

Create a SLURM Job Script to Build and Install Python3 from Source

System Environment

- Platform: WSL (Windows Subsystem for Linux)
- Scheduler: SLURM
- User: root
- Node: LAPTOP-04N89MSC
- Partition: caribou_n

SLURM Batch Script

install_python.sh

```
#!/bin/bash
```

```
#SBATCH --job-name=python_build
```

```
#SBATCH --nodes=1
```

```
#SBATCH --ntasks=1
```

```
#SBATCH --cpus-per-task=2
```

```
#SBATCH --mem=1G
```

```
#SBATCH --time=00:30:00
```

```
#SBATCH --output=python_build_out.txt
```

```
#SBATCH --error=python_build_err.txt
```

```
echo "PYTHON VERSION 3.13.12 INSTALLATION STARTED"
```

```
echo "Installation started on $(date)"
```

```
wget https://www.python.org/ftp/python/3.13.12/Python-3.13.12.tar.xz
```

```
mkdir python31
```

```
cp Python-3.13.12.tar.xz python31
```

```
cd python31
```

```
tar -xvf Python-3.13.12.tar.xz
```

```
cd Python-3.13.12
```

```
./configure --prefix=/root/python31
```

```
make
```

```
make install
```

```
echo "Python installation done"
```

```
echo "Installed on $(date)"
```

Job Submission

The job was submitted using the sbatch command:

```
root@LAPTOP-04N89MSC:~# nano install_python.sh
root@LAPTOP-04N89MSC:~# sbatch install_python.sh
Submitted batch job 18
```

Job Monitoring

The job status was monitored using squeue:

```
root@LAPTOP-04N89MSC:~# squeue
  JOBID PARTITION    NAME    USER  ST       TIME  NODES NODELIST(REASON)
   18 caribou_n python_b  root   R        0:35      1 LAPTOP-04N89MSC
root@LAPTOP-04N89MSC:~# squeue
  JOBID PARTITION    NAME    USER  ST       TIME  NODES NODELIST(REASON)
   18 caribou_n python_b  root   R        0:43      1 LAPTOP-04N89MSC
root@LAPTOP-04N89MSC:~# squeue
  JOBID PARTITION    NAME    USER  ST       TIME  NODES NODELIST(REASON)
   18 caribou_n python_b  root   R        3:13      1 LAPTOP-04N89MSC
root@LAPTOP-04N89MSC:~# squeue
  JOBID PARTITION    NAME    USER  ST       TIME  NODES NODELIST(REASON)
   18 caribou_n python_b  root   R        3:22      1 LAPTOP-04N89MSC
root@LAPTOP-04N89MSC:~# squeue
  JOBID PARTITION    NAME    USER  ST       TIME  NODES NODELIST(REASON)
   18 caribou_n python_b  root   R        4:09      1 LAPTOP-04N89MSC
root@LAPTOP-04N89MSC:~# squeue
  JOBID PARTITION    NAME    USER  ST       TIME  NODES NODELIST(REASON)
   18 caribou_n python_b  root   R        4:45      1 LAPTOP-04N89MSC
root@LAPTOP-04N89MSC:~# squeue
  JOBID PARTITION    NAME    USER  ST       TIME  NODES NODELIST(REASON)
```

Job Output

After job completion, output was stored in: python_build_out.txt

The beginning of the file shows:

```
PYTHON VERSION 3.13.12  INSTALLATION STARTED
Installation started on Wed Feb 11 09:10:29 UTC 2026
Python-3.13.12/
Python-3.13.12/.coveragerc
Python-3.13.12/.devcontainer/
Python-3.13.12/.devcontainer/Dockerfile
Python-3.13.12/.devcontainer/devcontainer.json
Python-3.13.12/.editorconfig
Python-3.13.12/.mailmap
Python-3.13.12/.pre-commit-config.yaml
Python-3.13.12/.readthedocs.yml
Python-3.13.12/.ruff.toml
Python-3.13.12/Android/
Python-3.13.12/Android/README.md
Python-3.13.12/Android/android-env.sh
Python-3.13.12/Android/android.py
Python-3.13.12/Android/testbed/
Python-3.13.12/Android/testbed/.gitignore
Python-3.13.12/Android/testbed/.idea/
Python-3.13.12/Android/testbed/.idea/inspectionProfiles/
Python-3.13.12/Android/testbed/.idea/inspectionProfiles/Project_Default.xml
```

The end of the file shows:

```
Successfully installed pip-25.3
Python installation done
Installed on Wed Feb 11 09:15:56 UTC 2026
```

Verification of Installation

```
root@LAPTOP-04N89MSC:~# /root/python3/bin/python3 --version
Python 3.13.12
```

Job Accounting Using sacct

```
root@LAPTOP-04N89MSC:~/python31# sacct -j 18
JobID      JobName    Partition Account AllocCPUS  State  ExitCode
-----
18         python_bu+ caribou_n+   root      2  COMPLETED  0:0
18.batch   batch      root        2  COMPLETED  0:0
root@LAPTOP-04N89MSC:~/python31# |
```

Conclusion

This task automated the process of building and installing Python 3.13.12 using SLURM.

The job ran successfully, and the installation was verified