Министерство науки и высшего образования Российской Федерации

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«Самарский национальный исследовательский университет

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Институт информатики и кибернетики

Кафедра технической кибернетики

Отчет по лабораторной работе №2

Дисциплина: «Технологии сетевого программирования»

# Тема «Разработка API»

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1. Задание на лабораторную работу

Цель работы: Разработать RESTful API для сервисов.

1. **Реализация API:**
   * Разработать CRUD-методы для работы с моделями;
   * Настроить маршруты и обработку запросов.
2. **Тестирование API:**
   * Использовать Postman/Curl для проверки запросов;
   * Описать примеры запросов и ответов в документации.
3. **Оформление отчета:**
   * Описать структуру API;
   * Создать презентацию с результатами работы.
4. Выполнение работы
   1. Реализация API:

В ходе выполнения лабораторной работы №2 было создано CRUD апи, для которого существует еще и OpenApi. Рассмотрим при помощи рисунков это API. Для подробного рассмотрения в конце отчета предлагаю json, который можно импортировать в swagger editor для просмотра возможностей API.

* 1. Структура API:

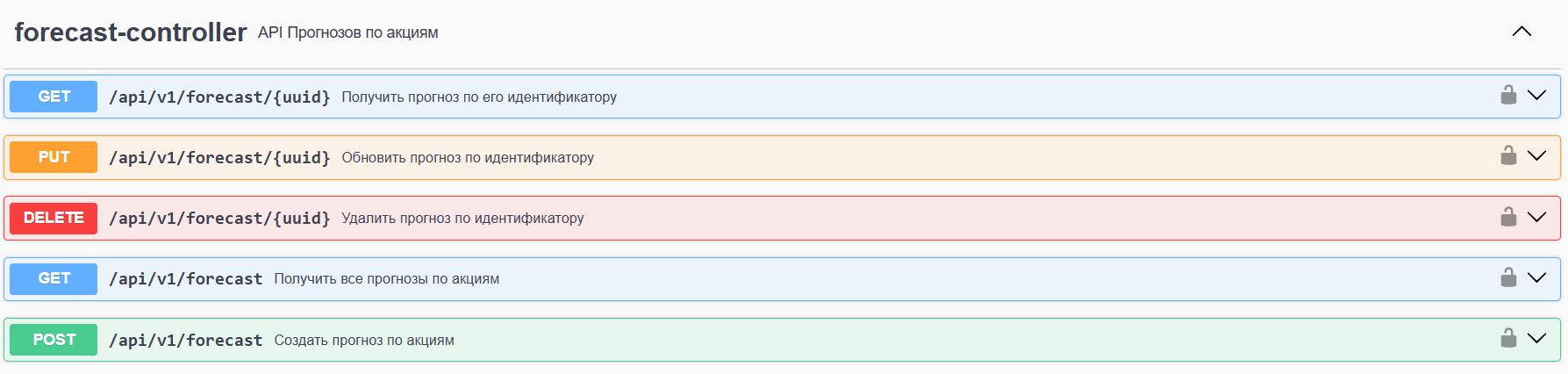


Рисунок 1 – API прогнозов по акциям

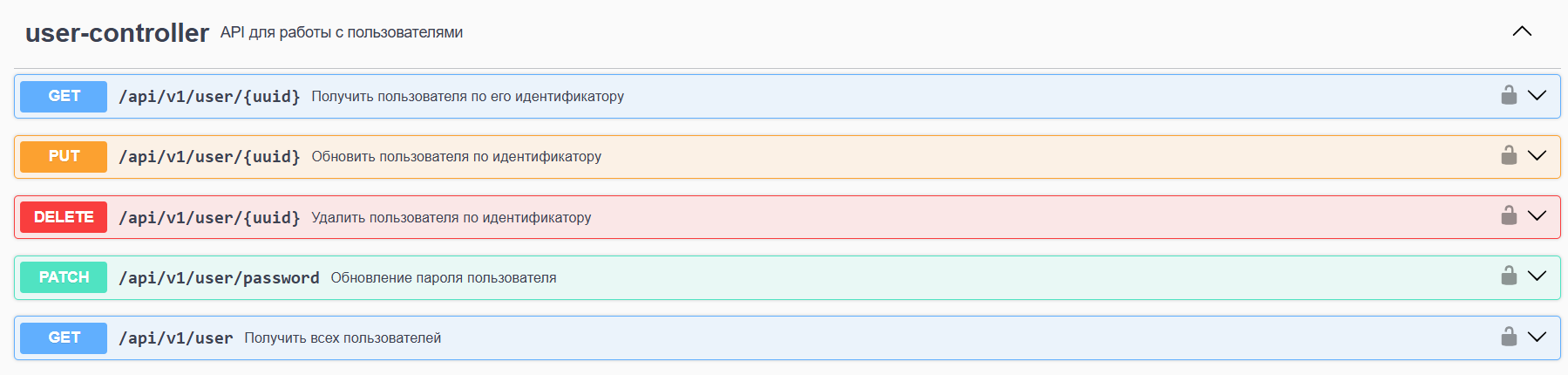


Рисунок 2 – API для работы с пользователями

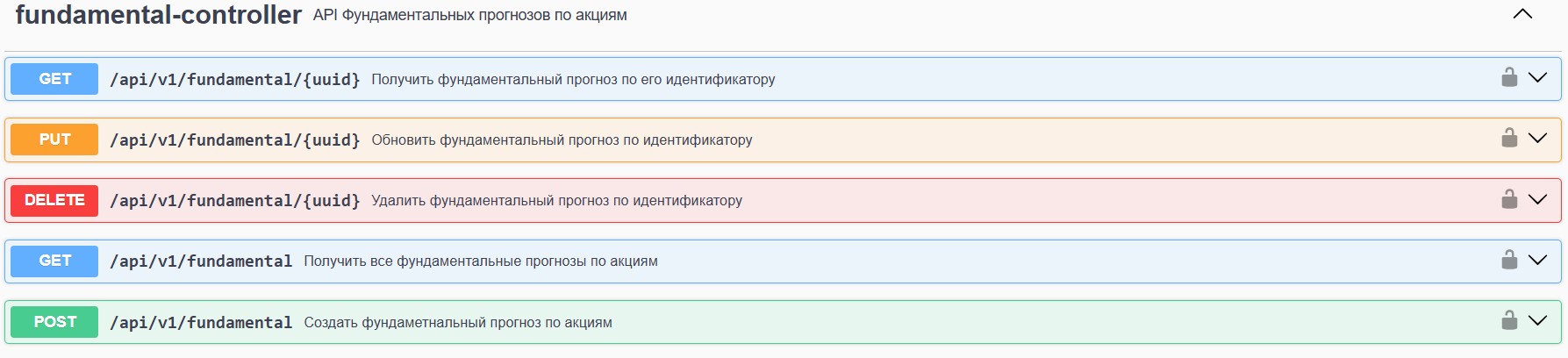


Рисунок 3 – API для работы с фундаментальными прогнозами по акциям

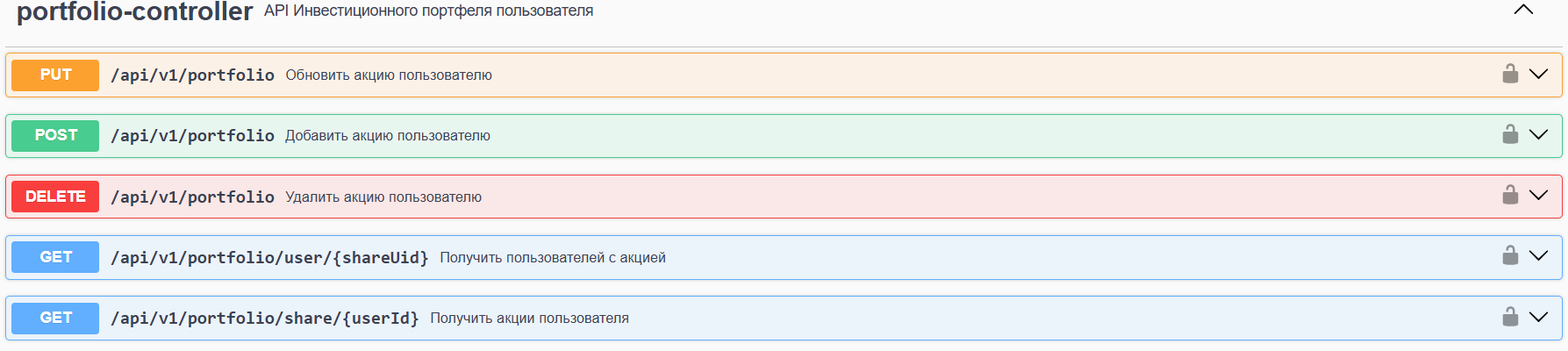


Рисунок 4 – API для работы с инвестиционным портфелем пользователя

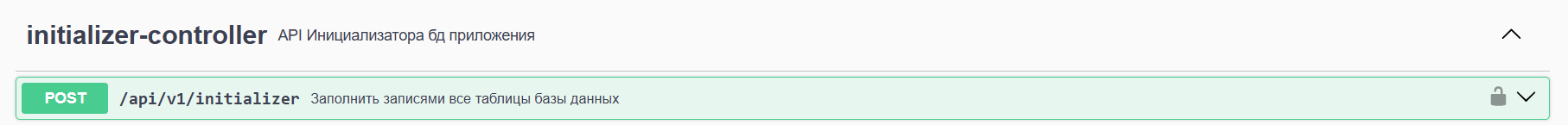


Рисунок 5 – API для инициализатора базы данных

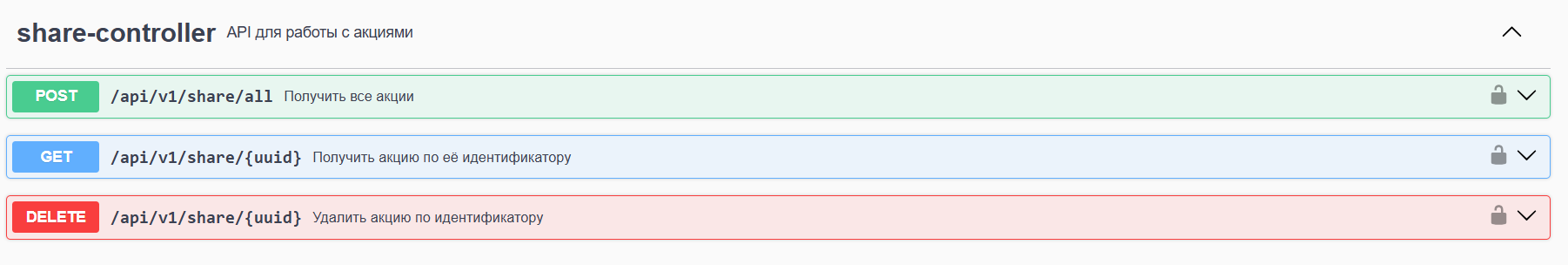


Рисунок 6 – API для управления работы с акциями

* 1. Замечание

Подробные возвращаемые значения и коды ответов можно найти запустив проект и открыв его сваггер по пути http://localhost:8080/swagger-ui/index.html#

Или же можно получить json для OpenApi по пути http://localhost:8080/v3/api-docs

1. Приложение

{"openapi":"3.1.0","info":{"title":"Invest API","version":"1.0.0"},"servers":[{"url":"http://localhost:8080"}],"tags":[{"name":"forecast-controller","description":"API Прогнозов по акциям"},{"name":"user-controller","description":"API для работы с пользователями"},{"name":"fundamental-controller","description":"API Фундаментальных прогнозов по акциям"},{"name":"portfolio-controller","description":"API Инвестиционного портфеля пользователя"},{"name":"initializer-controller","description":"API Инициализатора бд приложения"},{"name":"auth-controller","description":"API для аутентификации и управления сессиями"},{"name":"share-controller","description":"API для работы с акциями"}],"paths":{"/api/v1/user/{uuid}":{"get":{"tags":["user-controller"],"summary":"Получить пользователя по его 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идентификатору","operationId":"findFundamentalForecastByUid","parameters":[{"name":"uuid","in":"path","required":true,"schema":{"type":"string","format":"uuid"}}],"responses":{"200":{"description":"OK","content":{"\*/\*":{"schema":{"$ref":"#/components/schemas/FundamentalDto"}}}}},"security":[{"JWT":[]}]},"put":{"tags":["fundamental-controller"],"summary":"Обновить фундаментальный прогноз по идентификатору","operationId":"updateFundamentalForecast","parameters":[{"name":"uuid","in":"path","required":true,"schema":{"type":"string","format":"uuid"}}],"requestBody":{"content":{"application/json":{"schema":{"$ref":"#/components/schemas/UpdateFundamentalRequest"}}},"required":true},"responses":{"200":{"description":"OK","content":{"\*/\*":{"schema":{"$ref":"#/components/schemas/FundamentalDto"}}}}},"security":[{"JWT":[]}]},"delete":{"tags":["fundamental-controller"],"summary":"Удалить фундаментальный прогноз по 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акции","operationId":"findAllShares","requestBody":{"content":{"application/json":{"schema":{"$ref":"#/components/schemas/Pagination"}}}},"responses":{"200":{"description":"OK","content":{"\*/\*":{"schema":{"type":"array","items":{"$ref":"#/components/schemas/ShareDto"}}}}}},"security":[{"JWT":[]}]}},"/api/v1/initializer":{"post":{"tags":["initializer-controller"],"summary":"Заполнить записями все таблицы базы данных","operationId":"init","responses":{"201":{"description":"Created"}},"security":[{"JWT":[]}]}},"/api/v1/fundamental":{"get":{"tags":["fundamental-controller"],"summary":"Получить все фундаментальные прогнозы по акциям","operationId":"findAllFundamentalForecasts","responses":{"200":{"description":"OK","content":{"\*/\*":{"schema":{"type":"array","items":{"$ref":"#/components/schemas/FundamentalDto"}}}}}},"security":[{"JWT":[]}]},"post":{"tags":["fundamental-controller"],"summary":"Создать фундаметнальный прогноз по 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cookie","operationId":"refreshToken","responses":{"200":{"description":"OK","content":{"\*/\*":{"schema":{"$ref":"#/components/schemas/AuthResponse"}}}}},"security":[{"JWT":[]}]}},"/api/v1/auth/logout":{"post":{"tags":["auth-controller"],"summary":"Завершение сессии","description":"Инвалидирует refresh token и очищает cookie","operationId":"logout","responses":{"204":{"description":"No Content"}},"security":[{"JWT":[]}]}},"/api/v1/auth/login":{"post":{"tags":["auth-controller"],"summary":"Аутентификация пользователя","description":"Возвращает access token и устанавливает refresh token в cookie","operationId":"login","requestBody":{"content":{"application/json":{"schema":{"$ref":"#/components/schemas/AuthRequest"}}},"required":true},"responses":{"200":{"description":"OK","content":{"\*/\*":{"schema":{"$ref":"#/components/schemas/AuthResponse"}}}}}}},"/api/v1/user/password":{"patch":{"tags":["user-controller"],"summary":"Обновление пароля 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