Lab 2: Unit testing

1. UserService

   - GetUser
           - Should return user object by user name, when user exists
           - Should fail when user does not exist

   - CreateUser
           - Should not allow to create user with an existing name
           - Should create user

   - DeleteUser
           - Should delete user when user name provided
           - Should fail when user does not exist

2. GatewayService

   - RegisterGateway
           - Should create a gateway with the new serial number if it does not exist yet
           - Should connect user with gateway
           - Should set gatway status to registered
           - Should not allow to register the same gateway twice
           - Should only allow to register gateways with serial number containing exactly 16
           digits

   - UnregisterGateway
           - Should disconnect user and gateway
           - Should set gateway status to unregistered
           - Should not allow to unregister not registered gateway
           - Should not allow to unregister not existing gateway

3. Component tests for data services providing data access methods for application services
   tested in tasks 1 and 2.