Rockfish GPU Tutorial with PyTorch installation guide

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# Before we start:

1, Make sure that you are on the Hopkins internet connections, otherwise you need to connect to the Hopkins VPN.

2, If you are using MacBook, make sure that your system is not hiding your IP address in the privacy settings, or you need to connect to the Hopkins VPN as well.

# Steps:

### 1, Copy and paste this URL (<https://portal.rockfish.jhu.edu/>) into your browser (Chrome recommended, Safari is tested to be working as well)

### 2, Login using your Rockfish username and password. (Notice that the username is your Hopkins ID or your Hopkins email address before @). You will see the following page after you login successfully.

Graphical user interface, application

Description automatically generated

### 3, We will be using VSCode so click on VSCode Server IDEditor. You should see the page as shown in the screen shot below. After selecting your desired GPU configurations, click “***Launch***”. A job will be processed in the Rockfish server. Sometimes when the resources you requested in the Rockfish cluster are occupied, you may need to wait until other people’s section is completed. So, check the ***“I would like to receive an email when the session starts”*** to receive notifications.

Graphical user interface, text, application, email

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4, Now we are inside the VSCode IDE. We need to now install Pytorch.

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#### **Installing Pytorch:**

##### 1) Since the user does not granted access to use ***sudo*** command, and the server’s python version is too low i.e. ***python 3.6***. It is ideal for us to install ***Anaconda*** and perform our other installations in the ***conda environment***.

##### 2) Luckily, within Rockfish, ***Anaconda*** already exist as modules, so to install Anaconda, type ***“module load Anaconda”*** in the terminal. To verify is the loading is successful, type “***Python –version***” and “***conda –-version***” in the terminal. If the returned value == “***python version 3.8***” and “***conda 4.8.3***” then the conda environment is loaded.

##### 3) Because the installed anaconda has a specific version i.e. ***4.8.3***, therefore we need to install an older version of ***PyTorch (i.e. 1.7.1) and torchvision (i.e. 0.8.2)*** to assure compatibility. Also, since in this example I’m using CUDA version 10.2. To install pytorch and torchvision, type

##### ***conda install pytorch==1.7.1 torchvision==0.8.2 torchaudio==0.7.2 cudatoolkit=9.2 -c pytorch***

##### This step might take a long time to compile.

##### 4) To verify if your installation is correct, start a new python file and run in terminal:

##### import torch

##### import torchvision

##### print(torch.cuda.is\_available())

##### print(torch.\_\_version\_\_)

##### print(torchvision.\_\_version\_\_)

##### If in the terminal it returns:

##### *True*

##### *1.7.1*

##### *0.8.2*

##### Then the installation process is successful!

### 5, Manipulate data transfer

##### Go back to the Homepage => Home Directory

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##### To upload file, click “***Upload***” button on the top right you can then upload your data or other files into the server. Graphical user interface, application, Teams Description automatically generated