Group 5 NebulaNet Installation Documentation

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Document Summary:

This document is intended for system administrators to install and setup the NebualNet website on a linux server/device. This program was created for an assignment for Computer Science 422 Software Methodologies. This document first lists the version dependencies of the program, how to install necessary dependencies, and finally how to run the setup script and access the website.

Version Dependencies:

The following list serves as a guide to highlight which software package versions are suggested or required to ensure proper installation and functioning of the NebulaNet website and it's Python update programs. It is possible that running an older version of the listed software dependencies will still result in the website working correctly, however this can not be advised. Likewise running a significantly newer software version of these dependencies might result in untested and unexpected side effects of the programs/website.

Software:

- Python v3.11.6
- SQLite3
- React (nodejs/npm)

Python Specific Packages:

- Pip (Python Pakage Manager) (latest version available)

Python Libraries:

- Astroquery
- Astropy
- Matplotlib
- Numpy
- Pandas
- Beautifulsoup
- Requests
- Pytest

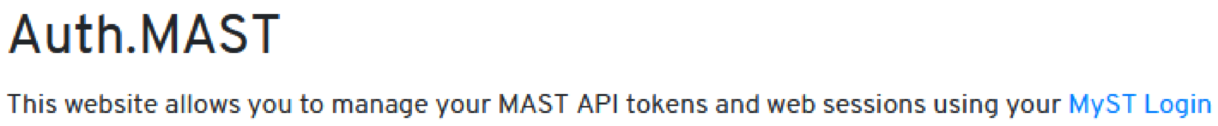
Software Installation Instructions:

There is a simple bash script provided to assist and automatically install all necessary/required software packages/libraries. If for some reason the script fails to run correctly, it is setup to provide errors to assist with narrowing down the specific issue. Further debugging and manual install may be required on the system administrators part. This bash script is intended to run on the most commonly available Linux distributions.

```
chmod u+x install_script_linux.sh
./install_script_linux.sh
```

Token Registration Instructions:

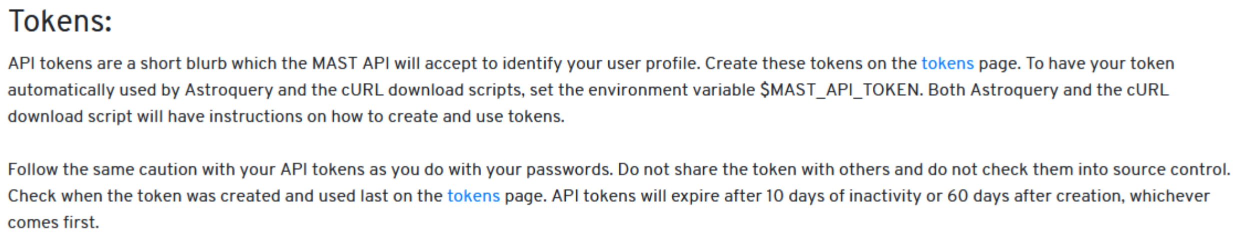
There is another bash script provided that will pull and update the most recent james web space telescope photos. It also sets up the website package with the latest changes. Prior to running the script, a MAST Authorization token must be collected and pasted into the fetch_process/toxen.txt file. To register for a token, please navigate to the following link: https://auth.mast.stsci.edu/info
At the top of the page you will see a section that looks as follows:



Auth.MAST

This website allows you to manage your MAST API tokens and web sessions using your MyST Login

Go ahead and click the MyST Login link, select create account, and enter the required information such as your email and name. Following the initial account creation you should receive a confirmation email which you will need to access. The received email will provide a link to setup a password and complete the account creation process. Once you have setup a password, navigate back to the original page and click login in the top left corner. Upon signing in, you will return to the original page where you will then need to click on one of the links listed in the tokens section:

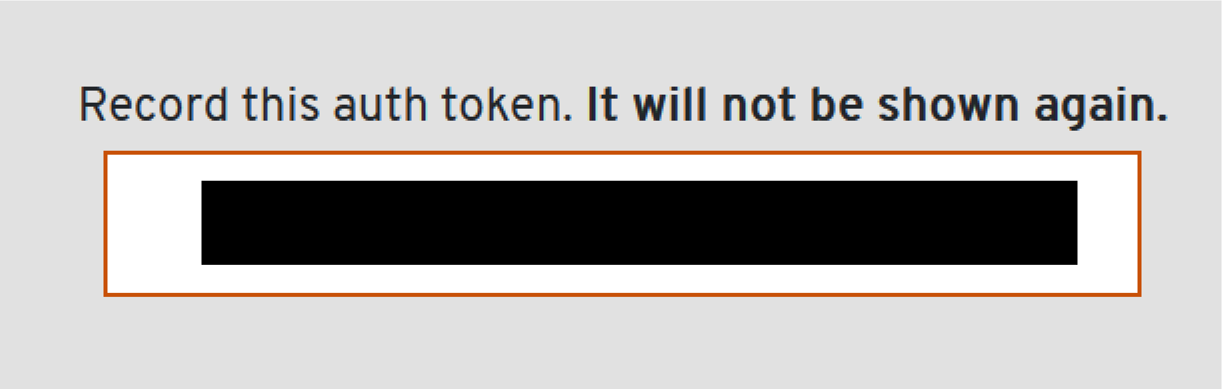


Tokens:

API tokens are a short blurb which the MAST API will accept to identify your user profile. Create these tokens on the tokens page. To have your token automatically used by Astroquery and the cURL download scripts, set the environment variable $MAST_API_TOKEN. Both Astroquery and the cURL download script will have instructions on how to create and use tokens.

Follow the same caution with your API tokens as you do with your passwords. Do not share the token with others and do not check them into source control. Check when the token was created and used last on the tokens page. API tokens will expire after 10 days of inactivity or 60 days after creation, whichever comes first.

Doing this will open a new page where you can select create token, name said token, and then finally presented with the required token needed to run the install script. The token is presented as



Record this auth token. It will not be shown again.

[redacted]

Copy and paste the token string into the fetch_process/token.txt file, making sure to save the file afterwards.

Software Execution Instructions:

Once a token has been setup, to run the execution script type the following:

```
chmod u+x install_script_linux.sh
./run_script_linux.sh
```

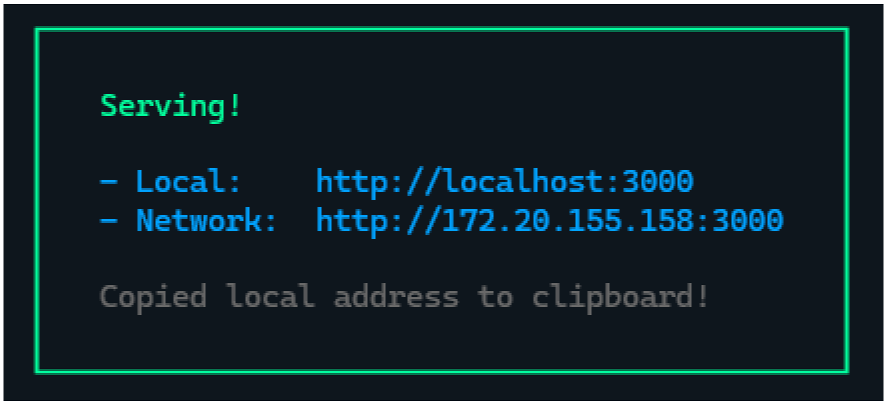
Upon successful completion you should see ”run_script execution complete!”.
If for some reason the script failed, manually running the following programs in order can be done to troubleshoot the issue:

- mast_query_test.py
- jwstDataFinder.py
- jwstJson.py
- jwstDatabase.py
- fetch_process/main.py
- moveJSON.py

If all of the programs successfully ran from the script, navigate into the nebulanet directory and run the following commands below to package and establish a local web server to access the website:

```
npm install
npm run build
npm install -g serve
serve -s build
```

After running the commands you will be presented with a link that shows as



```
Serving!

- Local:    http://localhost:3000
- Network:  http://172.20.155.158:3000

Copied local address to clipboard!
```

Navigate to either of those addresses in your local web browser to access the website.