**Flask APP Set UP on FRCE Cluster**

* The flask project is available on <https://github.com/CBIIT/nci-doe-data-sharing/tree/master/flaskProject>
* These steps are only for first time step.

1. **FRCE CLUSTER SET UP**

* Login with the service account on FRCE Cluster(batch.ncifcrf.gov):
* ncidoesvct2 for DEV/UAT ( ssh ncidoesvct2@batch.ncifcrf.gov)
* ncidoesvcp2 for PROD (ssh ncidoesvcp2@batch.ncifcrf.gov)
* Once logged in, all the common scripts can be found on home directory under folder ‘common’. The infer scripts and mapper classes can be found in each of the directories mt-cnn and tc\_1.
* Any helper classes are found under ‘helper’ directory in each of the virtual environment directory.
* Create a virtual environment for each of the models using the following command:
* python3 -m venv <env-name>
* Activate the virtual environment using the following command:
* *source <env-name>/bin/activate*
* Currently the following virtual environments are created:
* **mt-cnn**: for [Multitask-Convolutional-Neural-Network](https://github.com/CBIIT/NCI-DOE-Collab-Pilot3-Multitask-Convolutional-Neural-Network)
* **tc\_1**: for Tumor Classifier
* Once the required virtual environment is set up and activated, install the required dependencies using:
* *pip install -r <requirements text file name>*

**NOTE**: The requirements file is likely to change in future. For **mt-cnn**: use mt-cnn\_requirements.txt file located under the path: /home/ncidoesvct2/mt-cnn.   
For **TC1 classifier**: use tc1\_requirements.txt file located under the path: /home/ncidoesvct2/tc\_1

* The slurm scripts can be found under the virtual environment directory for each of the models.

1. **SET UP ON MODAC SERVER:**

* Login into MoDaC server and do:
* sudo su
* su ncidoesvct2
* The **gunicorn\_config** file and the scripts are located under the path: **/opt/flask** directory.
* The **application.py (**located under/opt/flask directory) is the file which has flask API code.
* In this file, a batch job is submitted to the FRCE cluster.
* The shell scripts are in **mt\_cnn\_infer.sh** and **tc1\_infer.sh** which are located under the path: /opt/flask
* gunicorn can be manually restarted using the command:
* sudo systemctl restart gunicorn
* The gunicorn logs are in the **messages** file located under: /**var/log** directory.
* The Spring scheduler is embedded in MoDaC code which runs every one minute to check if there are any tasks scheduled.
* To verify if the scheduler is running, check the tomcat logs in the file catalina.out (located under the path: /usr/share/tomcat/logs).
* The log message **“generate prediction scheduler”** says that the scheduler is running.
* Check gunicorn status to see if its running using the command:

sudo systemctl status gunicorn

* The following commands can be used to manage gunicorn:
  + To start gunicorn: sudo systemctl start gunicorn
  + To stop gunicorn: sudo systemctl stop gunicorn
  + To restart gunicorn: sudo systemctl restart gunicorn