Basic usage of computing services at CSC

MBDP-105

CSC - IT CENTER FOR SCIENCE

- "Non-profit state enterprise with special tasks"

- Provides computing services for academics, research institutes and companies

- Free for academic research

- Owned by Finnish state (70 %) and higher education institutions (30 %)

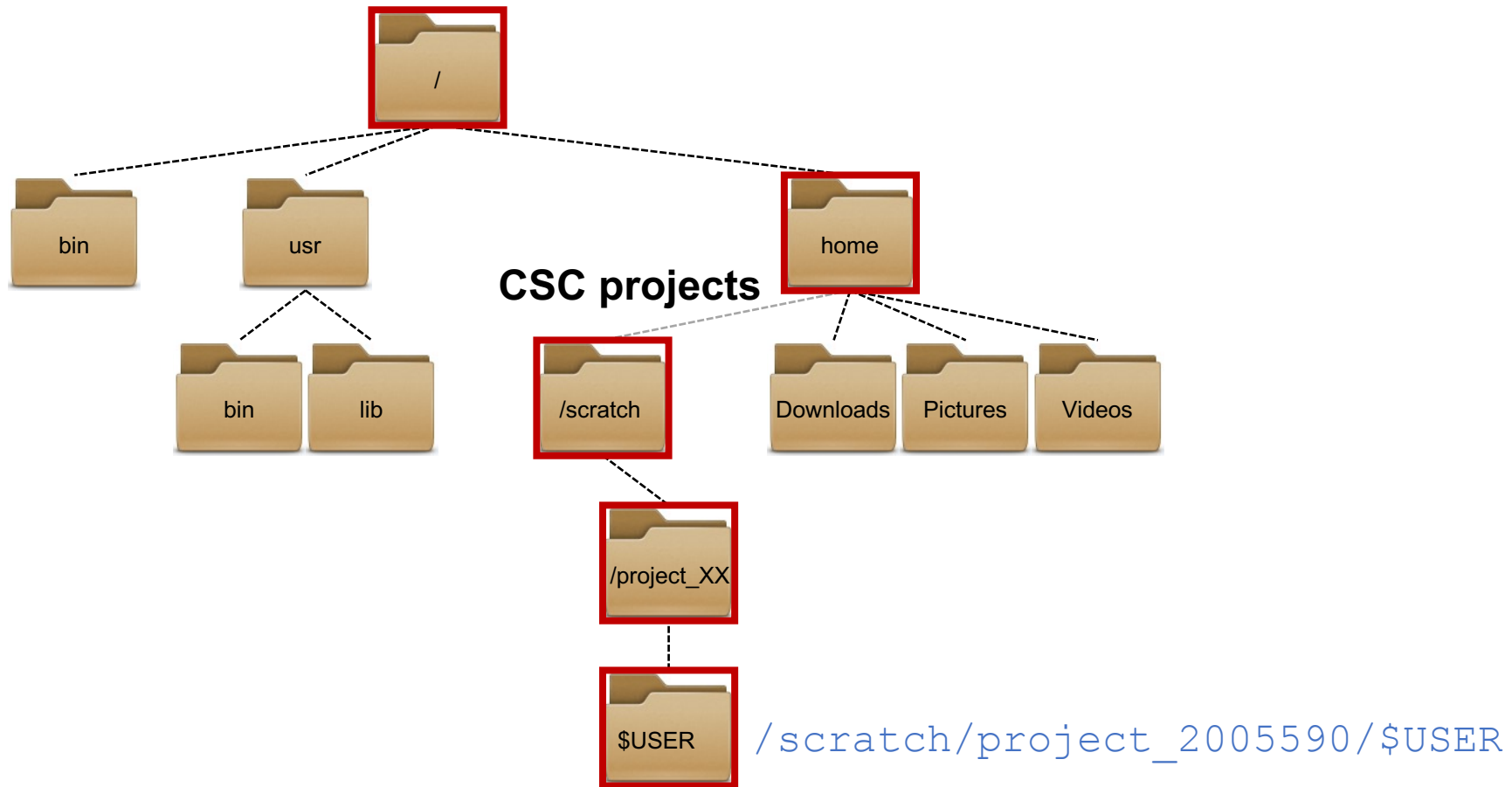- Funding from the Ministry of education and culture

Puhti

- One of the supercomputers at CSC
  - Atos BullSequana X400 cluster based on Intel CPU
- The best suited for bioinformatics
- Has CPU and GPU nodes
- Large collection of pre-installed software (modules)
- Interactive use and batch job scheduling system (SLURM)

- Read more: https://docs.csc.fi/support/tutorials/puhti_quick/

Important concepts

- Login node – computing node
- CSC projects and folders
- Quotas – size and file number
- Billing units
- Running jobs in SLURM
  - Interactive use
  - Serial batch job
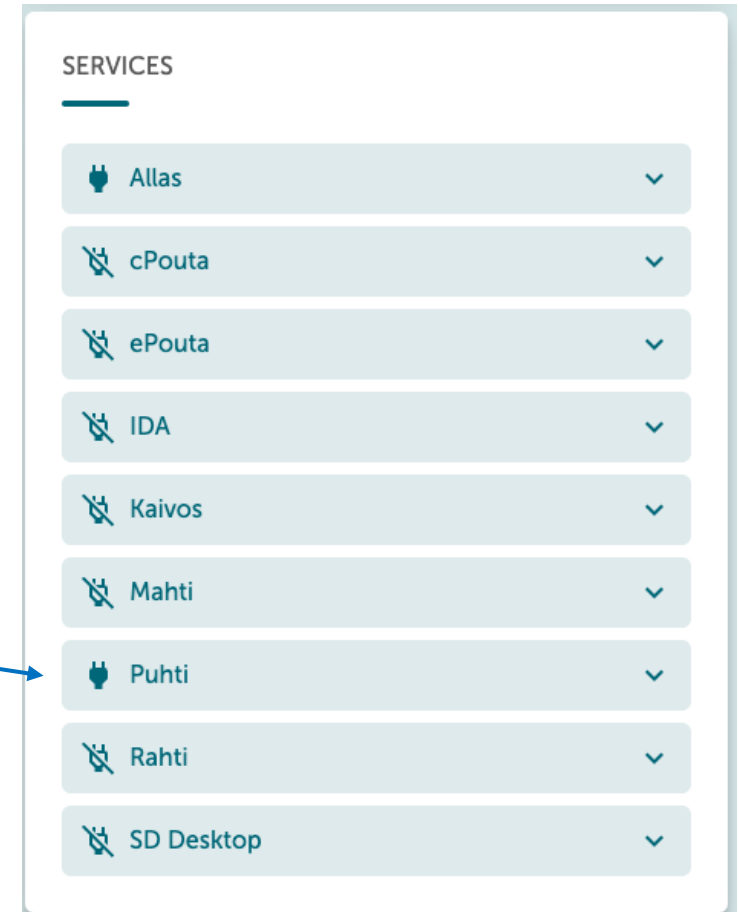 - Array jobs

The filesystem in Puhti

CSC projects

/scratch/project_2005590/$USER

Further reading and links

- CSC webpages for research: https://research.csc.fi/
- CSC user guides: https://docs.csc.fi/
- Learning materials from CSC: https://www.csc.fi/oppimateriaalit
- Support and training: https://research.csc.fi/support-and-training
- Puhti web interface: www.puhti.csc.fi
- Project management: https://my.csc.fi

Before we start, check if everything is OK in CSC

- Login to https://my.csc.fi/
- Go to **Projects**
- Click on **MBDP_genomics_2024**
- Scroll down to **Services** on the right side and see if access to Puhti is enabled

- **Make sure you know your CSC username and password**

SERVICES

- Allas
- cPouta
- ePouta
- IDA
- Kaivos
- Mahti
- Puhti
- Rahti
- SD Desktop

Connecting to Puhti

- Launch Visual Studio Code

- Down left corner you will have a (green) button with "><", **click it**
  - **If not:** Open Extensions (one of the icons on the left) and install Remote - SSH

- Choose "Connect Current Window to Host..."

- Type **YOUR_USER_NAME**@puhti.csc.fi and hit "Enter"

- Type your password and hit "Enter"

- In the following dialogue, type yes and hit "Enter"

- When the down left corner says SSH:puhti.csc.fi, you're connected.