

Warm-up Tasks for Interns

Common Tasks

1. [admin] Set up gitlab account, product group, and repo
2. Set up gitlab local (ssh keys)
3. Set up local IDE of choice
4. Read up [Gitlab Flow](#)
5. Create Issue branch
 - a. Issue 01: Edit Readme and push
 - b. Raise a merge request to main
6. Set up basic code repository for microservice
 - a. Issue 02: context: api/<service>
 - b. Issue 03: First API: api/<service>/v1/hello
 - i. Return JSON: {"lang":"en", "greeting":"Hello World!"}
7. Issue 04: Write a basic unit test
 - i. Test if return string is JSON object
 - ii. Test if return JSON contains all the necessary keys (only "greeting" is essential key)
8. Set up basic CI/CD for unit tests on every commit push to origin
 - a. For [java use this](#)
9. Install docker locally
10. Create a docker image of your application

Microservices

11. Complete Common Tasks
12. Setup Swagger to test API calls
13. Issue 05: Create more tests
 - a. Test if greeting contains the string "Hello" (case sensitive)
 - b. Test if greeting contains the string "World" (case sensitive)
14. Issue 06: Create an intentional error in code, return "hello world!" (all lowercase)
 - a. Show that the test fails upon push
15. Issue 07: Fix the bug and return "Hello World!"
16. Issue 08: Return server time api/<service>/v1/time to return time. Write the tests first (test driven development)
 - a. Time must be in a format YYYY-MM-DD HH:MI:SS
 - b. Time must be greater than the date you write the test, eg 2023-04-25 00:00

17. Create a simple frontend in HTML/CSS/JS or any JS framework that exposes links to the APIs developed, clicking on those must query and display
18. [DevOps] Work with devops team to deploy code and frontend to the server using CI/CD
19. Setup a simple repository schema for your product
 - a. setup methods to insert, update and delete records
 - b. Test using Swagger
20. [Optional] Implement User/Role/Privilege system in the framework
 - a. Student role: can view the records
 - b. Teacher role: can update records
 - c. Admin role: can delete records
21. Set up local environment different from production environment with different DB connection settings

Cloud DevOps

1. Complete Common tasks
2. Install Jmeter, carry out basic tutorials
3. Install Kubernetes [Learning environment](#)
4. Use docker images from other interns
5. Set up a local cluster with different apps
6. Read and install Syncope /sync-a-pee/ basic, demonstrate capabilities
- 7.