

# Running Graphical Applications on Compute Nodes via SLURM

## Introduction

It is sometimes necessary to use graphical applications (i.e. Matlab) on compute nodes. A common practice is to run such applications on the login nodes for code development and short (30 minute) test runs. However, the login nodes are not suitable for running longer CPU-intensive jobs because performance for everyone on the node will be degraded. Therefore, users should run these types of jobs on the compute nodes. The following document will describe how to do this.

## Login with X Redirection Enabled

In order to run a graphical application on the cluster, you must enable X redirection when you login.

### From Linux:

Follow the [Linux login instructions](#)

### From Mac:

Please install X11 support by first following [OIT's instructions](#)

Then follow the [Linux login instructions](#)

### From Windows:

Use [Xming](#) and [SSH](#) (login required) as described here.

## Submitting a Job

Job submissions for a graphical application will be the same as with non-graphical interactive jobs with two important exceptions:

### 1. Include --x11 option

Include the --x11 option on the `srun` command line to enable X redirection from a compute node. Follow the instructions on submitting an [interactive partition](#) job and simply include --x11.

### 2. Specify a partition other than Interactive partition (optional)

If you want to run a graphical job in a partition other than the interactive partition, then change the partition request from *interactive* partition to the partition that you need.

Once you have submitted an interactive job with the above options, you will be given an interactive command prompt on a compute node where you can run a graphical application.



#### Wait time will vary

If all nodes are busy, you might have to wait until the scheduler identifies an empty node to run your job. Thus, interactive job submissions into a partition shared by all users might not run immediately.

## Example Job Submission

The following is an example `srun` command that will enable graphical jobs on compute nodes:

```
srun --partition=partition_name --pty --export=ALL --x11 --ntasks=1 /bin/bash
```

For an explanation of these options, please see our [FAQ](#) .