

Running MATLAB on a GPGPU

The DAVinCI cluster contains General Purpose Graphics Processing Units (GPGPUs) which can be used for considerable performance improvements on certain types of applications. Please see this [MathWorks web page](#) for instructions, demos, and tutorials about how to use MATLAB with GPGPUs. The steps required to ensure your MATLAB sessions run on the GPU nodes varies depending on how you submit your MATLAB jobs, please choose from the following options:



Your MATLAB code must be written for the GPU

Simply running on the GPU nodes does not mean that your MATLAB code is using the GPU. You must write your code to invoke built-in MATLAB GPU functions.

Running MATLAB on a GPU using PCT from a cluster login node

To create a cluster object based on the GPU profile, use the following MATLAB command:

```
>> ClusterInfo.state
```

```
        Arch :  
        ClusterHost :  
    DataParallelism :  
        DiskSpace :  
        EmailAddress :  
        GpusPerNode :  
        MemUsage :  
    PrivateKeyFile :  
PrivateKeyFileHasPassPhrase : 1  
        ProcsPerNode :  
        ProjectName :  
        QueueName :  
    RequireExclusiveNode : 0  
        Reservation :  
        SshPort :  
        UseGpu : 0  
    UserDefinedOptions :  
        UserNameOnCluster :  
        WallTime :
```

```
>> ClusterInfo.setUseGpu(true);
```

```
>> ClusterInfo.state
```

```
        Arch :  
        ClusterHost :  
    DataParallelism :  
        DiskSpace :  
        EmailAddress :  
        GpusPerNode :  
        MemUsage :  
    PrivateKeyFile :  
PrivateKeyFileHasPassPhrase : 1  
        ProcsPerNode :  
        ProjectName :  
        QueueName :  
    RequireExclusiveNode : 0  
        Reservation :  
        SshPort :  
        UseGpu : 1  
    UserDefinedOptions :  
        UserNameOnCluster :  
        WallTime :
```