Introduction to HPC Gateway Dashboard





powered by







Why the New Dashboard?

- Non-experienced Users:
 - Too difficult to access
 - No Linux experience or knowledge
 - Too complicated to navigate
 - Steep learning curve
- Experienced users:
 - No job performance metrics available to check
 - Desktop environment is complicated to get it running
 - Need job accounting information

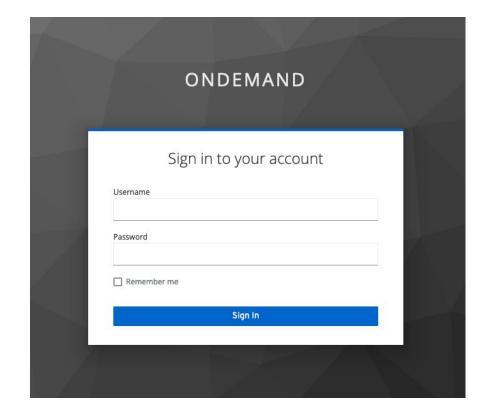
What to Expect from the New Dashboard?

- Non-experienced Users:
 - Lowered learning curve.
 - Shortened delay before first job.
 - GUI based instead of terminal based.
- Experienced Users:
 - Different way to perform HPC activities.
 - Easier access to job performance metrics
 - Easier access to remote desktop environment.

-job performance metrics-**Overview** SSO---> **WIKEYCLOAK** Authenticate CPU Farm GPU Farm Jobs and Apps powered by open on Demand Web Browser Performance Graph SSH **HPC Users UMHPC NFS** Lustre Storage Storage

KeyCloak

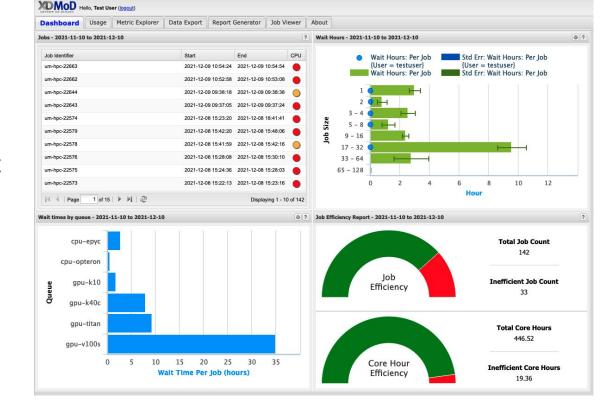
- Single Sign On (SSO) for Open OnDemand and XDMoD.
- Use your HPC username and password to login.





XSEDE Metrics on Demand (XDMoD)

- Most job metrics and accounting information are summarized in XDMoD.
- Job data will not be available before the next day.





Grafana Dashboard



Detailed resource monitoring for the cluster.



Open OnDemand Dashboard

 A dashboard for all your HPC daily activities.

powered by **OPEN ON Demand**

DICC OnDemand Apps - Clusters - Files - Interactive Apps - Jobs - Utilities - My Interactive Sessions

Welcome to Open OnDemand Dashboard Pilot Testing Environment

Open OnDemand is a new integrated dashboard that provides many new and useful features for HPC Users. The integration is still currently a work in progress, so users might encounter some issues or bugs when using it. Please report any problems to our service desk.



Data Intensive Computing Centre

Accelerating Scientific Discovery

Featured Apps A featured subset of all available apps







24 Hours Cluster Utilisation



Open Monitoring

◆ Develop * ② Help * ≜ Logged in as testuser ❖ Log Out



News & Updates

09-30-2021

Restoration of HPC Service

We would like to inform you that our HPC service is now accessible again starting 1.00pm, 30 September 2021. We managed to identify the root cause of the internal service which is causing random failure on the HPC core component. We have applied fixes to that internal service, and did not f.l.1.

09-28-2021

Major Service Disruption

Dear DICC Users, We are currently experiencing another major service disruption due to an unknown internal service problem. We are currently in the process of investigating so we will be having an unscheduled emergency maintenance. We will be updating again once the service is stabilized and accessible again. We are [...]

09-27-2021

HPC Service Disruption

Dear DICC Users, We were facing HPC service disruption due to major failure on one of the internal core services around 6.45pm. The HPC service has recovered around 9.15pm and is now accessible. All running jobs failed due to broken connection with the Lustre Storage system. Users will need to resubmit [...]

09-14-2021

[Completed] DICC HPC Maintenance

Dear DICC users, We are having scheduled maintenance for our HPC service starting from 24th Sept (Friddy) 172pm to 26th Sept (Sunday) 172pm. All services will be unavailable for the duration of the maintenance. Please do plan your jobs accordingly. UPDATE 1: The maintenance period will be extended for another day. [...]

09-12-202

More Compute Nodes Added to the HPC Cluster

Dear DICC Users, We are pleased to announce that 4 more compute nodes have been brought online in the HPC cluster: 3 Opteron CPU nodes that get added back to the opu-opteron partition. 1 new CPU server, which comes with 2 x Tesla V100s GPU cards, 64 CPUs and 192 [...]

09-07-2021

Service Status Page

We have added a Service Status Page to display information about our service availability and uptime, so that users can know when our primary or supporting services are down or having issues. The Service Status Page can be access here: https://dats.uptimerobot.com /JKYM8/BMM.ff you encounter some login issues, consider checking out the Service Status Page and see if you

09-03-2021

Presentation Slides & Recorded Videos for Training is now

Dear all Users, The presentation slides and recorded videos for the training session on 1st and 2nd September 2021 are now available in our Confluence. You can check and download them from the Training Materials section in the Confluence: https://confluence.dicc.um.edu.my/gisplay /HPDDCSTrainine/Materials The recordinas and slides have all been renamed with module







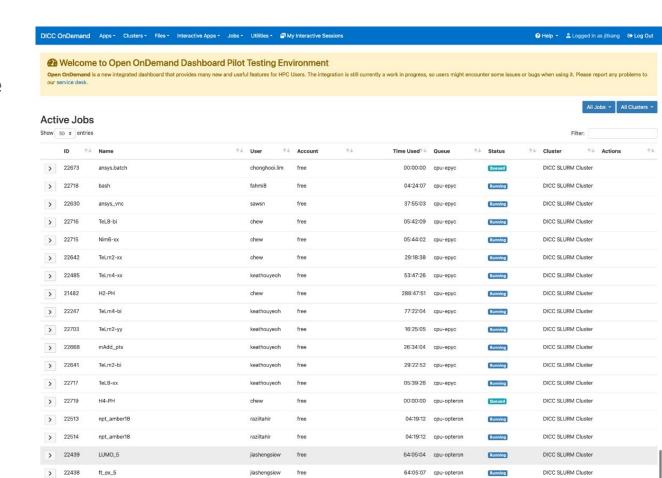
19.4 inefficent core hours / 446.5 total core hours

Recently Completed Jobs - 2021-11-10 to Open XDMoD ☑
2021-12-10



Jobs Module

• List of all jobs in the queue.



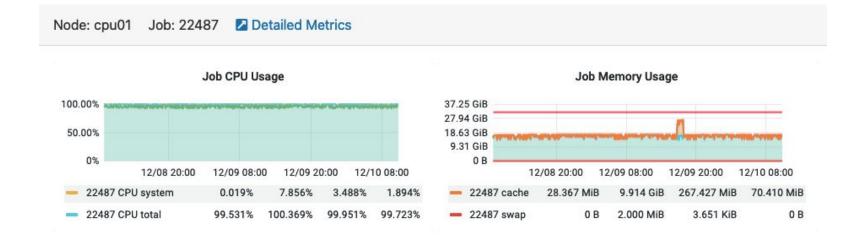
Jobs Module

Summarized details of job in list.

Running TeL2-bi 22487	
Cluster	DICC SLURM Cluster
Job Id	22487
Job Name	TeL2-bi
User	
Account	free
Partition	cpu-opteron
State	RUNNING
Reason	None
Total Nodes	1
Node List	cpu01
Total CPUs	32
Time Limit	14-00:00:00
Time Used	2-01:39:10
Memory	32768M

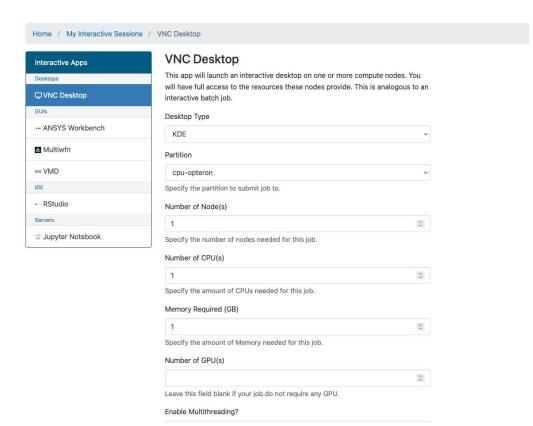
Jobs Module

- Job performance metrics graph.
- Easier to check job resources usage.



Interactive Apps with a Form

 Run your interactive application with the help of a preset form.



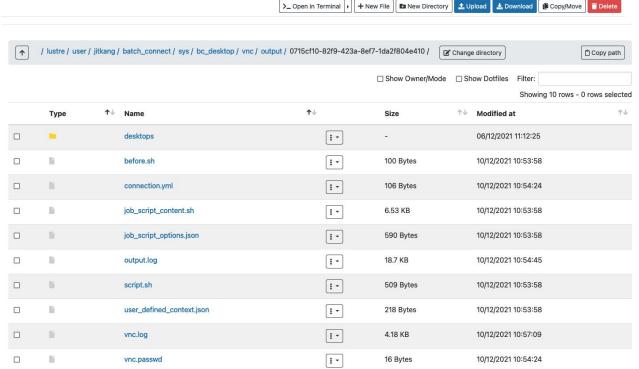
VNC and Interactive Apps with a Button

Connect to VNC Desktop or Home / My Interactive Sessions Interactive Apps within web VNC Desktop (22720) 1 node | 1 core | Running Interactive Apps Desktops Host: >_cpu11.dicc.um.edu.my m Delete browser with a single button. Created at: 2021-12-10 10:53:58 +08 Time Remaining: 23 hours and 59 minutes - ANSYS Workbench Session ID: 0715cf10-82f9-423a-8ef7-1da2f804e410 Multiwfn O A = https://umhpc.dicc.um.edu.my/pun/sys/dashboard/noVNC-1.1.0/vnc.h Compression Image Quality ww VMD 0 (low) to 9 (high) 0 (low) to 9 (high) - RStudio Launch VNC Desktop View Only (Share-able Link) Jupyter Notebook

Web Based File Manager

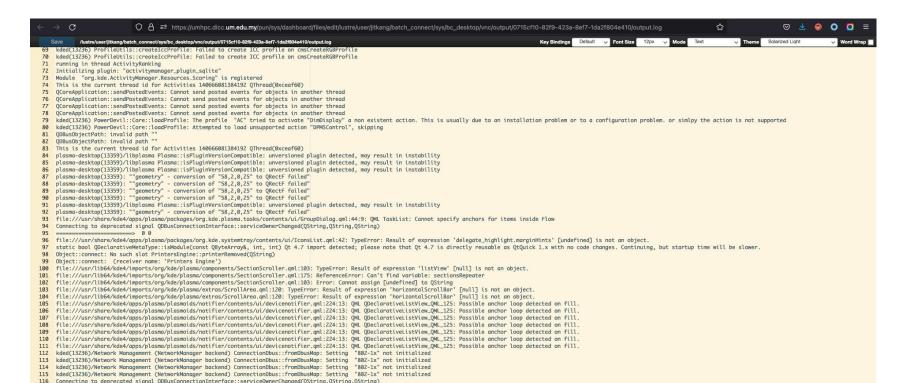
Manage your files within web browser.

- Download
- Upload
- Edit
- View



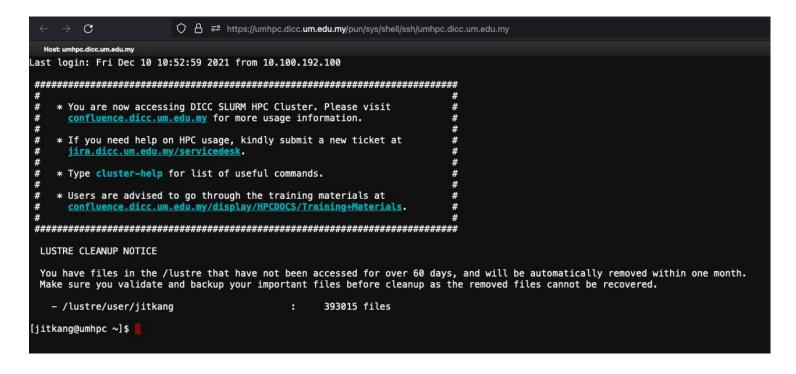
Web Based File Manager

View and Edit file within web browser with the built-in editor.



Web Based SSH Shell

Access SSH from web browser.

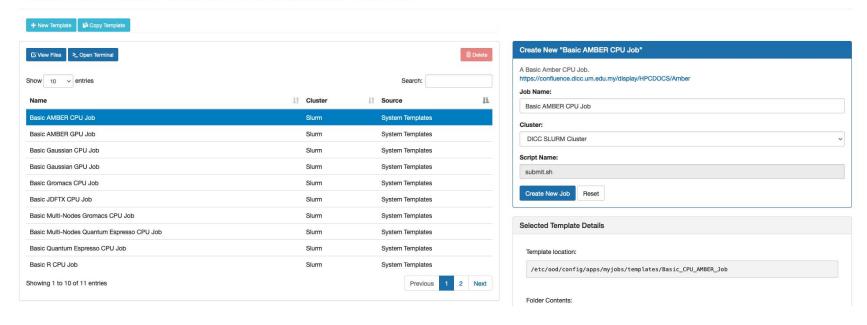


Job Composer

Various job pre-defined submission script templates for different jobs.

Templates

To create a new job, select a template to copy, fill out the form to the right, and click "Create New Job".



Job Composer

Create your own job template and share with others.

New Template Path (the template will be created by copying files from this source path) /etc/ood/config/apps/myjobs/templates/Basic_GPU_AMBER_Job · If left blank, a default job script will be added to your new template. Name Basic AMBER GPU Job Cluster: DICC SLURM Cluster Notes A Basic Amber GPU Job.
https://confluence.dicc.um.edu.my/display/HPCDOCS/Amber Save Cancel

Job Composer

Organized directory per job template project:

```
/lustre/user/<username>/project/default/<Project ID>
```

Featured Interactive Apps on Front Page

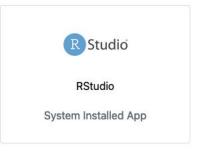
Quickly access interactive applications when you login.

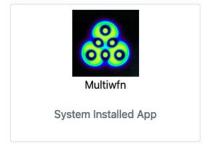
Featured Apps A featured subset of all available apps











Never Misses any DICC Update

News and Updates on front page.

News & Updates

09-30-2021

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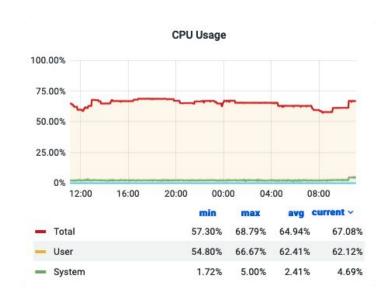
09-28-2021

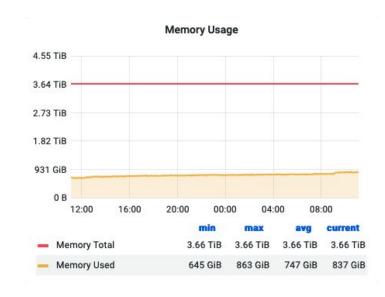
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24H Cluster Resource Information Quick Glance

Two graphs for cluster overall CPU and Memory Usage

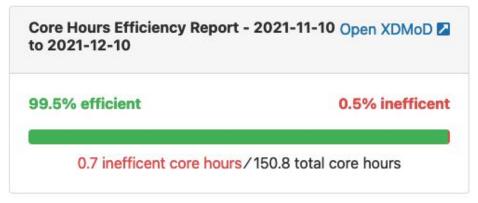




Job Efficiency Report

- A summary for your last month jobs.
- More details can be found in XDMoD.





Enhanced HPC cluster-info

 More color way for your daily HPC resources query.

HPC Cluster Information

Output generated: 2021-12-10 11:11:37 +0800

			CPU		Memory (GB)			GPU				
	Partition	Node Name	Free	Total	Utilisation	Free	Total	Utilisation	Name	Free	Total	Utilisation
	сри-ерус	cpu12	0	96		74	234					
	сри-ерус	cpu13	0	96		114	234					
	сри-ерус	cpu14	8	96		94	234					
	сри-ерус	cpu15	0	96		200	234					
	cpu-opteron	cpu01	0	64		148	234					
	cpu-opteron	cpu03	0	64		170	234					
	cpu-opteron	cpu04	0	64		230	234					
	cpu-opteron	cpu05	4	64		230	234					
	cpu-opteron	cpu06	64	64		234	234					
	cpu-opteron	cpu07	0	64		0	234					
	cpu-opteron	cpu08	0	64		18	234					
	cpu-opteron	cpu09	0	64		0	234					
	cpu-opteron	cpu10	0	64		0	234					

Check Home Directory Quota

Check your home directory (NFS) Quota.

Quota

Output generated: 2021-12-10 14:46:47 +0800

Filesystem	Blocks	Blocks Quota	Blocks Limit	Blocks Grace	Files	Files Quota	Files Limit	Files Grace
10.11.141.33:/mnt/hpc_home	70024M	1000G	1100G	0	566k	1000k	1100k	0

Resource Reservation Information

Wonder if some HPC resources are reserved?

HPC Resources Reservation Information

Output generated: 2021-12-13 10:10:27 +0800

Reservation Name	Start	End	Reserved Nodes	Reserved For	Reserved TRES	Flags
cpu06_hardware_check	2021-11-03T15:20:54	2022-11-03T15:20:54	cpu06	root,jitkang,testuser	cpu=64	MAINT,IGNORE_JOBS,SPEC_NODES
nvidia_update_reboot	2021-12-07T18:42:11	2022-12-07T18:42:11	gpu01	root	cpu=32	MAINT,IGNORE_JOBS,SPEC_NODES
ood_training_resv	2021-12-13T07:24:37	2022-12-13T07:24:37	cpu10	jitkang,testuser	cpu=64	MAINT,IGNORE_JOBS,SPEC_NODES,MAGNETIC

Ready for Action?

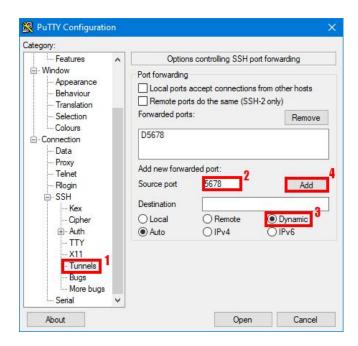
Software Requirements

- SSH Terminal
 - PuTTY
 - Terminal for Linux and MacOS
- Web browsers
 - Google Chrome
 - Firefox
- Web browser plugin
 - SwitchyOmega

Proxy Tunnel Settings

- Documentation page:
 <u>https://confluence.dicc.um.edu.my/display/</u>

 HPCDOCS/Setting+up+SSH+Tunnel
- Remember the port number used.
- In this case 5678 or 9999.



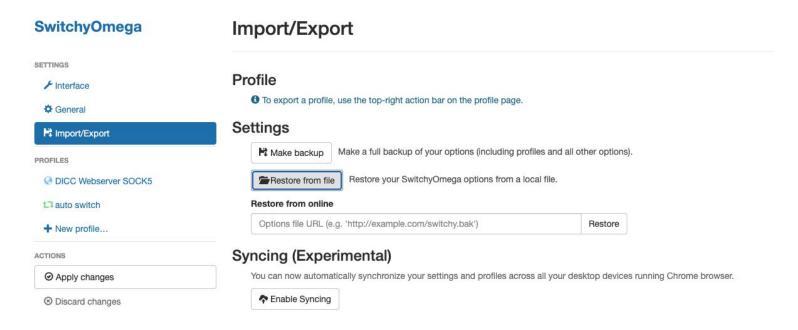
Browser Extension (SwitchyOmega)

- To allow web browser to connect through the Proxy Tunnel.
- Download
 - Google Chrome
 - https://chrome.google.com/webstore/detail/proxy-switchyomega/padekgcemlokbadohgkif ijomclqjqif?hl=en
 - Firefox
 - https://addons.mozilla.org/en-US/firefox/addon/switchyomega/



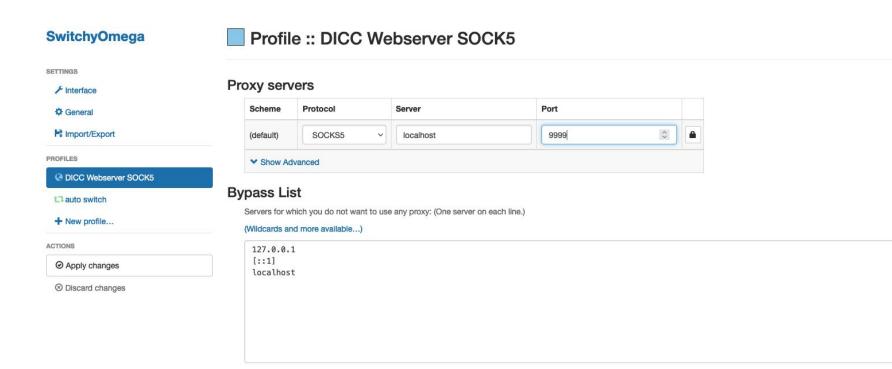
Import SwitchyOmega Settings

Click to download Settings File



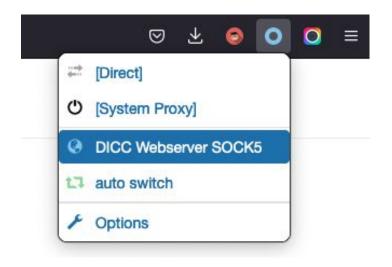
Adjust Proxy Port in SwitchyOmega

Adjust the port if according to the port used earlier.



SWITCH ON SwitchyOmega

- Make sure to switch on the proxy, or otherwise it won't works.
- Turn it off if you no longer need the proxy.



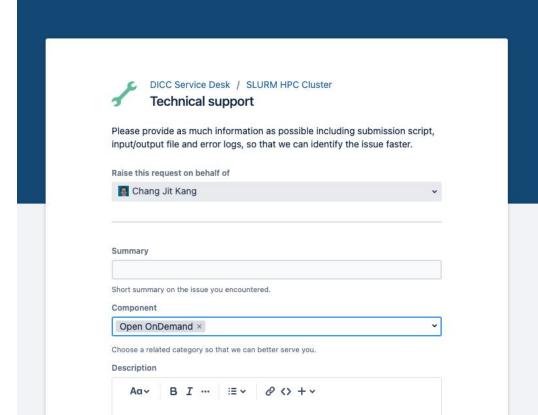
Accessing the Dashboard

• Open your web browser, go to url https://umhpc.dicc.um.edu.my.

Any Question?

Service Desk

- Report any problems to Service Desk.
- Select Open OnDemand as the component.



Thank you