Bigfish Docker Engine

Prerequisites

- Install Docker desktop on your machine.

  You can download it here Docker Desktop
  Follow the instructions on the website to install it!
- You must have a docker hub account. (login id and password)
  - Docker Hub sign up You can sign up for free here if you don't have one
- Access to terminal (command line/command prompt)

Getting the docker image

1. Open a terminal (or command prompt)
2. Login to your docker account through command line
   docker login
   Enter your username and password

3. Once successfully logged in we can pull the repository
   docker pull rachelkt1208/burst_deconv

4. Once its done you can check it in the list of images you have in your computer currently by using the following command
   docker images
   You should see something like this. Note that each image has an IMAGE ID next to it.

```
(base) rachel@ber-linux01:~/Documents/docker_notebook$ sudo docker images
REPOSITORY                  TAG       IMAGE ID       CREATED          SIZE
burst_deconv                latest    76d8854f29ef   18 minutes ago   925MB
rachelkt1208/burst_deconv   latest    76d8854f29ef   18 minutes ago   925MB
```

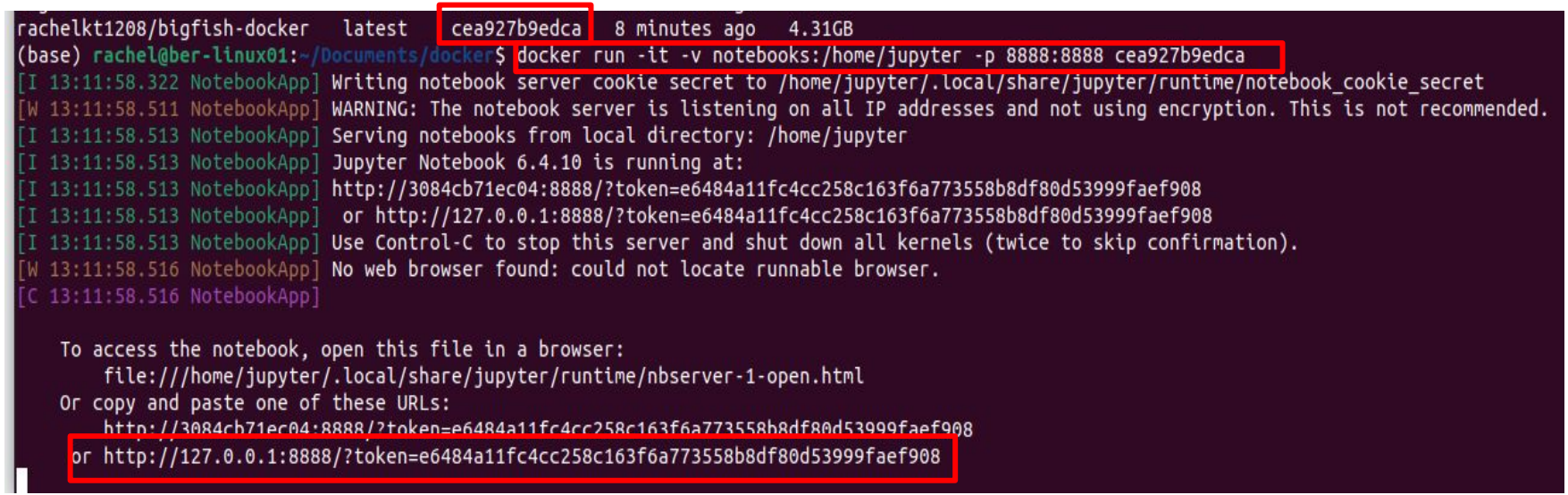
5. You have successfully created a docker image for bigfish

Run a docker container using the image

1. To run a container copy the IMAGE ID next to the bigfish docker image and paste it in the command below by replacing <<IMAGE ID>> (You may refer to the screenshot below)

   docker run -it -v notebooks:/home/jupyter -p 8888:8888 <<IMAGE ID>>

   You should see something like this. If a window doesn't open on your browser directly, copy the url highlighted below in red and paste it on your browser.



Run a docker container using the image

2. You should see the following on your browser window

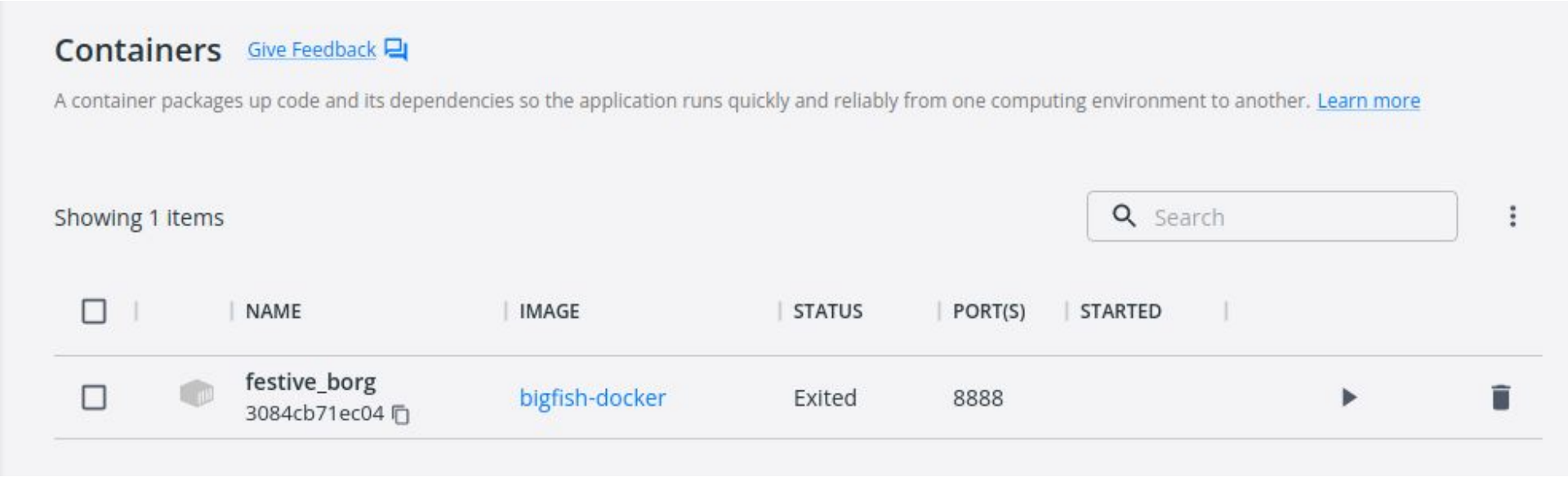
Closing the notebooks

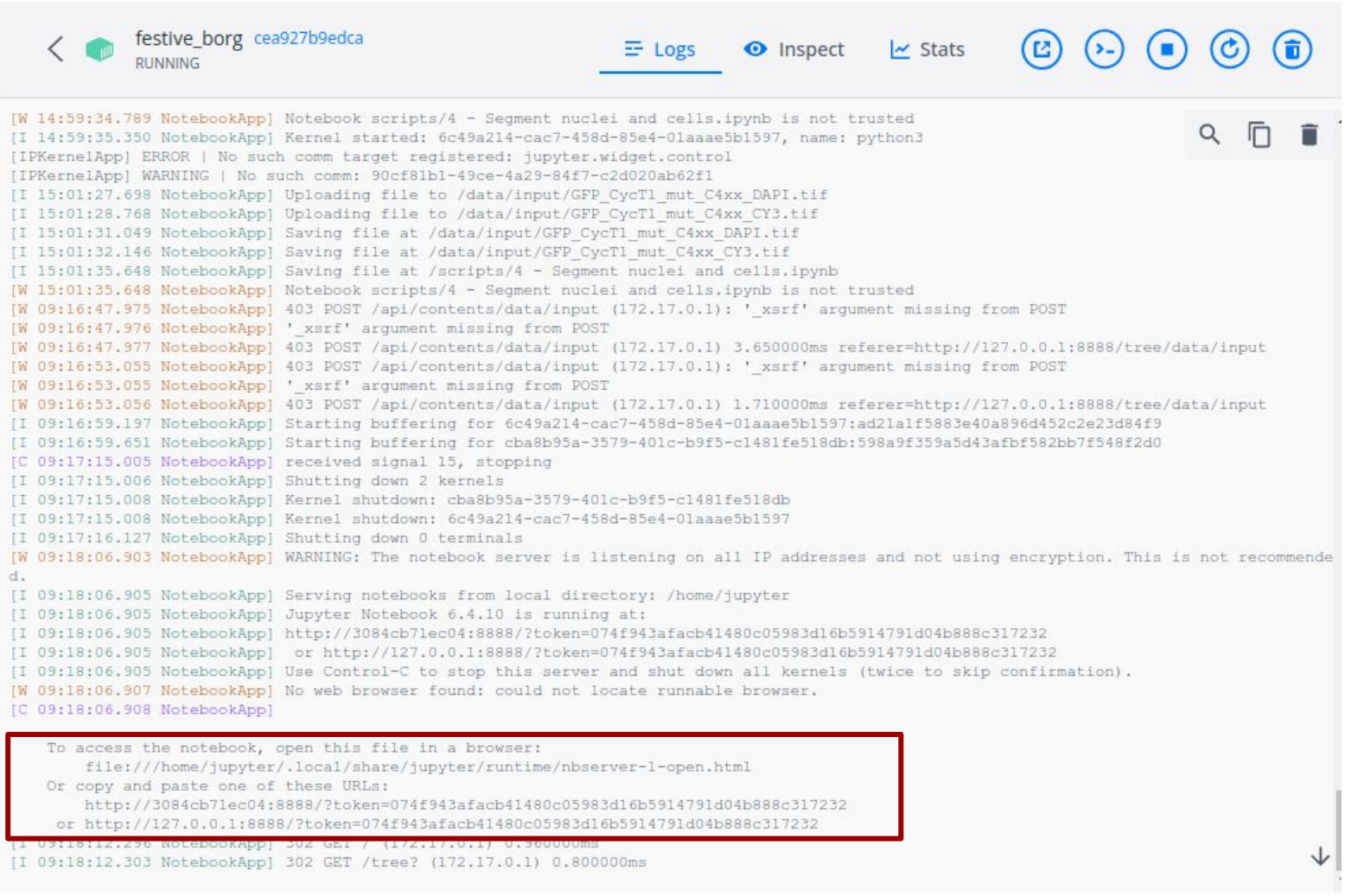
1. The notebooks are autosaved. However you must stop them from running and exit the jupyter-notebook properly so that the saved changes are preserved.
2. Click on the tab “Running”

3. Click on Shutdown to close the notebooks.
4. Once all are closed click on Quit on the top right to close the jupyter notebook.

Opening the notebook again

Open docker program on your system.




festive_borg cea927b9edca
RUNNING
Logs
Inspect
Stats
[W 14:59:34.789 NotebookApp] Notebook scripts/4 - Segment nuclei and cells.ipynb is not trusted
[I 14:59:35.350 NotebookApp] Kernel started: 6c49a214-cac7-458d-85e4-01aaae5b1597, name: python3
[IPKernelApp] ERROR | No such comm target registered: jupyter.widget.control
[IPKernelApp] WARNING | No such comm: 90cf81b1-49ce-4a29-84f7-c2d020ab62f1
[I 15:01:27.698 NotebookApp] Uploading file to /data/input/GFP_CycT1_mut_C4xx_DAPI.tif
[I 15:01:28.768 NotebookApp] Uploading file to /data/input/GFP_CycT1_mut_C4xx_CY3.tif
[I 15:01:31.049 NotebookApp] Saving file at /data/input/GFP_CycT1_mut_C4xx_DAPI.tif
[I 15:01:32.146 NotebookApp] Saving file at /data/input/GFP_CycT1_mut_C4xx_CY3.tif
[I 15:01:35.648 NotebookApp] Saving file at /scripts/4 - Segment nuclei and cells.ipynb
[W 15:01:35.648 NotebookApp] Notebook scripts/4 - Segment nuclei and cells.ipynb is not trusted
[W 09:16:47.975 NotebookApp] 403 POST /api/contents/data/input (172.17.0.1): '_xsrf' argument missing from POST
[W 09:16:47.976 NotebookApp] '_xsrf' argument missing from POST
[W 09:16:47.977 NotebookApp] 403 POST /api/contents/data/input (172.17.0.1) 3.650000ms referer=http://127.0.0.1:8888/tree/data/input
[W 09:16:53.055 NotebookApp] 403 POST /api/contents/data/input (172.17.0.1): '_xsrf' argument missing from POST
[W 09:16:53.055 NotebookApp] '_xsrf' argument missing from POST
[W 09:16:53.056 NotebookApp] 403 POST /api/contents/data/input (172.17.0.1) 1.710000ms referer=http://127.0.0.1:8888/tree/data/input
[I 09:16:59.197 NotebookApp] Starting buffering for 6c49a214-cac7-458d-85e4-01aaae5b1597:ad21a1f5883e40a896d452c2e23d84f9
[I 09:16:59.651 NotebookApp] Starting buffering for cba8b95a-3579-401c-b9f5-c1481fe518db:598a9f359a5d43afbf582bb7f548f2d0
[C 09:17:15.005 NotebookApp] received signal 15, stopping
[I 09:17:15.006 NotebookApp] Shutting down 2 kernels
[I 09:17:15.008 NotebookApp] Kernel shutdown: cba8b95a-3579-401c-b9f5-c1481fe518db
[I 09:17:15.008 NotebookApp] Kernel shutdown: 6c49a214-cac7-458d-85e4-01aaae5b1597
[I 09:17:16.127 NotebookApp] Shutting down 0 terminals
[W 09:18:06.903 NotebookApp] WARNING: The notebook server is listening on all IP addresses and not using encryption. This is not recommended.
[I 09:18:06.905 NotebookApp] Serving notebooks from local directory: /home/jupyter
[I 09:18:06.905 NotebookApp] Jupyter Notebook 6.4.10 is running at:
[I 09:18:06.905 NotebookApp] http://3084cb71ec04:8888/?token=074f943afacb41480c05983d16b5914791d04b888c317232
[I 09:18:06.905 NotebookApp] or http://127.0.0.1:8888/?token=074f943afacb41480c05983d16b5914791d04b888c317232
[I 09:18:06.905 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
[W 09:18:06.907 NotebookApp] No web browser found: could not locate runnable browser.
[C 09:18:06.908 NotebookApp]
To access the notebook, open this file in a browser:
file:///home/jupyter/.local/share/jupyter/runtime/nbserver-1-open.html
Or copy and paste one of these URLs:
http://3084cb71ec04:8888/?token=074f943afacb41480c05983d16b5914791d04b888c317232
or http://127.0.0.1:8888/?token=074f943afacb41480c05983d16b5914791d04b888c317232
[I 09:18:12.303 NotebookApp] 302 GET /tree? (172.17.0.1) 0.800000ms