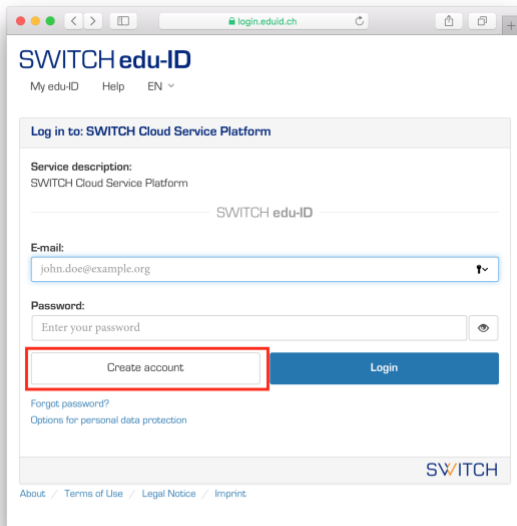# Environment setup

You will be expected to use a macOS based machine throughout the semester. You can use your own, or use one in the UNIL lab.
If you are using the UNIL machines, you can skip some of the steps (notably Steps 2 and 3.1).

Step 1: Install SWITCHdrive

1.1. Register and install

Go to https://cloud-id.switch.ch/. If you don't have a SWITCH edu-ID you can create one by pressing the "Create account" button on the login screen.

Choose "University of Lausanne", then click "Login"

Enter your UNIL credentials, then click "login".

Then agree to release your SWITCHaai data and it will be used to create your edu-ID account.
Choose your password (it can be different from the moodle password), confirm it and click on "Create account". A confirmation message will appear if the eduID account was successfully activated.

Choose your credentials, click "Create SWITCH Cloud Account" and confirm.

Continue and login with your new edu-id account

Accept data transmission

Finally, register for SWITCHdrive.

1.2. Installing the client

Download the SWITCHdrive client from https://help.switch.ch/drive/downloads/ and follow the installation steps.

At the end, log in using your new account credentials.
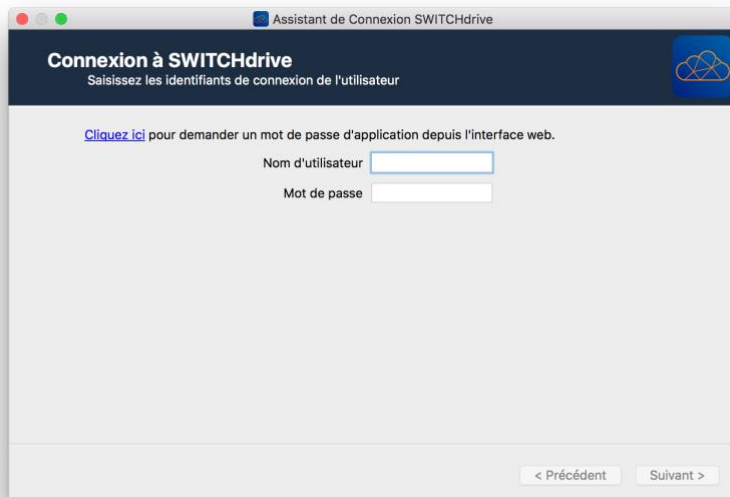
Choose your desired synchronization options. We recommend you to synchronize all the content in a new switchdrive folder.

The SWITCHdrive client will automatically synchronize all your files from the server.

1.3. Create shared folders

Using your credentials, log in https://drive.switch.ch. The welcome page shows you all your folders. To create a new folder, click on the + sign. To share a folder, click on the share icon
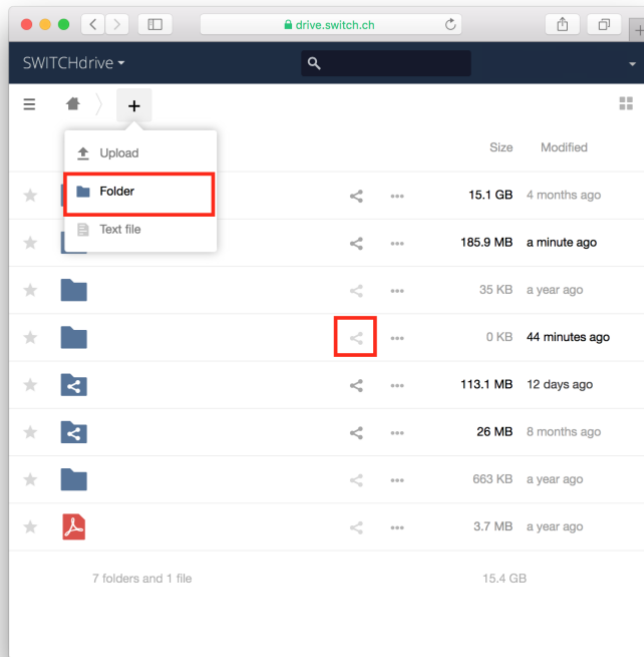
In the text field, you can enter the email address of the person whom you want to share this folder with. They should have a SWITCHdrive account too. You can also select the option to allow this person to make changes to this folder once you enter his/her email address.
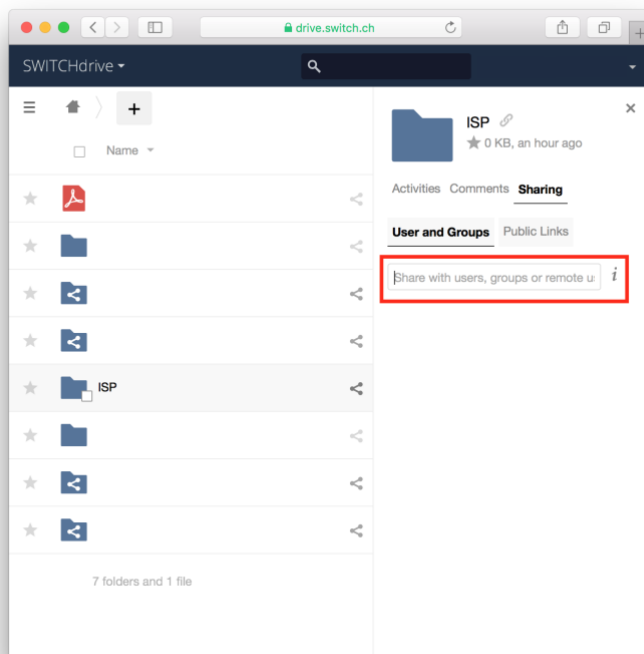
Step 2: Install brew
Go to https://brew.sh and follow the instructions

See the course slides.

Step 3: Install Python
Open your macOS Terminal (Applications > Utilities > Terminal) and enter the command:
```
brew install python3
```

Step 4: Install PyCharm

3.1. Installation
As a UNIL student, you can use the professional version of PyCharm freely. To do so, go to https://www.jetbrains.com/student/ and select "Apply Now". Provide your UNIL email address and follow the activation instructions that you will receive by email. You will be asked to create a JetBrains account and, upon this, you will be able to download PyCharm https://www.jetbrains.com/pycharm/download/ and install it.

You can find full usage documentation at
https://www.jetbrains.com/pycharm/documentation/.

3.2. First use
Install PyCharm by dragging it to the Application folder.
Follow the instruction and select the desired keymap scheme.
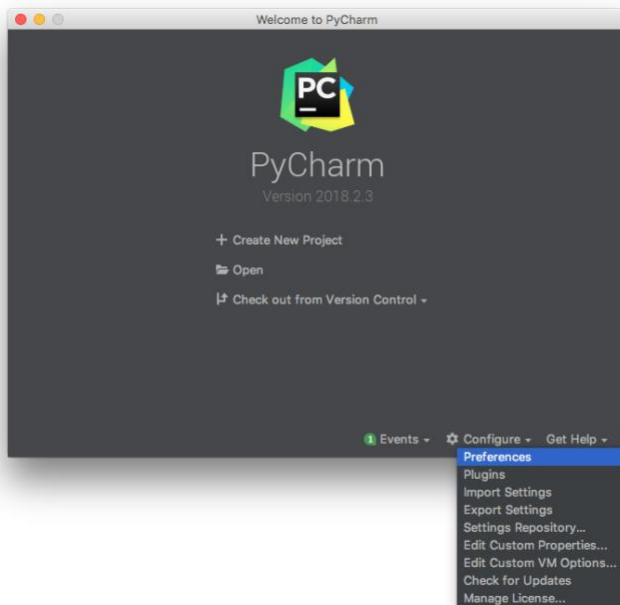The first time you open it, you must configure PyCharm with your account. Click on "Activate" and use your newly created jetbrains account associated to your UNIL email address.
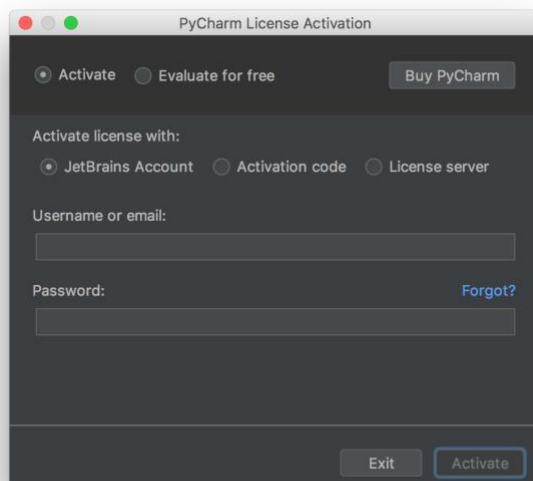
You must also configure your Python installation. To do so, select **Configure > Settings**.

In the new window, select **Project interpreter** and make sure that, in the Project Interpreter drop down list, the location of your 3.* Python installation is selected.
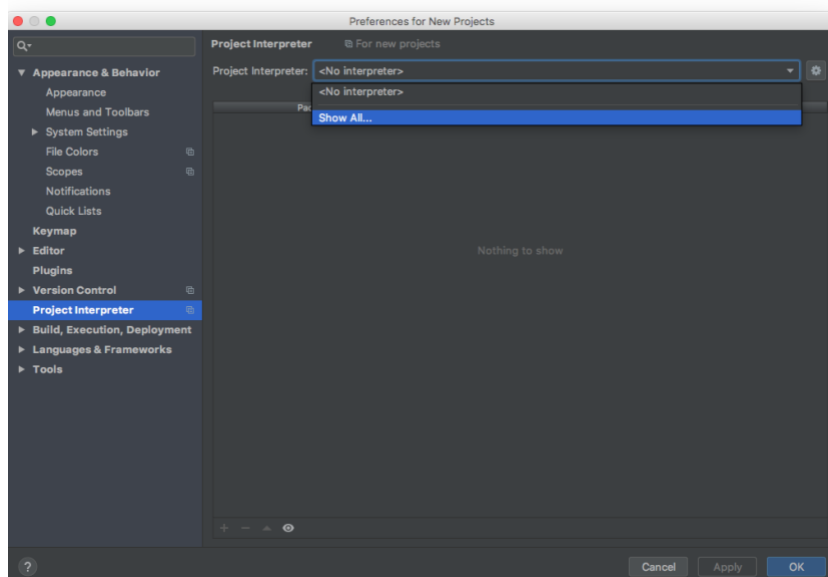
Click on the + sign to create a new environment
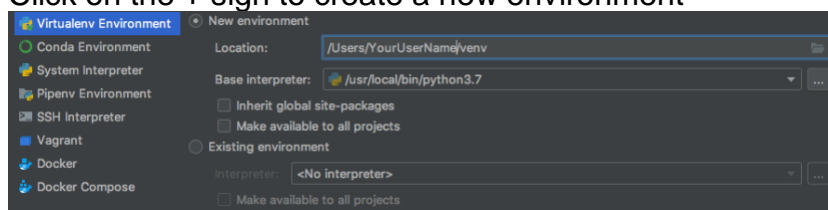
Next, select **Build, Execution, Deployment > Console > Python Console** and select again the path to your Python installation. Then, select a location where you want to work. We recommend you to use a subfolder of your SwitchDrive root folder. This would allow you to work on your assignments

from any machine where SwitchDrive is installed and will also make it easier to work in groups.
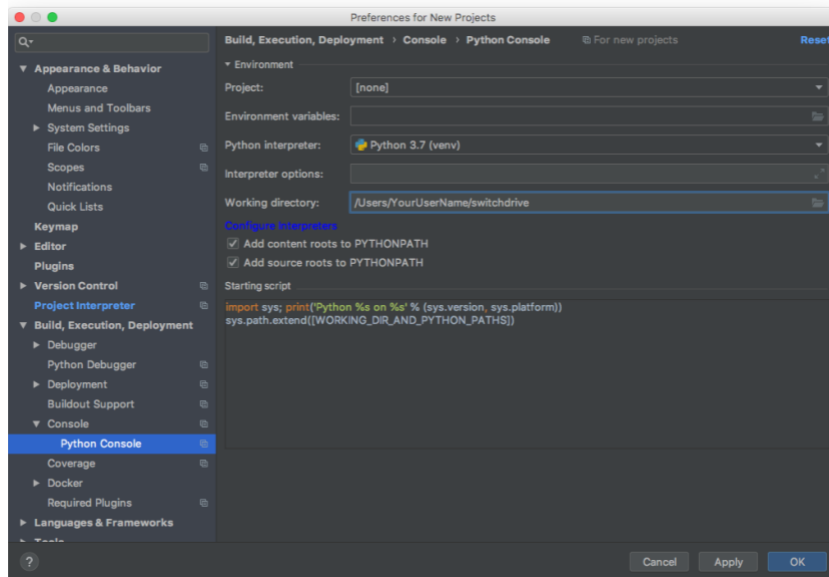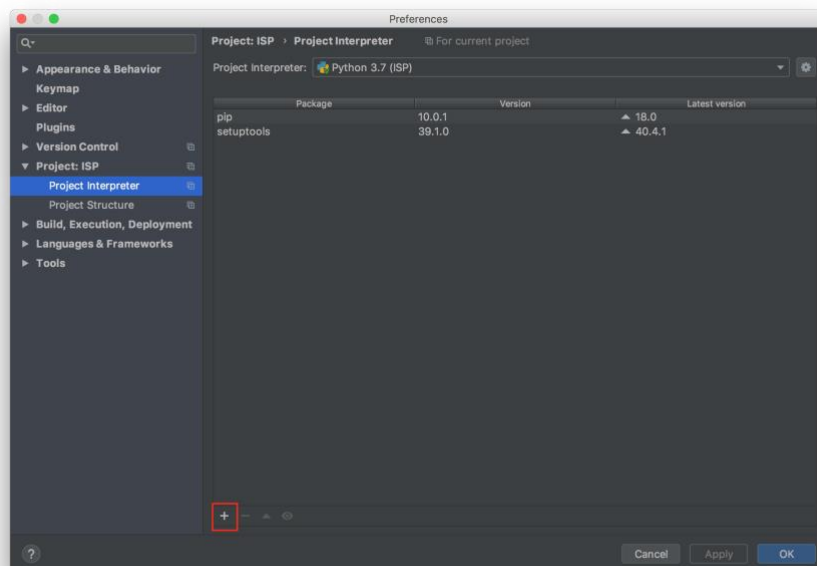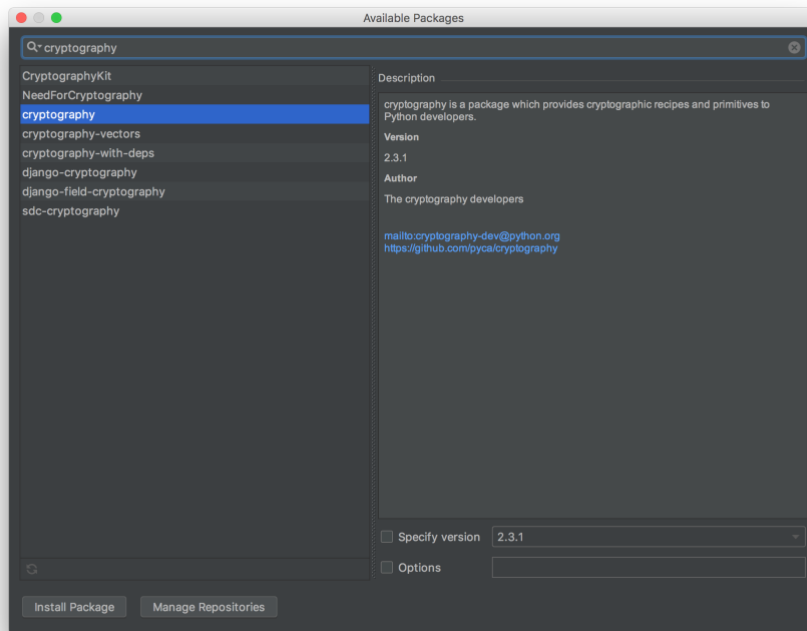

3.3. Installing modules

Open PyCharm and go to **File > Settings** > **Project > Project interpreter**. Here, in the table, you will see the list of already installed modules. You can also install new modules by clicking the "+" sign and typing the name of the module. Please search and install the module "cryptography".
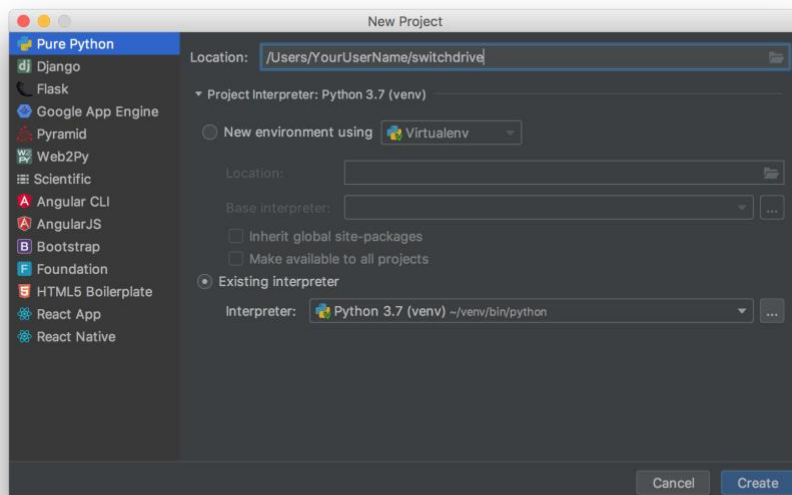
Alternatively, you can go to https://pypi.org/project/cryptography/ and follow the installation instructions. Here you also find tutorials about using this library.

3.4. Create your first project
Close the settings windows and on the Welcome to PyCharm page, click on create project. Create a Pure Python and use the existing interpreter you just created.

Step 5: Moodle setup and student groups

See the course slides.