



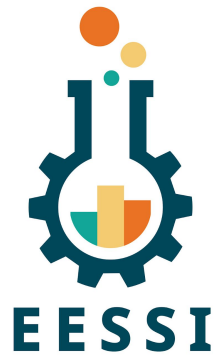
# Hands-on: how to use EESSI

EESSI Community Meeting @ Amsterdam

14 Sept 2022

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# Let's get our hands dirty with EESSI!



- From end user's perspective
- Assumption is that CernVM-FS + EESSI configuration is in place
  - See hands-on session this afternoon on how to install EESSI from scratch
- Practical setup
  - We will use the EESSI Cluster-in-the-Cloud @ AWS
  - Virtual Slurm cluster where workernodes are auto-started when jobs appear
  - EESSI is installed natively on cluster workernodes (not on login node!)
  - **If you want to join the hands-on session, let us know your GitHub account name**
  - We will use the SSH public key(s) attached to your GitHub account to give you access

# Step 1: Get logged in to CitC cluster



- If you don't have an account on the CitC cluster yet, contact Kenneth, Thomas, or Alan (either live or via Slack)
- If you have an account, log in with your GitHub handle:

```
ssh example@3.250.220.9
```



- More info on the cluster at [github.com/EESSI/hackathons/tree/main/2022-01/citc](https://github.com/EESSI/hackathons/tree/main/2022-01/citc)

## Step 2: Prepare some science...

Clone the EESSI demo repository in your account,  
so you have some supported scientific workloads to play with.



```
$ git clone https://github.com/EESSI/eessi-demo
```

```
$ ls eessi-demo
```

```
Bioconductor  CitC  GROMACS  LICENSE  Magic_Castle
```

```
OpenFOAM  README.md  TensorFlow  scripts
```

# Step 3: Start an interactive job



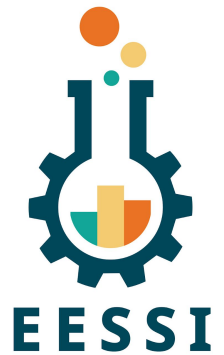
- Start an interactive Slurm job, so you get a shell on a workernode
- A workernode may need to be booted first for you (takes ~3min)
- You will need to specify a node type via `-C shape=...` (see `list_nodes` command)
- Optional: start a `screen` or `tmux` session first
- Example (feel free to pick a different node shape!):

```
$ srun -N1 -n8 -C shape=c6g.2xlarge --time=1:0:0 --pty /bin/bash
```

```
...
```

```
[boegel@fair-mastodon-c6g-2xlarge-0001 ~]$
```

# Step 4: Initialize the EESSI environment



- The EESSI pilot CernVM-FS repository is now available:

```
$ ls /cvmfs/pilot.eessi-hpc.org  
2021.06  host_injections  latest  versions
```

Note: “ls /cvmfs” may not show anything, you need to address the repo itself!

- **Source our init script to set up your environment:**

```
$ source /cvmfs/pilot.eessi-hpc.org/latest/init/bash
```

- **Keep an eye out for the auto-detection of the host CPU!**

```
Using aarch64/graviton2 as software subdirectory
```

# Step 5: Science!

- A (small) wealth of scientific software is now available, *optimized for the host CPU of the system*
- See output produced by “`module avail`”
- Now get some science done using one of our demo scripts:

```
cd ~/eessi-demo/TensorFlow/  
./run.sh
```

- Startup may take a while the first time (CernVM-FS is downloading files in background)





**Paper (open access):** <https://doi.org/10.1002/spe.3075>

Website: <https://www.eessi-hpc.org>

**Join our mailing list & Slack channel**

<https://www.eessi-hpc.org/join>

Documentation: <https://eessi.github.io/docs>

GitHub: <https://github.com/eessi>

Twitter: [@eessi\\_hpc](https://twitter.com/eessi_hpc)

[YouTube channel \(brand new!\)](#)

[Monthly online meetings](#) (first Thursday, 2pm CEST)