLSocr_Nick as Area_Prefix
, PStreet.KLArea_id, PAddress.KLStreet_id
from dbo.v_Address_KLAdr PAddress with (nolock)
left join dbo.v_KLStreet PStreet with (nolock) on PAddress.KLStreet_id = PStreet.KLStreet_id
left join dbo.v_KLSocr SStreet with (nolock) on SStreet.KLSocr_id = PStreet.KLSocr_id
left join dbo.v_KLArea PArea with (nolock) on PStreet.KLArea_id = PArea.KLArea_id
left join dbo.v_KLSocr SArea with (nolock) on SArea.KLSocr_id = PArea.KLSocr_id
where PAddress.Address_id = MOArea.Address_id
) Address
where (1 = 1)
and LpuBuildingPass.LpuBuildingPass_CoordLat is not NULL
and LpuBuildingPass.LpuBuildingPass_CoordLong is not NULL
and PassportToken.PassportToken_tid is not null
-- Даты закрытия
and isnull(Lpu_begDate, dbo.tzGetDate()) <= dbo.tzGetDate() and (Lpu_endDate >
dbo.tzGetDate() or Lpu_endDate is null)
and Lpu.Lpu_id = @lpu_id
order by Address.KLArea_AOID, Address.KLStreet_AOID

```

18.2.8 Скрипт get_Departments.sql для списка подразделений и отделений, экспортируемых в ФРМО:

-- Ид МО

```

declare @lpu_id bigint = 13101703

declare @ndate datetime
set @ndate = GetDate()

declare @isIdRegional bit
set @isIdRegional = convert(bit, 1)

select
regs.rid,
LpuUnit.LpuUnit_id,
LpuBuilding.LpuBuilding_id,
LpuBuilding.LpuBuilding_IsExport,
LpuUnit.LpuUnit_IsNotFRMO,
LpuUnit.LpuUnit_updDT,
LpuUnit.LpuUnit_id,
LpuUnit.LpuUnit_FRMOUnitID as oid,
LpuUnit_FRMOid as fedid,
Lpu.Lpu_id as LpuId,
LpuUnit.UnitDepartType_fid,

```

LpuUnit.LpuUnit_Name,
 REPLACE(REPLACE(REPLACE(REPLACE(LpuUnit.LpuUnit_Phone,' ',''),'-',''),',' ',''),')') as
 LpuUnit_Phone,
 UnitType.LpuUnitType_Code,
 UnitType.LpuUnitType_Nick,

 PassportToken.PassportToken_tid as LpuIdentificator,
 LpuBuilding.LpuBuilding_id as LpuBuilding_id,
 LpuBuilding.LpuBuilding_Code as LpuBuilding_Code,
 LpuBuilding.LpuBuilding_Name as LpuBuilding_Name,
 LpuBuilding.LpuBuildingType_id,
 BuildingType.LpuBuildingType_Name,

 LpuUnit.LpuUnitProfile_fid as departKindId,
 LpuUnit.UnitDepartType_fid as departTypeId,
 CASE when ISNULL(LpuUnit.LpuUnit_IsStandalone,0) = 2 then 'True' else 'False' end as
 separateDepart,--Обособленное подразделение
 CASE when ISNULL(LpuUnit.LpuUnit_IsStandalone,0) = 2 then
 UnitBuilding.LpuBuildingPass_Name else NULL end as UnitBuildingName,
 LpuUnit.LpuUnit_endDate,

 CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 1 then CASE when
 ISNULL(LpuUnit.LpuUnit_IsHomeVisit,0) = 2 then 'True' else 'False' end else NULL end as
 visitHome,
 CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 1 then att.quant else NULL end as
 attached,
 CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 1 then att.child_quant else NULL end as
 child_attached,
 CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 1 then CASE when
 ISNULL(reg.LpuSection_PlanVisitShift,0) = 0 then 10 else reg.LpuSection_PlanVisitShift end
 else NULL end as visitPerShift,--Плановое число посещений в смену
 CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 1 then LpuSection.FRMPSubdivision_id
 else NULL end as RegRoomSubdivisionId,
 CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 1 and LpuSection.FRMPSubdivision_id
 is not NULL then regs.roomCount else NULL end as RegRoomCount,
 CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 1 and LpuSection.FRMPSubdivision_id
 is not NULL then regs.building else NULL end as RegRoomBuilding,
 CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 1 and LpuSection.FRMPSubdivision_id
 is not NULL then regs.sub_oid else NULL end as RegRoomOID,

 CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) in (3,4) then
 LpuSection.FRMPSubdivision_id else NULL end as LabRoomSubdivisionId,
 CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) in (3,4) and
 LpuSection.FRMPSubdivision_id is not NULL then labs.resCount else NULL end as
 LabRoomCount,
 CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) in (3,4) and
 LpuSection.FRMPSubdivision_id is not NULL then labs.resCount else NULL end as
 LabRoomRes,
 CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) in (3,4) and
 LpuSection.FRMPSubdivision_id is not NULL then labs.building else NULL end as
 LabRoomBuilding,
 CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) in (3,4) and
 LpuSection.FRMPSubdivision_id is not NULL then labs.sub_oid else NULL end as
 LabRoomOID,

 LpuSection.LpuSection_id,
 LpuSection.LpuSection_Code,
 LpuSection.LpuSection_IsNotFRMO,
 CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 2 then LpuSection.LpuSection_Name
 else NULL end as LpuSection_Name,
 CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 2 and UnitType.LpuUnitType_Code = 2
 then CASE when ISNULL(LpuUnit.LpuUnit_IsCMP,0) = 2 then 'True' else 'False' end else NULL
 end as ambulance,

```

CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 2 then CASE when
UnitType.LpuUnitType_Code = 2 then 1 when UnitType.LpuUnitType_Code in (3,5) then 2 else
3 end else NULL end as hospitalModelId,
CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 2 and UnitType.LpuUnitType_Code in
(2,3,4,5) then case when isnull(@isIdRegional,0) = 1 then LpuSection.LpuSection_id else
LpuSection.LpuSection_FRMOSectionId end else NULL end as sub_id,
CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 2 and UnitType.LpuUnitType_Code in
(2,3,4,5) then LpuSection.LpuSection_FRMOBuildingOid else NULL end as sub_oid,
CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 2 and UnitType.LpuUnitType_Code in
(2,3,4,5) then LpuSection.FRMPSubdivision_id else NULL end as subdivisionId,
CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 2 and UnitType.LpuUnitType_Code in
(2,3,4,5) then LpuUnit.LpuUnit_endDate else NULL end as liquidationDate,
CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 2 and UnitType.LpuUnitType_Code in
(2,3,4,5) then SectionBuilding.LpuBuildingPass_Name else NULL end as SectionBuildingName,
CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 2 and UnitType.LpuUnitType_Code in
(2,3,4,5) then LpuSection.LpuSection_disDate else NULL end as LpuSection_disDate,

CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 2 and UnitType.LpuUnitType_Code in (4)
then bedstatall.LpuSectionBedState_Fact else NULL end as homeBedCount,

CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 5 then LpuSection.LpuSection_KolAmbul
else NULL end as brigadeCount,
CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 5 then LpuSection.LpuSection_PlanTrip
else NULL end as departurePerShift,
CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 5 then
UnitBuilding.LpuBuildingPass_Name else NULL end as SMPBuildingName,

CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 6 then
SectionBuilding.LpuBuildingPass_Name else NULL end as AdminBuildingName, -- здание
админ-хоз подразделения

LpuSection.LpuCostType_id,
LpuSection.LpuSectionProfile_Code,
LpuSection.LpuSectionProfile_Name

from
dbo.v_Lpu Lpu with (nolock)
inner join dbo.v_Org Org with (nolock) on Lpu.Org_id = Org.Org_id
inner join fed.v_PassportToken PassportToken with (nolock) on Lpu.Lpu_id =
PassportToken.Lpu_id
inner join dbo.v_LpuSection LpuSection with (nolock) ON LpuSection.Lpu_id = Lpu.Lpu_id
inner join dbo.v_LpuUnit LpuUnit with (nolock) ON ISNULL(LpuSection.LpuUnit_sid,
LpuSection.LpuUnit_id) = LpuUnit.LpuUnit_id
inner join dbo.v_LpuUnitType UnitType with (nolock) ON LpuUnit.LpuUnitType_id =
UnitType.LpuUnitType_id
inner join dbo.v_LpuBuilding LpuBuilding with (nolock) ON LpuUnit.LpuBuilding_id =
LpuBuilding.LpuBuilding_id
and (
-- Признак группы подразделений "Экспорт в ПМУ" включен
LpuBuilding.LpuBuilding_IsExport = 2 and
isnull(LpuBuilding_begDate, dbo.tzGetDate()) <= dbo.tzGetDate() and (LpuBuilding_endDate >
dbo.tzGetDate() or LpuBuilding_endDate is null))
inner join dbo.v_LpuBuildingType BuildingType with (nolock) ON
BuildingType.LpuBuildingType_id = LpuBuilding.LpuBuildingType_id

left join dbo.v_LpuBuildingPass UnitBuilding with (nolock) ON LpuUnit.LpuBuildingPass_id =
UnitBuilding.LpuBuildingPass_id
left join dbo.v_LpuBuildingPass SectionBuilding with (nolock) ON
LpuSection.LpuBuildingPass_id = SectionBuilding.LpuBuildingPass_id

outer apply (
select sum(BedState.LpuSectionBedState_Fact) as LpuSectionBedState_Fact
from dbo.v_LpuSectionBedState (NOLOCK) AS BedState
where BedState.LpuSection_id = LpuSection.LpuSection_id

```



```

and BedState.LpuSectionBedState_begDate < @ndate and
BedState.LpuSectionBedState_endDate is null
) bedstatall

outer apply (
select sum(LpuSec.LpuSection_PlanVisitShift) as LpuSection_PlanVisitShift
from dbo.v_LpuSection LpuSec with (nolock)
where LpuSec.LpuUnit_id = LpuUnit.LpuUnit_id
) reg

outer apply (
select max(LpuSec.LpuSection_id) as rid, count(distinct LpuSec.LpuSection_id) as roomCount,
max(SecBuilding.LpuBuildingPass_Name) as building,
max(LpuSec.LpuSection_FRMOBuildingOid) as sub_oid
from dbo.v_LpuSection LpuSec with (nolock)
left join dbo.v_LpuBuildingPass SecBuilding with (nolock) ON LpuSec.LpuBuildingPass_id =
SecBuilding.LpuBuildingPass_id
where LpuSec.LpuUnit_id = LpuUnit.LpuUnit_id and ISNULL(LpuUnit.UnitDepartType_fid,0) = 1
and LpuSection.FRMPSubdivision_id = LpuSec.FRMPSubdivision_id
and ISNULL(LpuSec.LpuSection_IsNotFRMO, 1) = 1
) regs

outer apply (
select sum(LpuSec.LpuSection_PlanResShift) as resCount,
max(SecBuilding.LpuBuildingPass_Name) as building,
max(LpuSec.LpuSection_FRMOBuildingOid) as sub_oid
from dbo.v_LpuSection LpuSec with (nolock)
left join dbo.v_LpuBuildingPass SecBuilding with (nolock) ON LpuSec.LpuBuildingPass_id =
SecBuilding.LpuBuildingPass_id
where LpuSec.LpuUnit_id = LpuUnit.LpuUnit_id and ISNULL(LpuUnit.UnitDepartType_fid,0) in
(3,4) and LpuSection.FRMPSubdivision_id = LpuSec.FRMPSubdivision_id
and ISNULL(LpuSec.LpuSection_IsNotFRMO, 1) = 1
) labs

outer apply (
select count(distinct pc.Person_id) as quant
, count (distinct case when dbo.Age(ISNULL(pall.PersonBirthDay_BirthDay, @ndate), @ndate)
< 17 then pc.Person_id else NULL end) as child_quant
from PersonCard pc with (nolock)
inner join PersonState pall with (nolock) on pall.Person_id = pc.Person_id
inner join Person pr with (nolock) on pall.Person_id = pr.Person_id and pr.Server_id=0
where pc.Lpu_id=Lpu.Lpu_id and pc.LpuAttachType_id=1
and pc.PersonCard_begDate < @ndate and pc.PersonCard_endDate is null
) att

where (1 = 1)

and LpuSection.LpuSection_pid is NULL -- подразделения не включаем
and PassportToken.PassportToken_tid is not null

and LpuUnit.LpuUnit_FRMOUnitID is not null
and LpuUnit.LpuUnitProfile_fid is not NULL
and ISNULL(LpuUnit.LpuUnit_IsNotFRMO, 1) = 2 -- признак "не передавать на ФРМО" для
подразделения не включен
and ISNULL(LpuSection.LpuSection_IsNotFRMO, 1) = 1 -- признак "не передавать на ФРМО"
для отделения не включен

and (LpuSection.FRMPSubdivision_id is not NULL or LpuSection.LpuSection_id is NULL or not
(ISNULL(LpuUnit.UnitDepartType_fid,0) = 2 and UnitType.LpuUnitType_Code in (2,3,5)))

and (not (ISNULL(SectionBuilding.LpuBuildingPass_Name,"") = "") or (LpuSection.LpuSection_id
is null)
or not (ISNULL(LpuUnit.UnitDepartType_fid,0) = 2 and UnitType.LpuUnitType_Code in (2,3,5)))

```

and (not (ISNULL(UnitBuilding.LpuBuildingPass_Name, '') = '') or not
(ISNULL(LpuUnit.LpuUnit_IsStandalone, 0) = 2))

-- Даты закрытия

and isnull(Lpu_begDate, dbo.tzGetDate()) <= dbo.tzGetDate() and (Lpu_endDate >
dbo.tzGetDate() or Lpu_endDate is null)
and Lpu.Lpu_id = @lpu_id

18.2.9 Скрипт get_Staff.sql для списка штатных расписаний, экспортируемых в ФРМО:
select

```
LpuStaff.LpuStaff_Num as staffNum
, LpuStaff.LpuStaff_id
, max(isnull(LpuStaff.LpuStaff_ApprovalDT, Lpu.Lpu_begDate)) as staffCreateDate
, max(isnull(LpuStaff.LpuStaff_begDate, Lpu.Lpu_begDate)) as beginDate
, max(ISNULL(LpuStaff.LpuStaff_endDate, '20991231')) as endDate
, Lpu.Lpu_id as LpuId
, LpuUnit.LpuUnit_FRMOUnitID as nrPmuDepartId
, max(LpuUnit.UnitDepartType_fid) as UnitDepartType_fid

, CASE when ISNULL(LpuUnit.UnitDepartType_fid, 0) = 2 and UnitType.LpuUnitType_Code in
(2,3,5) then LpuSection.LpuSection_FRMOBuildingOid else NULL end as
nrPmuDepartHospitalSubdivisionId
, FRMPPost.frmr_id as post_id
, max(post.id) as postid
, max(st.Rate) as totalRate
, max(FRMPPost.id) as post_code, max(FRMPPost.name) as post_name
, max(PassportToken.PassportToken_tid) as LpuIdenticator
, LpuBuilding.LpuBuilding_id as LpuBuilding_id
, max(LpuUnit.LpuUnit_Name) as LpuUnit_Name
, max(LpuSection.LpuSection_Name) as LpuSection_Name
, max(st.id) as staff_id
, max(LpuUnit.LpuUnit_id) as LpuUnit_id
, max(LpuBuilding.LpuBuilding_id) as LpuBuilding_id
, max(LpuBuilding.LpuBuilding_name) as LpuBuilding_name

from dbo.v_Lpu Lpu with (nolock)
inner join dbo.v_Org Org with (nolock) on Lpu.Org_id = Org.Org_id
left join dbo.v_LpuStaff LpuStaff with (nolock) on Lpu.Lpu_id = LpuStaff.Lpu_id
inner join fed.v_PassportToken PassportToken with (nolock) on Lpu.Lpu_id =
PassportToken.Lpu_id
inner join dbo.v_LpuBuilding LpuBuilding with (nolock) ON LpuBuilding.Lpu_id = Lpu.Lpu_id
inner join dbo.v_LpuUnit LpuUnit with (nolock) ON LpuUnit.LpuBuilding_id =
LpuBuilding.LpuBuilding_id
inner join dbo.v_LpuUnitType UnitType with (nolock) ON LpuUnit.LpuUnitType_id =
UnitType.LpuUnitType_id
inner join dbo.v_LpuSection LpuSection with (nolock) ON LpuSection.LpuUnit_id =
LpuUnit.LpuUnit_id

inner join persis.v_Staff st with (nolock) ON st.LpuSection_id = LpuSection.LpuSection_id
and st.LpuBuilding_id = LpuBuilding.LpuBuilding_id and st.LpuUnit_id = LpuUnit.LpuUnit_id
inner join persis.Staff st_ with (nolock) ON st.id = st_.id
inner join persis.post post with (nolock) on post.id = st_.Post_id
inner join persis.FRMPPost FRMPPost with (nolock) on FRMPPost.id = post.frmEntry_id

where (1 = 1)

and PassportToken.PassportToken_tid is not null
and LpuUnit.LpuUnit_FRMOUnitID is not NULL

and ISNULL(LpuSection.LpuSection_IsNotFRMO, 1) = 1 -- признак "не передавать на ФРМО"
не включен
```

and (LpuSection.LpuSection_FRMOBuildingOid is not NULL or not
 (ISNULL(LpuUnit.UnitDepartType_fid,0) = 2 and UnitType.LpuUnitType_Code in (2,3,5)))
 and (LpuBuilding.LpuBuilding_IsExport = 2 and isnull(LpuBuilding_begDate, dbo.tzGetDate())
 <= dbo.tzGetDate() and (LpuBuilding_endDate > dbo.tzGetDate() or LpuBuilding_endDate is
 null))

and st.Rate > 0.2 and dbo.tzGetDate() between st.BeginDate and isnull(st.EndDate,
 '21000101')

-- Даты актуальности

and isnull(Lpu.Lpu_begDate, dbo.tzGetDate()) <= dbo.tzGetDate() and (Lpu.Lpu_endDate >
 dbo.tzGetDate() or Lpu.Lpu_endDate is null)

– **Ид МО**

and Lpu.Lpu_id = 10010833

group by Lpu.Lpu_id, LpuStaff.LpuStaff_Num, LpuStaff.LpuStaff_id,
 LpuBuilding.LpuBuilding_id, LpuUnit.LpuUnit_FRMOUnitID, CASE when
 ISNULL(LpuUnit.UnitDepartType_fid,0) = 2 and UnitType.LpuUnitType_Code in (2,3,5) then
 LpuSection.LpuSection_FRMOBuildingOid else NULL end, FRMPPost.fmr_id

order by Lpu.Lpu_id, LpuStaff.LpuStaff_Num, LpuStaff.LpuStaff_id, LpuBuilding.LpuBuilding_id,
 LpuUnit.LpuUnit_FRMOUnitID, CASE when ISNULL(LpuUnit.UnitDepartType_fid,0) = 2 and
 UnitType.LpuUnitType_Code in (2,3,5) then LpuSection.LpuSection_FRMOBuildingOid else
 NULL end, FRMPPost.fmr_id

19 ФРМР. Отчет о тестировании и массовая выгрузка. Подробная инструкция.

- [Общие сведения](#)
- [Подготовка.](#)
- [Проверка ФРМР.](#)
 - а. [Создание врача.](#)
 - [Заполнение персональных данных человека.](#)
 - [Заполнение данных об образовании](#)
 - [Заполнение данных о месте работы.](#)
- [Составление отчета о тестировании.](#)
 - [Порядок выполнения методов](#)
- [Массовая выгрузка.](#)
 - [Проведение Массовой выгрузки.](#)
 - [Составление отчета](#)
- [SQL Scripts](#)
 - [Проверка и подготовка Сессии.](#)
 - [Запуск методов ФРМР:](#)
 - [Работа с данными](#)
 - [Проверка данных Врача](#)

19.1 Общие сведения

Массовая выгрузка ФРМР подразумевает под собой передачу данных сразу по нескольким врачам. Как правило, для тестирования создаются 100 тестовых людей, из которых 20 людей являются врачами, и 80 - массовой. Проводится массовая выгрузка только после успешно проведенной выгрузки ФРМО, т.к. при выгрузке так же передается значение OID структурного подразделения. Так же следует учитывать, что при выгрузке ФРМО так же должны быть выгружены штатное расписание и должности, при этом количество ставок на должности должно быть не менее 100.

Сама массовая выгрузка делится на 3 этапа:

1. Подготовка
2. Проверка ФРМР.
3. Массовая выгрузка

19.2 Подготовка.

Перед проведением массовой выгрузки и началом работы с новым регионом необходимо будет выполнить следующие шаги:

1. Установить [DBeaver](#) или любой аналогичный клиент для работы с БД. [Подробнее, как установить DBeaver](#)
2. Запросить доступ к БД региона, на котором проводится массовая выгрузка. При этом:
 - a. Если выгрузка проводится с тестового сервера региона, то доступ необходим к тестовой БД
 - b. Если выгрузка проводится с рабочего сервера региона, то доступ необходим к рабочей БД.
 - c. В обоих случаях, доступ к БД необходим с правами на чтение, редактирование, добавление, удаление
3. Подключиться через DBeaver или аналогичный клиент для работы с БД к той БД, к которой был предоставлен доступ. [Подробнее о том, как настроить подключение к DBeaver](#)

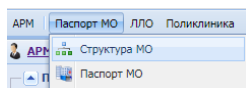
После выполнения этих шагов можно переходить к дальнейшим этапам.

19.3 Проверка ФРМР.

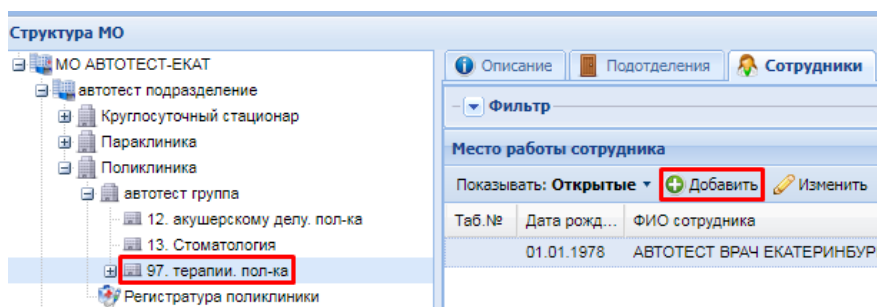
Данный необходим для проверки работы ФРМР и подразумевает под собой создание 1 тестового врача, выгрузка его на портал и составление отчета о результатах.

19.3.1 Создание врача.

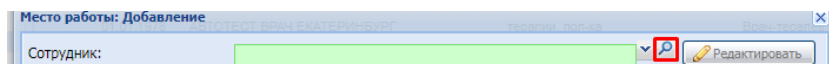
При проверке ФРМР создается только 1 врач. Для этого, зайти и авторизоваться в РМИС Промед. В верхнем меню найти кнопку "Паспорт МО", в выпадающем меню выбрать "Структура МО":



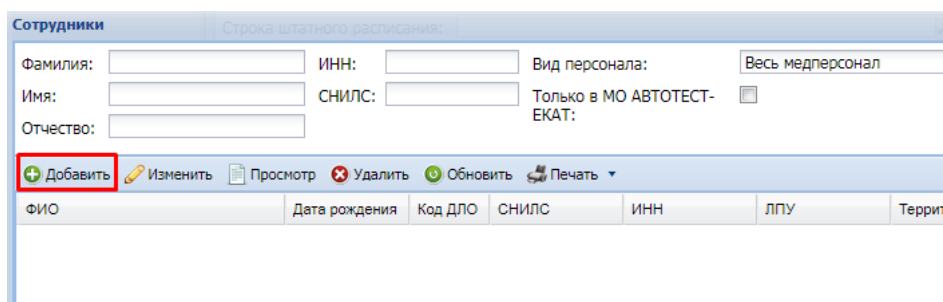
Раскрываем дерево МО и выбираем подразделение МО. Нажимаем кнопку "Добавить"



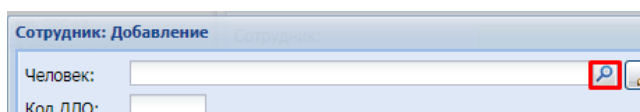
В открывшейся форме "Место работы: Добавление" нажимаем на изображение лупы напротив поля сотрудник:



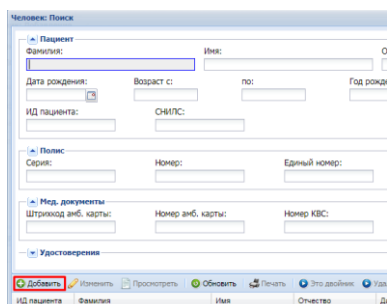
На форме "Сотрудники" снова нажимаем добавить:



На форме "Сотрудники: Добавление" ищем изображение лупы напротив поля "Человек" и нажимаем на него:



И последним шагом в этой цепочке - нажать на кнопку "Добавить" на форме "Человек: Поиск"



19.3.1.1 Заполнение персональных данных человека.

На форме "Человек: Поиск" заполняем следующие поля:

1. ФИО человека: ТЕСТ ФРМР ОДИН
2. Дата рождения: любая дата, например 01.01.1980
3. Телефон человека: любой телефон, например: +71111111111
4. Пол человека.
5. СНИЛС человека: СНИЛС обязательно должен быть валидным, и не должен использоваться ранее для выгрузки на этом регионе. Валидность СНИЛС проверяется по [формуле](#), или можно воспользоваться [генератором](#) (СНИЛС в генераторе получаются почти всегда валидными. Но из-за почти всегда - лучше проверять)

6. Социальный статус.
7. Адрес проживания и Адрес регистрации. Лучший вариант при заполнении - указывать ул.Ленина, номер дома 999, квартира 999,
8. Заполняются данные полиса. Важными при заполнении параметрами будут - номер, который тоже должен быть валидным(используем [генератор](#)).
9. Заполняются паспортные данные. При заполнении серии и номера необходимо учитывать, что бы серия и номер не пересекались с серией и номером реально существующих людей. Например, если на регионе есть люди, серия и номер которых начинаются на 5*** и 1*****, то серия и номер для ПД создаваемого челока не должны начинаться с указанных цифр. Определить диапазон можно простым SQL запросом в таблицу v_personstate.
10. Заполняется место работы. Местом работы указывается МО, на которую добавляется врач. Должность должна соответствовать той должности, на которую добавляется врач.
11. ИНН человека. Он тоже должен быть валидным, и высчитывается по [формуле](#). Или используется все тот же генератор.
12. Проверяем еще раз введенные данные и сохраняем человека.

Пример итогового результат заполнения формы "Человек: Добавление":

19.3.1.2 Заполнение данных об образовании

После сохранения человека необходимо добавить информацию об образовании врача. Для этого на форме "Сотрудники: Добавление" заполняются:

- На вкладке Квалификационная категория, добавляется 1 квалификационная категория. Специальность выбирается с id = 13. Категория - высшая. Дату прохождения указываем 2017 год

- На вкладке Специальности по диплому. Добавляются специальность по диплому для Высшего и Среднего образования.

- Выбирается учебное заведение: примера нет, на каждом регионе будет какое то свое учебное заведение, которое зависит от справочников на регионе, как давно их обновили, от справочников на портале ФРМО и как давно их обновили.
- Год поступления/год окончания - должен попадать в период работы учебного заведения. Например, если УЗ - работало с 1995 по 2005, то врач должен учиться в период с 2001 по 2004
- Серия диплома - случайные 4 цифры. ***ВАЖНО* ЦИФР ДОЛЖНО БЫТЬ - 4. НЕ 3, НЕ 5, А ИМЕННО 4**
- Номер диплома - случайные 6(для среднего образования) и случайные 7(для высшего образования) цифр.
- Дата выдачи диплома. Не должна превышать дату работы УЗ.
- Тип образования - Среднее образования для Среднего образования. Высшее образование - для Высшего образования.
- Специальность - Врач с кодом 15
- Квалификация - Врач общей практики.

Среднее образование	Высшее образование

- На вкладке Послевузовское образование. Создается 1 послевузовское образование и заполняются поля:
 - Выбирается учебное заведение: примера нет
 - Даты начала, окончания, получения диплома. Главное - что бы даты попадали в диапазон работы УЗ
 - Серия и номер диплома - случайные цифры. Важно, что бы Серия была - не больше и не меньше 4 цифр. Номер диплома - должен быть 5 цифр.
 - Тип образования - аспирантура
 - Специальность - для интернатуры выбираем специальность с кодом 75. Для аспирантуры - Микробиология
 - Ученая степень - Доктор медицинских наук

Пример заполнения Послевузовского образования:

- На вкладке Курсы Переподготовки создаем запись об 1 курсе. Заполняются следующие поля:
 - Выбирается учебное заведение: примера нет
 - Год прохождения. Так же главное, что бы попадало в период действия УЗ
 - Количество часов - 360
 - Серия и номер документа. Рандомные цифры, но важно, что бы Серия была не более и не менее 3х цифр, Номер - 4 цифры.
 - Дата получения документа.
 - Специальность - выбираем специальность с кодом 3200

Пример заполнения Курса Переподготовки

- На вкладке Курсы Повышения Квалификации создаем 1 запись о повышении квалификации. Заполняем следующие поля:
 - Выбирается учебное заведение: примера нет
 - Цикл - указываем 1 цикл
 - Год прохождения. И он снова должен попадать в период действия УЗ
 - Количество часов. Указываем 240
 - Серия и Номер документа. Рандомные цифры, но ВАЖНО - Серия должна быть 3 цифры, не больше и не меньше. Номер документа должен быть не больше и не меньше 5 цифр.
 - Дата получения документа. Как и ранее, должен попадать в действие УЗ
 - Специальность - выбираем специальность с кодом 17

Пример заполнения Курса Повышения Квалификации

- На вкладке Сертификаты создается 1 запись о сертификате. Заполняются следующие поля:
 - Выбирается учебное заведение: примера нет
 - Серия и Номер сертификата. Рандомные цифры, НО! Сертификат должен быть - 1 цифра, Номер Сертификата - 3 цифры.
 - Специальность - выбираем специальность с кодом 36.

- d. Дата сдачи экзамена и Дата получения сертификата. Как и все заполняемые ранее даты должна попадать в период работы УЗ

Пример заполнения данных о Сертификате:

- На вкладке Награды. Добавляем 1 награду, заполняем все 4 поля и не важно, какими данными.

Пример заполнения данных о Награде

Дополнительные сведения не заполняются, как и Аккредитация (Федералы убрали необходимость в аккредитации и с 2019 года она ими при выгрузке не принимается).

После добавления всех необходимых данных об образовании сохраняем Врача и переходим к заполнению следующих форм.

19.3.1.3 Заполнение данных о месте работы.

При заполнении данных о месте работы Врача учитываем, что у Врача не должно быть других ставок. Заполняются следующие поля:

- Запись на начало - указываем Принят
- Прибыл - Из мед. организации данного субъекта Российской Федерации
- Номер приказа - 1к
- Дата приема - не должна совпадать ни с одной датой, указанной в данных об обучении.

Пример:

- Тип занятия должности - всегда должна быть основная должность!
- Ставка - 1

- Режим работы - работающий на постоянной работе.
- Отношение к военной службе - Военнообязанный

Пример:

19.4 Составление отчета о тестировании.

После создания Врача и добавления его в структуру можно приступить непосредственно к выгрузке.

Для этого через DBeaver запускаем последовательно SQL скрипты

1. проверка таблицы для хранения Врача
2. создание таблицы хранения Врача (опционально, если таблицы нет на регионе)
3. добавление данных Врача
4. проверка данных Врача. Если какие то данные отличаются/отсутствуют - исправляем и проверяем еще раз.
5. **Скрипты ниже**
6. комментируем данные Врача (все, кроме person)
7. Запускаем скрипт create
8. Переходим в логи. У каждого сервера свой адрес для доступа к логам. В самих логах необходимо найти папку `fmtg/дата_отправки.log`. Ищем отправленный запрос. Находим полученный синхронный ответ. Копируем `message_id`, и ищем по нему асинхронный ответ. Если асинхронный ответ пришел без ошибок, то сохраняем все запросы и ответы по данному методу. **Важно:** Отправленный запрос, синхронный ответ, асинхронный ответ, асинхронный запрос, каждый должен быть в отдельно xml файле, т.е должно получится 4 файла. **В итоге:** Должен получится архив с файлами XML и для каждого запрос/ответа свой XML.

Пример названия файлов для одного метода.

 <code>person.create</code>	Документ XML
 <code>person.create.sync_async</code>	Документ XML
 <code>person.create_async</code>	Документ XML
 <code>person.create_sync</code>	Документ XML

9. Если после отправки в ответе были получены ошибки, то внимательно читаем, в чем заключается ошибка и исправляем. При этом у Врача перед следующим запуском необходимо будет изменить СНИЛС и ПД(если ошибка случалась после метода `person_document.create`)
10. Переходим в DBeaver, комментируем `person` и раскомментируем `common` (Среднее образование)(комментируем и раскомментируем строго по порядку, т.е сначала 1 метод в 1 блоке, потом 1 метод во втором блоке и т.д)
11. Повторяем пункты 6,7,8(в 8 пункте меняется каждый раз метод).

12. Повторяем, пока по всем данным не будет выполнен create
13. ????
14. Profit! Все методы create успешно выполнены, ошибок нет и можно перейти к следующему методу - update
15. Повторяем пункты 6(только будет запуск скрипта update), 7, 8
16. ???
17. Если ошибок не было, то переходим на метод read и снова повторяем пункты 6, 7, 8
18. После выполнения всех read раскоментируем все строки и запускаем delete. При этом по person и qualification

19.4.1 Порядок выполнения методов

№	Название метода
1	create
2	update
3	read
4	delete

19.5 Массовая выгрузка.

Для проведения массовой выгрузки необходимо создание данных в соответствии с указаниями в разделе [Создание врача](#) данной инструкции, а также статьи [Описание данных для массовой выгрузки ФРМР](#). Должна быть создана 1 запись врача с указанием данных об образовании и месте работы. Для нового врача должен быть указан СНИЛС и номер документа удостоверяющего личность отличные от ранее введенных в Систему. Массовая выгрузка выполняется запуском сервиса в специальном режиме соответствующим скриптом.

На первом этапе выполняется циклически (20 раз): отправка данных о враче, затем корректировкой данных врача. При этом создание нового человека выполняется один раз.

Далее выполняется отправка данных о человеке 99 раз по аналогичному принципу (без информации о месте работы и образовании)

При работе сервиса в режиме массовой выгрузки все данные врачей, за исключением СНИЛС, ПД и Серий и Номеров документов одинаковы. Т.е все живут в одной квартире по одному адресу, закончить одно и тоже УЗ по одной и той же специальности, работать в одной и той же МО на одной и тоже ставке.

19.5.1 Проведение Массовой выгрузки.

 Скрипт запуска массовой выгрузки для Postgre.

После успешного завершения всех действий над Врачами массовка раскоментируется и выполняется(Врачей при этом можно закомментировать в *название_метода1* или вовсе удалить). После выполнения person.create проверяем, что у нас при отправке массовой вернулось не менее 80 успешных ответов(т.е не должно быть ошибок).

19.5.2 Составление отчета

Т.к при массовой выгрузке отправляется очень много данных, то ответы в xml не собираются.

Вместо этого фиксируем общее время по МСК старта(т.е когда был запущен первый метод) и общее время завершения(т.е когда все методы выполнили, получили последний ответ и больше ничего запускать не надо).

При запуске метода - фиксируем время по МСК, когда был запущен метод.

19.6 SQL Scripts

Список всех используемых в работе SQL Скриптов.

19.6.1 Проверка и подготовка Сессии.

--проверяем, есть ли ФРМР/ФРМО сессия на сервере

```
select * from FRMRIntegrationSession
```

```
select * from FRMOSession
```

----создание сессии при проверке, если ее не нашли.

```
DECLARE @FRMOSessionActionType_id BIGINT,  
@Error_Code INT,  
@Error_Message VARCHAR(4000);  
EXEC dbo.p_FRMRIntegrationSession_ins  
@FRMOSession_id = --подставить id найденной/созданной сессии, -- bigint  
@FRMRIntegrationSession_isSuccess = 2, -- bigint  
-- @FRMRSession_Guid = NULL, -- uniqueidentifier  
--@FRMRIntegrationSession_ErrorText = "", -- varchar(200)  
@lpu_id = --подставить lpu_id, -- bigint  
@Lpu_oid = --подставить OID, -- varchar(256)  
@FRMRIntegrationSession_isUsed = 2, -- bigint  
@FRMOSessionActionType_id = 10053, -- bigint  
@pmUser_id = 1,  
@Error_Code = @Error_Code OUTPUT, -- int  
@Error_Message = @Error_Message OUTPUT -- varchar(4000)  
SELECT @Error_Code,@Error_Message
```

19.6.2 Запуск методов ФРМР:

--выполнение create

```
DECLARE  
@Error_Code INT,  
@Error_Message VARCHAR(4000);  
EXEC dbo.p_FRMRIntegrationSession_upd @FRMRIntegrationSession_id = , -- bigint  
@FRMOSession_id = , -- bigint  
@lpu_id = ,  
@Lpu_oid=, -- bigint  
@FRMRIntegrationSession_isUsed=NULL,  
@FRMOSessionActionType_id=10054,  
@pmUser_id = 1  
@Error_Code = @Error_Code OUTPUT, --int  
@Error_Message = @Error_Message OUTPUT --varchar(4000)  
SELECT @Error_Code,@Error_Message
```

--update

```
EXEC dbo.p_FRMRIntegrationSession_upd @FRMRIntegrationSession_id = , -- bigint  
@FRMOSession_id = , -- bigint  
@lpu_id = ,  
@Lpu_oid=, -- bigint  
@FRMRIntegrationSession_isUsed=NULL,  
@FRMOSessionActionType_id=10050,  
@pmUser_id = 1
```

--read

```
EXEC dbo.p_FRMRIntegrationSession_upd @FRMRIntegrationSession_id = , -- bigint  
@FRMOSession_id = , -- bigint
```

```

@lpu_id = ,
@Lpu_oid=, -- bigint
@FRMRIntegrationSession_isUsed=NULL,
@FRMOSessionActionType_id=10053,
@pmUser_id = 1

--delete
EXEC dbo.p_FRMRIntegrationSession_upd @FRMRIntegrationSession_id = , -- bigint
@FRMOSession_id = , -- bigint
@lpu_id = ,
@Lpu_oid=, -- bigint
@FRMRIntegrationSession_isUsed=NULL,
@FRMOSessionActionType_id=10052,
@pmUser_id = 1

```

19.6.3 Работа с данными

--Создание таблицы FRMRUpload. в ней хранится Врач

```

CREATE TABLE tmp.FRMRUpload
(
[FRMRUpload_id] [bigint] NOT NULL IDENTITY,
[FRMRUpload_Method] [varchar] (60) COLLATE Cyrillic_General_CI_AS NULL,
[Snils_id] [varchar] (60) NULL,
[FRMRUpload_insDT] [datetime] NULL,
[FRMRUpload_updDT] [datetime] NULL
) ON [PRIMARY]
GO
ALTER TABLE [tmp].[FRMRUpload] ADD CONSTRAINT [pk_FRMRUpload_id] PRIMARY KEY
CLUSTERED ([FRMRUpload_id]) ON [PRIMARY]
GO

```

--поиск врачей и вывод их снилсов

```

SELECT TOP 1000 ""+Person_Snils+""+',',Person_SecNameR,* FROM v_personstate
WHERE Person_SurNameR='ТЕСТ' AND Person_FirNameR='ФПМП' /*AND
Person_SecName NOT LIKE '%тест'*/ ORDER BY Person_id

```

--добавление методов по врачам в таблицу. добавить метод в таблицу,
закомментировать строку и раскомментировать следующую

```

INSERT INTO tmp.FRMRUpload (FRMRUpload_Method, Snils_id)
SELECT TOP 105
--'zzz'
'person',
--'document',
--'common',
--'address',
--'prof',
--'postgraduate',
--'ext',
--'cert',
--'accreditation',
--'qualification',
--'card',
--'nomination',
v_PersonState.Person_Snils
/*DISTINCT,
v_PersonState.Person_FirName,v_PersonState.Person_SecName,
v_PersonState.Person_SurName,v_PersonState.Sex_id,

```

```

v_PersonState.Person_BirthDay,v_PersonState.Person_Inn,
'1' as citizenShipId,'171' as oksmId, --Страна
MilitaryRelation_Id,v_PersonState.Person_Phone*/
FROM dbo.v_PersonState (NOLOCK)
WHERE Person_Snils IN
(--подставить снилс Врача)
ORDER BY Person_Id

```

```
--вывод добавленных методов
```

```

select * from tmp.FRMRUpload
SELECT TOP 1000 * FROM tmp.FRMRUpload

```

```
--удаление всех методов, которые не называются 'zzz'
```

```

delete from tmp.FRMRUpload
where FRMRUpload_Method != 'zzz'

```

```
-----
--update для игнорирования методом.
```

```
--3
```

```

UPDATE tmp.FRMRUpload SET FRMRUpload_Method='card1' WHERE
FRMRUpload_Method='card'
UPDATE tmp.FRMRUpload SET FRMRUpload_Method='qualification1' WHERE
FRMRUpload_Method='qualification'

```

```
--2.5
```

```

UPDATE tmp.FRMRUpload SET FRMRUpload_Method='ext1' WHERE
FRMRUpload_Method='ext'

```

```
--
```

```

UPDATE tmp.FRMRUpload SET FRMRUpload_Method='postgraduate1' WHERE
FRMRUpload_Method='postgraduate'

```

```

UPDATE tmp.FRMRUpload SET FRMRUpload_Method='accreditation1' WHERE
FRMRUpload_Method='accreditation'

```

```

UPDATE tmp.FRMRUpload SET FRMRUpload_Method='nomination1' WHERE
FRMRUpload_Method='nomination'

```

```
--2
```

```

UPDATE tmp.FRMRUpload SET FRMRUpload_Method='prof1' WHERE
FRMRUpload_Method='prof'

```

```
--1
```

```

UPDATE tmp.FRMRUpload SET FRMRUpload_Method='address1' WHERE
FRMRUpload_Method='address'

```

```

UPDATE tmp.FRMRUpload SET FRMRUpload_Method='document1' WHERE
FRMRUpload_Method='document'

```

```

UPDATE tmp.FRMRUpload SET FRMRUpload_Method='common1' WHERE
FRMRUpload_Method='common'

```

```
--0
```

```

UPDATE tmp.FRMRUpload SET FRMRUpload_Method='person1' WHERE
FRMRUpload_Method='person'

```

```

update tmp.FRMRUpload set FRMRUpload_Method='zzz' where
FRMRUpload_Method='person'

```

```
--DELETE FROM tmp.FRMRUpload WHERE FRMRUpload_Method!='zzz'
```

```
-----
--update что бы метод увидел
```

```
--3
```

```
UPDATE tmp.FRMRUpload SET FRMRUpload_Method='card' WHERE
```

```

FRMRUpload_Method='card1'
UPDATE tmp.FRMRUpload SET FRMRUpload_Method='qualification' WHERE
FRMRUpload_Method='qualification1'
--2.5
UPDATE tmp.FRMRUpload SET FRMRUpload_Method='cert' WHERE
FRMRUpload_Method='cert1'
UPDATE tmp.FRMRUpload SET FRMRUpload_Method='ext' WHERE
FRMRUpload_Method='ext1'
--
UPDATE tmp.FRMRUpload SET FRMRUpload_Method='postgraduate' WHERE
FRMRUpload_Method='postgraduate1'
UPDATE tmp.FRMRUpload SET FRMRUpload_Method='accreditation' WHERE
FRMRUpload_Method='accreditation1'
UPDATE tmp.FRMRUpload SET FRMRUpload_Method='nomination' WHERE
FRMRUpload_Method='nomination1'
--2
UPDATE tmp.FRMRUpload SET FRMRUpload_Method='prof' WHERE
FRMRUpload_Method='prof1'
--1
UPDATE tmp.FRMRUpload SET FRMRUpload_Method='address' WHERE
FRMRUpload_Method='address1'
UPDATE tmp.FRMRUpload SET FRMRUpload_Method='document' WHERE
FRMRUpload_Method='document1'
UPDATE tmp.FRMRUpload SET FRMRUpload_Method='common' WHERE
FRMRUpload_Method='common1'
--0
UPDATE tmp.FRMRUpload SET FRMRUpload_Method='person' WHERE
FRMRUpload_Method='person1'

--массовка

update tmp.FRMRUpload set FRMRUpload_Method='person' where
FRMRUpload_Method='zzz'

*ВАЖНО. Запускать от меньшего к большему. Т.е начинаем с нуля и поднимаемся к 3*

```

19.6.4 Проверка данных Врача

-----ищем и выводим данные для метода person

```

SELECT
DISTINCT(v_PersonState.Person_Snils),
v_PersonState.Person_FirName,
v_PersonState.Person_SecName,
v_PersonState.Person_SurName,
v_PersonState.Sex_id,
v_PersonState.Person_BirthDay,
v_PersonState.Person_Inn,
'1' as citizenShipId,
'171' as oksmId, --Страна
'2' AS MilitaryRelation_id,
v_PersonState.Person_Phone
FROM dbo.v_PersonState (NOLOCK)

WHERE Person_Snils IN (SELECT snils_id FROM tmp.FRMRUpload where
FRMRUpload_Method='person')
ORDER BY Person_SecName
--GROUP BY Person_Snils
--WHERE zzz.Person_Snils IN (SELECT snils_id FROM tmp.FRMRUpload where
FRMRUpload_Method='person')

```

-----ищем и выводим данные для метода document

```
SELECT
v_PersonState.Person_Snils,
v_PersonDocument.Document_Ser,
v_PersonDocument.Document_Num,
v_PersonDocument.PersonDocument_updDT,
v_Document.Document_begDate,
v_Document.Document_updDT,
v_Org.Org_Nick,
v_DocumentType.Frmr_id
FROM persis.MedWorker v_MedStaffFactCache (nolock)
OUTER APPLY
(
SELECT TOP 1 lpu_id,MilitaryRelation_id FROM
persis.WorkPlace (nolock)
INNER JOIN persis.v_Staff staff (nolock) ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id
) AS staff
INNER JOIN dbo.v_PersonState (nolock) ON v_PersonState.Person_id =
v_MedStaffFactCache.Person_id
INNER JOIN dbo.v_PersonDocument (nolock) ON v_PersonDocument.Person_id =
v_PersonState.Person_id
INNER JOIN dbo.v_Document (nolock) ON v_Document.Document_id =
v_PersonDocument.Document_id
INNER JOIN dbo.v_DocumentType (nolock) ON v_DocumentType.DocumentType_id =
v_Document.DocumentType_id
left JOIN dbo.OrgDep (nolock) ON OrgDep.OrgDep_id = v_Document.OrgDep_id
left JOIN dbo.v_Org (nolock) ON v_Org.Org_id = OrgDep.Org_id
where
v_PersonState.Person_Snils IN (SELECT snils_id FROM tmp.FRMRUpload where
FRMRUpload_Method='document')
AND v_Document.Document_begDate IS NOT NULL
AND Org_Nick IS NOT NULL
AND Person_Snils is not NULL

ORDER BY Person_Snils
--GROUP BY Person_Snils
```

-----выводим данные для метода common

```
SELECT
Person_Snils,
ISNULL(EducationInstitution.name,OtherEducationalInstitution) AS institution,
DiplomaSeries AS docSerial,--Серия аттестата docSerial
DiplomaNumber AS docNumber,--Номер аттестата docNumber
SpecialityDiploma.insDT AS docDate--Дата выдачи аттестата docDate
FROM persis.MedWorker v_MedStaffFactCache (nolock)
OUTER APPLY
(
SELECT TOP 1 MedWorker_id,staff.Lpu_id FROM
persis.WorkPlace (nolock)
INNER JOIN persis.v_Staff staff (nolock) ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id
) AS staff
INNER JOIN dbo.v_PersonState (nolock) ON v_PersonState.Person_id =
v_MedStaffFactCache.Person_id
--LEFT JOIN dbo.v_MedPersonal ON v_MedPersonal.Person_id = v_PersonState.Person_id
--LEFT JOIN dbo.v_MedPersonal ON
LEFT JOIN persis.SpecialityDiploma ON SpecialityDiploma.MedWorker_id =
v\_MedStaffFactCache.id AND EducationType_id=2
```



```

LEFT JOIN persis.EducationInstitution ON EducationInstitution.id =
SpecialityDiploma.EducationInstitution_id
WHERE
v_PersonState.Person_Snils IN (SELECT snils_id FROM tmp.FRMUpload where
FRMUpload_Method='common')
AND v\_MedStaffFactCache.id IS NOT NULL
AND DiplomaSeries IS NOT NULL
AND DiplomaNumber IS NOT NULL
AND SpecialityDiploma.insDT IS NOT NULL
AND Person_Snils is not null
ORDER BY Person_Snils

```

-----address

```

SELECT TOP 50
v_PersonState.Person_Snils,
ua.Address_updDT as regDate,
CASE WHEN ua.Address_id=v_PersonState.UAddress_id THEN 1 ELSE 2 end as
addressTypeId,
ua.Address_id,
LOWER(ISNULL(KLTown_AOID,KLCity_AOID)) AS aoidArea,--Идентификатор населенного
пункта по ФИАС aoidArea
LOWER(KLStreet_AOID) as aoidStreet,--Идентификатор улицы по ФИАС aoidStreet
ua.KLRgn_id as region,--Код региона region(id)
ISNULL(KLTown_Name,KLCity_Name) AS areaName,--Наименование населенного пункта
areaName
ISNULL(v_KLTown.KLSocr_Nick,v_KLCity.KLSocr_Nick) AS prefixArea,--Префикс
населенного пункта prefixArea
v_KLStreet.KLStreet_Name AS streetName,--Наименование улицы streetName
v_KLSocr.KLSocr_Nick,--Префикс улицы prefixStreet
dbo.ConcatPunkt(dbo.ConcatPunkt('д',CAST(Address_House AS VARCHAR(30))),'3,0),
dbo.ConcatPunkt('к',CAST(Address_Corpus AS VARCHAR(30))),'3,0'),'0,null) AS house,--
Номер дома, корпуса, строения в формате дХ кХ сХ house
Address_Flat AS flat--Номер квартиры flat
FROM persis.MedWorker v_MedStaffFactCache (nolock)
OUTER APPLY
(
SELECT TOP 1 lpu_id,MilitaryRelation_id FROM
persis.WorkPlace (nolock)
INNER JOIN persis.v_Staff staff (nolock) ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id
) AS staff
INNER JOIN dbo.v_PersonState (nolock) ON v_PersonState.Person_id =
v_MedStaffFactCache.Person_id
left JOIN dbo.v_Address ua ON ua.Address_id=v_PersonState.UAddress_id OR
ua.Address_id=v_PersonState.PAddress_id
LEFT JOIN dbo.v_KLTown on v_KLTown.KLTown_id = ua.KLTown_id
LEFT JOIN dbo.v_KLCity on v_KLCity.KLCity_id = ua.KLCity_id
LEFT JOIN dbo.v_KLStreet ON v_KLStreet.KLStreet_id = ua.KLStreet_id
LEFT join dbo.v_KLSocr ON v_KLSocr.KLSocr_id = v_KLStreet.KLSocr_id
WHERE Person_Snils IS NOT NULL
AND ua.Address_updDT IS NOT NULL
AND KLStreet_AOID IS NOT null
AND Person_Snils IN (SELECT snils_id FROM tmp.FRMUpload where
FRMUpload_Method='address')

```

-----prof

```

SELECT TOP 50
Person_Snils,
CASE WHEN EducationInstitution_id IS null THEN 2 ELSE 0 end as educPlace,
EducationType.Frmr_id AS educationTypeid , --уровень образования
CASE WHEN IsSpecSet=1 THEN 'true' ELSE 'false' end as isTargeted,
CASE WHEN IsSpecSet=1 THEN FRMPTerritories_id ELSE null end as targetedRegionId ,
YearOfAdmission AS beginYear, --год поступления
YearOfGraduation,
DocumentRecieveDate AS docDate, --дата выдачи
DiplomaSpeciality.frmr_id AS specId, --специальность
CASE WHEN EducationInstitution_id IS null THEN OtherEducationalInstitution ELSE null end
AS foreignInstitution,--Образовательная организация institution
DiplomaSeries AS docSerial,--Серия аттестата docSerial
DiplomaNumber AS docNumber,--Номер аттестата docNumber
SpecialityDiploma.insDT AS docDate,--Дата выдачи аттестата docDate
--EducationInstitution.code AS institutionId ,
Qualification_id as qualificationId

FROM persis.MedWorker v_MedStaffFactCache (nolock)
OUTER APPLY
(
SELECT TOP 1 MedWorker_id,staff.Lpu_id FROM
persis.WorkPlace (nolock)
INNER JOIN persis.v_Staff staff (nolock)ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id
) AS staff
INNER JOIN dbo.v_PersonState (nolock)ON v_PersonState.Person_id =
v_MedStaffFactCache.Person_id
LEFT JOIN persis.SpecialityDiploma ON SpecialityDiploma.MedWorker_id =
v\_MedStaffFactCache.id AND EducationType_id IN (3,1,6,7)
INNER JOIN persis.DiplomaSpeciality ON DiplomaSpeciality.id =
SpecialityDiploma.DiplomaSpeciality_id
INNER JOIN persis.EducationType ON EducationType.id =
SpecialityDiploma.EducationType_id
left JOIN persis.EducationInstitution ON EducationInstitution.id =
SpecialityDiploma.EducationInstitution_id
WHERE
v\_MedStaffFactCache.id IS NOT NULL
AND DiplomaSeries IS NOT NULL
AND DiplomaNumber IS NOT NULL
AND SpecialityDiploma.insDT IS NOT NULL
AND
Person_Snils IS NOT NULL
AND Person_Snils IN (--указываем СНИЛС выгружаемого врача)

```

-----postgraduate

```

SELECT TOP 50 Person_Snils, CASE WHEN PostgraduateEducation.EducationInstitution_id
IS null THEN 2 ELSE 0 end as educPlace,
EducationInstitution.code AS institutionId , PostgraduateEducationType_id AS
educationStageId,
CAST(YEAR(startDate) AS int) AS beginYear, --год поступления
CASE WHEN endDate IS null THEN 'true' ELSE 'false' end AS isStudying,
PostgraduateEducation.DiplomaSeries AS docSerial,--Серия аттестата docSerial
PostgraduateEducation.DiplomaNumber AS docNumber,--Номер аттестата docNumber
graduationDate AS docDate, --дата выдачи
CASE WHEN PostgraduateEducationType_id IN (3,4,5) AND endDate IS Not null THEN
AcademicMedicalDegree.Frmr_id
ELSE null end as academicDegreeId,
CASE WHEN PostgraduateEducationType_id IN (1,2) THEN Speciality.code ELSE

```

```

PostgraduateEducation.SpecialityAspirant_id end as allSpecId,
ISNULL(PostgraduateEducation.ScienceBranch_id,
SpecialityAspirantScienceLink.ScienceBranch_id) AS scienceBranchId,
CASE WHEN PostgraduateEducationType_id IN (1,2) THEN Speciality.code ELSE null end as
specId,
CASE WHEN PostgraduateEducationType_id IN (3,4) THEN
PostgraduateEducation.SpecialityAspirant_id ELSE null end as doctSpecId,
--'408' as doctSpecId,
CASE WHEN PostgraduateEducationType_id not IN (3,4,5) AND
isnull(PostgraduateEducation.IsSpecSet,44)=1
THEN 'true' WHEN PostgraduateEducationType_id not IN (3,4,5) AND
isnull(PostgraduateEducation.IsSpecSet,44)=0
THEN 'false' ELSE null end as isTargeted, CASE WHEN
isnull(PostgraduateEducation.IsSpecSet,44)=1
THEN FRMPTerritories_id ELSE null end as targetedRegionId
FROM persis.MedWorker v_MedStaffFactCache (nolock)
OUTER APPLY ( SELECT TOP 1 MedWorker_id,staff.Lpu_id FROM persis.WorkPlace (nolock)
INNER JOIN persis.v_Staff staff (nolock) ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id ) AS staff
INNER JOIN dbo.v_PersonState (nolock) ON v_PersonState.Person_id =
v_MedStaffFactCache.Person_id
inner join persis.PostgraduateEducation ON PostgraduateEducation.MedWorker_id =
v\_MedStaffFactCache.id
INNER JOIN persis.AcademicMedicalDegree ON AcademicMedicalDegree.id =
PostgraduateEducation.AcademicMedicalDegree_id
INNER JOIN persis.Speciality ON Speciality.id = PostgraduateEducation.Speciality_id
INNER JOIN persis.EducationInstitution ON EducationInstitution.id =
PostgraduateEducation.EducationInstitution_id
left join nsi.SpecialityAspirantScienceLink ON
SpecialityAspirantScienceLink.SpecialityAspirant_id =
PostgraduateEducation.SpecialityAspirant_id
WHERE
Person_Snils IN (SELECT snils_id FROM tmp.FRMUpload where
FRMUpload_Method='postgraduate')
and v\_MedStaffFactCache.id IS NOT NULL
AND PostgraduateEducation.DiplomaSeries IS NOT NULL
AND PostgraduateEducation.DiplomaNumber IS NOT NULL
AND ISNULL(Speciality.code,PostgraduateEducation.SpecialityAspirant_id) IS NOT null
AND Person_Snils IS NOT NULL

```

-----ext

```

SELECT TOP 50
Person_Snils AS snils,
EducationInstitution.code AS institutionId,
'1' as profEducationKindId,
QualificationImprovementCourse.hourscount AS hoursCount,

DocumentSeries AS docSerial,
DocumentNumber AS docNumber,
QualificationImprovementCourse.DocumentRecieveDate AS docDate,
--Speciality.code,
DiplomaSpeciality.frmr_id AS code,
CASE WHEN CHARINDEX('/',Speciality.name)-1>0 THEN
SUBSTRING(Speciality.name,0,CHARINDEX('/',Speciality.name)-1) ELSE Speciality.name
END as name
FROM persis.MedWorker v_MedStaffFactCache (nolock)
OUTER APPLY
(
SELECT TOP 1 MedWorker_id,staff.Lpu_id FROM

```

```

persis.WorkPlace (nolock)
INNER JOIN persis.v_Staff staff (nolock) ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id
) AS staff
INNER JOIN dbo.v_PersonState (nolock) ON v_PersonState.Person_id =
v_MedStaffFactCache.Person_id
LEFT JOIN persis.SpecialityDiploma (nolock) ON SpecialityDiploma.MedWorker_id =
v\_MedStaffFactCache.id AND EducationType_id IN (3,1,6,7)
INNER JOIN persis.DiplomaSpeciality (nolock) ON DiplomaSpeciality.id =
SpecialityDiploma.DiplomaSpeciality_id
INNER JOIN persis.EducationType (nolock) ON EducationType.id =
SpecialityDiploma.EducationType_id
INNER JOIN persis.QualificationImprovementCourse (nolock) AS
QualificationImprovementCourse ON QualificationImprovementCourse.MedWorker_id =
v\_MedStaffFactCache.id
LEFT join persis.Speciality (nolock) AS Speciality ON Speciality.id =
QualificationImprovementCourse.Speciality_id
INNER JOIN persis.EducationInstitution ON EducationInstitution.id =
QualificationImprovementCourse.EducationInstitution_id
WHERE
v\_MedStaffFactCache.id IS NOT NULL
and DocumentSeries IS NOT NULL
and DocumentNumber IS NOT NULL
AND Person_Snils IS NOT NULL
AND QualificationImprovementCourse.DocumentRecieveDate IS NOT NULL
and Person_Snils IN (SELECT snils_id FROM tmp.FRMUpload where
FRMUpload_Method='ext')

UNION

SELECT TOP 50
Person_Snils AS snils,
EducationInstitution.code AS institutionId,
'3' as profEducationKindId,
RetrainingCourse.hourscount AS hoursCount,
DocumentSeries AS docSerial,
DocumentNumber AS docNumber,
RetrainingCourse.DocumentRecieveDate AS docDate,
--Speciality.code,
DiplomaSpeciality.frmr_id AS code,
CASE WHEN CHARINDEX('/',Speciality.name)-1>0 THEN
SUBSTRING(Speciality.name,0,CHARINDEX('/',Speciality.name)-1) ELSE Speciality.name
END as name
FROM persis.MedWorker v\_MedStaffFactCache (nolock)
OUTER APPLY
(
SELECT TOP 1 MedWorker_id,staff.Lpu_id FROM
persis.WorkPlace (nolock)
INNER JOIN persis.v_Staff staff (nolock) ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id
) AS staff
INNER JOIN dbo.v_PersonState (nolock) ON v_PersonState.Person_id =
v_MedStaffFactCache.Person_id
LEFT JOIN persis.SpecialityDiploma (nolock) ON SpecialityDiploma.MedWorker_id =
v\_MedStaffFactCache.id AND EducationType_id IN (3,1,6,7)
INNER JOIN persis.DiplomaSpeciality (nolock) ON DiplomaSpeciality.id =
SpecialityDiploma.DiplomaSpeciality_id
INNER JOIN persis.EducationType (nolock) ON EducationType.id =
SpecialityDiploma.EducationType_id
INNER JOIN persis.RetainingCourse (nolock) ON RetainingCourse.MedWorker_id =
v\_MedStaffFactCache.id

```

```

LEFT join persis.Speciality (nolock) ON Speciality.id = RetrainingCourse.Speciality_id
INNER JOIN persis.EducationInstitution ON EducationInstitution.id =
RetrainingCourse.EducationInstitution_id
WHERE
v\_MedStaffFactCache.id IS NOT NULL
AND DocumentSeries IS NOT NULL
AND DocumentNumber IS NOT null
AND Person_Snils IS NOT NULL
AND RetrainingCourse.DocumentRecieveDate IS NOT NULL
and Person_Snils IN (SELECT snils_id FROM tmp.FRMRUpload where
FRMRUpload_Method='ext')

```

-----cert

```

SELECT TOP 50
Certificate.updDT,
Person_Snils,
EducationInstitution.code AS institutionId,
Speciality.code AS specId,
Certificate_ExamDate as examDate,
CertificateReceipDate AS passDate,
CertificateSeries as certSerial,
CertificateNumber AS certNumber
FROM persis.MedWorker v_MedStaffFactCache (nolock)
OUTER APPLY
(
SELECT TOP 1 MedWorker_id,staff.Lpu_id FROM
persis.WorkPlace (nolock)
INNER JOIN persis.v_Staff staff (nolock)ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id
) AS staff
INNER JOIN dbo.v_PersonState (nolock)ON v_PersonState.Person_id =
v_MedStaffFactCache.Person_id
INNER JOIN persis.Certificate (nolock) ON Certificate.MedWorker_id =
v\_MedStaffFactCache.id
LEFT join persis.Speciality (nolock) AS Speciality ON Speciality.id = Certificate.Speciality_id
INNER JOIN persis.EducationInstitution ON EducationInstitution.id =
Certificate.EducationInstitution_id
WHERE
--v_PersonState.Person_Snils IN (SELECT snils_id FROM tmp.FRMRUpload where
FRMRUpload_Method='cert')
Person_Snils IN (--указать СНИЛС выгружаемых врачей)
-- and CertificateNumber IS NOT NULL
--AND Certificate_ExamDate IS NOT NULL
--AND Person_Snils IS NOT NULL
--AND EducationInstitution_id IS NOT NULL
--AND Speciality.code IS NOT NULL

```

-----qualification

```

SELECT TOP 50
Person_Snils AS snils,
Category.code AS qualifyCategoryId,
AssignmentDate AS beginDate,
Speciality.code AS specId
FROM persis.MedWorker v_MedStaffFactCache (nolock)
OUTER APPLY
(
SELECT TOP 1 MedWorker_id,staff.Lpu_id FROM

```

```

persis.WorkPlace (nolock)
INNER JOIN persis.v_Staff staff (nolock) ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id
) AS staff
INNER JOIN dbo.v_PersonState (nolock) ON v_PersonState.Person_id =
v_MedStaffFactCache.Person_id
INNER JOIN persis.QualificationCategory ON QualificationCategory.MedWorker_id =
v\_MedStaffFactCache.id
INNER JOIN persis.Category ON Category.id = QualificationCategory.Category_id
INNER JOIN persis.Speciality ON Speciality.id = QualificationCategory.Speciality_id
WHERE
Person_Snils IS NOT NULL AND Category.code IS NOT NULL AND Speciality.code IS NOT
NULL
AND AssignmentDate IS NOT NULL
and Person_Snils IN (SELECT snils_id FROM tmp.FRMRUpload where
FRMRUpload_Method='qualification')

```

-----card

```

SELECT TOP 50
MedStaffFact_id,
Person_Snils AS snils,
PassportToken_tid AS organizationId,
'false' AS targeted,
LpuUnit_FRMOUnitID AS nrPmuDepartId,
LpuSection_FRMOBuildingOid AS nrPmuDepartHospitalSubdivisionId,
Frmr_id AS postId,
CASE WHEN PostOccupationType_id=3 THEN null ELSE CAST(MedStaffFact_Stavka AS
decimal(16,4)) END AS rate,
v_MedStaffFactCache.WorkData_begDate beginDate,
v_MedStaffFactCache.WorkData_endDate endDate,
CASE WHEN DismissalReasonType_id IN (2,3) THEN 2 WHEN DismissalReasonType_id NOT
IN (2,3) THEN 1 ELSE null END AS endTypeId,
DismissalReasonType_id AS fireReasonId,
PostOccupationType.code AS positionTypeId
FROM persis.v_MedWorker (nolock)
INNER JOIN dbo.v_MedStaffFactCache ON v_MedStaffFactCache.Person_id =
v_MedWorker.Person_id
INNER JOIN fed.PassportToken ON PassportToken.Lpu_id = v_MedStaffFactCache.Lpu_id
--отделение
INNER JOIN dbo.v_LpuSection ON v_LpuSection.LpuSection_id =
v_MedStaffFactCache.LpuSection_id
--подразделение
INNER JOIN v_Lpuunit ON v_LpuUnit.LpuUnit_id = v_MedStaffFactCache.LpuUnit_id
inner join persis.v_Post Post with (nolock) on v_MedStaffFactCache.Post_id = Post.id
INNER JOIN persis.FRMPPost ON Post.frmppEntry_id= FRMPPost.id
INNER JOIN persis.PostOccupationType ON PostOccupationType.id =
v_MedStaffFactCache.PostOccupationType_id
where
LpuUnit_FRMOUnitID IS NOT NULL
and
Person_Snils IN (SELECT snils_id FROM tmp.FRMRUpload where
FRMRUpload_Method='card')
AND CAST(MedStaffFact_Stavka AS decimal(16,4)) != 0.0000
AND CAST(MedStaffFact_Stavka AS decimal(16,4)) != 0.0000

```

-----nomination

```

SELECT TOP 50
name AS nomination,
Person_Snils AS Snils,

```

```

FRMPNomination_id AS nominationId,
number AS nomNumber,
date AS nomDate
FROM persis.MedWorker v_MedStaffFactCache (nolock)
OUTER APPLY
(
SELECT TOP 1 MedWorker_id,staff.Lpu_id FROM
persis.WorkPlace (nolock)
INNER JOIN persis.v_Staff staff (nolock)ON WorkPlace.Staff_id = staff.id
WHERE WorkPlace.MedWorker_id=v\_MedStaffFactCache.id
) AS staff
INNER JOIN dbo.v_PersonState (nolock)ON v_PersonState.Person_id =
v_MedStaffFactCache.Person_id
INNER JOIN persis.Reward (nolock) ON Reward.MedWorker_id = staff.MedWorker_id
WHERE
Person_Snils IN (SELECT snils_id FROM tmp.FRMRUpload where
FRMRUpload_Method='nomination')
and name IS NOT NULL
AND Person_Snils IS NOT NULL
AND FRMPNomination_id IS NOT NULL
AND number IS NOT NULL
AND date IS NOT NULL

```

20 ФСС (ЛВН)

20.1 Настройка сервиса

Сервис настраивается через докер.

Адрес докера: d-repo.rtmis.ru/jcpcipher:latest

Авторизация доменная. могу открыть для определенных групп. Дал в домене rtlabs на пулл группе g_sysadmin.

При запуске можно использовать следующие переменные (в примере они указаны по умолчанию):

```

"CATALINA_OPTS=-Xms512M -Xmx1536M -server -XX:+UseParallelGC -
Dfile.encoding=UTF-8"
JCP_KEY_LICENSE=' '
JCP_COMPANY_NAME=' '

```

Code Block 98 environments

Порт внутри контейнера используется 8080

Полные логи сервиса располагаются внутри контейнера по следующему пути:
/opt/tomee/logs

JCP_KEY_LICENSE и JCP_COMPANY_NAME - указывается для настройки лицензии КriptoПро JCP версии 2.0. Если оставить данные пустыми - то запустится с пробной версией КriptoПро на 3 месяца с неограниченным количеством ядер.

Для примера запуска прилагаю файл docker-compose.yml


```

version: '2'
services:
  jcpCipher:
    image: d-repo.rtmis.ru/jcpcipher:latest
    container_name: jcpcipher
    environment:
      - "CATALINA_OPTS=-Xms512M -Xmx1536M -server -XX:+UseParallelGC"
      - "Dfile.encoding=UTF-8"
      - JCP_KEY_LICENSE=''
      - JCP_COMPANY_NAME=''
    ports:
      - "8080:8080"

```

Code Block 99 docker-compose.yml

20.2 Настройка ЕЦП.МИС

Настройка осуществляется в файле promed.php

```

$config['EvntickServiceEncryption'] = true;
$config['EvntickServiceEncryptionCert'] =
'documents/FSS_PROD_CERT_2020_GOST2012.pem';
if ($config['EvntickServiceEncryption']) {
    $config['EncryptionServiceUrl'] =
'http://<IP>:<PORT>/jcpCipher/CipherServiceImplService?WSDL';
    $config['EvntickServiceUrl'] =
'https://docs.fss.ru/WSLnCryptoV11/FileOperationsLnPort?WSDL';
} else {
    $config['EvntickServiceUrl'] =
'http://193.148.44.24/FSSWSLn/FileOperationsLnPort?WSDL';
}
$config['OPENSSL_PATH'] = '/usr/bin/openssl';
$config['OPENSSL_CONF'] = '/etc/ssl/openssl.cnf';

```

Code Block 100 promed.php (Подключение к рабочей ФСС)

```

$config['EvntickServiceEncryption'] = true;
$config['EvntickServiceEncryptionCert'] =
'documents/FSS_TEST_CERT_2020_GOST2012.pem';
if ($config['EvntickServiceEncryption']) {
    $config['EncryptionServiceUrl'] =
'http://<IP>:<PORT>/jcpCipher/CipherServiceImplService?WSDL';
    $config['EvntickServiceUrl'] = 'https://docs-
test.fss.ru/WSLnCryptoV11/FileOperationsLnPort?WSDL';
} else {
    $config['EvntickServiceUrl'] =
'http://193.148.44.24/FSSWSLn/FileOperationsLnPort?WSDL';
}
$config['OPENSSL_PATH'] = '/usr/bin/openssl';
$config['OPENSSL_CONF'] = '/etc/ssl/openssl.cnf';

```

Code Block 101 promed.php (Подключение к тестовой ФСС)

Переменная \$config['EvnStickServiceEncryption'] отвечает за переключение между сервисом ФСС с шифрованием и без шифрования.

<IP>:<PORT> Нужно заменить на ip и порт сервиса, что вы развернули выше.

По поводу openssl писал ранее при установке Промеда. Необходима версия 1.1.0 и выше с поддержкой ГОСТ 2012

Описано в следующих инструкциях: [Установка веб сервера на linux](#), [Важные настройки ЕЦП.МИС](#)

20.3 Настройка cron

Для запуска сервиса необходимо обратиться к ЕЦП.МИС через curl. Запускается раз в 3 минуты.

```
#отправка реестров в ФСС
*/3 * * * *
/usr/bin/curl 'https://<address>:<port>/?c=RegistryES&m=sendRegistryES
ToFss&swtoken=<token>'

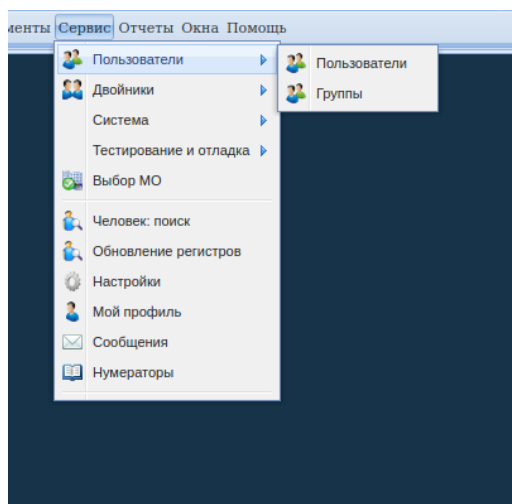
#проверка реестров в ФЛК
*/3 * * * *
/usr/bin/curl 'https://<address>:<port>/?c=RegistryES&m=doFLKControlF
orAll&swtoken=<token>'
```

<address>:<port> - Необходимо заменить на адрес и порт ЕЦП сервера либо на его FQDN <token>

20.3.1 Получение токена авторизации

Для создания пользователя необходима учетная запись с правами Супер Администратора СВАН.

Переходим к пользователям.



Проверяем есть ли пользователь scheduler, если пользователя нет то нажимаем добавить. Если пользователь существует, заходим в него.

Нажмите чтобы свернуть/развернуть панель фильтров

Логин: Фамилия:

Группа: Имя:

Организация: Тип организации:

Описание: Заблокирован:

Пользователи

+ Добавить ✎ Изменить 📄 Просмотреть ✖ Удалить 🔄 Обновить 🖨 Печать ⚙ Действия

☒	Логин	Имя	Фамилия	Группы	Организации	Описание
☒	scheduler	scheduler	scheduler	SuperAdmin		

Для добавления пользователя вводим логин и пароль для этого пользователя. Добавляем в пользователю группа SuperAdmin (СуперАдминистратор СВАН)

Для генерации токена нажимаем кнопку "Сгенерировать", вводим дату меньше 19.01.2038 года. О проблеме можно почитать [тут](#)

Пользователь: Редактирование

1. Основное 2. Доступ к АРМ

Организация: + Добавить ✖ Удалить

Наименование: Тип:

Название не определено

Логин: ☐ Заблокирован Идент. МАРШа:

Временный пароль:

Токен: До:

Сотрудник

Сотрудник:

Фамилия: Полное имя:

Имя: Эл. почта:

Отчество: Описание:

Группы: + Добавить ✖ Удалить

Группа	Описание
SuperAdmin	Супер Администратор СВАН

Количество параллельных сеансов:

Сохраняем пользователя.

Сгенерированный токен необходим для запуска сервисов

20.4 Настройка cron на БД

Без настройки cron на БД сотрудниками ОЭСУБД сервис не заработает.

21 Голосовой помощник

21.1 Требования к полигону развертывания

№	Лицензия / иные документы, ссылка на условия лицензии	Наименование библиотеки/ программы и ссылка на размещение (при наличии) ¹	Фактический способ использования ²
1	PostgreSQL License	PostgreSQL	Database
4	Apache License 2.0 license	gRPC	Implement gRPC protocol
5	BSD License	Protocol Buffers	Part of gRPC
6	Apache License 2.0	Google Cloud Speech API client library	For speech recognition and synthesis

21.1.1 2Требования к техническим и программным средствам

Функциональные характеристики

7	Apache License 2.0	Requests	For sending HTTP <i>requests</i>
8	Apache License 2.0	aiohttp	Async http framework
9	BSD or MIT License	Redis	Database
10	BSD license	Python	General program language
11	BSD license	Flask	Http framework
12	MIT license	SQLAlchemy	SQL toolkit and Object Relational Mapper
13	BSD license	Jinja2	Templating engine

№ п.	Характеристика

14	BSD 3-Clause license	Werkzeug	Part of Flask
15	BSD 3-Clause license	Celery	Task queue implementation for Python
17	MIT license	pydub	Audio processing library
18	MIT license	xlutils	Package for working with Excel files
19	BSD license	lxml	Package for parse xml
20	BSD license	passlib	Password hashing library
21	MIT license	pickle	For serialize and deserialize objects

1.	Наличие графического интерфейса на русском и английском языках

22	BSD license	scipy	For wav file read
23	BSD license	sklearn	For learn Gaussian Mixture Models
24	MIT license	python_speech_features	Speech processing
25	BSD license	numpy	Computation framework
26	MIT license	bootstrap	front-end open source toolkit for develop html pages
27	MIT license	jquery	JavaScript library for HTML DOM tree traversal and manipulation
28	MIT license	datatables	Plug-in for the <i>jQuery</i> Javascript library, for create tables

30	MIT license	Redis	Database
31	MIT license	urllib	For sending HTTP <i>requests</i>
32	Apache License 2.0	tensorflow	For collection of workflows to develop and train models using <i>Python</i>
33	MIT license	tflearn	Transparent deep learning library built on top of Tensorflow
34	MIT license	Keras	Deep learning framework
35	Apache License 2.0	PlaidML	Deep learning framework
36	ISC license	Librosa	For music and audio analysis

2.	Возможность обзванивать абонентов по предоставленным спискам. В списках помимо номера телефона могут быть дополнительные параметры, используемые в скрипте
3.	Возможность установки разрешенного времени суток, интервалов и дней недели для исходящего звонка с учетом часовых поясов
4.	Возможность установки для исходящих вызовов количества попыток дозвона каждому контакту
5.	Возможность определения успешного дозвона до абонента, регистрация статуса звонка и запуск сценария только при дозвоне
6.	Возможность определения автоответчика или голосовой почты
7.	Возможность настройки перезвонов абоненту в настраиваемый промежуток времени с настраиваемым количеством попыток дозвона
8.	Возможность реагировать с минимальной задержкой, соответствующей естественной задержки человеческой речи
9.	Возможность записывать аудиозапись и транскрипцию всех разговоров (в т.ч. незавершенных) в нужном Заказчику стерео-формате и отправлять в согласованное хранилище
10.	Возможность хранения записей
11.	Возможность формирования статистики по всем проведенным звонкам в формате xls или csv и отправлять ее согласованным способом в согласованное время
12.	Возможность определения просьбы абонента перезвонить в определенный промежуток времени и перезванивать абоненту в этот промежуток времени
13.	Возможность сохранять историю контакта с абонентом по сценарию и начать диалог с места обрыва при перезвоне или поступлении входящего звонка от абонента, если это предусматривается сценарием
14.	Возможность перебивания (как в целом, так и на конкретные фразы)
15.	Возможность переводить звонок на оператора, если это предусмотрено сценарием
16.	Возможность определения пола абонента
17.	Наличие встроенного визуального конструктора диалогов
18.	Наличие в сценариях тегов, которые в диалоге заменяются на информацию из базы данных
19.	Возможность для Абонента передавать данные голосом и в DTMF-режиме
20.	Поддержка нелинейной логики с возможностью переключения между ветками диалога без потери контекста
21.	Использование фоновых шумов во время диалога
22.	Использование активного слушания во время диалога

23.	Наличие собственного 2-х уровневого решения NLU (Natural Language Understanding) для обработки текста на естественном языке с целью выделения сущностей и пользовательских намерений, работающего на паттернах на первом уровне и на алгоритмах глубокого обучения – второй уровень NLU
24.	Возможность генерации SMS
25.	Возможность генерации e-mail
26.	Программные интерфейсы для интеграции посредством HTTP API
27.	Поддержка ASR / TTS от Google, Yandex и ЦРТ
28.	Функционал выбора для бота тембра и пола голоса
29.	Возможность распознавать многозначные числа (номера лицевых счетов или показания), которые абонент произносит, произвольно группируя цифры (например, сто тридцать два, пятнадцать, два нуля, шесть)
30.	Возможность распознавать даты, дни недели
31.	Возможность автоматической обработки адресов
32.	Возможность автоматической обработки ФИО
33.	Журналирование и логирование, позволяющее быстро и четко диагностировать возникающие проблемы.
34.	Эксплуатация в режиме 24x7
35.	Возможность установки в изолированном сетевом сегменте
36.	Наличие интерфейса для мониторинга и контроля
37.	Возможность интеграции с Whatsapp
38.	Возможность интеграции с Viber
39.	Возможность интеграции с Telegram
40.	Возможность интеграции с FB Messenger
41.	Возможность интеграции с Skype

Технические особенности

№ п.	Характеристика
1.	Микросервисная архитектура
2.	СУБД PostgreSQL v.11, нереляционная СУБД MongoDB v.4.2, файловое хранилище S3
3.	Платформа располагается на виртуальном облачном хостинге Яндекс.Облако
4.	Собственное решение медиа-части, которое обеспечивает масштабируемость, надежность и более широкий функционал по сравнению со стандартным UniMRCP, голосовая платформа собственной разработки (использование FreeSwitch только в качестве SBC), NLU собственной разработки
5.	Отказоустойчивость за счет использования виртуального хостинга и резервирования компонент в разных зонах доступности
6.	Хранение и передача данных в защищенном виде
7.	Механизмы обеспечения защиты данных при обмене: HTTPS, IPsec и др.
8.	Возможность горизонтального масштабирования, использование контейнерных технологий
9.	Опыт интеграции с Genesys, Mango Office, Kazahtelecom, Avaya и др. Возможна интеграция по API с любой системой клиента через слой middleware. По интеграции с телефонией по SIP-протоколу мы можем интегрироваться с любой системой
10.	Соответствие требованиям федерального закона № 152-ФЗ «О персональных данных»
11.	Выполнение мер по защите персональных данных согласно Постановлению № 1119 и 21 приказу ФСТЭК в соответствии с требованиями к 3-му уровню защищенности (УЗ-3)

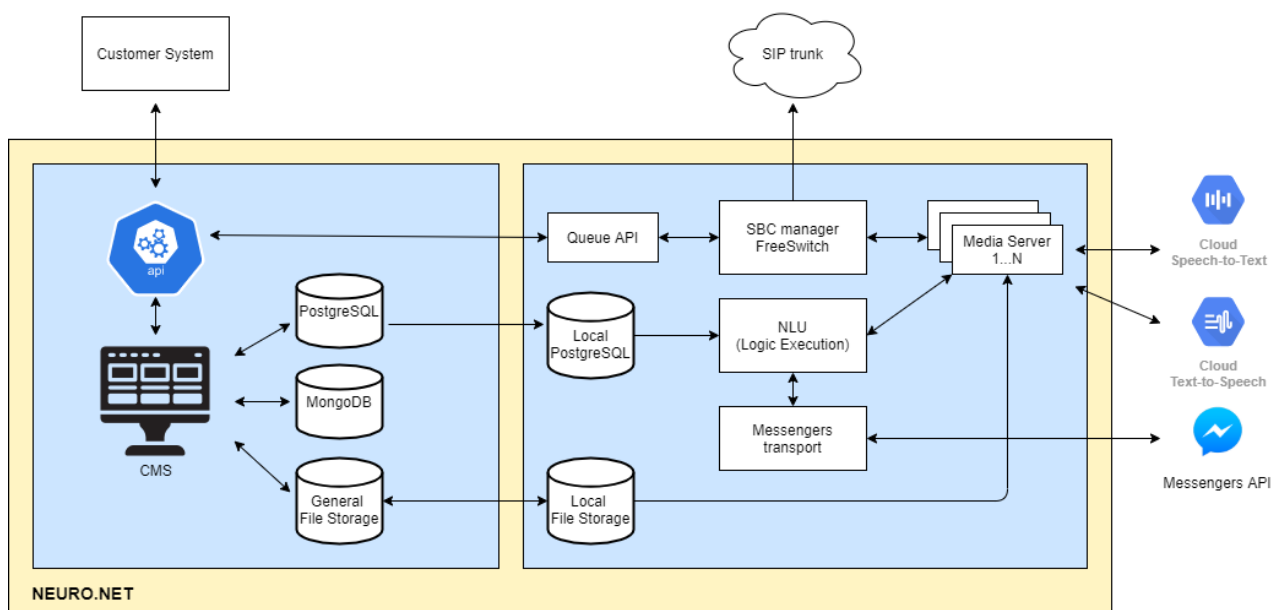
Конфигурация оборудования

В минимальной конфигурации до 20 каналов нужно 4 сервера:

- DB - 4xCPU, 4 Gb RAM, 20 HDD
- Pool API - 4xCPU, 4 Gb RAM, 20 HDD
- Media Server - 4xCPU, 4 Gb RAM
- SBC - 2xCPU, 4Gb RAM

Описание процессов, обеспечивающих поддержание жизненного цикла ПО

High Level Design



Backend Unit

Сервисы для настроек, сбора и отображения статистики по звонкам:

- CMS
- API
- PostgreSQL
- MongoDB
- General File Storage

Может устанавливаться в закрытый контур.

CMS - пользовательский UI:

- управление Conversational flow
- управление агентами
- управление пользователями
- дашбоард
- очереди
- загрузка звонков
- управление аудиофайлами и записями сущностей, диалогами, контактами и т.д.

HTTP API – для бэкенда и интеграции с внешними партнерами.

General File Storage – файлы промптов, записи звонков.

PostgreSQL – база для хранения метаданных: пользователи, агенты, компании. Содержит загруженные звонки, которые мигрируют в пулы, скрипты и прочие пользовательские данные.

MongoDB – хранит статистику, контакты и т.д.

Pool Unit

Это набор сервисов для реализации диалога посредством голоса и текста:

- SBC Manager
- Media Servers
- NLU
- Messengers Transport
- Local File Storage

Может устанавливаться в закрытый контур.

Local PostgreSQL – очередь звонков, статистика звонков до миграции в MongoDB.

Local File Storage – файлы промптов, записи звонков.

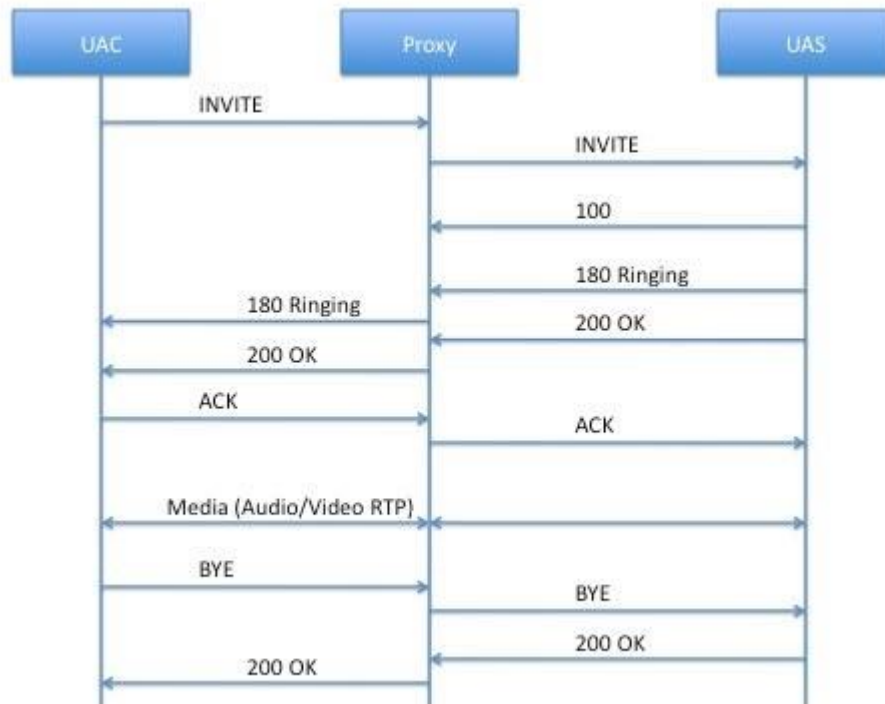
SBC-manager – работает с FreeSWITCH по протоколу ESL, отдает ему команды и получает информацию о каналах.

Media Server – приложение, которое непосредственно работает с SIP и RTP, играет промпты, слушает абонента и интегрируется с ASR.

Logic Executor – выполняет всю логику.

Pool API – работает с очередью звонков, загружает их из БД в память и отдает по запросу.

Call Flow



21.2 Core

Модуль	Описание
<i>Frontend Angular JS</i>	UI системы, написанный на AngularJS.
<i>Backend REST API</i>	REST API для Frontend (ссылка на Swagger), а также external API (ссылка на external API) для клиентов, написанная на Python с использованием фреймворка Flask.
<i>File storage GlusterFS</i>	Файловое хранилище на основе распределённой, параллельной, линейно масштабируемой файловой системы GlusterFS. Служит для хранения аудиозаписей фраз, сущностей и т. д.
<i>MongoDB</i>	Служит для хранения статистики диалогов, биллинга и различных логов.
<i>DB SQL Postgres</i>	Операционная SQL БД, служит для хранения пользователей, паролей, прав пользователей, скриптов, фраз и т.д.

<i>RabbitMQ</i>	Содержит в себе загружаемую через API очередь диалогов. Посредством <i>Dialog distributor</i> распределяет диалоги по пулам, в базу PostgreSQL пула.
<i>Redis</i>	Хранит JWT-токены пользователей.
<i>Middleware</i>	Связующее программное обеспечение для реализации нестандартных сценариев клиента. Имеет свою базу данных (<i>DB SQL Postgres</i>).

21.3 Pool Unit

Модуль	Описание
<i>PostgreSQL</i>	Хранит в себе операционные данные пула, состояние диалогов, временную статистику по диалогам и биллингу, а также несколько логически реплицируемых таблиц (с <i>Postgres Core'a</i>) с информацией по скриптам и аудиозаписям и т.д.
<i>SBC FreeSWITCH</i>	Session border controller (SBC), используется для сокрытия топологии сети, перекодирования при обработке вызовов на медиа-сервера.
<i>SBC manager</i>	Служит для управления входящими вызовами. Определяет, на какой медиа-сервер можно перевести входящий вызов с <i>SBC FreeSWITCH</i> .
<i>Media server</i>	Управляет медиа-поток, отправляет данные на распознавание, может останавливать звонок, переводить на оператора, делает записи разговоров.
<i>logic_executor_online</i>	Процесс, который обрабатывает онлайн-часть диалогов (звонков).
<i>logic_executor_offline</i>	Процесс, который обрабатывает оффлайн-часть диалогов.

<i>Caller</i>	Запускает звонки (проверка лимитов TCL, временных промежутков, проверка доступности положений).
<i>GlusterFS partition</i>	Является разделом файловой системы сервера с аудиозаписями фраз, сущностей и т. д.
<i>S3_migrator</i>	Скидывает с каждого медиа-сервера записи разговоров в S3 хранилища.
<i>Pool Queue API</i>	Приложение для управления очередью диалогов и звонков. Занимается их приоритизацией.
<i>NLU Engine</i>	Интент-классификатор на основе регулярных выражений. Либо может использовать <i>NLU Model API</i> для классификации на основе нейролингвистической модели.
<i>Message transport</i>	Собирательное понятие из приложений, которые занимаются отправкой и получением сообщений.
<i>ASR/TTS</i>	Сервисы для синтеза и распознавания голоса.

21.4 Требования по обеспечению безопасности

Система должна выполнять требования законодательства РФ и подзаконных актов в части защиты персональных данных и тайны связи.

Система должна поддерживать интеграцию с имеющимися системами, и не вводить новые системы, дублирующие функционал имеющихся.

Программный продукт должен иметь механизмы проведения идентификации и аутентификации пользователей.

Система должна обеспечивать уровень протоколирования действий сотрудников и клиентов достаточный для разрешения конфликтных ситуаций. Глубина протоколирования должна определяться действующим законодательством и практикой разрешения споров.

Система поддерживает ролевую модель доступа.

Система поддерживает шифрование данных при взаимодействии с другими приложениями или системами.

21.5 Инструкция по установке пользователя на виртуальную машину

На сервере настроен автозапуск компонентов через systemd

ip адрес сервера настраивается автоматически через dhcp

login: root

password: 1q2w3e4r5t

CMS

1. Создать файл

/etc/neuro-cms/86a317cb419b.json с ключами доступа к google speech service

```
"private_key_id": ""
```

```
"private_key": ""
```

```
"client_id" : ""
```

```
"client_email": ""
```

/etc/neuro-cms/config.py

Добавляем ключи доступа к облачным сервисам.

```
SECRET_KEY = «»
```

```
#S3 keys
```

```
AWS_ACCESS_KEY_ID="
```

```
AWS_SECRET_ACCESS_KEY="
```

```
YANDEX_OAUTH_TOKEN = "
```

Распознавание речи STC, указываем следующие параметры.

```
STC_DOMAIN_ID = "
```

```
STC_USERNAME = "
```

```
STC_PASSWORD = "
```

```
MEGAFON_COMPANY_ID = "
```

2. `systemctl start cms.service`

API

1. Создать файл с конфигами и прописать ключи доступа
/etc/api-neuro/config.py

```
SECRET_KEY = "  
#S3 keys  
AWS_ACCESS_KEY_ID="  
AWS_SECRET_ACCESS_KEY="  
YANDEX_OAUTH_TOKEN = "  
STC_USERNAME = "  
STC_PASSWORD = "
```

2. `systemctl start api.service`

PostgreSQL

Инстансы PostgreSQL запускаются на портах 5432 и 5433

```
systemctl start postgresql-10.service  
systemctl start postgresql-10-5433.service
```

MongoDB

Запускается на порту 27017
`systemctl start mongod.service`

Redis

Запускается как сервис на порту 6379
`systemctl status redis.service`

MediaServer

1. Caller
`systemctl start caller.service`

Конфиги настроены и не требуют дополнительных настроек.

```
/opt/aio-ivr/config.py  
/opt/aio-ivr/config.ini
```

2. Ivrr

```
systemctl start ivr.service
```

Конфиги настроены и не требуют дополнительных настроек.

/opt/aio-ivr/config.py

opt/aio-ivr/config.ini

3. mrcp-server-google-synth

```
systemctl start mrcp-server-google-synth.service
```

В файле */opt/config/neuronet-credentials.json* указываем параметры подключения google synth

```
"type": "service_account",
"project_id": "",
"private_key_id": "",
"private_key": "-----BEGIN PRIVATE KEY-----<you key>-----END PRIVATE KEY-
-----\n",
"client_email": "",
"client_id": "",
"auth_uri": "https://accounts.google.com/o/oauth2/auth",
"token_uri": "https://oauth2.googleapis.com/token",
"auth_provider_x509_cert_url": "https://www.googleapis.com/oauth2/v1/certs",
"client_x509_cert_url": ""
```

4. mrcp-server-yandex-synth

В файле */opt/mrcp-server-yandex-synth/config.ini* указываем параметры подключения к yandex synth

FOLDER_ID = «»

yandex_api_key = «»

OAuthToken+OAuthUrl = «»

5. mrcp-server

В файле */opt/mrcp-server/config.ini* указываем параметры подключения к yandex

FOLDER_ID = «»

```
yandex_api_key = «»  
OAuthToken+OAuthUrl = «»
```

6. mrcp-server-2

```
systemctl start mrcp-server-2.service
```

В файле /opt/config/neuronet-credentials.json указываем параметры подключения google synth

```
"type": "service_account",  
"project_id": "",  
"private_key_id": "",  
"private_key": "-----BEGIN PRIVATE KEY-----<you key>-----END PRIVATE KEY-  
-----\n",  
"client_email": "",  
"client_id": "",  
"auth_uri": "https://accounts.google.com/o/oauth2/auth",  
"token_uri": "https://oauth2.googleapis.com/token",  
"auth_provider_x509_cert_url": "https://www.googleapis.com/oauth2/v1/certs",  
"client_x509_cert_url": ""
```

Freeswitch

1. В /etc/freeswitch/sip_profiles/external.xml добавляем транк до абонента.
2. В /etc/freeswitch/dialplan/dialplan.xml необходимо настроить bridge до абонента.

```
<context name="internal">  
  <extension name="trunk_1">  
    <condition field="${sip_h_X-Via-Trunk}" expression="^trunk_1$">  
      <action application="log" data="INFO ->${sip_h_X-Via-Trunk}"/>  
      <action application="export" data="nolocal:absolute_codec_string=PCMA"/>  
      <action application="bridge"  
data="sofia/gateway/trunk_1/${destination_number}"/>  
    </condition>  
  </extension>  
</context>
```

queue_api

queue_api сконфигурирован и не требует настроек

call_migrator

call_migrator сконфигурирован и не требует дополнительных настроек