

DTU Pay - Installation Guide (Linux, CLI)

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Scope

This guide explains how to install, build, run, and test the DTU Pay microservices from the command line on any Linux machine, without Jenkins and without access to any VM.

Repository access

- https://github.com/LucasJuel/02267_DTU_PAY.git
- Ensure read access for the evaluator accounts if private. GitHub: hubertbau. GitLab: huba (gitlab.gbar.dtu.dk) and huba63 (gitlab.com). Public read access is also fine.

Prerequisites (host machine)

1) Git (latest stable; 2.52.0 as of Jan 2026)

Docs: <https://git-scm.com/install/linux>

2) Docker Engine + Docker Compose v2 plugin

Docker Engine install docs: <https://docs.docker.com/engine/install/>

Docker Compose install overview (includes plugin): <https://docs.docker.com/compose/install/>

3) Java Development Kit (JDK) 21 (LTS)

Recommended: Eclipse Temurin 21 (latest release: jdk-21.0.9+10)

Downloads: <https://github.com/adoptium/temurin21-binaries/releases/>

4) Apache Maven 3.9.12

Downloads: <https://maven.apache.org/download.cgi>

5) curl (used by the test script for health checks)

Install with your distro package manager (e.g., sudo apt-get install curl)

Project versions (from source)

- Java release: 21 (maven.compiler.release=21)
- Quarkus: 3.30.6
- JUnit: 5.10.1
- Cucumber: 7.15.0
- Client WSDL tooling: JAX-WS RI 4.0.3
- Docker build images: maven:3.9-eclipse-temurin-21
- Docker runtime base image: eclipse-temurin:21-jre
- RabbitMQ image: rabbitmq:3-management

Quick start (build + deploy + test)

1) Clone and enter the repo:

```
git clone https://github.com/LucasJuel/02267_DTU_PAY.git
```

```
cd 02267_DTU_PAY
```

2) Run the all-in-one script (top-level):

```
chmod +x ./run-all-tests.sh
```

```
./run-all-tests.sh
```

This script:

- builds Docker images
- starts all services via docker compose

- waits for the API Gateway to be ready
- runs unit + service tests
- runs end-to-end tests
- shuts down containers

Manual commands (if you prefer)

Start services:

```
docker compose up -d --build
```

Run unit + service tests:

```
mvn test
```

Run end-to-end tests:

```
SERVER_URL=http://localhost:8080 mvn -pl e2e-tests -am test
```

Stop services:

```
docker compose down
```

Ports

- API Gateway: http://localhost:8080
- Account service: http://localhost:8081
- Payment service: http://localhost:8082
- Token service: http://localhost:8084
- Client: http://localhost:8181
- RabbitMQ management UI: http://localhost:15672 (guest/guest)

Notes / troubleshooting

- First build can take several minutes while Docker downloads base images.
- The client module uses the DTU FastMoney WSDL at <http://fm-00.compute.dtu.dk/services/BankService?wsdl> for wsimport. Network access to that URL is required when building the client module.
- Shell scripts use Unix (LF) line endings. If you edit on Windows, keep LF or run:
`dos2unix run-all-tests.sh`