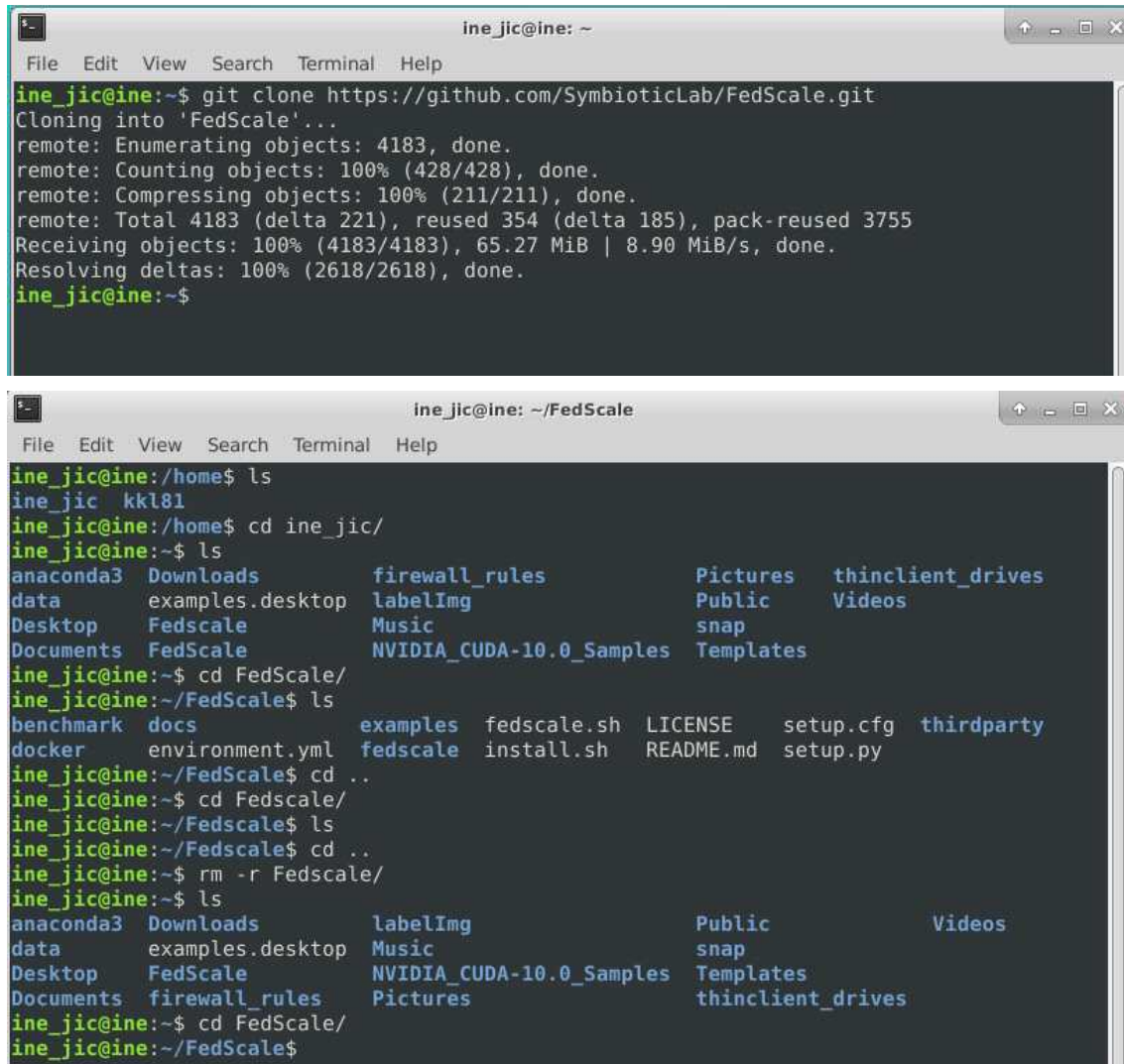


# FedScale 실행 in ubuntu

git clone <https://github.com/SymbioticLab/FedScale.git>



The image shows two terminal windows. The first window shows the command to clone the repository and its output. The second window shows the user navigating through the file system to the FedScale directory and listing its contents.

```
ine_jic@ine: ~  
File Edit View Search Terminal Help  
ine_jic@ine:~$ git clone https://github.com/SymbioticLab/FedScale.git  
Cloning into 'FedScale'...  
remote: Enumerating objects: 4183, done.  
remote: Counting objects: 100% (428/428), done.  
remote: Compressing objects: 100% (211/211), done.  
remote: Total 4183 (delta 221), reused 354 (delta 185), pack-reused 3755  
Receiving objects: 100% (4183/4183), 65.27 MiB | 8.90 MiB/s, done.  
Resolving deltas: 100% (2618/2618), done.  
ine_jic@ine:~$  
  
ine_jic@ine: ~/FedScale  
File Edit View Search Terminal Help  
ine_jic@ine:/home$ ls  
ine_jic kkl81  
ine_jic@ine:/home$ cd ine_jic/  
ine_jic@ine:~$ ls  
anaconda3 Downloads firewall_rules Pictures thinclient_drives  
data examples.desktop labelImg Public Videos  
Desktop FedScale Music snap  
Documents FedScale NVIDIA_CUDA-10.0_Samples Templates  
ine_jic@ine:~$ cd FedScale/  
ine_jic@ine:~/FedScale$ ls  
benchmark docs examples fedscale.sh LICENSE setup.cfg thirdparty  
docker environment.yml fedscale install.sh README.md setup.py  
ine_jic@ine:~/FedScale$ cd ..  
ine_jic@ine:~$ cd FedScale/  
ine_jic@ine:~/FedScale$ ls  
ine_jic@ine:~/FedScale$ cd ..  
ine_jic@ine:~$ rm -r FedScale/  
ine_jic@ine:~$ ls  
anaconda3 Downloads labelImg Public Videos  
data examples.desktop Music snap  
Desktop FedScale NVIDIA_CUDA-10.0_Samples Templates  
Documents firewall_rules Pictures thinclient_drives  
ine_jic@ine:~$ cd FedScale/  
ine_jic@ine:~/FedScale$
```

cd FedScale

# Please replace ~/.bashrc with ~/.bash\_profile for MacOS

FEDSCALE\_HOME=\$(pwd)

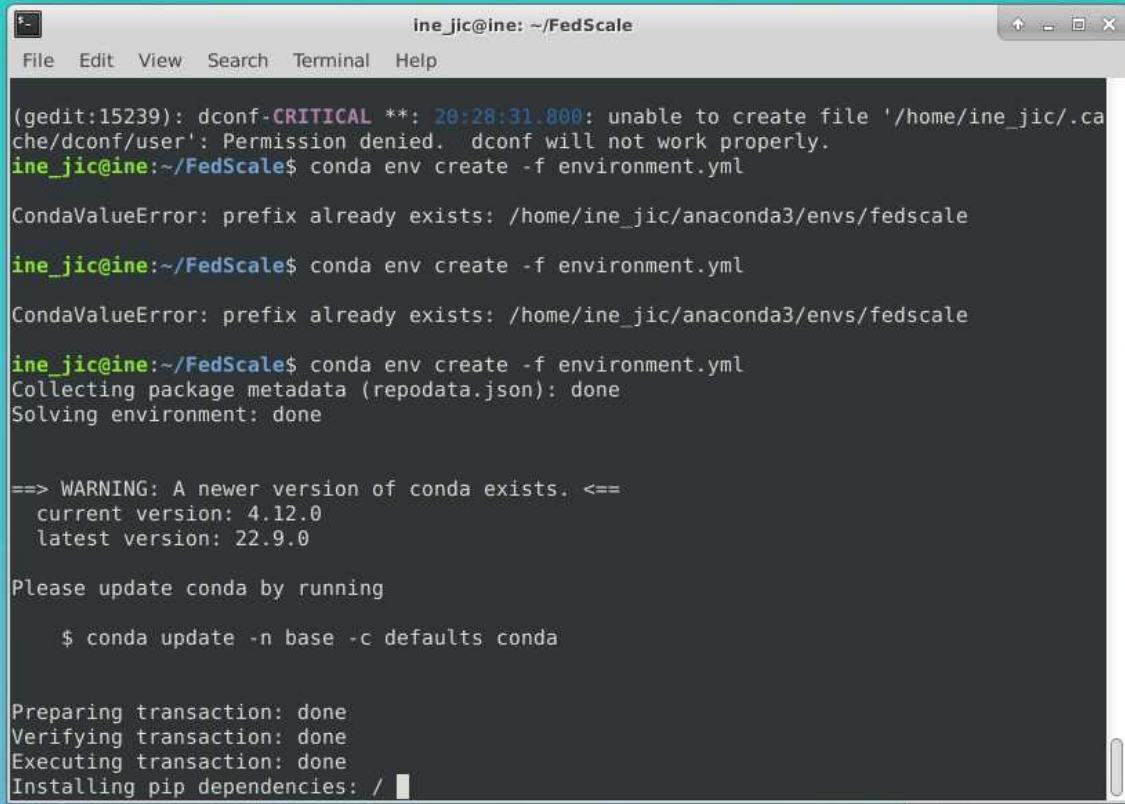
echo export FEDSCALE\_HOME=\$(pwd) >> ~/.bashrc

echo alias fedscale=\'bash \$FEDSCALE\_HOME/fedscale.sh\' >> ~/.bashrc

conda init bash

. ~/.bashrc

conda env create -f environment.yml

A terminal window titled 'ine\_jic@ine: ~/FedScale' showing the process of creating a conda environment. It starts with a dconf error, followed by three attempts to run 'conda env create -f environment.yml'. The first two fail with 'CondaValueError: prefix already exists: /home/ine\_jic/anaconda3/envs/fedscale'. The third succeeds, showing 'Collecting package metadata (repodata.json): done' and 'Solving environment: done'. It then displays a warning about a newer version of conda (22.9.0) and instructions to update it. Finally, it shows the transaction being prepared, verified, and executed, with pip dependencies being installed.

```
(gedit:15239): dconf-CRITICAL **: 20:28:31.800: unable to create file '/home/ine_jic/.cache/dconf/user': Permission denied. dconf will not work properly.
ine_jic@ine:~/FedScale$ conda env create -f environment.yml

CondaValueError: prefix already exists: /home/ine_jic/anaconda3/envs/fedscale

ine_jic@ine:~/FedScale$ conda env create -f environment.yml

CondaValueError: prefix already exists: /home/ine_jic/anaconda3/envs/fedscale

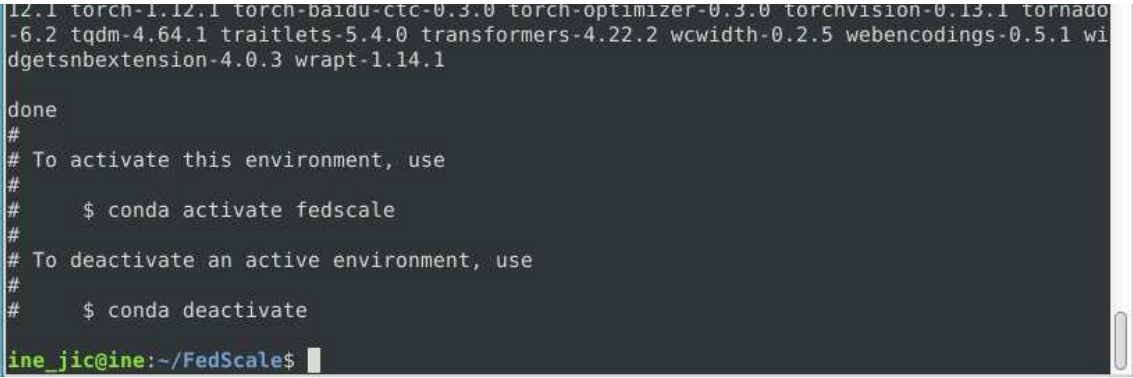
ine_jic@ine:~/FedScale$ conda env create -f environment.yml
Collecting package metadata (repodata.json): done
Solving environment: done

==> WARNING: A newer version of conda exists. <==
  current version: 4.12.0
  latest version: 22.9.0

Please update conda by running

    $ conda update -n base -c defaults conda

Preparing transaction: done
Verifying transaction: done
Executing transaction: done
Installing pip dependencies: /
```

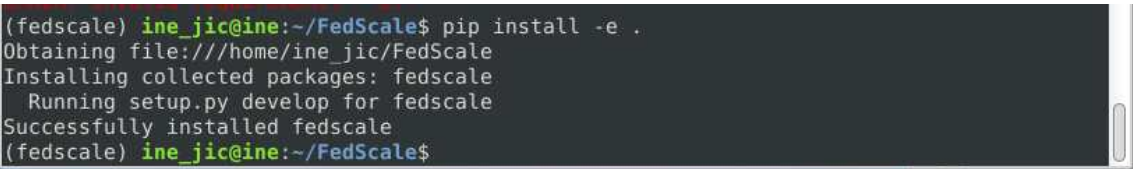
A terminal window showing the list of installed packages for the 'fedscale' environment. The list includes torch, torch-baidu-ctc, torch-optimizer, torchvision, tornado, tqdm, traitlets, transformers, wcwidth, webencodings, wgetsnbextension, and wrapt. Below the list, instructions are provided for activating and deactivating the environment using 'conda activate fedscale' and 'conda deactivate' respectively.

```
12.1 torch-1.12.1 torch-baidu-ctc-0.3.0 torch-optimizer-0.3.0 torchvision-0.13.1 tornado
-6.2 tqdm-4.64.1 traitlets-5.4.0 transformers-4.22.2 wcwidth-0.2.5 webencodings-0.5.1 wi
dgetsnbextension-4.0.3 wrapt-1.14.1

done
#
# To activate this environment, use
#
#     $ conda activate fedscale
#
# To deactivate an active environment, use
#
#     $ conda deactivate
#
ine_jic@ine:~/FedScale$
```

conda activate fedscale

pip install -e .

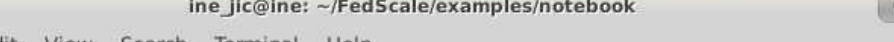
A terminal window showing the installation of the 'fedscale' package. The user runs 'pip install -e .' inside the 'fedscale' environment. The output shows that the file path is '/home/ine\_jic/FedScale', the package is collected and installed, and the setup.py develop command is run successfully.

```
(fedscale) ine_jic@ine:~/FedScale$ pip install -e .
Obtaining file:///home/ine_jic/FedScale
Installing collected packages: fedscale
  Running setup.py develop for fedscale
Successfully installed fedscale
(fedscale) ine_jic@ine:~/FedScale$
```

```
pip install nbconvert
```

```
ine_jic@ine: ~/FedScale/examples/notebook
File Edit View Search Terminal Help
(fedscale) ine_jic@ine:~$ cd FedScale/examples/notebook/
(fedscale) ine_jic@ine:~/FedScale/examples/notebook$ pip install nbconvert
Requirement already satisfied: nbconvert in /home/ine_jic/anaconda3/envs/fedscale/lib/python3.7/site-packages (7.0.0)
Requirement already satisfied: lxml in /home/ine_jic/anaconda3/envs/fedscale/lib/python3.7/site-packages (from nbconvert) (4.9.1)
Requirement already satisfied: beautifulsoup4 in /home/ine_jic/anaconda3/envs/fedscale/lib/python3.7/site-packages (from nbconvert) (4.11.1)
```

```
jupyter nbconvert *.ipynb -to script
```



The screenshot shows a terminal window with the title bar "ine\_jic@ine: ~/FedScale/examples/notebook". The menu bar includes "File", "Edit", "View", "Search", "Terminal", and "Help". The terminal content shows the user running the command `ls` in the directory `~/FedScale/examples/notebook`. The output lists four files: `fedscale_demo_client.ipynb`, `fedscale_demo_server.ipynb`, `fedscale_demo_client.py`, and `fedscale_demo_server.py`. The word `logs` is also visible on the second line, likely representing a directory or a file that was not fully shown.

```
ine_jic@ine: ~/FedScale/examples/notebook
File Edit View Search Terminal Help
(fedscale) ine_jic@ine:~/FedScale/examples/notebook$ ls
fedscale_demo_client.ipynb  fedscale_demo_server.ipynb  logs
fedscale_demo_client.py    fedscale_demo_server.py
(fedscale) ine_jic@ine:~/FedScale/examples/notebook$
```

이슈 : from fedscale.core.logger.execution import args 에러

해결 방안 : pip uninstall fedscale 이후 다시 설치 pip install fedscale

서버 실행 : `python fedscale_demo_server.py`

클라이언트 실행 : python fedscale\_demo\_client.py

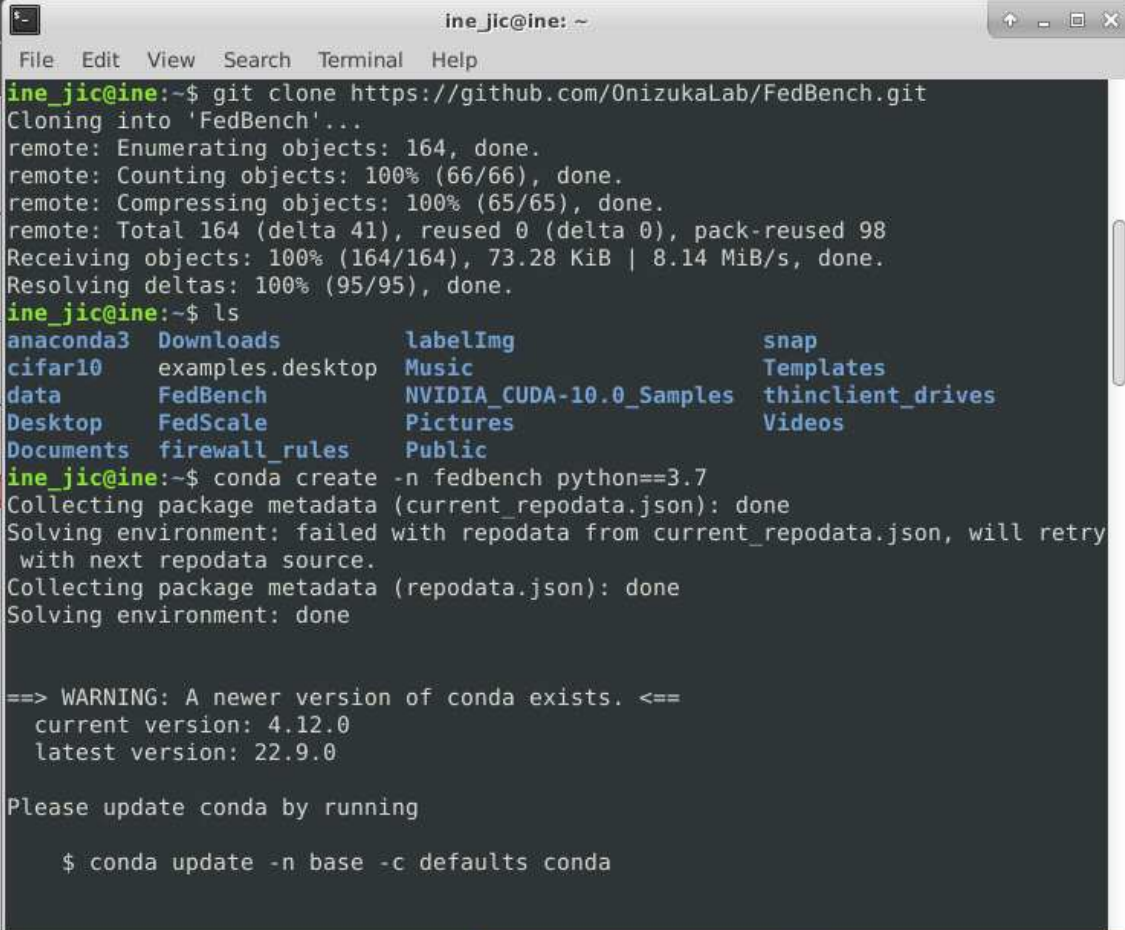
The screenshot shows a Jupyter Notebook environment with two open files: `main.py` and `execution.py`. The `main.py` file contains a log of events from an aggregator and clients. The `execution.py` file contains the logic for training and evaluating models across multiple clients. The logs indicate that the aggregator is issuing events to clients, and the clients are performing training and evaluation steps.



## FedBench 실행 in ubuntu

git clone <https://github.com/OnizukaLab/FedBench.git>

conda create -n fedbench python==3.7



```
ine_jic@ine: ~  
File Edit View Search Terminal Help  
ine_jic@ine:~$ git clone https://github.com/OnizukaLab/FedBench.git  
Cloning into 'FedBench'...  
remote: Enumerating objects: 164, done.  
remote: Counting objects: 100% (66/66), done.  
remote: Compressing objects: 100% (65/65), done.  
remote: Total 164 (delta 41), reused 0 (delta 0), pack-reused 98  
Receiving objects: 100% (164/164), 73.28 KiB | 8.14 MiB/s, done.  
Resolving deltas: 100% (95/95), done.  
ine_jic@ine:~$ ls  
anaconda3  Downloads          labelImg           snap  
cifar10    examples.desktop  Music              Templates  
data       FedBench           NVIDIA_CUDA-10.0_Samples  thinclient_drives  
Desktop    FedScale          Pictures           Videos  
Documents  firewall_rules    Public  
ine_jic@ine:~$ conda create -n fedbench python==3.7  
Collecting package metadata (current_repodata.json): done  
Solving environment: failed with repodata from current_repodata.json, will retry with next repodata source.  
Collecting package metadata (repodata.json): done  
Solving environment: done  
  
==> WARNING: A newer version of conda exists. <==  
current version: 4.12.0  
latest version: 22.9.0  
  
Please update conda by running  
  
$ conda update -n base -c defaults conda
```

conda activate fedbench

cd FedBench/

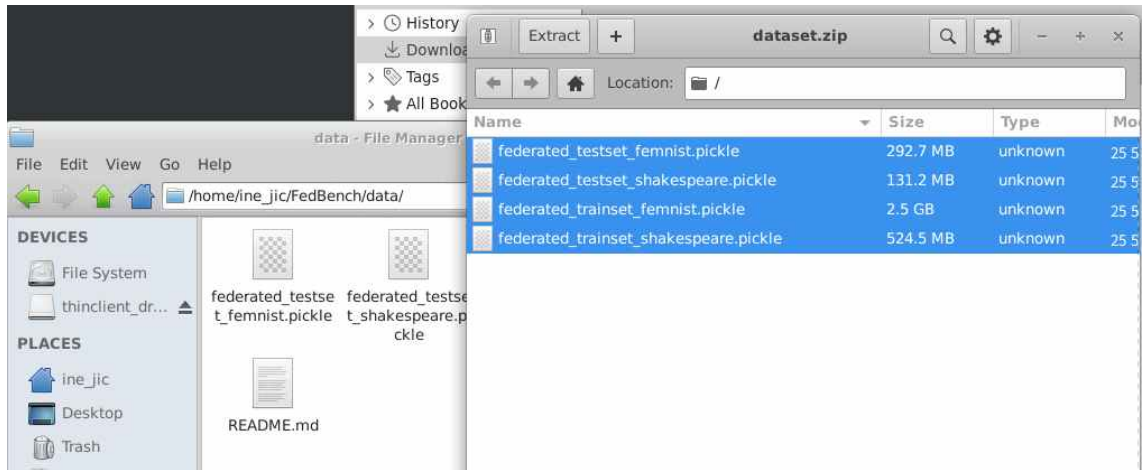
pip install -r requirements.txt



```
(fedbench) ine_jic@ine:~$ cd FedBench/  
(fedbench) ine_jic@ine:~/FedBench$ ls  
code data LICENSE models README.md requirements.txt result  
(fedbench) ine_jic@ine:~/FedBench$ pip install -r requirements.txt  
Collecting torch  
Using cached torch-1.12.1-cp37-cp37m-manylinux1_x86_64.whl (776.3 MB)  
Collecting torchvision  
Using cached torchvision-0.13.1-cp37-cp37m-manylinux1_x86_64.whl (19.1 MB)  
Collecting numpy  
Downloading numpy-1.21.6-cp37-cp37m-manylinux_2_12_x86_64.manylinux2010_x86_64.whl (15.7 MB)  
15.7/15.7 MB 0.9 MB/s eta 0:00:00
```

<https://drive.google.com/file/d/1NfmKUFeDogD6DIXkbyhbXI197F3ZfZ02/view>

다운로드 받은 데이터를 ./data 복사



`cd ./code`

jupyter notebook

