

Task SampleCompany Computer

Procedure

Choose one of the following programming languages

- Python
- Java with Spring
- Golang

Create a git repository to maintain the code.

Implement the exercise and document build, test and run steps in a README markdown file. Add possible notes and amendments to the README.

Upload the git repository to a public service like GitHub and provide the link.

Task description

For the following task, an application in the selected programming language should be written and managed in a git repository.

The system administrator of our *SampleCompany* wants to keep track of the computers issued by the company. For this purpose, computer details should be stored in an arbitrary database.

The system administrator needs to store the following elements for each computer: MAC address (required), computer name (required), IP address (required), employee abbreviation (optional) and description (optional). The employee abbreviation consists of 3 letters. For example *Max Mustermann* should be *mmu*.

The system administrator wants to access the data via REST interface. The operations CREATE, READ, UPDATE, DELETE for a computer are to be implemented. Additionally the system administrator wants to be able to request the information about all computers.

The system administrator would like to be notified if 3 or more devices are already assigned to a single user. Therefore an existing messaging service has to be called. This messaging service is running in a docker container. The image can be retrieved with `docker pull greenbone/exercise-admin-notification`. Within the image is a small service listening to requests on port 8080. The source code for this service can be found at <https://github.com/greenbone/exercise-admin-notification>.

This service informs the system administrator team when the following REST endpoint is called: POST `http://localhost:8080/api/notify` The expected body of this REST endpoint is defined as follows:

```
{  
  "level": "warning",  
  "employeeAbbreviation": "mmu",  
  "message": "some message"  
}
```

Requirements

- The system administrator wants to be able to add a new computer to an employee
- The system administrator wants to be informed when an employee is assigned 3 or more computers
- The system administrator wants to be able to get all computers
- The system administrator wants to be able to get all assigned computers for an employee
- The system administrator wants to be able to get the data of a single computer
- The system administrator wants to be able to remove a computer from an employee
- The system administrator wants to be able to assign a computer to another employee

Note

It is more important for us to get an idea of your development process and the handling of the technologies, than to have a complete solution for the application. We want to get an impression about how best practices are used and which ones are considered. Therefore it is more interesting to add a statement about which parts of your implementation could get additional improvements than to have a full functional version. It is not necessary to implement a web user interface.

If you end up omitting parts that you would find necessary for a productive version of the code in a professional context, then please add a section in the README.md to describe what you think still would need to be done.