

Чтение логов в Linux

Задание 1

Поиск искомого приложения проводился путем анализа данных логов. После предположения приложение Auth было успешно запущено командой:

`sudo systemctl start nodejs-auth.$USER.`

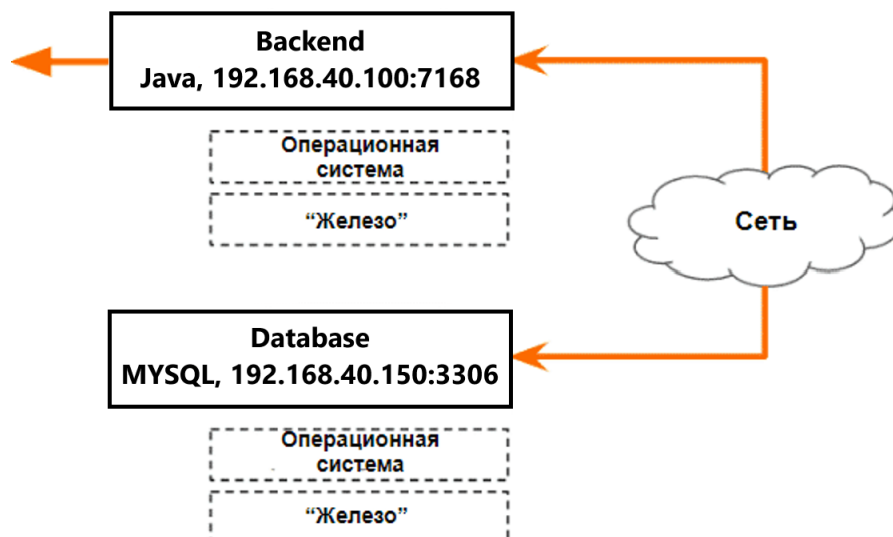
Сравнение логов показало, что приложение Auth является искомым.

Команда: `journalctl -u nodejs-auth.$USER --since "today"`

Вывод:

```
-- Logs begin at Mon 2024-12-30 16:40:01 MSK, end at Wed 2025-01-15 20:46:01 MSK. --
Jan 15 19:22:23 c7-sandbox systemd[1]: Started Nodejs web server for students.
Jan 15 19:22:23 c7-sandbox npm[14410]: > m2p-fe@0.0.0 start /apps/nodejs/st_244_04
Jan 15 19:22:23 c7-sandbox npm[14410]: > node ./bin/www
Jan 15 19:22:28 c7-sandbox npm[14410]: Cookies: [Object: null prototype] {}
Jan 15 19:22:28 c7-sandbox npm[14410]: token dic {}
Jan 15 19:22:28 c7-sandbox npm[14410]: GET / 200 28.813 ms - 3137
Jan 15 19:22:28 c7-sandbox npm[14410]: GET /js/js.cookie.min.js 200 0.469 ms - 1649
Jan 15 19:22:28 c7-sandbox npm[14410]: GET /js/common.js 200 0.637 ms - 1495
Jan 15 19:22:28 c7-sandbox npm[14410]: GET /js/jquery-3.6.0.min.js 200 1.701 ms - 89501
Jan 15 19:22:28 c7-sandbox npm[14410]: GET /css/bootstrap.min.css 200 2.369 ms - 154875
Jan 15 19:22:28 c7-sandbox npm[14410]: GET /js/bootstrap.min.js 200 0.643 ms - 61893
Jan 15 19:22:29 c7-sandbox npm[14410]: GET /favicon.ico 404 9.148 ms - 923
Jan 15 19:22:41 c7-sandbox npm[14410]: Cookies: [Object: null prototype] {}
Jan 15 19:22:41 c7-sandbox npm[14410]: { login: 'max', password: '1234' }
Jan 15 19:22:41 c7-sandbox npm[14410]: {
Jan 15 19:22:41 c7-sandbox npm[14410]:   id: 10,
Jan 15 19:22:41 c7-sandbox npm[14410]:   login: 'max',
Jan 15 19:22:41 c7-sandbox npm[14410]:   password: '1234',
Jan 15 19:22:41 c7-sandbox npm[14410]:   role_id: { id: 4, role: 'singer', description: 'user 2' }
Jan 15 19:22:41 c7-sandbox npm[14410]: }
Jan 15 19:22:41 c7-sandbox npm[14410]: auth_token:a86f19d2-5038-497e-94be-a6ec96ca6e48
Jan 15 19:22:41 c7-sandbox npm[14410]: POST /api/login 200 75.566 ms - 53
Jan 15 19:22:41 c7-sandbox npm[14410]: Cookies: { auth_token: 'a86f19d2-5038-497e-94be-a6ec96ca6e48' }
Jan 15 19:22:41 c7-sandbox npm[14410]: token dic {
Jan 15 19:22:41 c7-sandbox npm[14410]:   'a86f19d2-5038-497e-94be-a6ec96ca6e48': {
Jan 15 19:22:41 c7-sandbox npm[14410]:     id: 10,
Jan 15 19:22:41 c7-sandbox npm[14410]:     login: 'max',
Jan 15 19:22:41 c7-sandbox npm[14410]:     password: '1234',
Jan 15 19:22:41 c7-sandbox npm[14410]:     role_id: { id: 4, role: 'singer', description: 'user 2' }
Jan 15 19:22:41 c7-sandbox npm[14410]:   }
Jan 15 19:22:41 c7-sandbox npm[14410]: }
```

1. Диаграмма архитектуры серверной части приложение Auth.



2. Записи в логах, указывающие на ошибку и/или помогающие установить ее причину.

Лог frontend.log.txt:

```
JUL 11 17:15:03 c7-sandbox npm[31824]: GET /favicon.ico 404 9.105 ms - 883
JUL 11 17:15:19 c7-sandbox npm[31824]: Cookies: [Object: null prototype] {}
JUL 11 17:15:19 c7-sandbox npm[31824]: { login: 'root', password: '1234' }
JUL 11 17:15:19 c7-sandbox npm[31824]: (node:31835) UnhandledPromiseRejectionWarning: Error: connect ECONNREFUSED 192.168.40.100:7080
JUL 11 17:15:19 c7-sandbox npm[31824]: at TCPConnectWrap.afterConnect [as oncomplete] (net.js:1159:16)
JUL 11 17:15:19 c7-sandbox npm[31824]: (Use 'node --trace-warnings ...' to show where the warning was created)
JUL 11 17:15:19 c7-sandbox npm[31824]: (node:31835) UnhandledPromiseRejectionWarning: Unhandled promise rejection. This error originated either by throwing inside of
JUL 11 17:15:19 c7-sandbox npm[31824]: (node:31835) [DEP0018] DeprecationWarning: Unhandled promise rejections are deprecated. In the future, promise rejections that
JUL 11 17:15:23 c7-sandbox npm[31824]: GET /css/bootstrap.min.css 304 0.586 ms - -
JUL 11 17:15:23 c7-sandbox npm[31824]: GET /js/bootstrap.min.js.map 200 8.305 ms - 221310
```

Эта ошибка указывает на то, что сервер отклонил соединение.

Лог db.log.txt:

```
Mar 15 09:24:53 c7-db mysqld[1234]: [Warning] InnoDB: Table 'your database name.your table name' has orphaned or missing external data files.
Mar 15 09:25:02 c7-db mysqld[1234]: [Error] Aborted connection 5678 to db: 'your_database' user: 'your_user' host: '192.168.1.100' (Got an error reading communication protocol)
Aug 08 18:53:20 c7-db mysqld[1234]: [Note] Starting crash recovery...
Aug 08 18:53:25 c7-db mysqld[1234]: [Success] InnoDB: Database recovery completed.
Sep 20 14:07:45 c7-db mysqld[1234]: [Info] Query cache pruned, freed 1024K
Sep 20 14:08:02 c7-db mysqld[1234]: [Debug] Slow query detected: SELECT * FROM your table WHERE some condition;
```

Предупреждение о том, что БД содержит потерянные или отсутствующие внешние файлы данных.

```
Mar 15 09:24:53 c7-db mysqld[1234]: [Warning] InnoDB: Table 'your database name.your table name' has orphaned or missing external data files.
Mar 15 09:25:02 c7-db mysqld[1234]: [Error] Aborted connection 5678 to db: 'your_database' user: 'your_user' host: '192.168.1.100' (Got an error reading communication protocol)
Aug 08 18:53:20 c7-db mysqld[1234]: [Note] Starting crash recovery...
Aug 08 18:53:25 c7-db mysqld[1234]: [Success] InnoDB: Database recovery completed.
Sep 20 14:07:45 c7-db mysqld[1234]: [Info] Query cache pruned, freed 1024K
Sep 20 14:08:02 c7-db mysqld[1234]: [Debug] Slow query detected: SELECT * FROM your table WHERE some condition;
```

Ошибка: прервано соединение пользователя с БД.

Таким образом нужно проверить файлы данных БД, настройки соединения БД с backend.

Задание 2

1. Изменение прав доступа к файлу 'application.properties'. Перезапуск сервиса.

Команда, для изменения прав доступа к файлу 'application.properties':
chmod 000 /apps/java/ftb/\$USER/application.properties.

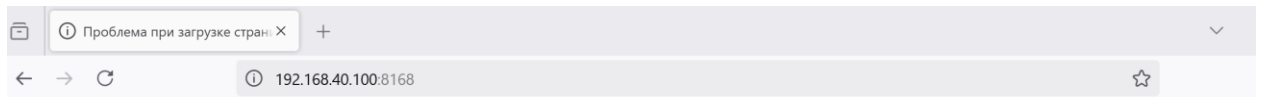
Перезапуск сервиса: sudo systemctl restart java-ftb.\$USER

Команда, для просмотра логов: journalctl -u java-ftb.\$USER --since "today"

Лог, содержащий ошибки о невозможности запуска приложения java-ftb:

```
Jan 15 14:19:25 c7-backend java-start-ftb.sh[32734]: at org.springframework.boot.context.config.ConfigDataImporter.resolveAnd
Jan 15 14:19:25 c7-backend java-start-ftb.sh[32734]: ... 30 common frames omitted
Jan 15 14:19:25 c7-backend systemd[1]: java-ftb.st 244_04.service: main process exited, code=exited, status=1/FAILURE
Jan 15 14:19:25 c7-backend systemd[1]: Unit java-ftb.st 244_04.service entered failed state.
Jan 15 14:19:25 c7-backend systemd[1]: java-ftb.st 244_04.service failed.
```

2. Невозможность обращения к <http://192.168.40.100:8168>



Попытка соединения не удалась

Firefox не может установить соединение с сервером 192.168.40.100:8168.

- Возможно, сайт временно недоступен или перегружен запросами. Подождите некоторое время и попробуйте снова.
- Если вы не можете загрузить ни одну страницу – проверьте настройки соединения с Интернетом.
- Если ваш компьютер или сеть защищены межсетевым экраном или прокси-сервером – убедитесь, что Firefox разрешён выход в Интернет.

[Попробовать снова](#)

3. Возврат прав доступа к файлу 'application.properties' в изначальное состояние. Перезапуск сервиса.

Команда, для возврата прав доступа к файлу 'application.properties':
`chmod 600 /apps/java/ftb/$USER/application.properties.`

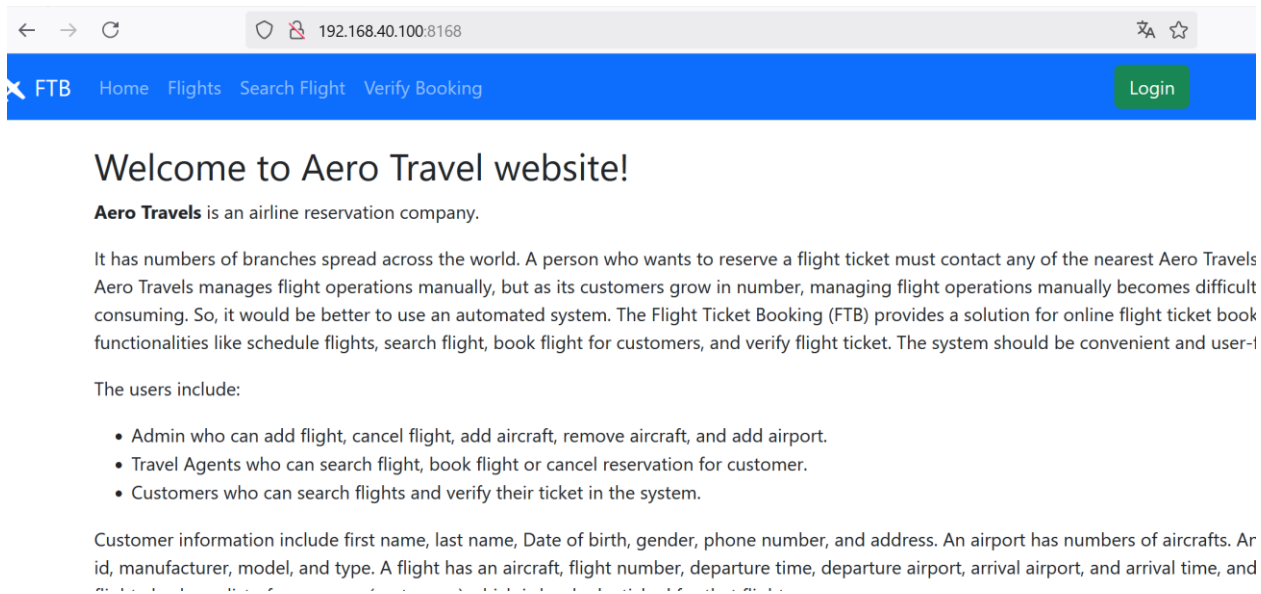
Перезапуск сервиса: `sudo systemctl restart java-ftb.$USER`

Команда, для просмотра логов: `journalctl -u java-ftb.$USER --since "today"`

Лог, содержащий ошибки о успешном старте приложения java-ftb:

```
in] INFO o.a.c.h.Http11NioProtocol - Starting ProtocolHandler ["http-nio-8168"]
in] INFO o.s.b.w.e.t.TomcatWebServer - Tomcat started on port(s): 8168 (http) with context path ''
in] INFO c.a.f.FlightticketbookingApplication - Started FlightticketbookingApplication in 5.509 seconds (JVM running for 5.956)
tp-nio-8168-exec-1] INFO o.a.c.c.C.[.[/] - Initializing Spring DispatcherServlet 'dispatcherServlet'
tp-nio-8168-exec-1] INFO o.s.w.s.DispatcherServlet - Initializing Servlet 'dispatcherServlet'
tp-nio-8168-exec-1] INFO o.s.w.s.DispatcherServlet - Completed initialization in 1 ms
tp-nio-8168-exec-5] INFO c.a.f.c.MainController - Ola-ola-ola-ola, somebody is going to login! Probably...
lines 744-790/790 (END)
```

4. Подключение к приложению java-ftb с помощью браузера.



Задание 3

1. Изменение номера порта СУБД-сервера с 3306 на 3307 в файле настройки приложения FTB.

Команда: `nano /apps/java/ftb/$USER/application.properties`

```
[st 244_04@c7-backend ftb]$ nano /apps/java/ftb/$USER/application.properties
GNU nano 2.3.1 File: /apps/java/ftb/st_244_04/application.properties

# =====
# APPLICATION PROPERTIES
# =====
server.port=8168
# =====
# = Thymeleaf configurations (ThymeleafAutoConfiguration)
# =====
spring.thymeleaf.mode=HTML
spring.thymeleaf.cache=false
spring.thymeleaf.encoding=UTF-8
# =====
# = DATA SOURCE
# =====
##Using MySQL database
spring.datasource.url=jdbc:mysql://192.168.40.150:3307/ftb_st_244_04?allowPublicKeyRetrieval=true&useS
spring.datasource.username=dbst_244_04
spring.datasource.password=25f45f3a96
```

2. Перезапуск сервиса.

Команда: `sudo systemctl restart java-ftb.$USER`

3. Просмотр недавних событий в журнале.

Команда: journalctl -u java-ftb.\$USER --since "2025-01-15 14:35"

```
Jan 15 14:38:17 c7-backend java-start-ftb.sh[2517]: 2025.01.15 14:38:17.484 [main] INFO o.hibernate.Version - HH0000412: Hibernate ORM core version 5.6.10.F
Jan 15 14:38:17 c7-backend java-start-ftb.sh[2517]: 2025.01.15 14:38:17.584 [main] INFO o.h.a.common.Version - HCANN000001: Hibernate Commons Annotations (5
Jan 15 14:38:17 c7-backend java-start-ftb.sh[2517]: 2025.01.15 14:38:17.646 [main] INFO c.z.h.HikariDataSource - HikariPool-1 - Starting...
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: 2025.01.15 14:38:18.728 [main] ERROR c.z.h.p.HikariPool - HikariPool-1 - Exception during pool initializa
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: com.mysql.cj.jdbc.exceptions.CommunicationsException: Communications link failure
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: The last packet sent successfully to the server was 0 milliseconds ago. The driver has not received any p
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.jdbc.exceptions.SQLError.createCommunicationsException(SQLError.java:174)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.jdbc.exceptions.SQLExceptionsMapping.translateException(SQLExceptionsMapping.java:64)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.jdbc.ConnectionImpl.createNewIO(ConnectionImpl.java:828)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.jdbc.ConnectionImpl.<init>(ConnectionImpl.java:448)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.jdbc.ConnectionImpl.getInstance(ConnectionImpl.java:241)
```

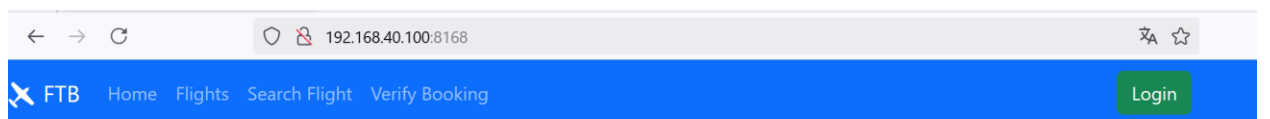
```
ed
ain] WARN o.h.e.j.s.SqlExceptionHandler - SQL Error: 0, SQLState: 08S01
ain] ERROR o.h.e.j.s.SqlExceptionHandler - Communications link failure
ssfully to the server was 0 milliseconds ago. The driver has not received any packets from the server.
ain] ERROR o.s.o.j.LocalContainerEntityManagerFactoryBean - Failed to initialize JPA EntityManagerFactory: [PersistenceUnit: default] Unable to build Hiberna
ain] WARN o.s.b.w.s.c.AnnotationConfigServletWebServerApplicationContext - Exception encountered during context initialization - cancelling refresh attempt:
ain] INFO o.a.c.c.c.StandardService - Stopping service [Tomcat]
ain] INFO o.s.b.a.l.ConditionEvaluationReportLoggingListener -
Context. To display the conditions report re-run your application with 'debug' enabled.
ain] ERROR o.s.b.SpringApplication - Application run failed
factory.BeanCreationException: Error creating bean with name 'entityManagerFactory' defined in class path resource [org/springframework/boot/autoconfigure/or
na.factory.support.AbstractAutowireCapableBeanFactory.initializeBean(AbstractAutowireCapableBeanFactory.java:1804)
```

Несколько сообщений в логах о сбое связи с БД:

```
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at org.springframework.boot.loader.Launcher.launch(Launcher.java:58)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at org.springframework.boot.loader.JarLauncher.main(JarLauncher.java:65)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: Caused by: com.mysql.cj.exceptions.CommunicationsException: Communications link failure
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: The last packet sent successfully to the server was 0 milliseconds ago. The driver has not received any p
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at java.base/jdk.internal.reflect.NativeConstructorAccessorImpl.newInstance(Native Method)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at java.base/jdk.internal.reflect.NativeConstructorAccessorImpl.newInstance(NativeConstructorAccessorImpl
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at java.base/jdk.internal.reflect.DelegatingConstructorAccessorImpl.newInstance(DelegatingConstructorAcces
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at java.base/java.lang.reflect.Constructor.newInstanceWithCaller(Constructor.java:499)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at java.base/java.lang.reflect.Constructor.newInstance(Constructor.java:480)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.exceptions.ExceptionFactory.createException(ExceptionFactory.java:61)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.exceptions.ExceptionFactory.createException(ExceptionFactory.java:105)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.exceptions.ExceptionFactory.createException(ExceptionFactory.java:151)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.exceptions.ExceptionFactory.createCommunicationsException(ExceptionFactory.java:167)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.protocol.a.NativeSocketConnection.connect(NativeSocketConnection.java:89)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.NativeSession.connect(NativeSession.java:120)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.jdbc.ConnectionImpl.connectOneTryOnly(ConnectionImpl.java:948)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.jdbc.ConnectionImpl.createNewIO(ConnectionImpl.java:818)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: ... 57 common frames omitted
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: Caused by: java.net.ConnectException: Connection refused
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at java.base/sun.nio.ch.Net.pollConnect(Native Method)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at java.base/sun.nio.ch.Net.pollConnectNow(Net.java:672)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at java.base/sun.nio.ch.NioSocketImpl.timedFinishConnect(NioSocketImpl.java:554)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at java.base/sun.nio.ch.NioSocketImpl.connect(NioSocketImpl.java:602)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at java.base/java.net.SocksSocketImpl.connect(SocksSocketImpl.java:327)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at java.base/java.net.Socket.connect(Socket.java:633)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.protocol.StandardSocketFactory.connect(StandardSocketFactory.java:153)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.protocol.a.NativeSocketConnection.connect(NativeSocketConnection.java:63)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: ... 60 common frames omitted
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: 2025.01.15 14:38:18.728 [main] WARN o.h.e.j.s.l.jdbcEnvironmentInitiator - HH0000342: Could not obtain c
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: com.mysql.cj.jdbc.exceptions.CommunicationsException: Communications link failure
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: The last packet sent successfully to the server was 0 milliseconds ago. The driver has not received any p
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.jdbc.exceptions.SQLError.createCommunicationsException(SQLError.java:174)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.jdbc.exceptions.SQLExceptionsMapping.translateException(SQLExceptionsMapping.java:64)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.jdbc.ConnectionImpl.createNewIO(ConnectionImpl.java:828)
Jan 15 14:38:18 c7-backend java-start-ftb.sh[2517]: at com.mysql.cj.jdbc.ConnectionImpl.<init>(ConnectionImpl.java:448)
```

4. Исправление проблемы и перезапуск сервиса.

```
ain] INFO c.a.f.FlightticketbookingApplication - Started FlightticketbookingApplication in 5.298 seconds (JVM running for 5.724)
ttp-nio-8168-exec-1] INFO o.a.c.c.c.[.[./] - Initializing Spring DispatcherServlet 'dispatcherServlet'
ttp-nio-8168-exec-1] INFO o.s.w.s.DispatcherServlet - Initializing Servlet 'dispatcherServlet'
ttp-nio-8168-exec-1] INFO o.s.w.s.DispatcherServlet - Completed initialization in 1 ms
ttp-nio-8168-exec-3] INFO c.a.f.c.MainController - Ola-ola-ola-ola, somebody is going to login! Probably... .
lines 424-470/470 (END)
```



Welcome to Aero Travel website!

Aero Travels is an airline reservation company.

It has numbers of branches spread across the world. A person who wants to reserve a flight ticket must contact any of the nearest Aero Travels. Aero Travels manages flight operations manually, but as its customers grow in number, managing flight operations manually becomes difficult consuming. So, it would be better to use an automated system. The Flight Ticket Booking (FTB) provides a solution for online flight ticket booking functionalities like schedule flights, search flight, book flight for customers, and verify flight ticket. The system should be convenient and user-friendly.