COSC2299 - Software Engineering Process and Tools

Tutorial 5

Sprint 1 : Planning			Sprint 2 : Development			Sprint 3 : Delivery		
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
Plan	Review	Act	Plan	Review	Act	Plan	Review	Act
Draft - Plan out stories, sketches for the application, high level documentation, architectural diagrams	Demonstrate that the documentation is sound, and you have a solid plan ahead - receive feedback	Demonstrate that you have acted on the feedback						

In this session:

- In the first hour, you will work with your group and start making a draft plan. You need enough information to showcase your understanding of the project.
- Set up your machine and practice backend development and Spring Boot.
- Clone the application boilerplate and practice (homework).

Part A: Weekly Meeting - Understand the project (50mins)

Carefully go over the project specifications and start breaking down the project into epics and stories. Start drafting architectural diagrams of how the system may work and sketch what the UI may look like.
In the second hour of the session you will be presenting your findings to your tutor in your weekly meeting.
Start using the SRS document provided as your master document. Keep this clean and updated to the best of your abilities.

Part B: Set up your machine

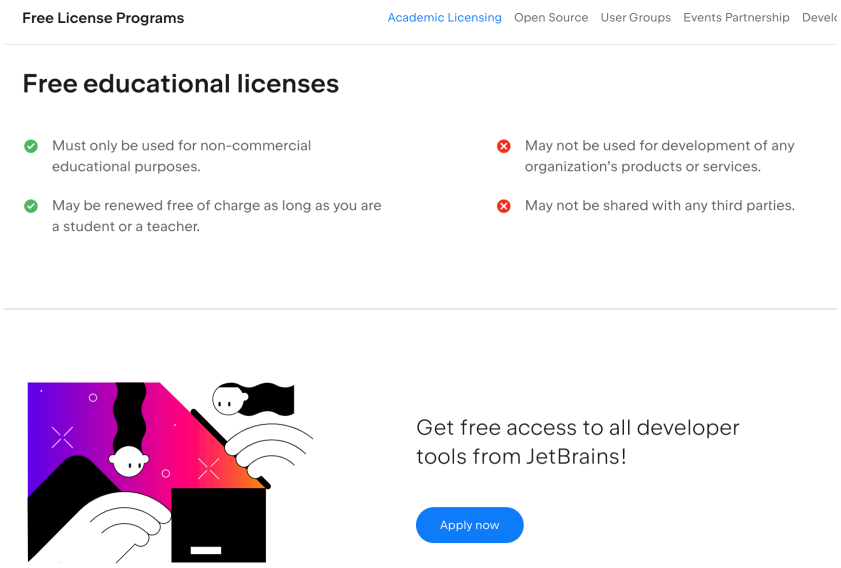
B1. Download your preferred development environment.

Either use VS Code or IntelliJ. VS Code is a rich text editor with an incredibly rich ecosystem of plugins, and very light. IntelliJ is instead a complete IDE built for Java. There is no right or wrong, choose the one you prefer. We will use examples on IntelliJ for consistency.
You can download VS Code here https://code.visualstudio.com/download

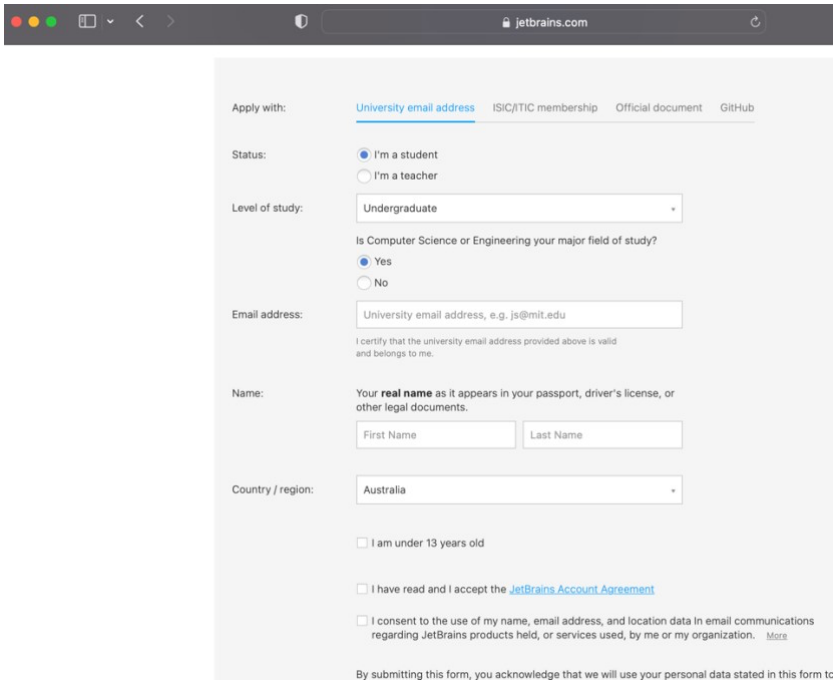
B2. Register on Jetbrains, download and install IntelliJ Idea

Please first check if you have Java the latest JDK on your computer, you can try the command "java –version" in your command line/terminal so you know what the version is. Make sure it is JDK not JRE. If you do not have the right version, please download and install JDK from Oracle website.

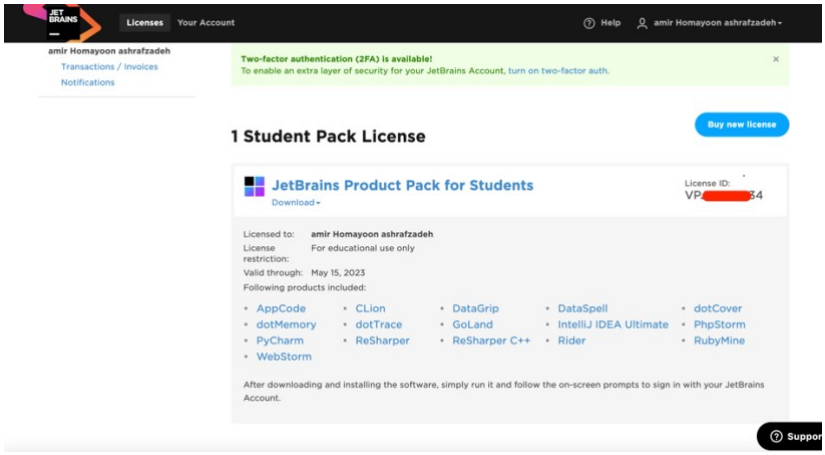
(i) Go to here and apply for student license, click on Apply. The image may differ slightly.



(ii) After you click on "Apply" button, you will see a form that you have to fill in with your student email and after approval you will receive access information.



(iii)You will receive an email, and with your access information and verification. Please follow the instruction. Now, you have account, please go to JetBrains and Login with your student email and your JetBrains password. You should be able to see below page



Download IntelliJ IDEA Ultimate from the fourth column and install IntelliJ IDEA Ultimate on your machine

Part C: Practice developing on the boilerplate

This repository will give an individual webapp repository, so you explore and learn without impacting your team' project. It is the SAME as used in the lectorials.
To create your individual repository:

1. Use GitHub classroom link in **Canvas Resources and Templates page** named: **Individual Webapp repository (Lectorials and tutorials)**

    a. NOTE: This is NOT the repository for your team project. The team project repo was created in Week 3.
    b. Individual repository starts with "individual-web-app"
    c. Team project repository starts with "team-project"

2. For this task, clone your individual repository from GitHub (if not done during the lectorials)
3. Create a new feature called "retrieve movie by id".

    To achieve this, you will
    - Create a feature branch
    - Develop the functionality following the MVC patter and corresponding n-tier architecture.
    - Test the functionality live (by visually inspecting the outcome with your browser – we will cover automated tests later.)
    - Push the code back into your repo and merge it

Remember to follow good SE Practices:

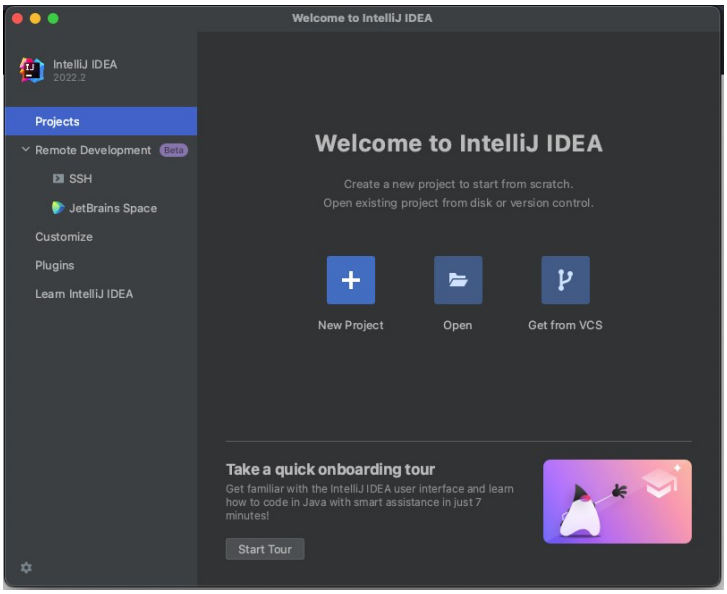
- Commit often and with meaning full commits.
- Use atomic commits.
- Respect good OO and architectural design.

This will be used as part of your assessment

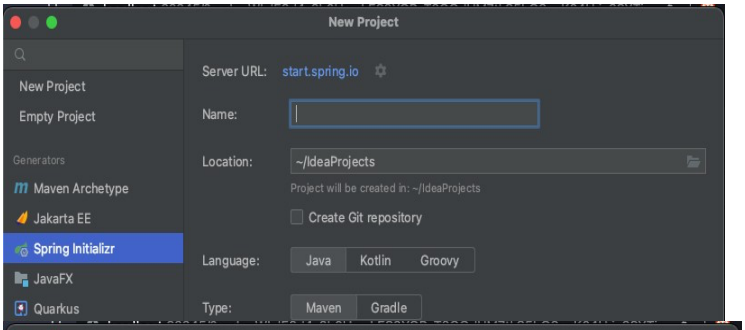
Part D: Creating your own Spring Boot Application with IntelliJ IDEA

You can also create your own spring boot application. Below are the basic steps to do it with IntelliJ

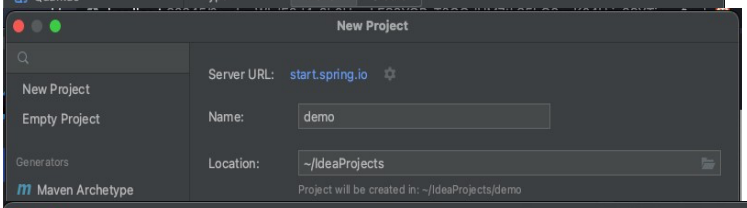
We are going to make a sample Spring Boot Web application, without using database.
We should start with Spring Initializer. Please open your IntelliJ IDEA and click on new project



Then select Spring Initializer from left

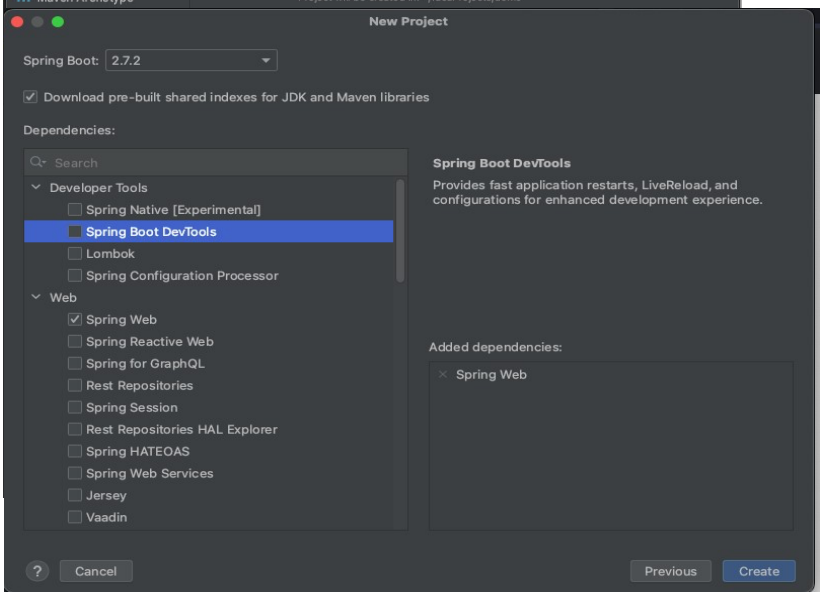


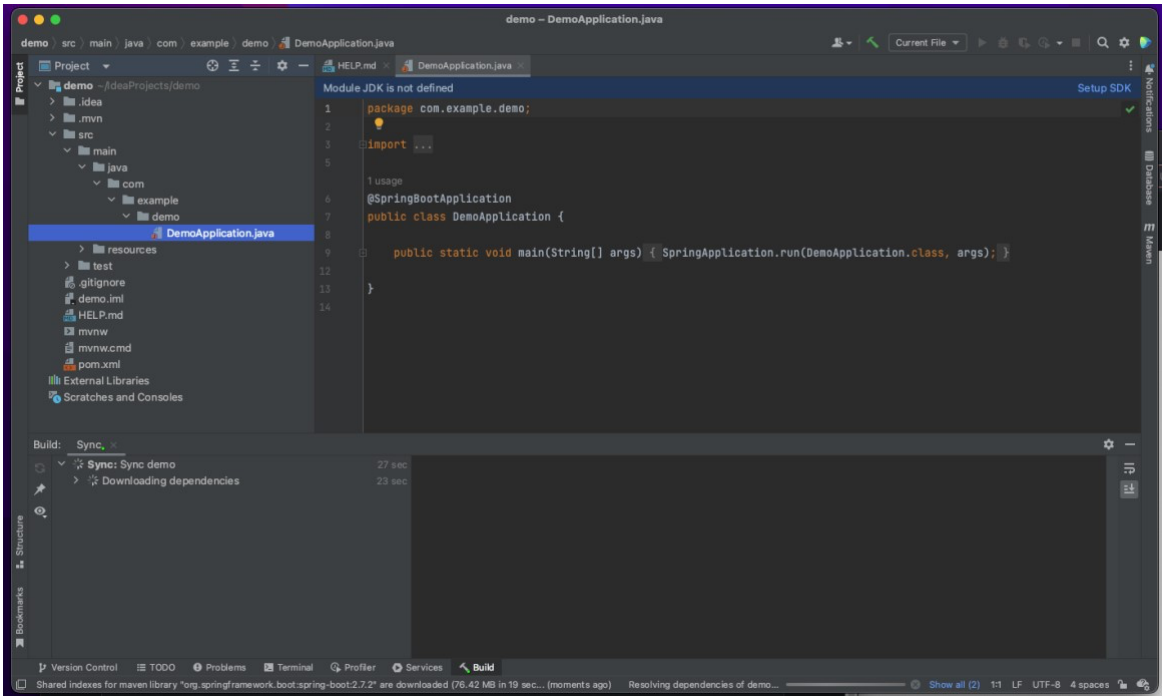
Write a name for your project and click Next.



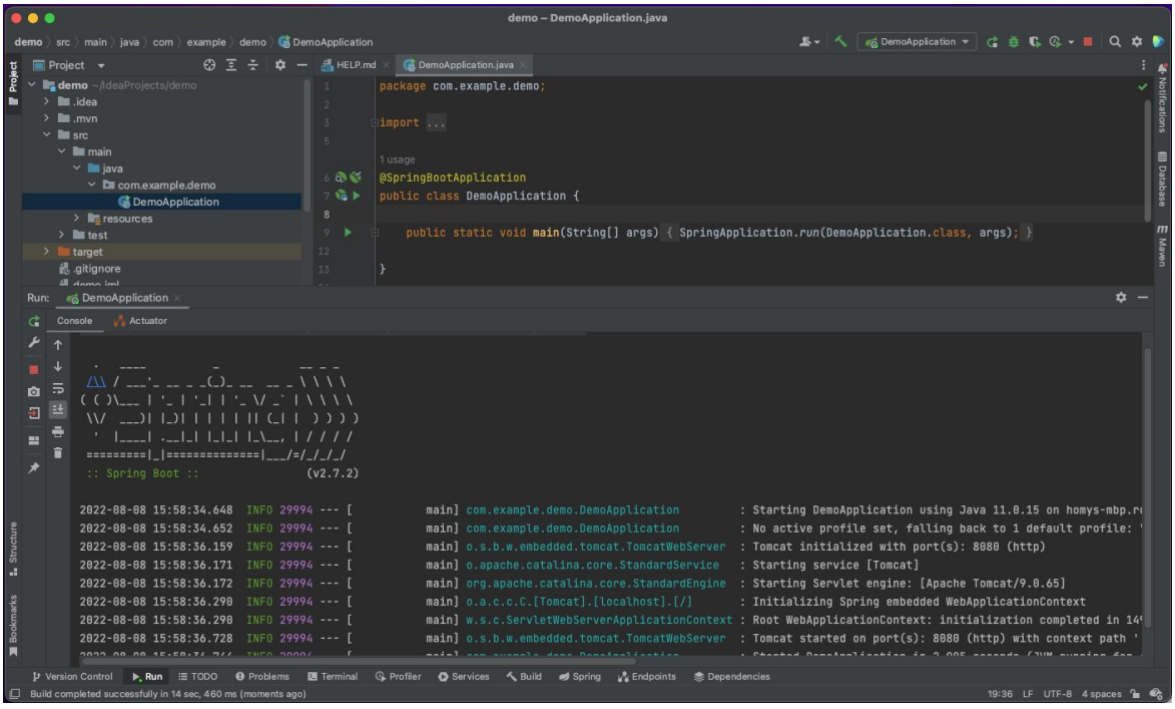
You can see the dependencies, all we need for this application is Spring Web.

Then click on Create.
After a while, your project will be created, and you should be able to see below project.





Wait for a while until all decencies can be downloaded from Maven repository.
Then right click on DemoApplication.java and click on RUN. The result should be like below picture on console with no error.
Can you read the log?
What can you understand from log?



Open your browser and type down:
http://localhost:8080

You should be able to see a white label error page as you have no page yet.
Do your research and try to find out to make a REST-API with Spring Boot. Try this in your own time.