

# Portable Proteomics Pipeline (P3)

## Use Case: FTP

*Daniel Kristiyanto (daniel.kristiyanto@pnnl.gov)*

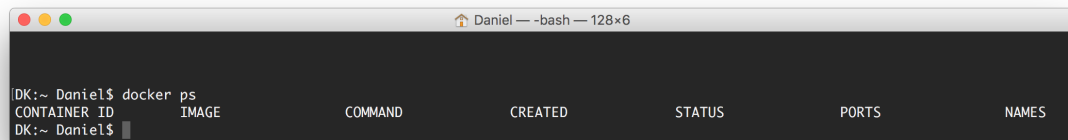
*June 24, 2016*

---

This is a use case/manual for a P3 pipeline with files retrieved from Pride database.

1. Make sure Docker engine is installed and running.

```
docker ps
```

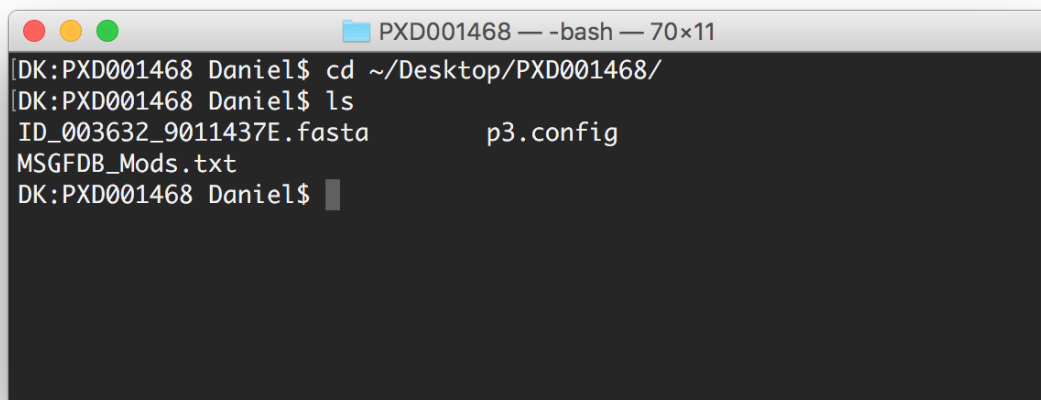


A terminal window titled "Daniel — -bash — 128x6" showing the command `docker ps` and its output. The output is a table with columns: CONTAINER ID, IMAGE, COMMAND, CREATED, STATUS, PORTS, and NAMES. The first row shows a container with ID `DK:~ Daniel$`.

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
DK:~ Daniel\$						

2. Download a sample `p3.config` and `MSGFDB_Mods.txt` file and put it to a directory. e.g. `~/Desktop/PXD001468`

```
cd ~/Desktop/PXD001468
```



A terminal window titled "PX001468 — -bash — 70x11" showing the command `cd ~/Desktop/PXD001468/` and `ls`. The output of `ls` shows three files: `ID_003632_9011437E.fasta`, `p3.config`, and `MSGFDB_Mods.txt`.

```
DK:PX001468 Daniel$ cd ~/Desktop/PXD001468/
DK:PX001468 Daniel$ ls
ID_003632_9011437E.fasta      p3.config
MSGFDB_Mods.txt
```

in this case, `p3.config` must have the following fields:

REPO = FTP

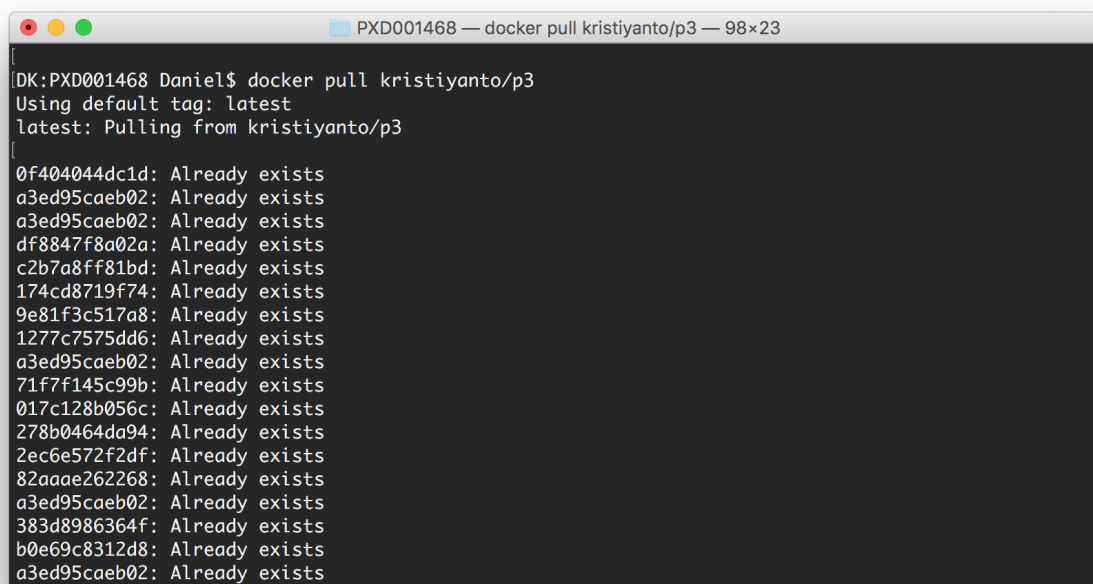
FTP1 = (e.g: ftp://ftp.pride.ebi.ac.uk/pride/data/archive/2015/06/PXD001468)

RUN\_MSGF = (e.g: YES)

METHOD = (e.g: SPECTRUM\_COUNT)

If other PrideID is desired, change the PRIDEID option in the p3.config. Ensure that the corresponding PrideID have the required files (\*.fasta, \*.mzml, etc.).

3. Download / update P3 from Dockerhub, and run the image.



```
PXD001468 — docker pull kristiyanto/p3 — 98x23
DK:PXD001468 Daniel$ docker pull kristiyanto/p3
Using default tag: latest
latest: Pulling from kristiyanto/p3
[
0f404044dc1d: Already exists
a3ed95caeb02: Already exists
a3ed95caeb02: Already exists
df8847f8a02a: Already exists
c2b7a8ff81bd: Already exists
174cd8719f74: Already exists
9e81f3c517a8: Already exists
1277c7575dd6: Already exists
a3ed95caeb02: Already exists
71f7f145c99b: Already exists
017c128b056c: Already exists
278b0464da94: Already exists
2ec6e572f2df: Already exists
82aaae262268: Already exists
a3ed95caeb02: Already exists
383d8986364f: Already exists
b0e69c8312d8: Already exists
a3ed95caeb02: Already exists
]
```

```
eval $(docker-machine env default)
```

```
docker pull kristiyanto/p3
```

```
docker run --rm -v ~/Desktop/PXD001468:/root/data kristiyanto/p3
```



```
PXD001468 — docker run --rm -v ~/Desktop/PXD001468:/root/data kristiyanto/p3 — 117x14
DK:PXD001468 Daniel$ docker run --rm -v ~/Desktop/PXD001468:/root/data kristiyanto/p3
Starting at: 2016-06-24 21:24:10.982541
Reading from ftp://ftp.pride.ebi.ac.uk/pride/data/archive/2015/06/PXD001468 and ftp://ftp.pride.ebi.ac.uk/pride/data/archive/2015/06/PXD001468.
Downloading from ftp://ftp.pride.ebi.ac.uk/pride/data/archive/2015/06/PXD001468
Downloading...
Downloading...
b1906_293T_proteinID_01A_QE3_122212.mzXML
```

if necessary, another image can be run simultaneously (in a different terminal windows).

```
docker run --rm -v ~/Desktop/PXD001468:/root/data kristiyanto/p3
```

4. Once processes completed, the directory will be populated with:

- Mass Spectrometry files downloaded from Pride repository (\*.mzid, \*.mzml)
- MSGF+ output files (\*.mzid, \*.canon, \*.revCat.cnlcp, \*.revCat.csarr, \*.revCat.cseq)
- Output table (\*.txt)
- Output file as R objects (\*.rda)

---

If the process stop returning error: \* Make sure all the required files are in the folder. E.g: Fasta files sometimes are not provided in the FTP/Pride repository and must be provided manually. \* Remove all \*.tmp files before re-run the containers.