

Organelle on HPC cluster:

What is Organelle?

OrganelleRef_PBA is a script, developed at the Bombarely Laboratory, to perform a de-novo PacBio assemblies of any organelle (chloroplast or mitochondrial genomes) using several programs.

The full documentation for Organelle is found in the following links:

[GitHub](#)

Versions Available:

- Organelle -v 1.0.8

How to load a version of Organelle?

To load a version of Organelle on the HPC, use the following command:

```
module load bio/organelle
```

Verify by using this command:

```
module list
```

The loaded software and dependencies, a lot of secondary softwares in this case, will be shown.

How to use Organelle on the cluster?

There are two methods to run Organelle on the cluster.

The Interactive Way:

To run the program interactively, follow the steps:

```
#Open a bash session on compute node
srun -p main --qos main -n 1 -c 12 --mem 10G --pty bash

#Load the module
module load bio/organelle

# Start your commands here
OrganelleRef_PBA --help
#Follow with commands to execute

#This method is ideal for a short job run which produces runtime
#output and to debug the codes.
```

The Script (Preferred):

To run a slurm job, the user must prepare input files. For this example, get input files with,

```
#Copy the input files to the test directory
cp -r /share/apps/Organelle_PBA/testdata/arthach1/ ~/organelle_test
#This will copy all the required files
#Make a script
touch script.sbatch
```

Use the following template for the script,

```
#!/bin/bash
#SBATCH -p threaded
#SBATCH -q threaded
#SBATCH --mem-per-cpu=4G
#SBATCH -n 1
#SBATCH -c 16

#Load the module
module load bio/organelle

#Go to the test directory
cd $SLURM_SUBMIT_DIR

# Run Organelle
OrganelleRef_PBA -i artha_pacbioSRR1284093_c025k.fastq -r
artha_refchl01_artha.fa -o . -b '--nproc=16' -s 'num_threads=16'
```

Schedule the job with the following sbatch command.

```
sbatch script.sbatch
```

All the processed files will be generated in the same directory as the script.

Where to find help?

If you are stuck on some part or need help at any point, please contact OIT at the following address.

<https://ua-app01.ua.edu/researchComputingPortal/public/oitHelp>

