

# INTRODUCTION TO BASKERVILLE

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# BASKERVILLE VIRTUAL TRAINING

- Baskerville walkthrough
- Key and useful steps to starting to use Baskerville
- Utilisation of Documentation
- Use the HackMD for questions - <https://hackmd.io/hjrZGy1KT8269nePXQsDyw?both>



# ACCESSING BASKERVILLE

Q

A

What should you look into before first logging on to Baskerville?

Q

A

What 2 methods can you use to access Baskerville?

Q

A

What does OTP and 2FA mean?



# ACCESSING BASKERVILLE

Q

A

The docs website particularly the first time login access and video:

<https://docs.baskerville.ac.uk/logging-on/>

If it is your first time using a linux machine get familiar with linux commands:

<https://www.hostinger.co.uk/tutorials/linux-commands>

Q

A

What 2 methods can you use to access Baskerville?

Q

A

What does OTP and 2FA mean?



# ACCESSING BASKERVILLE

Q

A

What should you look into before first logging on to Baskerville?

Q

A

SSH key + OTP

Password + OTP <- login with this first

Q

A

What does OTP and 2FA mean?



# ACCESSING BASKERVILLE

Q

A

What should you look into before first logging on to Baskerville?

Q

A

What 2 methods can you use to access Baskerville?

Q

A

**OTP** = One Time Passcode 6 digits that will be generated ever 30 second increment by your authenticator app.

**2FA** = 2 Factor Authenticator 2 forms of authentication needed to login.



# ACKNOWLEDGMENT OF BASKERVILLE

Q

A

Where can you find the Baskerville acknowledgment statement



# ACKNOWLEDGMENT OF BASKERVILLE

Q

A

## The acknowledgment statement:

The computations described in this research were performed using the Baskerville Tier 2 HPC service (<<https://www.baskerville.ac.uk/>>). Baskerville was funded by the EPSRC and UKRI through the World Class Labs scheme (EP/T022221/1) and the Digital Research Infrastructure programme (EP/W032244/1) and is operated by Advanced Research Computing at the University of Birmingham.

This can be found: <https://docs.baskerville.ac.uk/#acknowledging-the-use-of-baskerville-in-your-research>





# BASKERVILLE HPC

Q

A

What is the relationship between CPUs, cores and threads on Baskerville?



# BASKERVILLE HPC

Q

A

- Physical CPUs 2 per node
- Cores of which there are 36 per CPU
- Threads of which on Baskerville there are 2 threads per core (Hyperthreading enabled)
- Typically when someone mentions CPU they might mean cores.



# BASKERVILLE USER ACCOUNT

Q

A

Where can you find your Baskerville user information?

Q

A

What do you get when you use `my_quota` and `my_baskerville`?



# BASKERVILLE USER ACCOUNT

Q

A

There are multiple ways to find your user account information:

- <https://admin.baskerville.ac.uk>
  - Complete Home and Project information
- Using `my_quota` in the terminal
  - This will tell you about your Home Directory
- Using `my_baskerville`
  - Project and QoS information

Q

A

What do you get when you use `my_quota` and `my_baskerville`?



# BASKERVILLE USER ACCOUNT

Q

A

Where can you find your Baskerville user information?

Q

A

quota

Bask

Your home directory on Baskerville (/bask/homes/\_initial/\_username\_):

You are using 37.82 percent ( 7.57 GB ) of your total quota 20.02 GB



## where can you find your Baskerville user information:

Q

A

quota

Bask

Baskerville information for 'yearwoog'

Projects: \_projectname\_

Default Project: \_projectname\_

QoS: arc, bham, rfi, diamond, epsrc, turing

To submit to one of these QoS you should use one of the listed projects, using '#SBATCH --account=[project]' and '#SBATCH --qos=[qos]' in your job submission script:

QoS: \_projectname\_

An example of this is:

```
#SBATCH --account=_projectname_
```

```
#SBATCH --qos=bham
```

If you do not specify a project then the job will use '\_projectname\_'. If you have access to multiple projects then you should use the correct one for the job.

You must specify a QoS to submit a job. If you do not then you will see an error message.

```
sbatch: error: Please specify a qos, e.g. '--qos=bham' sbatch: error:
```

```
Batch job submission failed: Requested operation not supported on this system
```

When submitting a job, if you see an error message:

```
sbatch: error: Batch job submission failed: Invalid qos specification
```

then this means that the project you are using for this job is not



# SYMLINK

Q

A

What is a Symlink and where would you use it on Baskerville



# SYMLINK

Q

A

A symlink creates a direct path from one location to another, for files and directories

```
ln -s /bask/projects/_initial_/_projectname_ ~/_projectname_
```





# PRINT WORKING DIRECTORY - **pwd**

Q

A

---

Why in relation to your symlink would you use the **pwd** command?



# PRINT WORKING DIRECTORY - **pwd**

Q

A

- **pwd** is a good way to check where
- The flag **-P** / **--physical** you get the absolute path instead of the relative path

```
pwd
/bask/homes/_initial_/username
ln -s /bask/projects/_initial_/_projectname_ ~/_projectname_
ls
_projectname_
cd _projectname_
pwd
/bask/homes/_initial_/username/_projectname_
pwd -P
/bask/projects/_initial_/_projectname_
cd $(pwd -P)
```



# BASKERVILLE HOME DIRECTORY

Q

A

Can you name 3 key features of your home directory?



# BASKERVILLE HOME DIRECTORY

Q

A

1. 20 GB of space that will not change
2. User only access
3. Location of ondemand and hidden directories (for cached installs)

**Warning** if this area gets full it may prevent other operations. Monitor this space with the `my_quota` command



# BASKERVILLE PROJECT DIRECTROY

Q

A

What is recommended you do when first accessing you project space?



# BASKERVILLE PROJECT DIRECTROY

Q

A

Create your own user area:

```
cd _projectname_  
mkdir $USER
```



# BASKERVILLE STATUS

Q

A

Where can you find Baskerville utilisation information?

Q

A

What does the **baskstatus** command tell you and what does it not?



# BASKERVILLE STATUS

Q

A

- You can find Baskerville utilisation information for the day before at both <https://www.baskerville.ac.uk> and <https://admin.baskerville.ac.uk>
- You can also use **baskstatus** command for current availability

Q

A

What does the **baskstatus** command tell you and what does it not?





# BASKERVILLE STATUS

Q

A

Where can you find Baskerville utilisation information?

Q

A

```
[user@bask-pg-login01 ~]$ baskstatus  
Current Baskerville GPU availability:  
* 1 node with 1 x A100-40 available
```

It does not:

- Tell you the available number of CPUs
- The amount of memory on that node with the available GPUs
- The status of the queue



# BASKERVIL ENVIRONMENT VARIABLES

Q

A

How do you view and set environment variables on Baskerville?



# BASKERVIL ENVIRONMENT VARIABLES

Q

A

- You can use **env** or **printenv** commands to see current set environment variables
- You can create and append environment variables using the **export** command



# BASKERVILLE JOBS

Q

A

What type of Jobs can you submit on Baskerville?



# BASKERVILLE JOBS

Q

A

- Baskerville works by submitting jobs via SLURM
- SLURM = Simple Linux Utility for Resource Management
- Can submit a batch job, interactive job or a portal job



# BASKERVILLE NODES

Q

A

What login nodes are available on Baskerville and what are the compute nodes?



# BASKERVILLE NODES

Q

A

- Baskerville has 3 login nodes `bask-pg-login01`, `bask-pg-login02` and `bask-pg-login03`
- Intended for simple tasks such as managing files
- Access to the GPUs and compute has to be done on the compute nodes



# BASKERVILLE PORTAL

Q

A

What features are available on the Baskerville Portal?





# BASKERVILLE PORTAL

Q

A

- <https://portal.baskerville.ac.uk>
- File explorer and text editor
- Portal and interactive (GUI) applications
- Web terminal



# BASKERVILLE MODULES

Q

A

How do you see what software is available on Baskerville?



# BASKERVILLE MODULES

Q

A

- <https://apps.baskerville.ac.uk/>
- `module avail`
- `module spider`

