

# How to use Matlab R2024b in interactive session on Performetrica HPC Cluster

Last update: 2026-05-19

This tutorial will guide you how to send and run Matlab scripts interactively from a remote client machine (such as a windows labtop) to the Performetrica HPC cluster. This tutorial is for setting up Matlab R2024b for Performetrica HPC.

## Prerequisites:

- You need to have an HPC Supercomputer account to execute your Matlab scripts on the HPC clusters. If not already got it, to request an HPC account you need to send an email to [contact@performetrica.com](mailto:contact@performetrica.com) stating your work area subject, the tool that you will use (matlab) and your current academic advisor. In return you will receive your Cluster host address (e.g. login.superbilgisayar.tr), and partition (e.g. defq), HPC username and HPC password.
- You need to install Matlab version R2024b to your computer. If not already installed, please install Matlab R2024b by following the instructions given here (may need an update): <https://www.mathworks.com/help/install/ug/install-products-with-internet-connection.html>

## 1. Create a matlab directory in your HPC cluster account to store matlab files for the HPC.

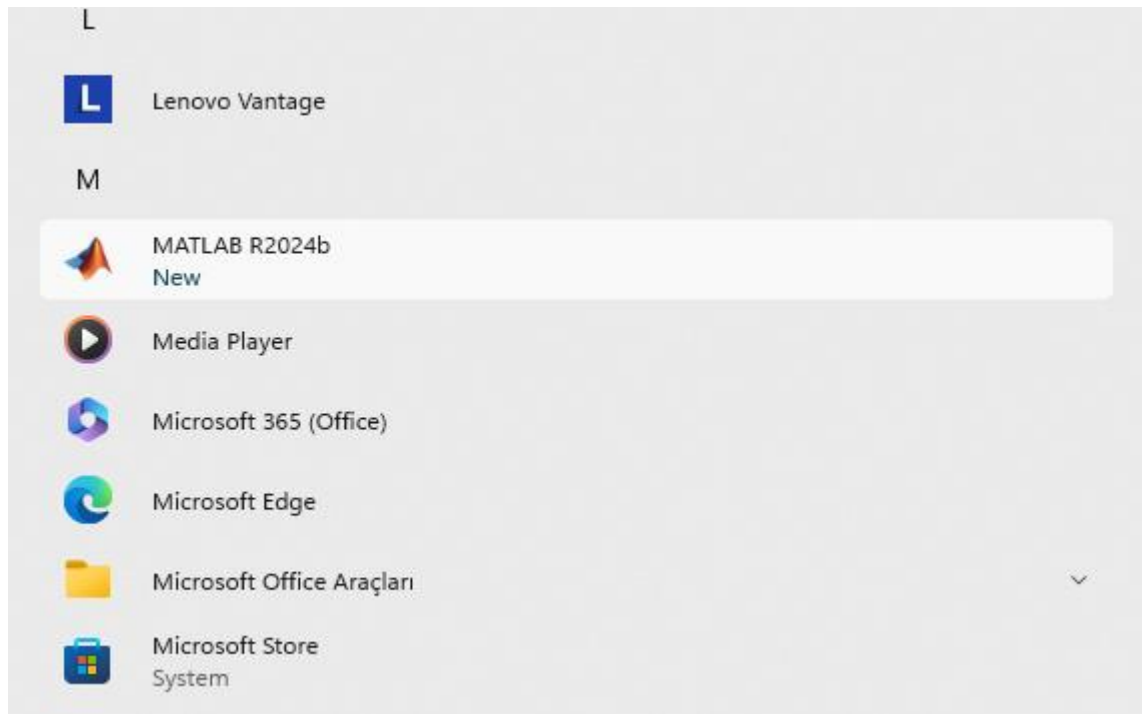
- Login to your HPC account with your HPC username and password. You can use a terminal like putty or MobaXterm for this purpose.
- Create your matlab folder in your HPC account.
  - `sacir@login:~$ mkdir matlab`
  - `sacir@login:~$ cd matlab`
  - `sacir@login:~/matlab$ pwd`

***/perf/defq/sacir/matlab*** (this will be used as **RemoteJobStorageLocation** in the following sections - replace "sacir" with your own username)

## 2. Create a directory (e.g. matlab) on your local computer to store matlab files and wrapper files

- a. Make a new directory (e.g. matlab) (e.g. on your Desktop) (we will need this path as **JobStorageLocation** later in this document)
- b. Download the **matlab-parallel-slurm-plugin-main.zip** Slurm wrapper files to the matlab directory you just created. And unzip it. You can download this file clicking on "Slurm Wrapper Files" at the left side menu of <https://performetrica-hpc-tutorials.readthedocs.io/tr/latest/en/matlab/matlab/>
- c. So at the end you must have the ".m" wrapper files must be inside **matlab-parallel-slurm-plugin-main** directory (e.g. C:\Users\suser\Desktop\matlab\matlab-parallel-slurm-plugin-main\\*.m , in this case **JobStorageLocation** is C:\Users\suser\Desktop\matlab)

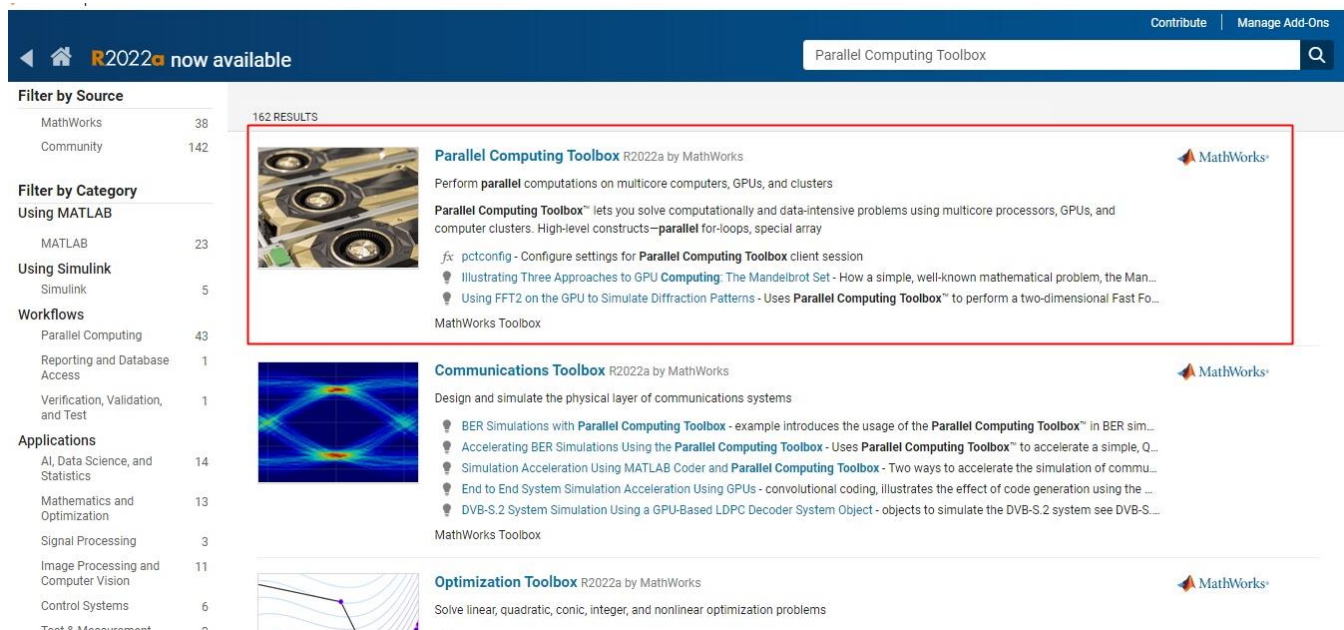
## 3. Start Matlab.



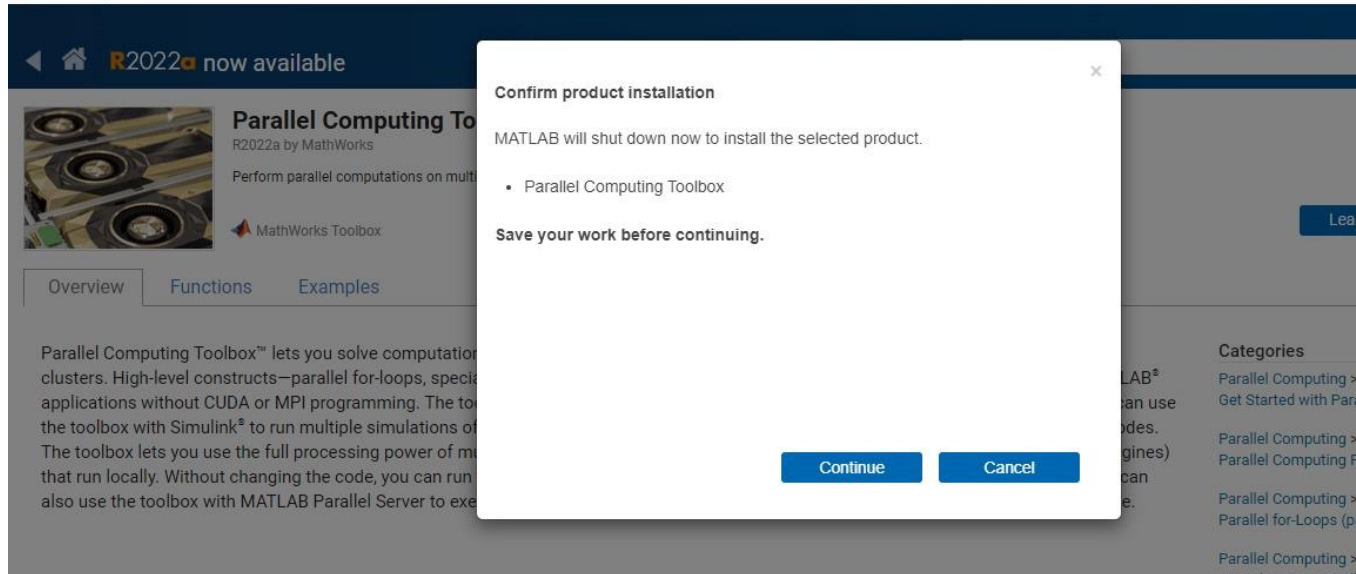
- As probably your computer does not resolve back to an ip address like a subdomain ,at the Matlab command prompt run these commands to notify Matlab about your ip address. This step is not critical to send jobs to HPC but necessary if you want to pass the Validation test fully in the following steps in this document.

```
ip = java.net.InetAddress.getLocalHost.getHostAddress().string
pctconfig('hostname',ip);
```

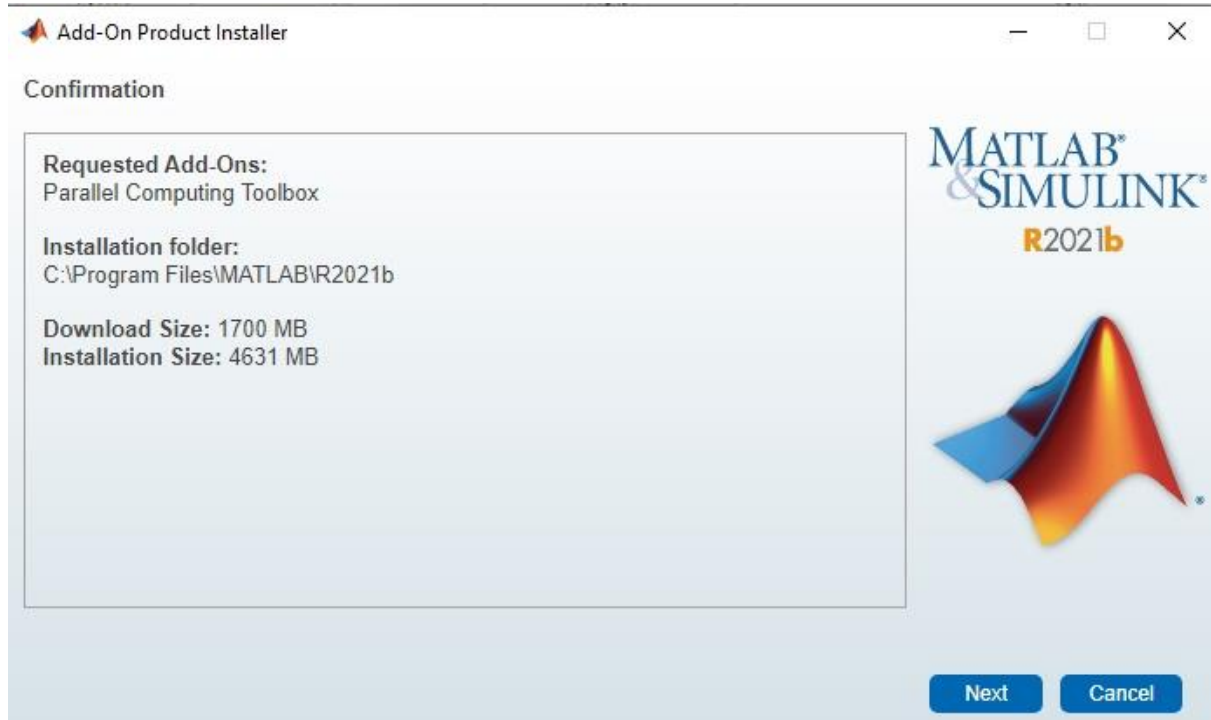
- Now you need to install “Parallel Computing Toolbox” module of Matlab software suite. You might have already installed this during initial installation. If you see it at Home -> Add-Ons -> Manage Add-Ons then you already installed it and you can skip to step 10. Otherwise to install it go to Home -> Add-Ons -> Get Add-Ons
- Search for “Parallel Computing Toolbox”



- Click on Parallel Computing Toolbox link and click Install and click Continue.



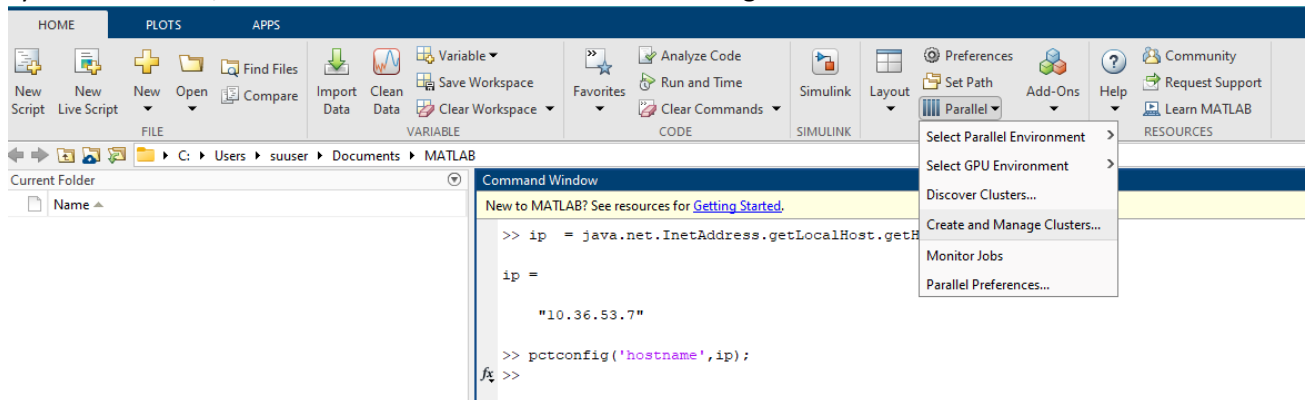
8. Click on Next, Accept the license agreement. Click Next and confirm the download.



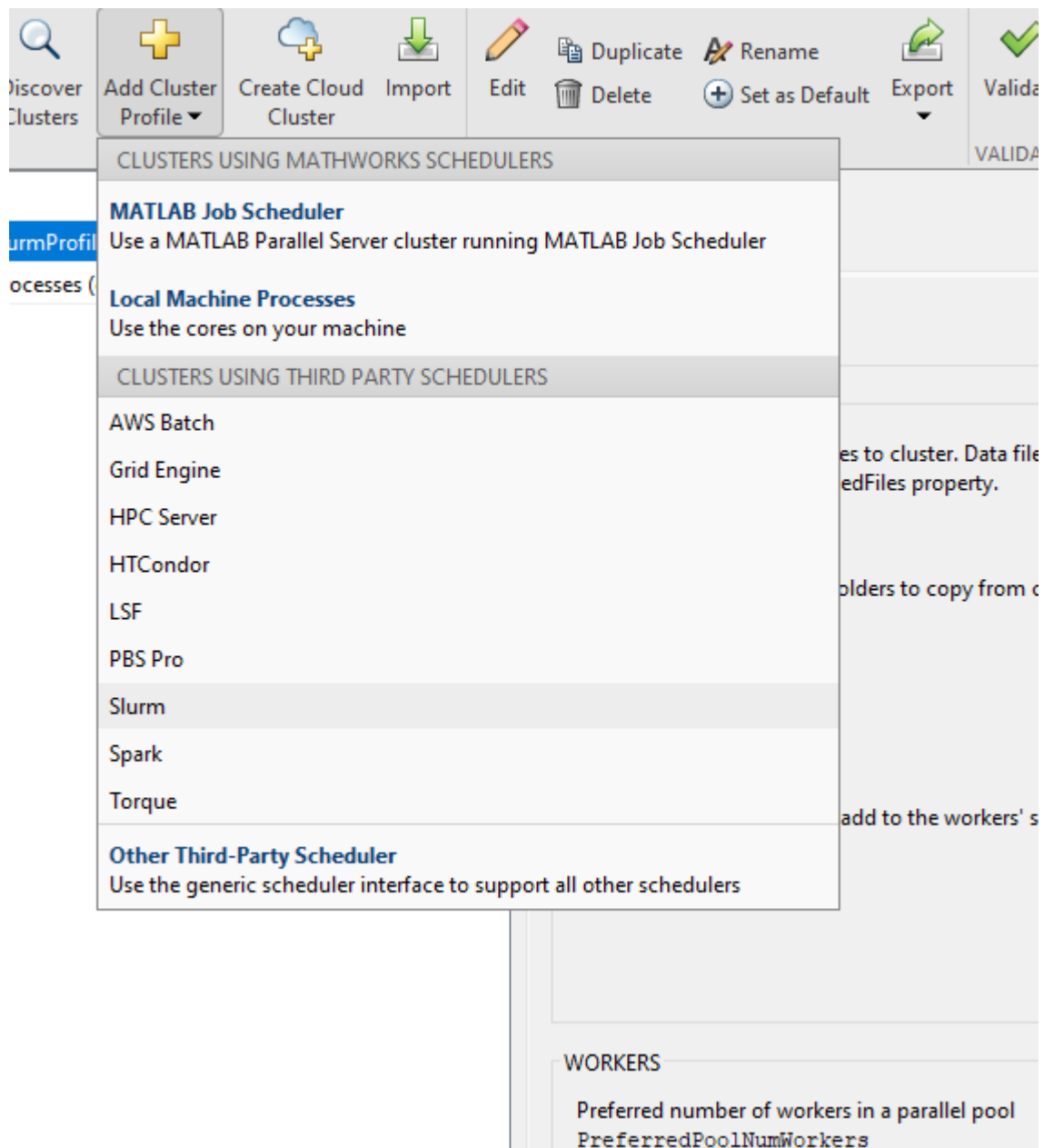
9. Click Close and launch the program.



10. Next we need to setup our HPC profile which will enable us to send jobs to Performetrica HPC systems. For that, select Home -> Parallel -> Create and Manage Clusters



11. Choose "Add Cluster Profile" and select "Generic"

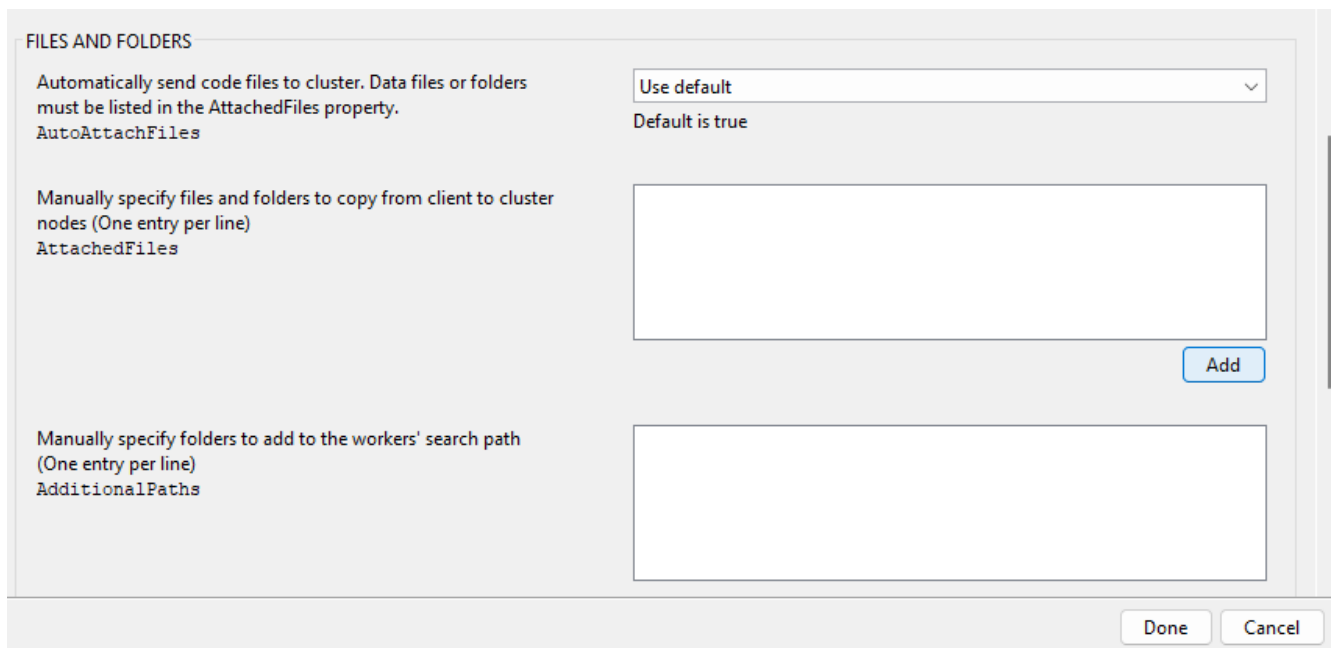


12. Choose "Edit" and fill in the sections. For sections not mentioned, leave default values.
  - a. For **Description**, enter the name of the cluster (e.g. Performetrica HPC)
  - b. For **JobStorageLocation**, use the path you created in Step 2.
  - c. For **NumWorkers**, enter the number of CPU cores you would like to use (e.g. 16).
  - d. For **ClusterMatlabRoot** enter **/perf/papps/matlab** .
  - e. For OperatingSystem, select unix. (optional)
  - f. For **HasSharedFileSystem**, select False.
  - g. For **PluginScriptsLocation** use the path you created in Step 2.
  - h. At the **AdditionalProperties** section push the Add button and enter the following strings:
    - i. AdditionalSubmitArgs      --qos=<enter your qos here> (e.g. --qos=defq)
    - ii. AuthenticationMode      Password

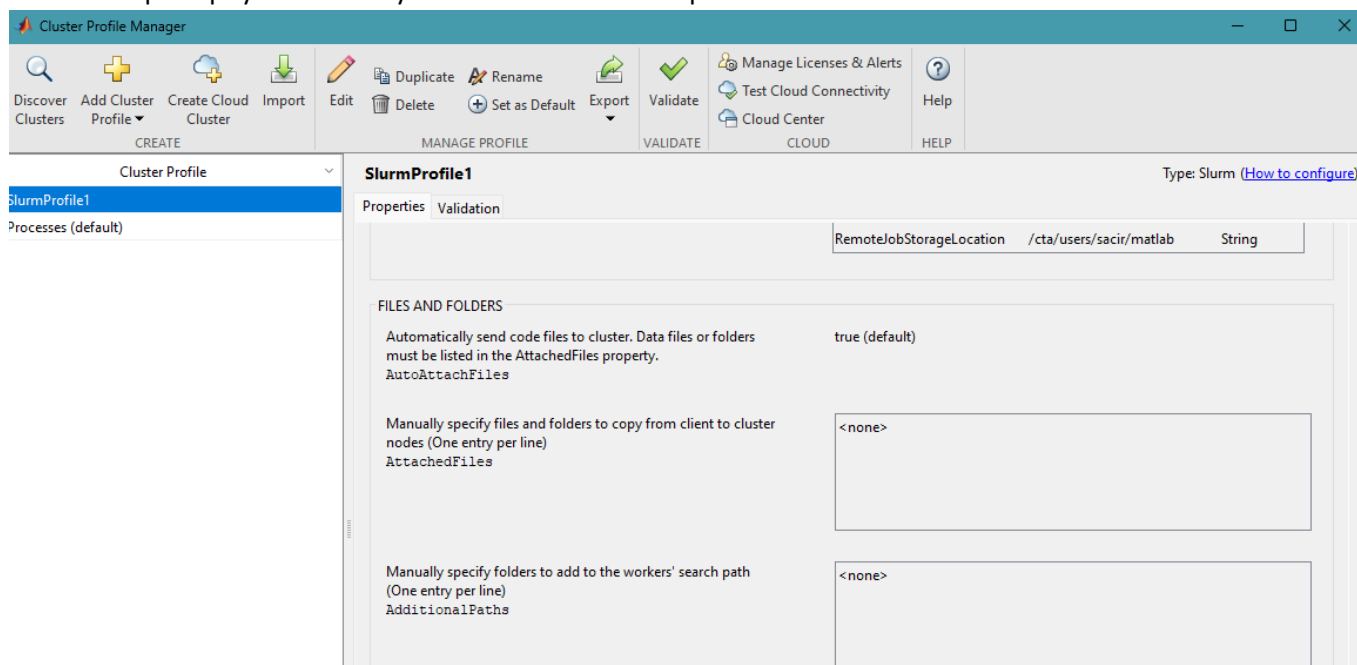
- iii. ClusterHost <your cluster host address> (e.g. login.superbilgisayar.tr)
- iv. Partition <enter your partition here> (e.g. defq)
- v. RemoteJobStorageLocation path to your matlab folder at HPC obtained at Step 1 (e.g. /perf/defq/sacir/matlab)

Description of this cluster Description	Sakura HPC
Folder where job data is stored on the client JobStorageLocation	C:\Users\suser\Desktop\matlab <span style="float: right;">Browse...</span>
Number of workers available to cluster NumWorkers	16 Default is inf
Number of computational threads to use on each worker NumThreads	Use default Default is 1
Root folder of MATLAB installation for workers ClusterMatlabRoot	/cta/capps/matlab Default is <matlabroot>
Cluster uses online licensing RequiresOnlineLicensing	Use default <span style="float: right;">v</span> Default is false
License number (Optional: Used only if this cluster uses online licensing) LicenseNumber	

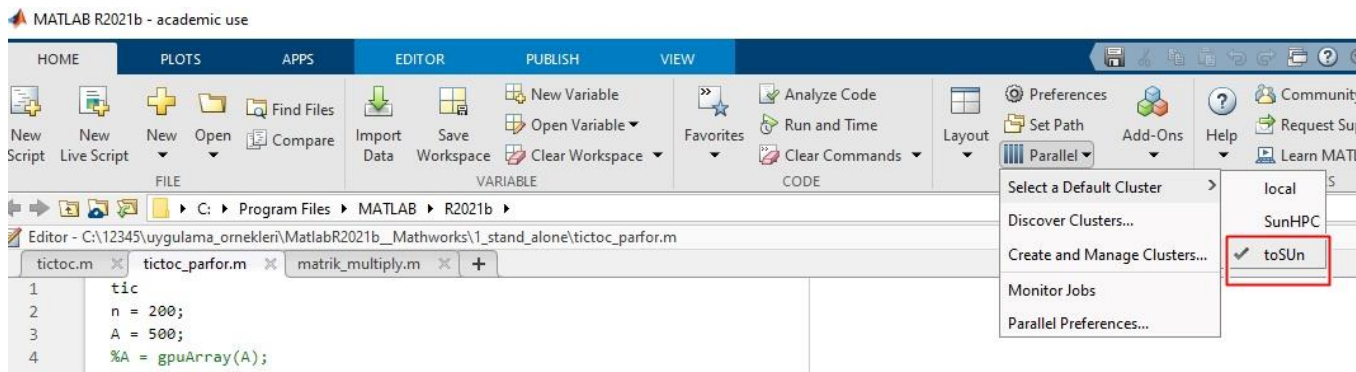
<b>CLUSTER ENVIRONMENT</b>																			
Job storage location is accessible from client and cluster nodes HasSharedFilesystem	false <span style="float: right;">v</span> Default is true																		
<b>SCHEDULER PLUGIN</b>																			
Folder containing scheduler plugin scripts PluginScriptsLocation	C:\Users\suser\Desktop\matlab\matlab-parallel-slurm-plugin-main Default is MathWorks-provided plugins																		
Additional properties for plugin scripts AdditionalProperties	<table border="1"> <thead> <tr> <th>Name</th> <th>Value</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>AdditionalSubmitArgs</td> <td>--qos=mid_mdbf</td> <td>String v</td> </tr> <tr> <td>AuthenticationMode</td> <td>Password</td> <td>String v</td> </tr> <tr> <td>ClusterHost</td> <td>sakura.sabanciuniv.edu</td> <td>String v</td> </tr> <tr> <td>Partition</td> <td>mid_mdbf</td> <td>String v</td> </tr> <tr> <td>RemoteJobStorageLocation</td> <td>/cta/users/sacir/matlab</td> <td>String v</td> </tr> </tbody> </table> <div style="text-align: right;"> <span>Add</span> <span>Remove</span> </div>	Name	Value	Type	AdditionalSubmitArgs	--qos=mid_mdbf	String v	AuthenticationMode	Password	String v	ClusterHost	sakura.sabanciuniv.edu	String v	Partition	mid_mdbf	String v	RemoteJobStorageLocation	/cta/users/sacir/matlab	String v
Name	Value	Type																	
AdditionalSubmitArgs	--qos=mid_mdbf	String v																	
AuthenticationMode	Password	String v																	
ClusterHost	sakura.sabanciuniv.edu	String v																	
Partition	mid_mdbf	String v																	
RemoteJobStorageLocation	/cta/users/sacir/matlab	String v																	



13. Complete the profiler wizard by pushing the Done button.
14. As the wizard completes we need to make sure we set-up the HPC profile correctly.
15. Choose the profile you just created and push the **Validate** button. As the tests are fired up the cluster will prompt you to enter your HPC username and password.



16. As the profiling is now finished, you are now ready to submit your script to the cluster. For this select the cluster that you will submit the job to. In our case we choose Performetrica HPC cluster by selecting Home -> Parallel -> Select a default cluster -> Performetrica HPC



You can now send your computations to the HPC cluster. If you will be using an .m file then please make sure your .m file is in the path. You can send additional parameters to the cluster from the command line too. For descriptions of these parameters please refer to Matlab documentation.

## Troubleshooting

Here are solutions to a few very common errors that you may experience:

1. “ .... s in the future”  
Make sure your computer’s time is close to the time of the cluster. You can see the time of the cluster with “date” command in the HPC cluster terminal.
2. “ sbatch: error: Batch job submission failed: Invalid qos specification”  
Make sure you are submitting your job to a partition that you are allowed to submit.
3. “Error using getRemoteConnection (line 180) Could not find remote host login.superbilgisayar.tr . Check the hostname is correct and this machine is connected to the same network.”  
At the profile replace ClusterHost with the ip address. (section 12) h) iii above) .

*for questions please contact:*  
contact@performetrica.com