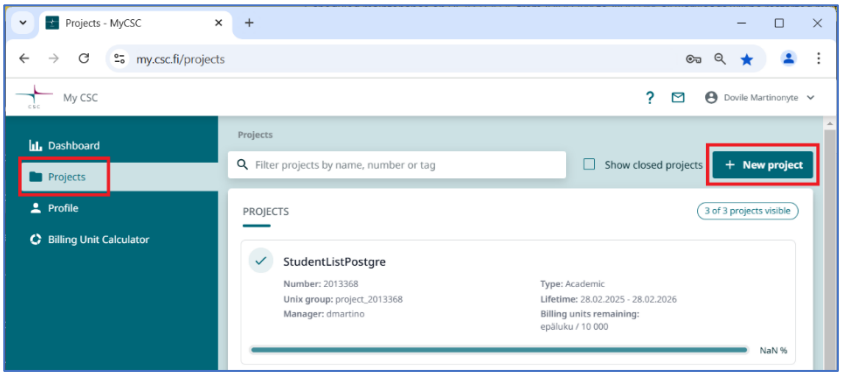
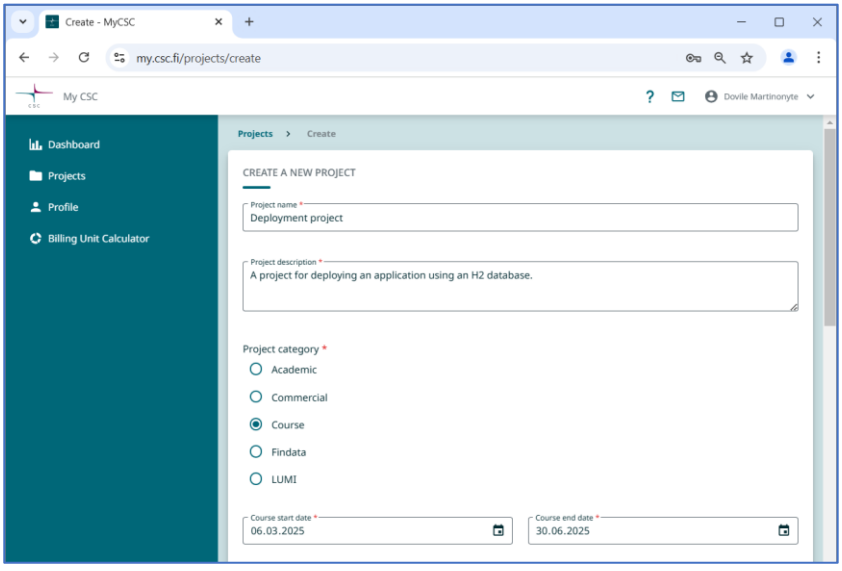
1 Create a new project in MyCSC portal

1. Log in to the CSC environment, https://my.csc.fi/.
2. Navigate to the **`Projects`** tab in MyCSC portal management view and click **`+ New Project`**.

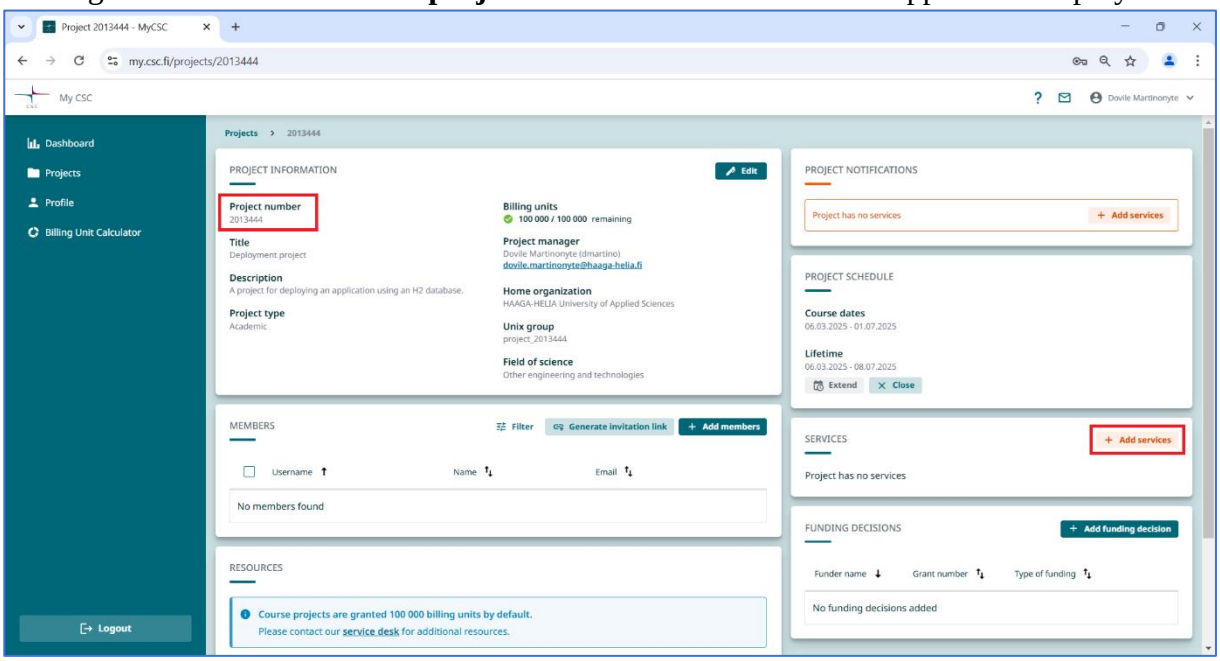


3. Enter the required project details:
   - **`Project name`** and **`description`**
   - **`Project category`**: select **`Course`**. If the Course option is not available, choose **`Academic`** instead.
   - **`Course start date`**: today or future date.
   - **`Course end date`**: can be at most six months from the creation date.
   - **`Project resources`**:
     - Primary science area: `Engineering and technology`
     - Secondary science area: `Other engineering and technologies`
   - Review the Terms of Use and click the **`Create Project`** button.

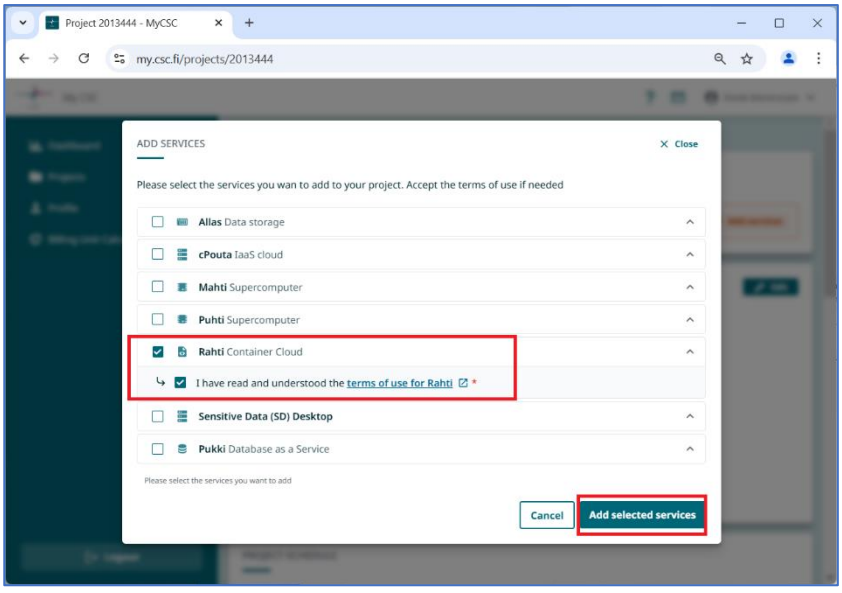
* A course project is single-use. It cannot be extended, copied, or allocated additional resources. The default resource allocation for the project is 100 000 BU (billing units).
* The project and all its resources will be automatically deleted after the end date.
Note: Personal data must not be stored in course project services.



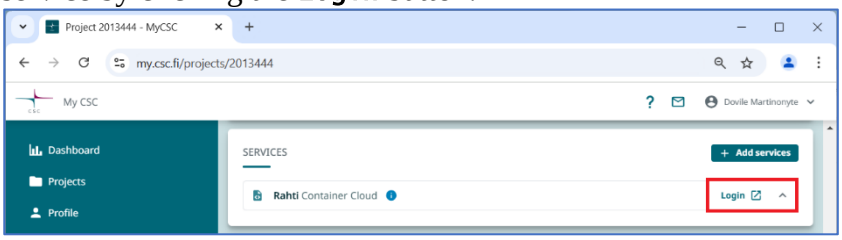
4. Add services to your project. In this course, you will need the Rahti service from CSC's offerings. You will also need the **project number** later for the actual application deployment.



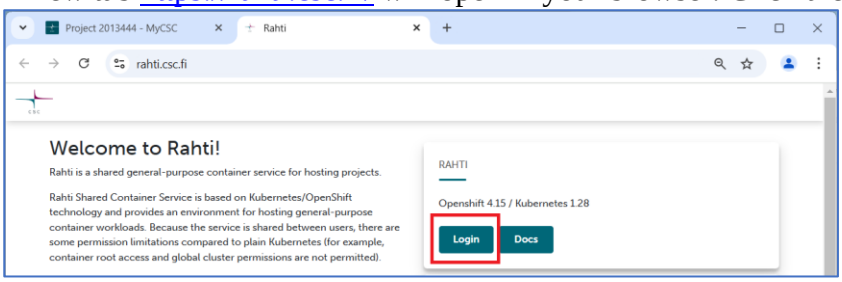
5. Click on the `+ Add services` button. A new view with services listed will appear. Select `Rahti`, accept `the terms of use for the Rahti` and click `Add selected services` button.



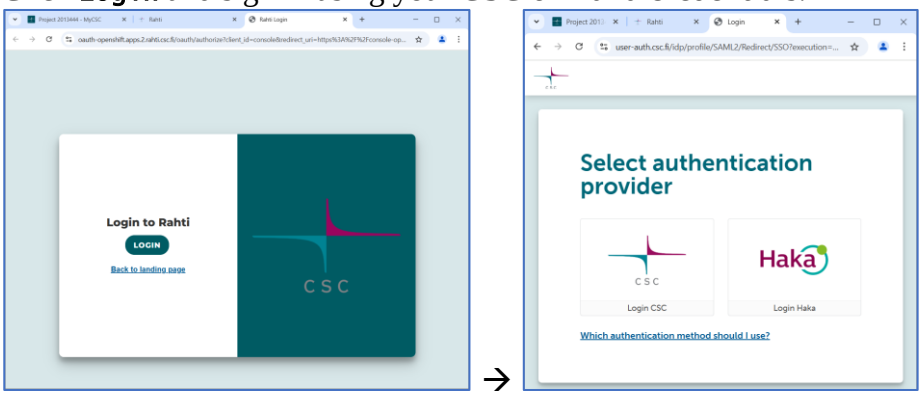
6. In the **`Services`** card, you will now see **`Rahti Container Cloud`** service. Log in to the `Rahti` service by clicking the **`Login`** button.



A new tab https://rahti.csc.fi/ will open in your browser. Click the **`Login`** button.



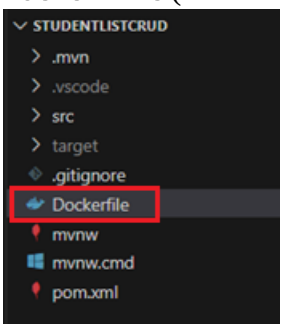
Click **`Login`** and sign in using your **CSC** or **Haka credentials**.



2 Deploy a Spring Boot Application with an H2 database on Rahti

2.1 Prepare your Spring Boot Application

1. Create a new file in the **root** directory of your Spring Boot application and name it `Dockerfile` (without a file extension).



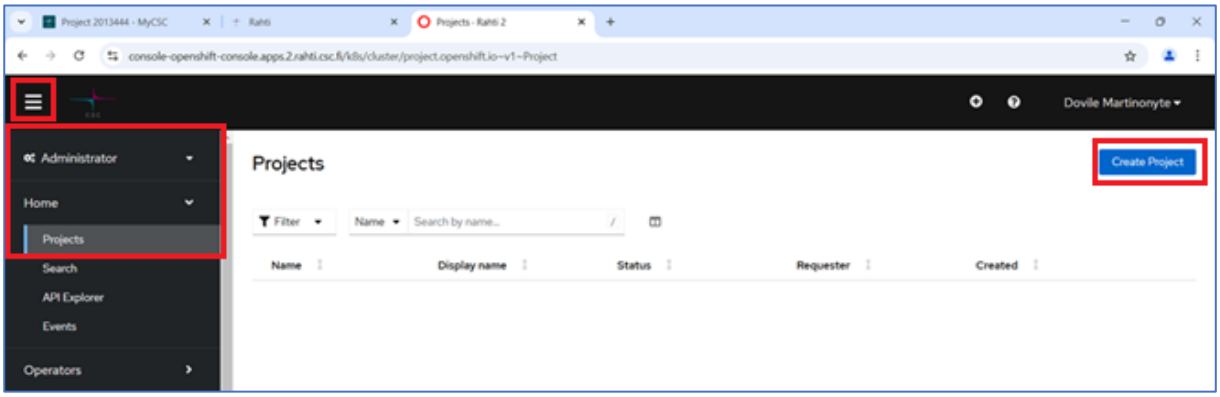
2. Copy the following content into the `Dockerfile` (this can also be found in the course's Moodle page):

```
FROM eclipse-temurin:17-jdk-focal as builder
WORKDIR /opt/app
COPY .mvn/ .mvn
COPY mvnw pom.xml ./
RUN chmod +x ./mvnw
RUN ./mvnw dependency:go-offline
COPY ./src ./src
RUN ./mvnw clean install -DskipTests
RUN find ./target -type f -name '*.jar' -exec cp {} /opt/app/app.jar \; -
quit
FROM eclipse-temurin:17-jre-alpine
COPY --from=builder /opt/app/*.jar /opt/app/
EXPOSE 8080
ENTRYPOINT ["java", "-jar", "/opt/app/app.jar"]
```

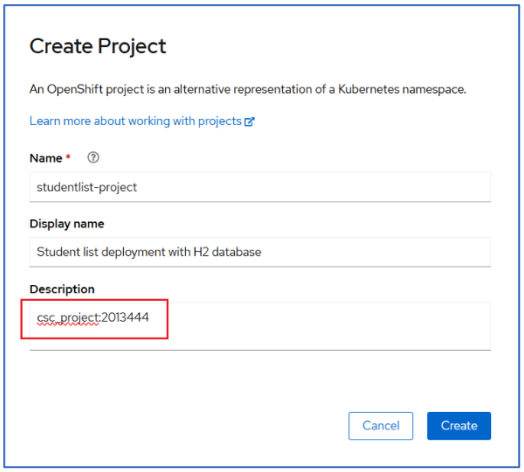
3. Push your updated application to GitHub.
Note: These instructions assume you GitHub repository is **public.** *(If needed, you can make it public temporarily during deployment and switch it back to private later.)*
Private repositories can also be used, but this document does not cover that method.

2.2. Spring Boot application deployment

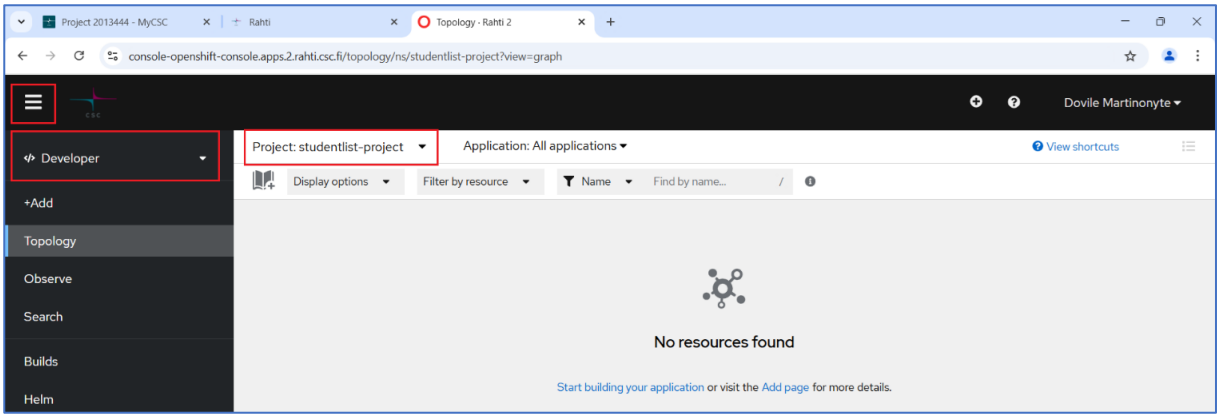
1. Navigate to the top left menu. Choose your role **`Administrator`** → **`Home`** → **`Projects`**. The deployment is done by creating a new project in the Rahti service, click the **`Create Project`** button.



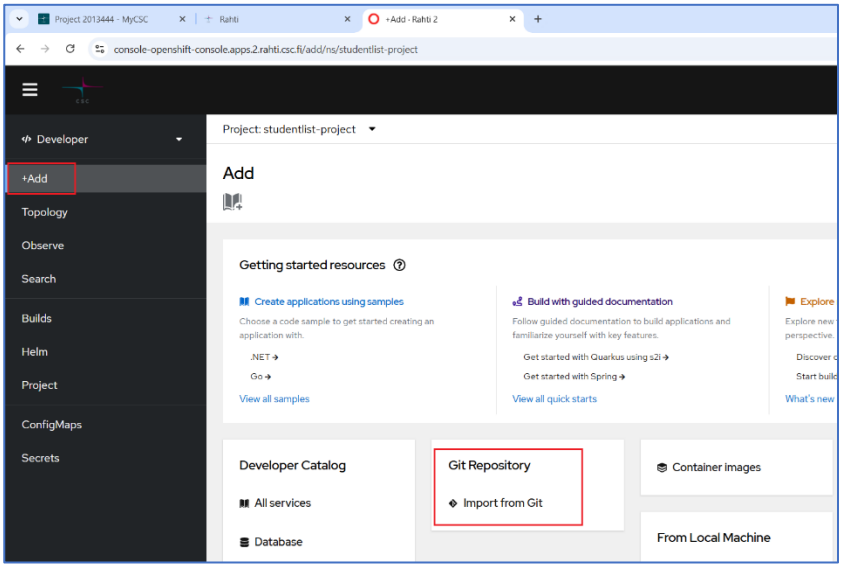
2. Enter the required details and click **`Create`** button.
Note: To successfully create the project, you must enter the **CSC project number** (e.g. **`csc_project:<project number>`**) in the **`Description`** field.
If you don't know project number, see step 1.4.



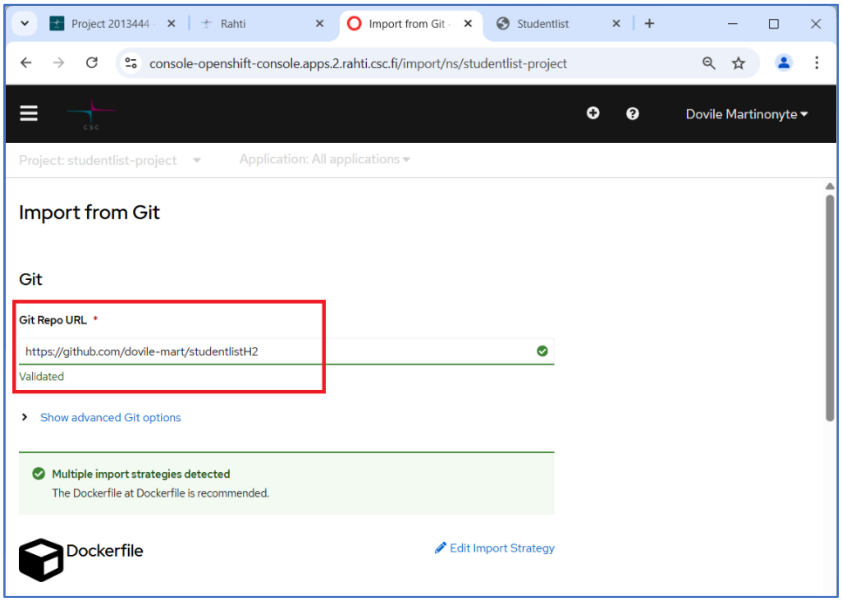
3. Now you can deploy your Spring Boot application inside the newly created project in the Rahti service. Navigate to **`Developer`** mode. If your project name is not visible, select it from the **`Project:`** drop-down menu.



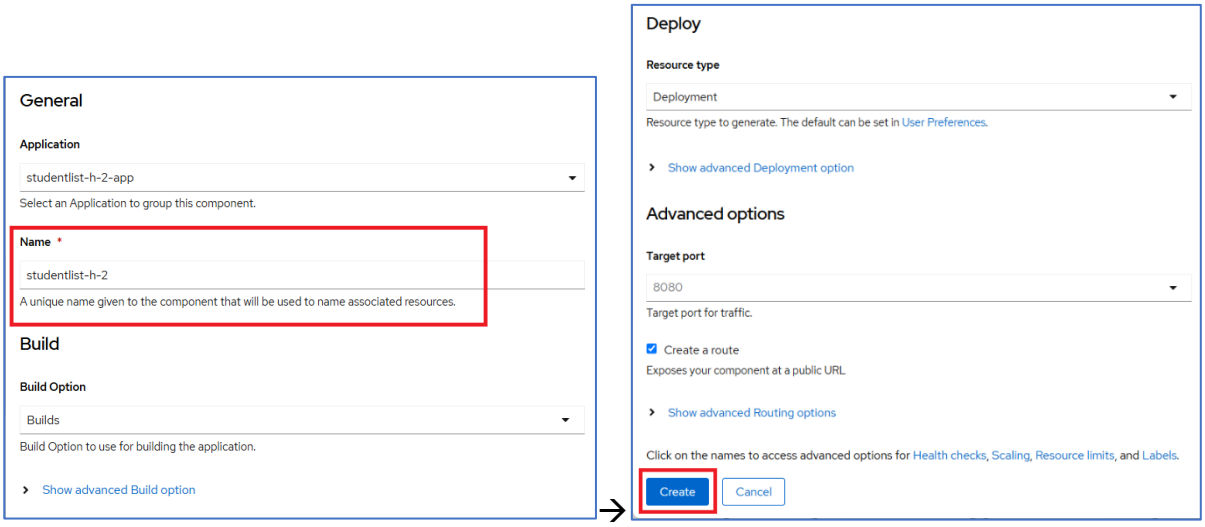
4. Click **`+Add`** and from the available resources select **`Git Repository`** → **`Import from Git`**.



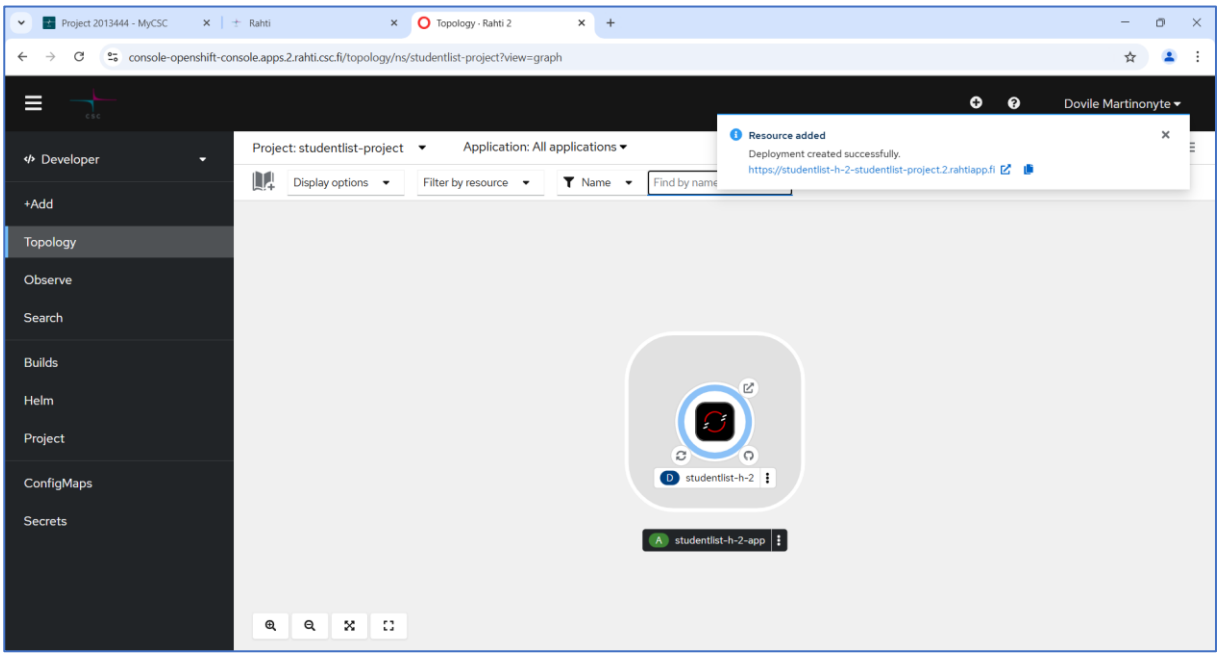
5. Fill in the **Import from Git** form by entering the **`Git Repo URL`**.



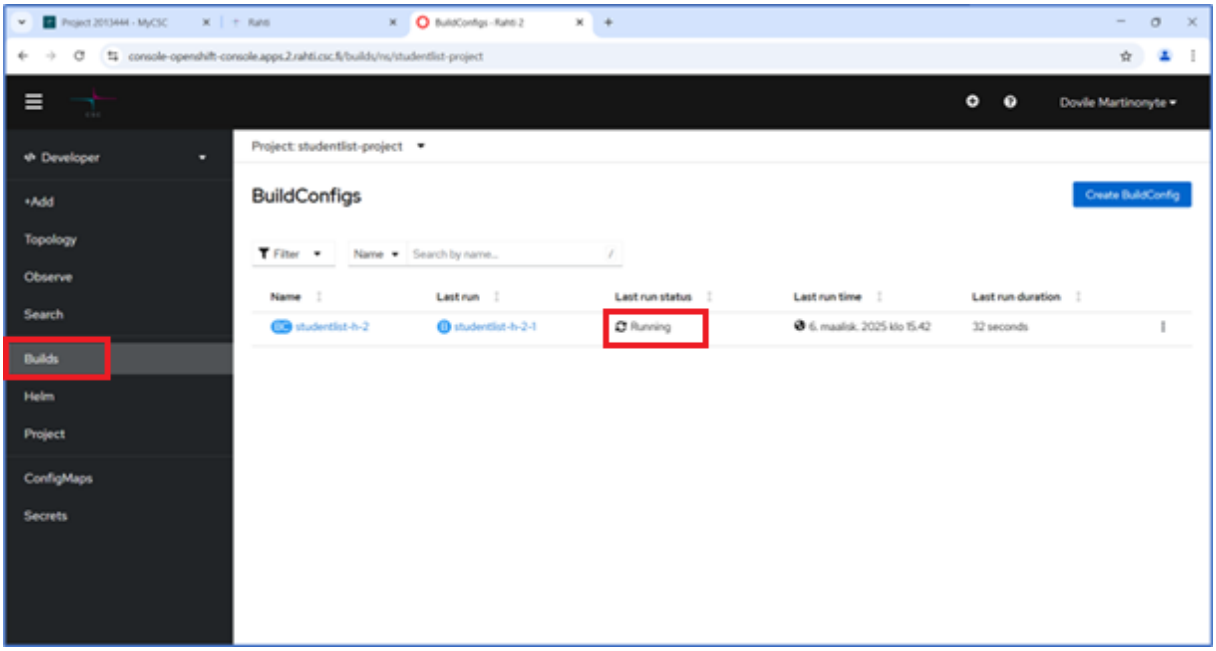
A name for your application component in **`Name`** field is be generated automatically but you can also create your own **unique name**. This component will be used to name associated resources. Then click the **`Create`** button.



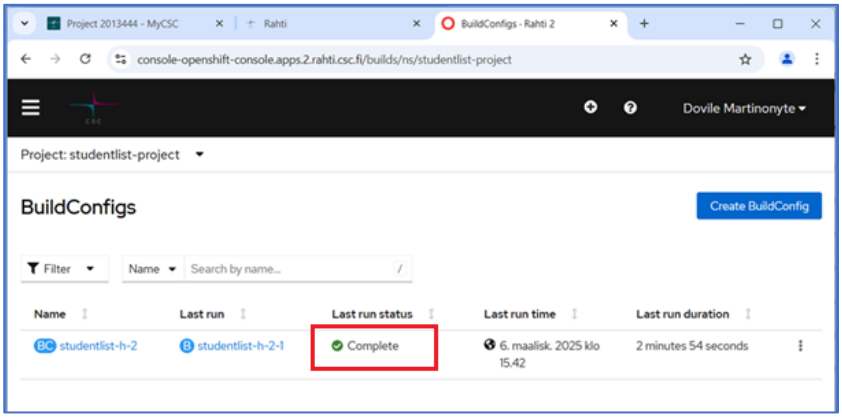
6. The build process will start and may take a few minutes. You can find application component under **`Developer`** mode → **`Topology`** view**`:`**



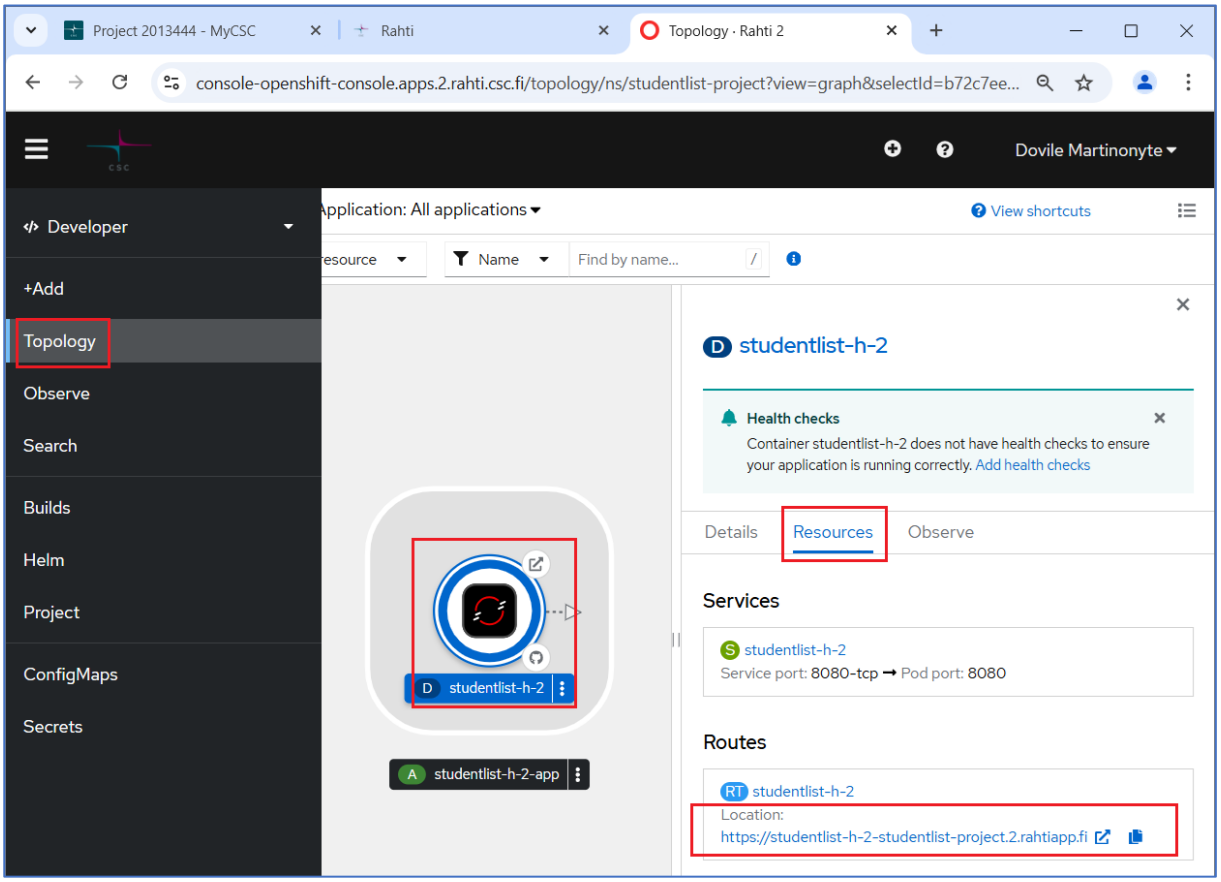
7. Follow the build progress in the **`Developer`** mode → **`Builds`** view.
While application is being built, its status will be **`Running`**.



8. Once the build is complete, the status will change to **`Complete`**.



9. You can find your application's URL, by navigating to the **`Topology`** view → selecting the component → when the sidebar on the right opens, navigate to the **`Resources`** tab → the application's URL will be under **`Routes`**. Click the link, and the application will open in your web browser.



10. Congratulations, your application is deployed!