# Example

In this lesson, we'll introduce an example.

The domain structure is identical to the example in the Netflix chapter (chapter 10) (see the drawing below) and consists of **three microservices**.
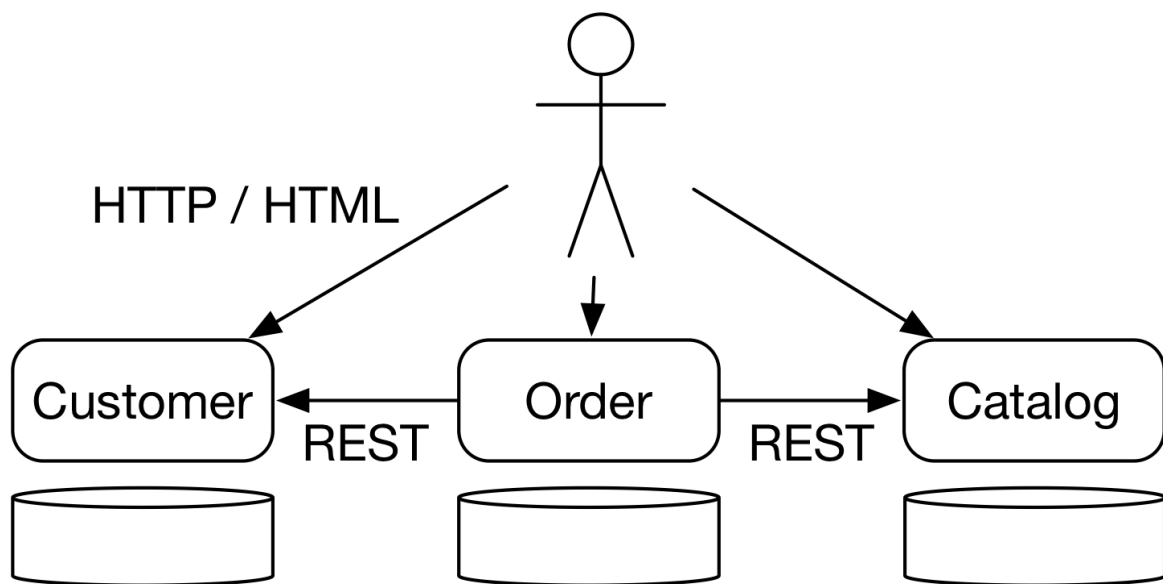


Architecture of the Consul Example

- The **catalog** microservice manages the information such as price and name for the items that can be ordered.

- The **customer** microservice stores customer data.

- The **order** microservice can accept new orders. It uses the catalog and customer microservice.

## Architecture of the example #

The example in this chapter uses Consul for service discovery and Apache httpd server for routing the HTTP requests.

An overview of the Docker containers is shown in the drawing below. The three microservices provide their UI and REST interfaces at the port 8080. They are only accessible within the network between the Docker containers. Consul offers port 8500 for the REST interface and the HTML UI as well as UDP port 8600 for DNS requests.

These two ports are bound to the Docker host and are accessible from other computers. The Docker host also provides the Apache httpd at port 8080. Apache httpd forwards calls to the microservices in the Docker network so that the microservices can also be accessed from outside.
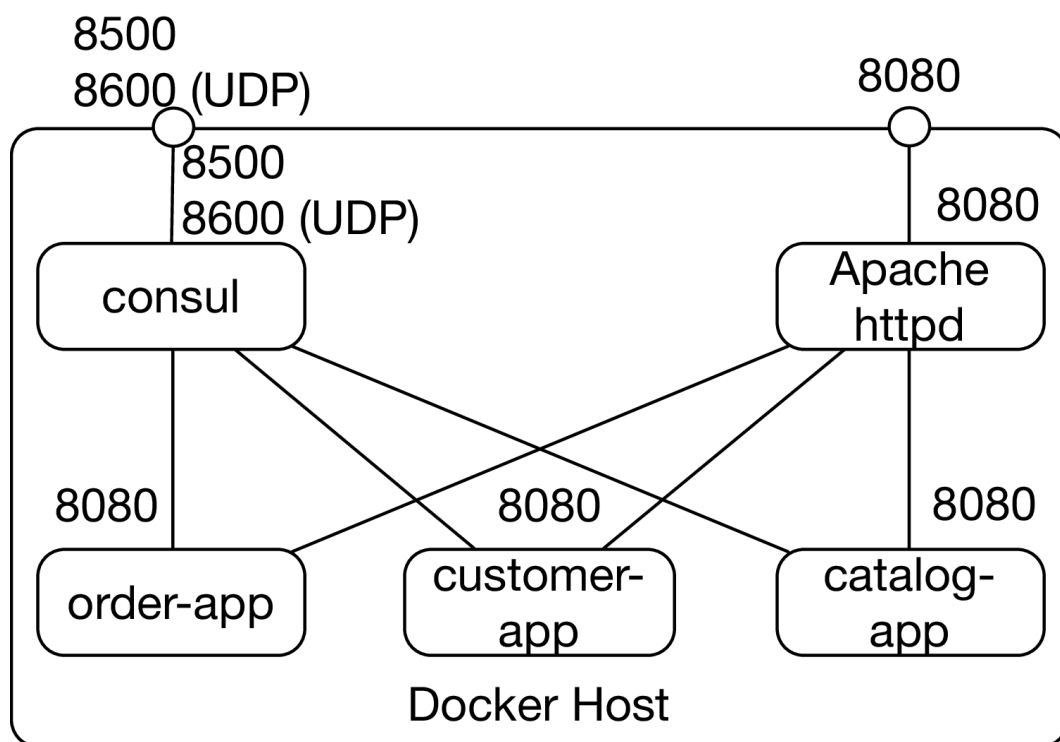


Overview of the Consul Example

# Building the example #

First download the code with `git clone https://github.com/ewolff/microservice-consul.git`. Then the code has to be translated with `./mvnw clean package` (macOS, Linux) or `mvnw.cmd clean package` (Windows) in directory `microservice-consul-demo`. See this lesson for more details on Maven and how to troubleshoot the build. Afterwards the

Docker containers can be built in the directory `docker` with `docker-compose build` and started with `docker-compose up -d`. See this lesson for more details on Docker, docker-compose and how to troubleshoot them. Subsequently, the Docker containers are available on the Docker host.

When the Docker containers are running on the local computer, the following URLs are available:

- http://localhost:8500 is the link to the Consul dashboard.

- http://localhost:8080 is the URL of the Apache httpd server. It can display the web UI of all microservices.

https://github.com/ewolff/microservice-consul/blob/master/HOW-TO-RUN.md describes the necessary steps for building and running the example in detail.

In the next lesson, we'll look at service discovery with Consul.