

IPPP Desktops

And Other Systems

Presented by Adam Boutcher and Paul Clark

9th November 2018

Hardware: Desktops

- **Group 2 & 3**
 - Intel Core i5
 - 8GB RAM
 - 1TB Hard Drive
- **Group 4**
 - Intel Core i7
 - 8GB RAM
 - 1TB Hard Drive
- **Group 5 & 6**
 - Intel Core i7
 - 16GB RAM
 - 250GB SSD



Hardware: Batch

- **WS1 – GPU Test**
 - Intel Xeon 32 Threads @2Ghz
 - 128GB RAM
 - 2x nVidia Tesla C2070 (compute 2.0)
 - SSH
- **WS3**
 - Intel Xeon 32 Threads @2.4Ghz
 - 64GB RAM
 - SSH
- **WS4**
 - Intel Xeon 40 Threads @2.2Ghz
 - 64GB RAM
 - Docker
- **WS5**
 - Intel Xeon 40 Threads @2.2Ghz
 - 64GB RAM
 - Docker
- **WS6 – High Memory**
 - Intel Xeon 40 Threads @2.2Ghz
 - 1TB RAM
 - 1TB Hard Drive
- **WS7**
 - Intel Xeon 40 Threads @2.6Ghz
 - 128GB RAM
- **WS9**
 - Intel Xeon 40 Threads @2.6Ghz
 - 128GB RAM
- **WS10 – High Thread**
 - Intel Xeon 128 Threads @2.1Ghz
 - 960GB RAM
 - 1TB
- **WS2 & WS8 are Reserved**
- **New GPU System Coming Soon**

Storage

- **Home Space**
 - 10GB Default
 - Backed Up Daily
 - Limited Expansion Available upon Request
- **Batch Space**
 - 300GB Default
 - Expansion Available upon Request
- **“Cloud” Storage**
 - 15GB Default
 - Backed Up Daily
 - Limited Expansion Available upon Request
 - Contact us for an account
- **Home Space**
 - /home/<USERNAME>
 - ~/
- **Personal Webspace**
 - ~/www
 - <https://www.ippp.dur.ac.uk/~username>
- **Batch Space**
 - /mt/batch/users/<USERNAME>
- **Precompiled HEP Software**
 - /mt/hepsw/
- **Local Machine Storage**
 - /scratch/<USERNAME>

Software

- **Installed:**

- Centos Linux 7.5
- Gnome Windowing System
- Python 2.7
- GCC 4.8.5
- GCC 5.3.0
- Mathematica 11
- Mathematica 10
- Maple 2017
- Slurm

- **Available (Upon Request):**

- Python 3.4
- Python 3.6
- Mathematica 9



CentOS



Other software may be available upon request.

How to: Remote Access

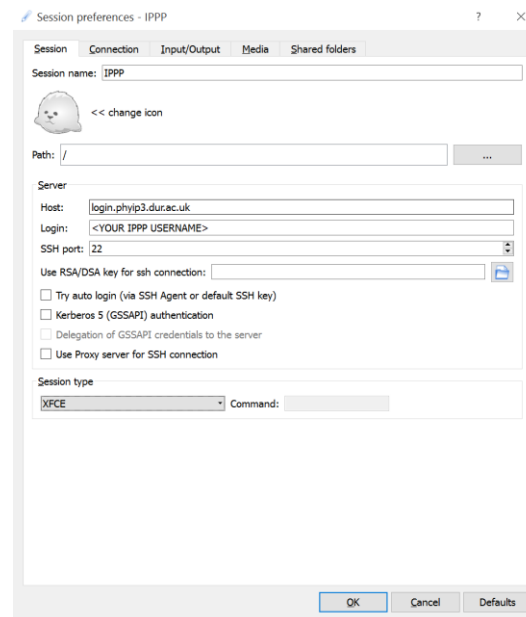


SSH - CLI

ssh username@login.phyip3.dur.ac.uk

X2GO – GUI

Host: login.phyip3.dur.ac.uk
Session: XFCE



How to: Batch

Slurm Batch System

1. Create a job file
2. Run sbatch job.sh
3. Use Output

```
1 #!/bin/bash
2
3 # These are Slurm SBATCH commands
4 #SBATCH --job-name="PythonVersionCheck"           # Job Name
5 #SBATCH --mail-type=END                          # When to send mail (BEGIN, END, FAIL, REQUEUE, ALL)
6 #SBATCH --mail-user=mailname@durham.ac.uk        # Where to send mail. A valid email address
7 #SBATCH --error="Job-%j.err"                    # Redirect STDERR (Error output) to this file %j is a variable for JobID
8 #SBATCH --output="Job-%j.out"                  # Redirect STDOUT (Normal output) to this file %j is a variable for JobID
9 #SBATCH --mem=2G                                # Requested memory for the Job (Default is 2G)
10 #SBATCH --export=ALL                            # Export Current Environment Variables (Default ALL)
11 #SBATCH -D /mt/batch/users/aboutcher           # Put all output on batch storage (--chdir currently doesn't work)
12
13 # The rest is similar to a standard shell script
14 srun echo "Python Version Check"
15 srun hostname
16 srun python --version 2>&1
17
18 # Remember to exit cleanly
19 exit 0;
20
```

login.phyip3.dur.ac.uk - PuTTY

```
aboutcher@login:~$ sbatch ./MyPythonVersion.batch.sh
Submitted batch job 6960313
aboutcher@login:~$ █
```

- **Request GPU Access**
 - `--gres=gpu`
- **Exclude Desktops**
 - `--exclude=d[1-80]`
- **Exclude WS Machines**
 - `--exclude=ws[1-10]`

How to: Python Virtual Env

- Portable
- Directory Name is the Environment Name

Create:

```
#~: virtualenv DIRECTORYNAME
```

Use:

```
#~: source FOLDERNAME/bin/activate  
(FOLDERNAME) #~: pip install whatever
```


How to: Cloud Storage



- Similar to Dropbox
- 15GB Online Storage Available upon Account Creation
- Supports Mac, Windows, Linux, Android, iOS

- Sync Folders between systems
- Share Folders between users
- ~50 Previous Version History

- Targeted at low infrequent changes / Low volume data

DROPBOX DOES NOT CURRENTLY WORK ON CENTOS...

Code Repository

HEPForge



GIT/SVN/Mercurial

SSH + HTTPS Push/Pull

Shell Access

Web Space

Downloads

Large Projects

hepforge.org



Gitlab



GIT

SSH + HTTPS Push/Pull

GitLab Runner/CI

Smaller Projects

gitlab.dur.scotgrid.ac.uk

More Help

Knowledge Base

<http://help.phyip3.dur.ac.uk>

A little out of date but slowly being updated.

Email

oper.ip3@durham.ac.uk

Office

OC216

Come visit, we don't bite!

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