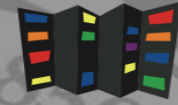
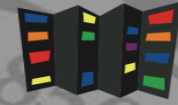


Hands-on introduction to Open OnDemand

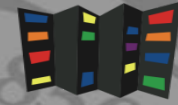
Martin Čuma
Center for High Performance Computing
University of Utah
m.cuma@utah.edu



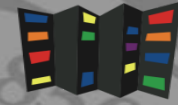
- What is Open OnDemand
- Interactive applications
- File operations
- Job management
- Job statistics
- Class use
- Future outlook



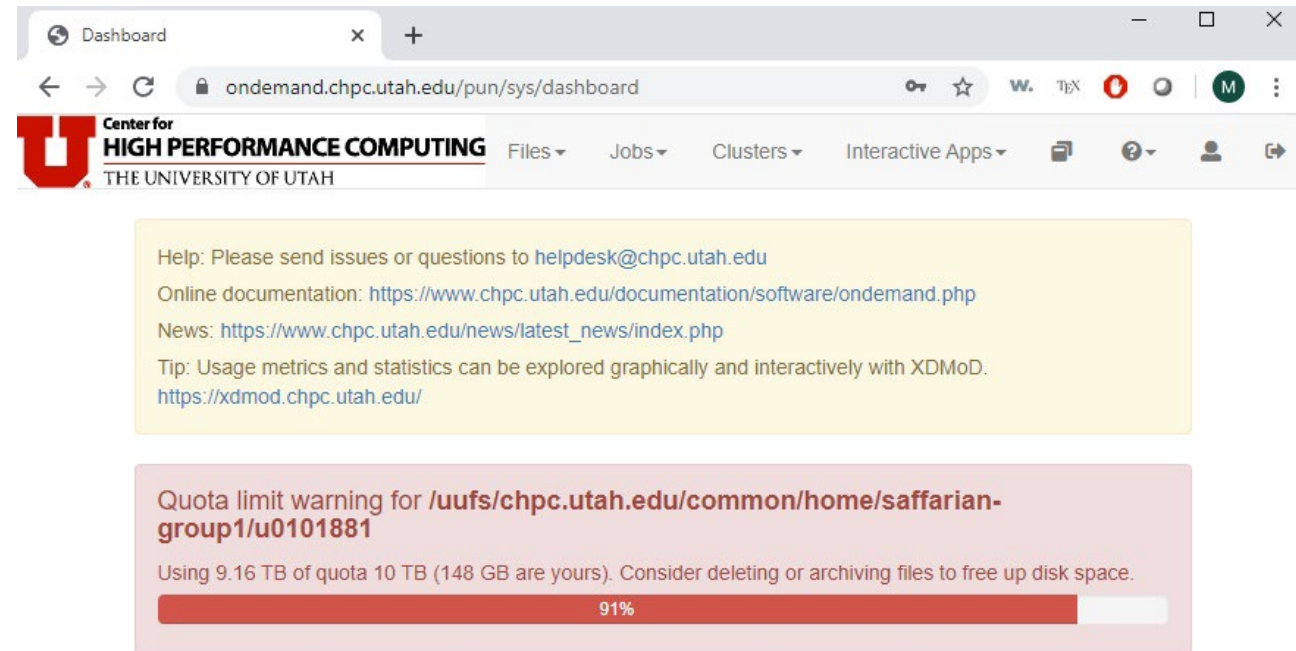
1. Internet access
2. Web browser
3. CHPC account



- Web portal to HPC resources - openondemand.org
- Easier, command line free, use of HPC resources
- Interactive desktop and applications
 - e.g. MATLAB, ANSYS, Jupyter Notebook, R Studio Server, ...
- Class specific applications
- File management module
- Job submission and monitoring module
- Actively developed and supported by NSF

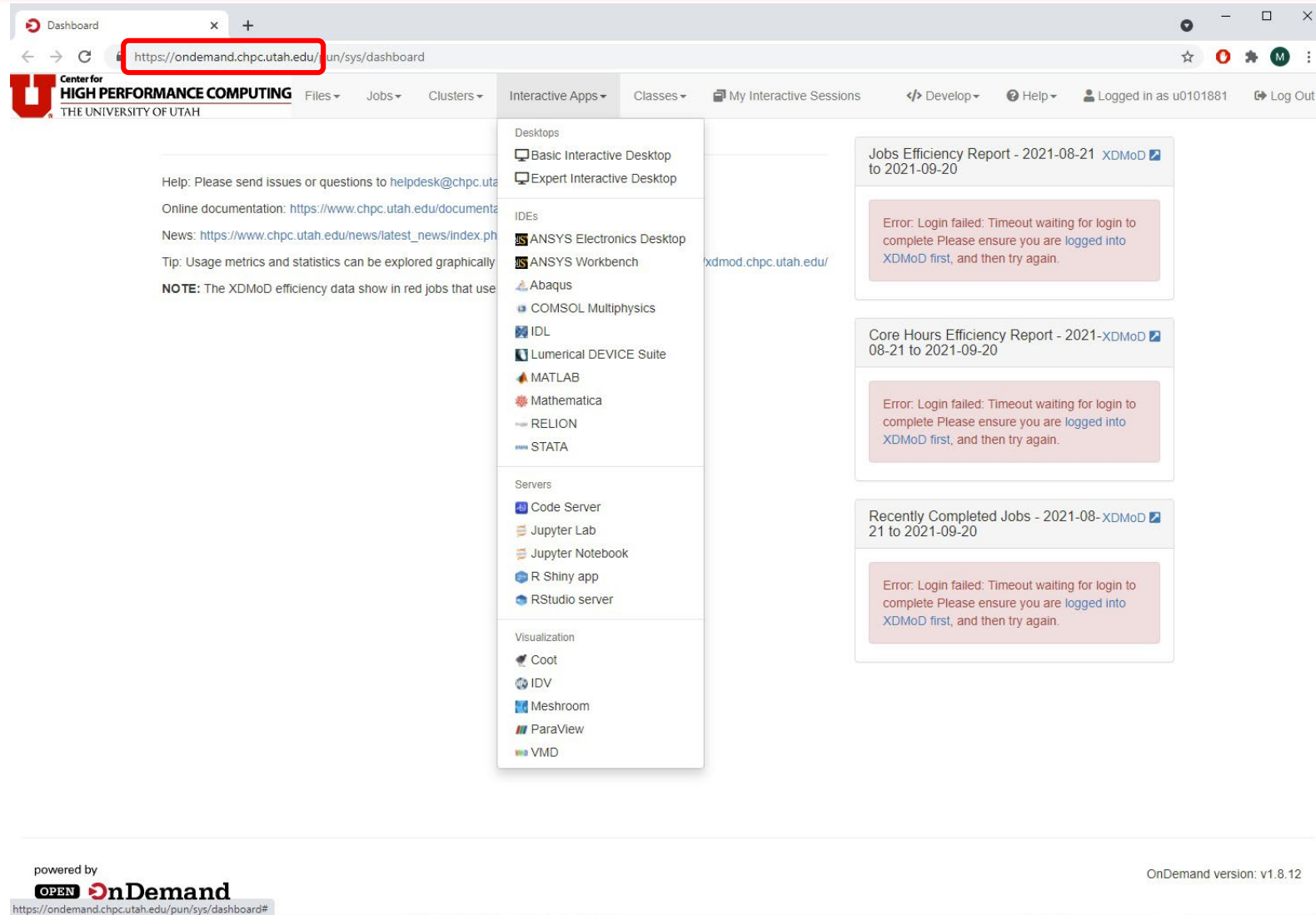


- ondemand.chpc.utah.edu
ondemand-class.chpc.utah.edu
pe-ondemand.chpc.utah.edu
- Log in with your uNID and password
- Will display disk quota warnings if at $\geq 90\%$

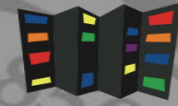


The screenshot shows a web browser window with the URL `ondemand.chpc.utah.edu/pun/sys/dashboard`. The page header includes the CHPC logo and navigation links for Files, Jobs, Clusters, and Interactive Apps. A yellow information box contains links for Help (helpdesk@chpc.utah.edu), Online documentation (<https://www.chpc.utah.edu/documentation/software/ondemand.php>), News (https://www.chpc.utah.edu/news/latest_news/index.php), and a tip about XDMoD (<https://xdmod.chpc.utah.edu/>). A red warning box displays a quota limit warning for the user `/uufs/chpc.utah.edu/common/home/saffarian-group1/u0101881`, showing that 9.16 TB of a 10 TB quota is used (91%).

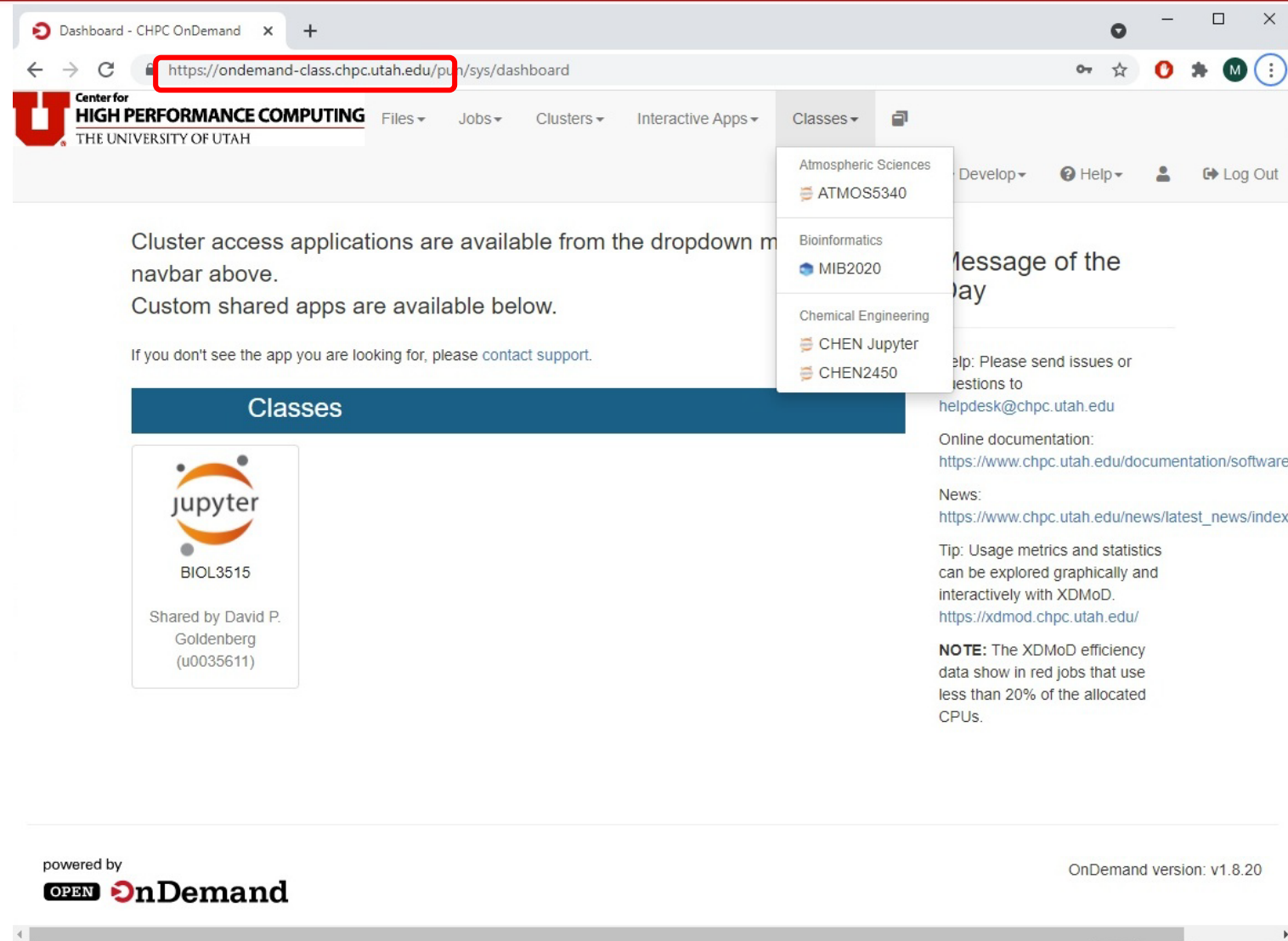
- Interactive jobs
- The most unique feature of OOD
- Session on a compute node inside interactive SLURM job, or Frisco node
- Either remote desktop or application



The screenshot shows the OnDemand interactive apps dashboard. The URL bar is highlighted with a red box, showing <https://ondemand.chpc.utah.edu/pun/sys/dashboard>. The dashboard includes a navigation menu with options like Files, Jobs, Clusters, Interactive Apps, and Classes. A dropdown menu for 'Interactive Apps' is open, listing various desktops, IDEs, servers, and visualization tools. On the right side, there are three panels: 'Jobs Efficiency Report - 2021-08-21 to 2021-09-20', 'Core Hours Efficiency Report - 2021-08-21 to 2021-09-20', and 'Recently Completed Jobs - 2021-08-21 to 2021-09-20'. Each of these panels displays an error message: 'Error: Login failed: Timeout waiting for login to complete Please ensure you are logged into XDMoD first, and then try again.' The footer of the dashboard indicates it is powered by OPEN OnDemand and provides the URL <https://ondemand.chpc.utah.edu/pun/sys/dashboard#>. The OnDemand version is noted as v1.8.12.



- Class specific apps in a separate menu
- General environment and class have the same interactive apps
- PE has a specific subset of apps



Dashboard - CHPC OnDemand

https://ondemand-class.chpc.utah.edu/pun/sys/dashboard

Center for HIGH PERFORMANCE COMPUTING THE UNIVERSITY OF UTAH

Files Jobs Clusters Interactive Apps Classes


Atmospheric Sciences
ATMOS5340

Bioinformatics
MIB2020

Chemical Engineering
CHEN Jupyter
CHEN2450

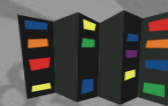
Cluster access applications are available from the dropdown menu in the navbar above.
Custom shared apps are available below.
If you don't see the app you are looking for, please contact support.

Classes


BIOL3515
Shared by David P. Goldenberg (u0035611)

powered by OPEN OnDemand



OnDemand version: v1.8.20













- Cluster or Frisco node specified on the top
- To start the desktop job ASAP use notchpeak-shared-short
- Wait time may be longer on other clusters unless group has owner nodes
- *Basic and Expert* options

Interactive Apps






Desktops

-  Basic Interactive Desktop
-  Expert Interactive Desktop






IDEs

-  ANSYS Electronics Desktop
-  ANSYS Workbench
-  Abaqus
-  COMSOL Multiphysics
-  IDL
-  Lumerical DEVICE Suite
-  MATLAB
-  Mathematica
-  RELION
-  STATA

Servers

-  Code Server
-  Jupyter Lab
-  Jupyter Notebook
-  R Shiny app
-  RStudio server

Visualization

-  Coot
-  IDV
-  Meshroom
-  ParaView
-  VMD

Interactive Desktop

This app will launch an interactive linux desktop on a **single compute node**, or a Frisco node.

This is meant for all types of tasks such as:

- accessing & viewing files
- compiling code
- debugging
- running visualization software **without** 3D hardware acceleration

Cluster

notchpeak

Select the cluster or Frisco node to create this desktop session on.
If you select frisco please ignore all the entries below.

Number of hours

1

Number of nodes

1

Use one node unless the program you are planning to run can span multiple nodes.

Number of tasks (CPU cores)

1

Maximum number of CPU cores on notchpeak-shared-short is 32, see [cluster help pages](#) for other cluster's node counts.

Account

notchpeak-shared-short

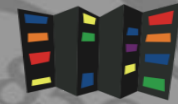
Partition

notchpeak-shared-short

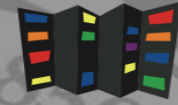
I would like to receive an email when the session starts

[Launch](#)

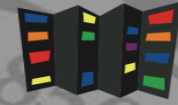
* The Interactive Desktop session data for this session can be accessed under the [data root](#)



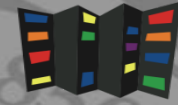
- Account/partition devoted to interactive jobs
- Two 64 core, 256 GB AMD Zen 1 CPU based nodes, two Intel Cascade Lake 52 core nodes, 4 Tesla K80, 4 Tesla T4 GPUs
- Max walltime 8 hours
- Max 16 tasks, 128 GB RAM, 2 jobs per user
- Instant job allocation = interactivity of the job
- Good for OOD interactive apps, testing, debugging, etc
- `salloc -n 1 -N 1 -A notchpeak-shared-short -p notchpeak-shared-short -gres=gpu:k80:1 -t 8:00:00`



- Account/partition devoted to interactive jobs
- Two 28 core, 128 GB Intel Broadwell CPU based nodes
- Max walltime 8 hours
- Max 8 tasks, 16 GB RAM per user
- Instant job allocation = interactivity of the job
- Good for OOD interactive apps, testing, debugging, etc
- `salloc -n 1 -N 1 -A redwood-shared-short -p redwood-shared-short -t 8:00:00`



- Another option to launch interactive apps
- Run X server – the only choice for most Visualization apps
- 8 servers in the GE with various hardware specs,
<https://www.chpc.utah.edu/documentation/guides/frisco-nodes.php>
- 2 servers in the PE, called bristlecone[1,2]
- Subject to the same Arbiter limits as if using FastX



- First job is queued
- Once job starts, Launch button appears
- Can modify the viewing quality (set low compression high image quality on a fast network)
- Also can share the link for others to view

Notchpeak Desktop (565316) Queued

Created at: 2019-09-09 13:43:26 MDT

Time Requested: 1 hour

Session ID: 99aa817b-e0d3-4e23-823b-928307cb71e1

Please be patient as your job currently sits in queue. The wait time depends on the number of cores as well as time requested.

Notchpeak Desktop (565316) 1 node | 1 core | Running

Host: [>_notch081.ipuib.int.chpc.utah.edu](#) Delete

Created at: 2019-09-09 13:43:26 MDT

Time Remaining: 59 minutes

Session ID: 99aa817b-e0d3-4e23-823b-928307cb71e1

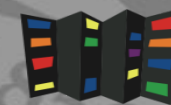
Compression

0 (low) to 9 (high)

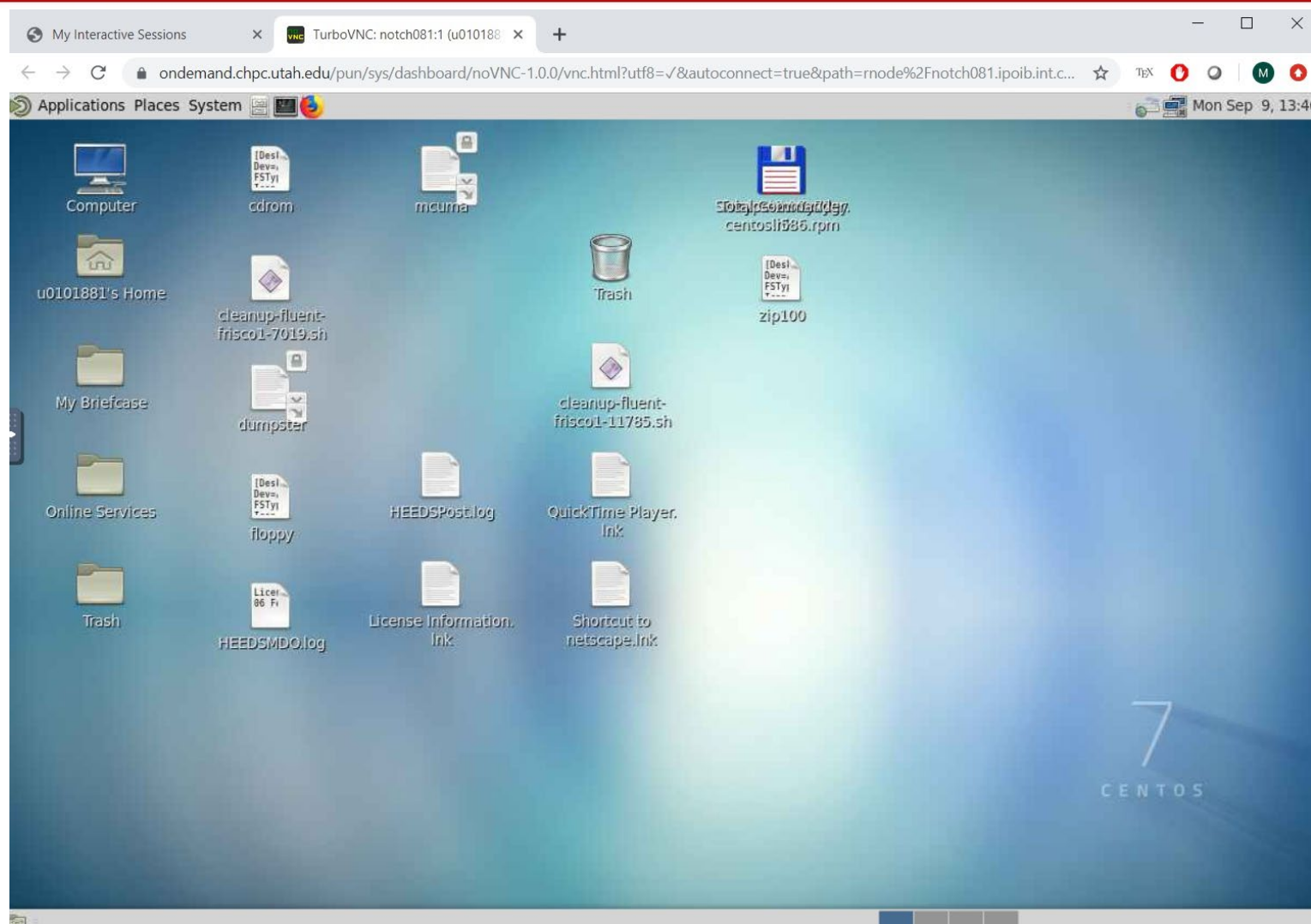
Image Quality

0 (low) to 9 (high)

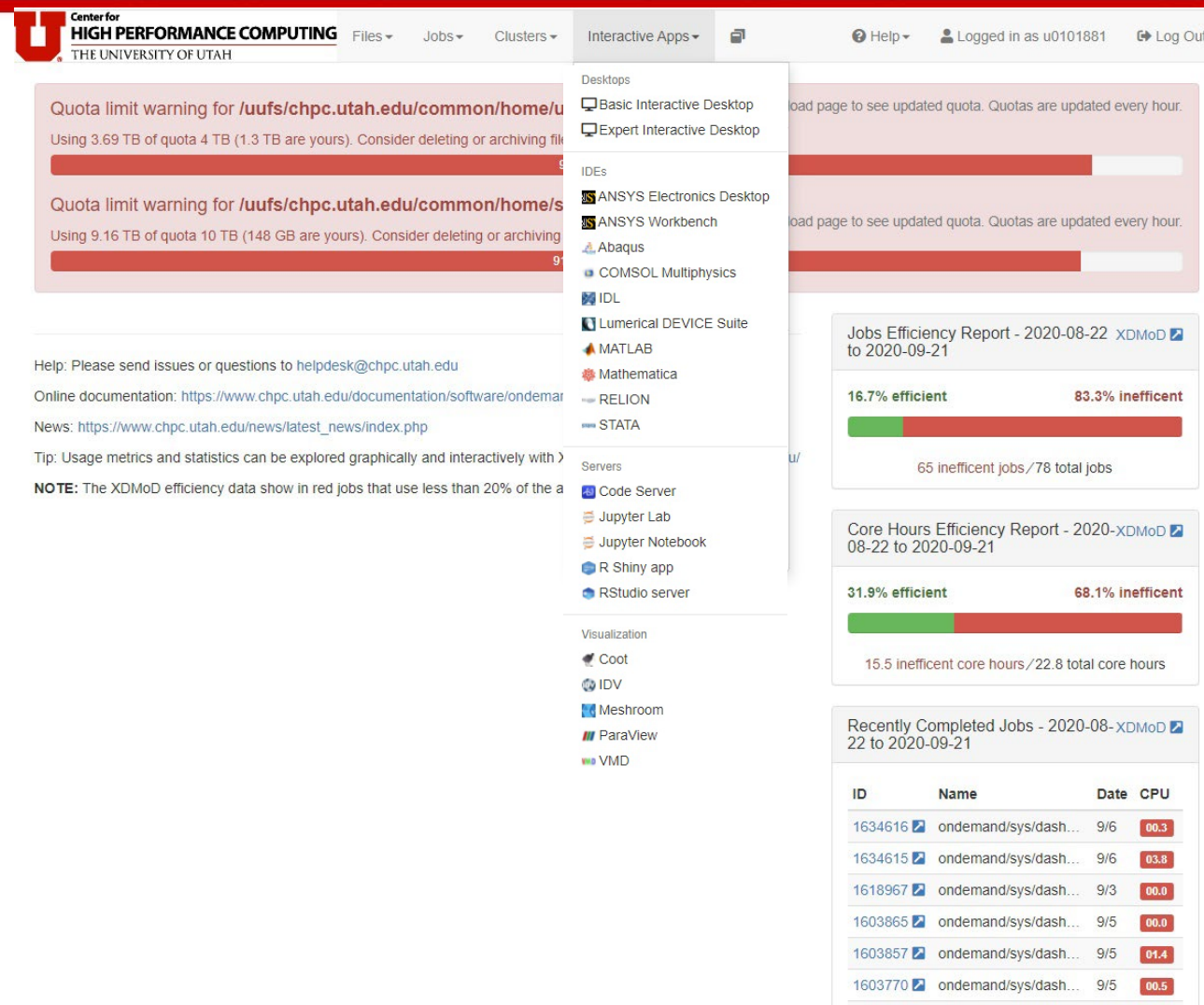
[Launch Notchpeak Desktop](#) [View Only \(Share-able Link\)](#)



- Interactive job's remote desktop is launched in a separate browser tab
- Closing the tab does not delete the job (persistent connection)
- Must hit Delete to delete the job

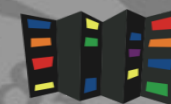


- Direct launch of a given application
- Abaqus, ANSYS, COMSOL, Lumerical, MATLAB, SAS, Mathematica, RELION, Stata
- Jupyter Notebook, Lab
- RStudio server, R Shiny app
- Paraview, Coot and VMD only on Friscos
- Can set up others if needed



The screenshot shows the CHPC interactive apps portal. At the top, there is a navigation bar with 'Files', 'Jobs', 'Clusters', 'Interactive Apps', and 'Help'. A user is logged in as 'u0101881'. A dropdown menu for 'Interactive Apps' is open, listing various desktops and servers. On the left, there are two quota limit warnings for users. On the right, there are two efficiency reports: 'Jobs Efficiency Report - 2020-08-22 to 2020-09-21' showing 16.7% efficient and 83.3% inefficient jobs, and 'Core Hours Efficiency Report - 2020-08-22 to 2020-09-21' showing 31.9% efficient and 68.1% inefficient core hours. At the bottom right, there is a table of 'Recently Completed Jobs'.

ID	Name	Date	CPU
1634616	ondemand/sys/dash...	9/6	00.3
1634615	ondemand/sys/dash...	9/6	03.8
1618967	ondemand/sys/dash...	9/3	00.0
1603865	ondemand/sys/dash...	9/5	00.0
1603857	ondemand/sys/dash...	9/5	01.4
1603770	ondemand/sys/dash...	9/5	00.5



- Same start parameters as in Interactive Desktop
- Plus option to choose MATLAB version
- Works on clusters and Friscos

Interactive Apps

Desktops

- Interactive Desktop

IDEs

- ANSYS Workbench
- Abaqus
- COMSOL Multiphysics
- Lumerical DEVICE Suite
- MATLAB**
- Mathematica

Servers

- Jupyter Notebook
- R Shiny app
- RStudio server

Visualization

- IDV
- ParaView
- VMD

MATLAB

This app will launch a [MATLAB GUI](#) on a [HPC cluster](#) or on a [Frisco node](#). You will be able to interact with the MATLAB GUI through a VNC session.

[GPU specification](#) is optional for the partitions that have them.

Cluster

Select the cluster or Frisco node to create this session on.

If you select frisco please ignore all the entries below.

MATLAB version

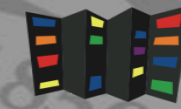
This defines the version of MATLAB you want to load.

Number of cores

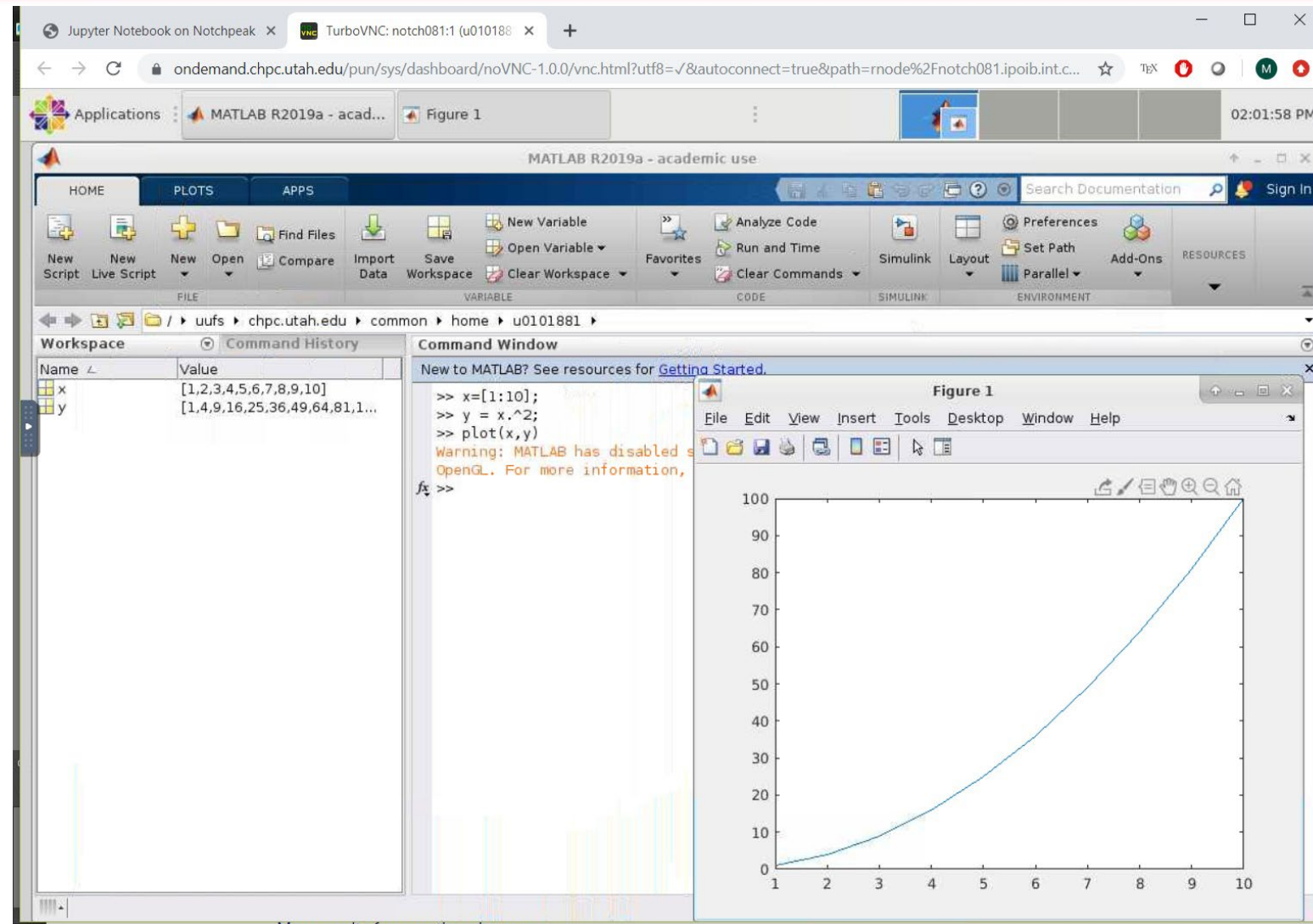
Maximum number of CPU cores on notchpeak-shared-short is 32, see [cluster help pages](#) for other cluster's node counts.

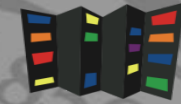
Number of hours

Maximum wall time on notchpeak-shared-short is 8 hours, general nodes 72 hours, owner nodes 14 days.














- MATLAB GUI window
- Additional MATLAB windows appear over the GUI
- MATLAB Web App is an alternative that behaves like a web server





- Specify own or CHPC Python module
- Can also specify GPU - but make sure to list the right account/partition
- Works on clusters and Friscos

Classes
Atmospheric Sciences
 ATMOS Synoptic
Bioinformatics
 MIB2020
Chemical Engineering
 CHEN Jupyter
 CHEN2450
Geography
 GEOG5670 desktop

Interactive Apps
Desktops
 Basic Interactive Desktop
 Expert Interactive Desktop
IDEs
 ANSYS Electronics Desktop
 ANSYS Workbench
 Abaqus
 COMSOL Multiphysics

Jupyter version: 838ef69

This app will launch a Jupyter Notebook or Lab server using Python on a HPC cluster or on a Frisco node.

To start the job promptly, use notchpeak-shared-short account and partition on the Notchpeak cluster.

GPU specification is optional for the clusters and partitions that have them.

Jupyter interface

Notebook

This defines the interface of Jupyter you want to start (Notebook or Lab).

Jupyter Python version

Custom (Environment Setup below)

This defines the Python distribution of Jupyter you want to start.

Environment Setup for Custom Python

```
ml use /uufs/chpc.utah.edu/common/home/u0123456/MyModules
ml miniconda3/my_python
```

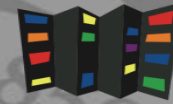
Enter commands (module load, source activate, etc) to create your desired Jupyter environment; jupyter MUST be on your path and either notebook or jupyterlab installed in your Python environment. For instructions how to install your own Python using Miniconda see <https://www.chpc.utah.edu/documentation/software/python-anaconda.php>.

Cluster

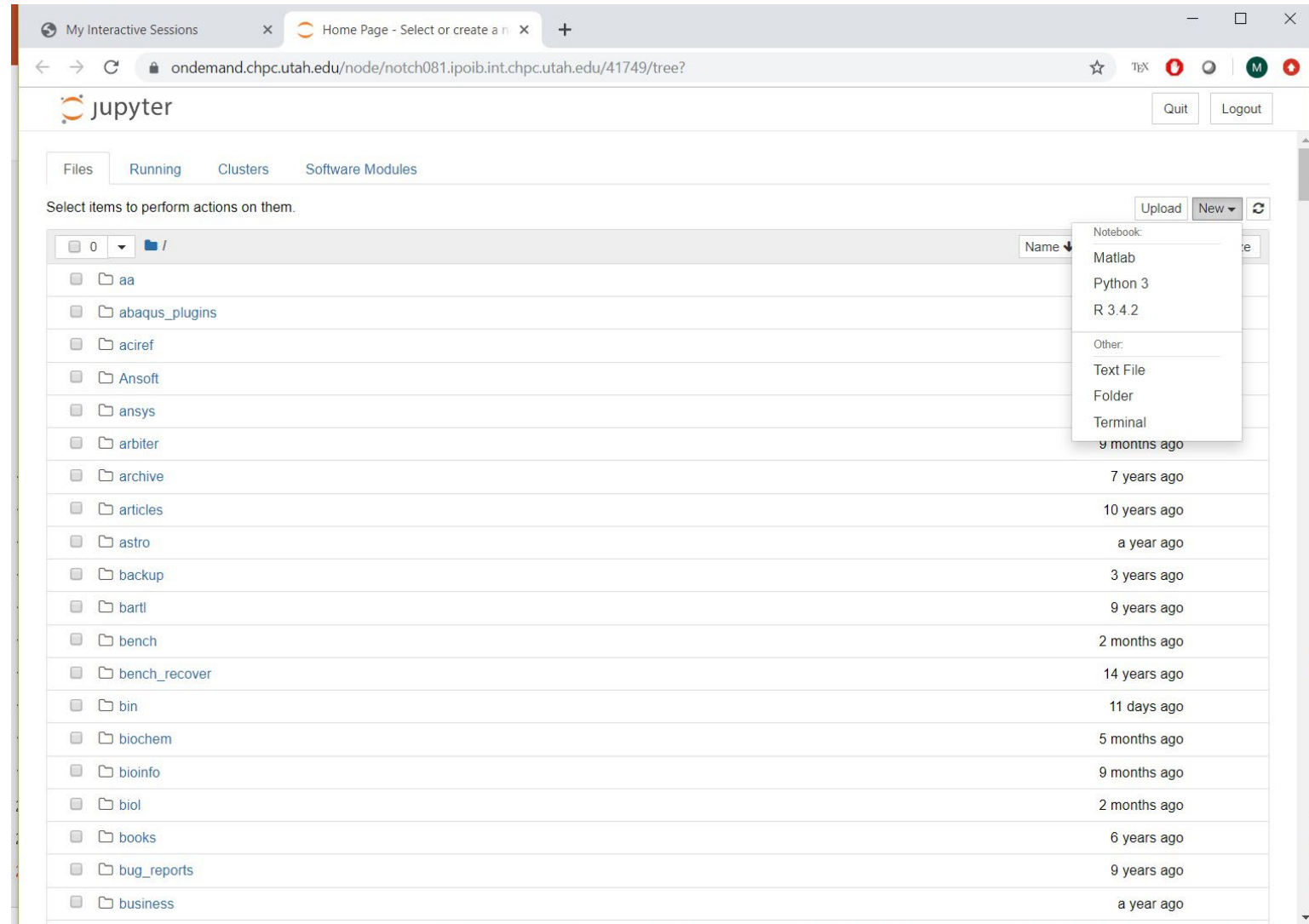
notchpeak

Select the cluster or Frisco node to create this session on.

If you select Frisco please ignore all the entries below.



- Own Python needs to be installed via Anaconda, see [CHPC webpage](#) for instructions
- CHPC Python also has MATLAB and R notebooks
- Other languages can be installed if needed



The screenshot shows the Jupyter web interface in a browser window. The address bar shows the URL: `ondemand.chpc.utah.edu/node/notch081.ipob.int.chpc.utah.edu/41749/tree?`. The interface includes a 'jupyter' logo, 'Quit' and 'Logout' buttons, and tabs for 'Files', 'Running', 'Clusters', and 'Software Modules'. Below the tabs, there is a prompt 'Select items to perform actions on them.' and a file browser view showing a list of folders. A 'New' dropdown menu is open, showing options: 'Notebook', 'Matlab', 'Python 3', 'R 3.4.2', and 'Other: Text File, Folder, Terminal'. The file browser shows a list of folders with their creation dates, such as 'aa' (7 years ago), 'abaqus_plugins' (10 years ago), 'aciref' (a year ago), 'Ansoft' (3 years ago), 'ansys' (9 years ago), 'arbiter' (2 months ago), 'archive' (14 years ago), 'articles' (11 days ago), 'astro' (5 months ago), 'backup' (9 months ago), 'bartl' (2 months ago), 'bench' (6 years ago), 'bench_recover' (9 years ago), 'bin' (a year ago), 'biochem' (9 months ago), 'bioinfo' (2 months ago), 'biol' (6 years ago), 'books' (9 years ago), 'bug_reports' (a year ago), and 'business' (a year ago).`

- The notebook is launched in another browser tab

The screenshot shows a web browser window with a Jupyter Notebook interface. The browser tabs include "My Interactive Sessions", "Home Page - Select or create a...", and "Untitled20 - Jupyter Notebook". The address bar shows the URL: `ondemand.chpc.utah.edu/node/notch081.ipoib.int.chpc.utah.edu/41749/notebooks/Untitled20.ipynb?kernel_name=python3`. The Jupyter interface includes a menu bar (File, Edit, View, Insert, Cell, Kernel, Help), a toolbar with icons for file operations and execution, and a code editor. The code in the notebook is as follows:

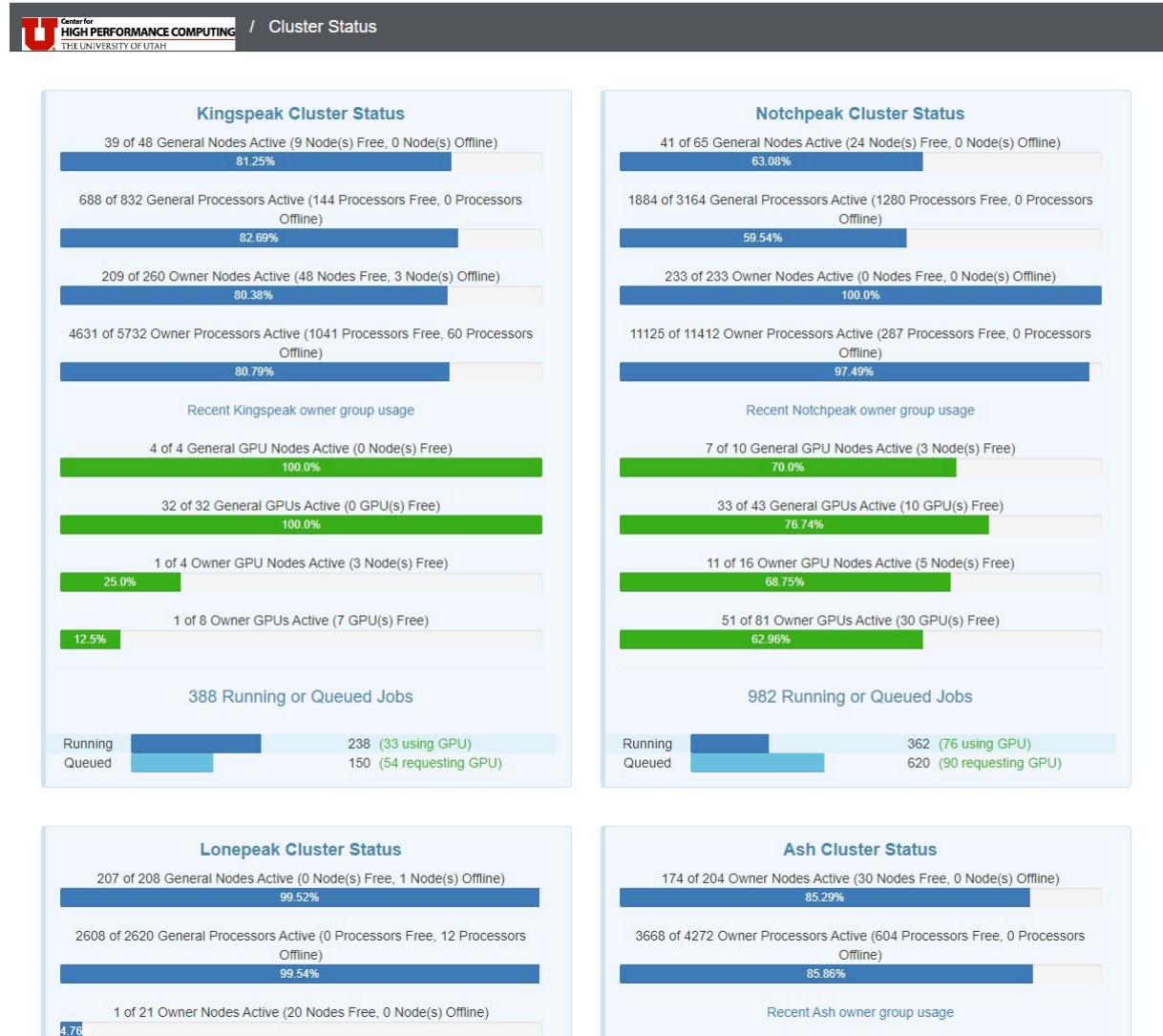
```
In [2]: import matplotlib
import matplotlib.pyplot as plt
import numpy as np

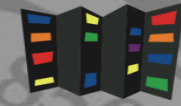
# Data for plotting
t = np.arange(0.0, 2.0, 0.01)
s = 1 + np.sin(2 * np.pi * t)

%matplotlib inline
fig, ax = plt.subplots()
ax.plot(t, s)
plt.show()
```

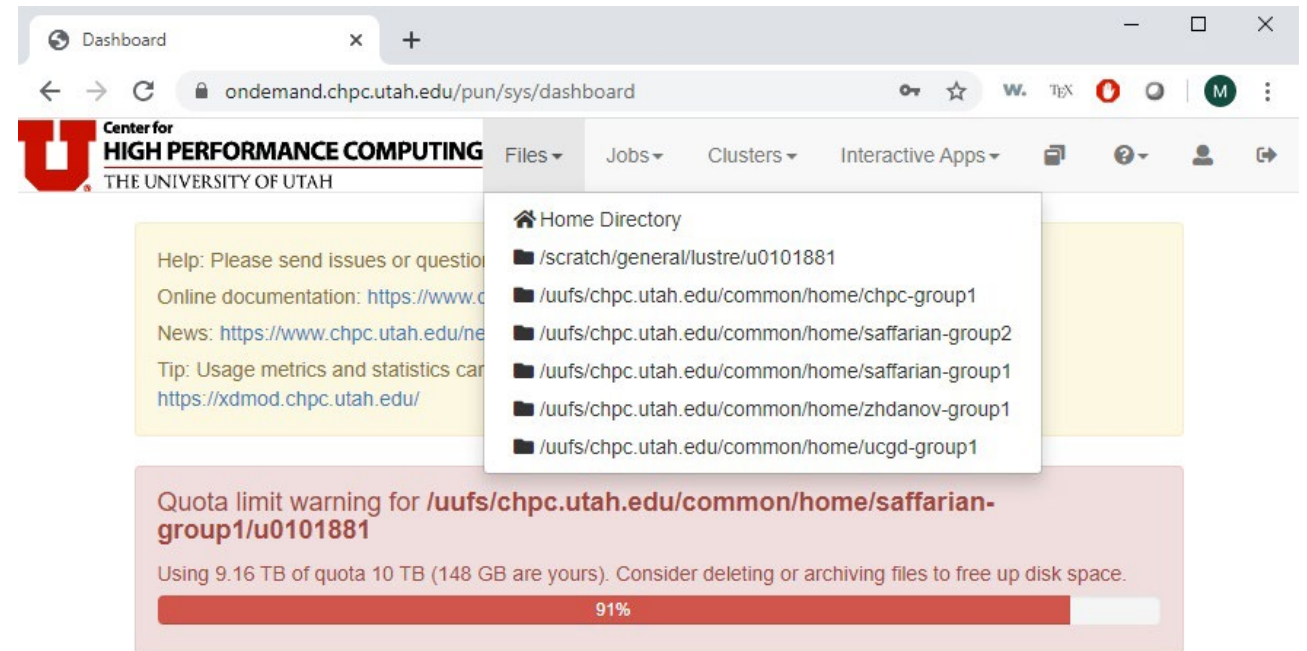
Below the code, a plot is displayed showing a sine wave. The x-axis ranges from 0.00 to 2.00 with major ticks every 0.25. The y-axis ranges from 0.00 to 2.00 with major ticks every 0.25. The plot shows a blue line representing the function $s = 1 + \sin(2\pi t)$, which oscillates between 0 and 2.

- Menu Clusters-Cluster Status
- Alternative to System Status on CHPC webpage
- Shows how busy clusters are
- General, owner nodes, GPU nodes and GPUs
- Running and queued jobs

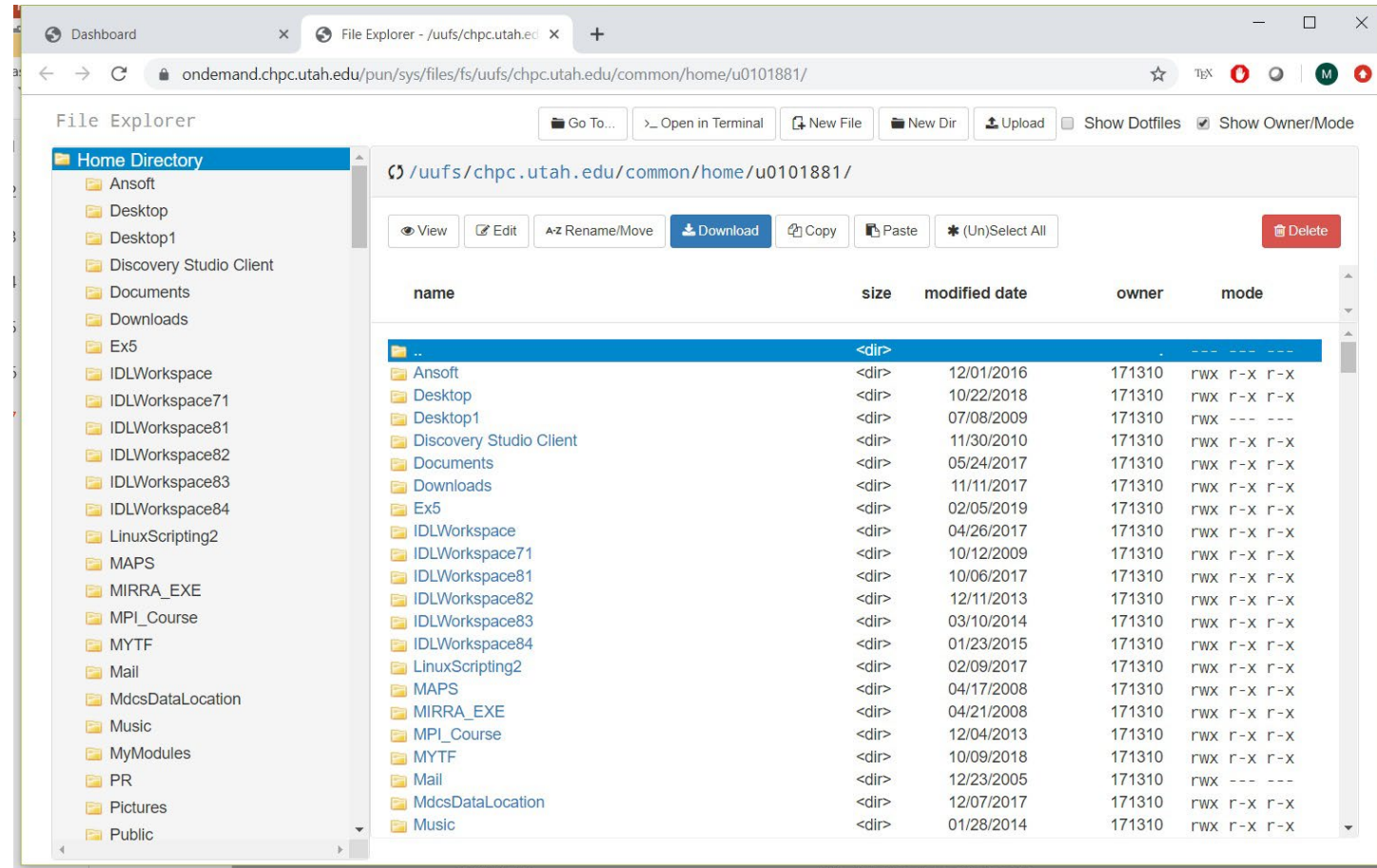


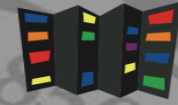


- Sees all file systems where user has access
- Allows various file operations, including editing

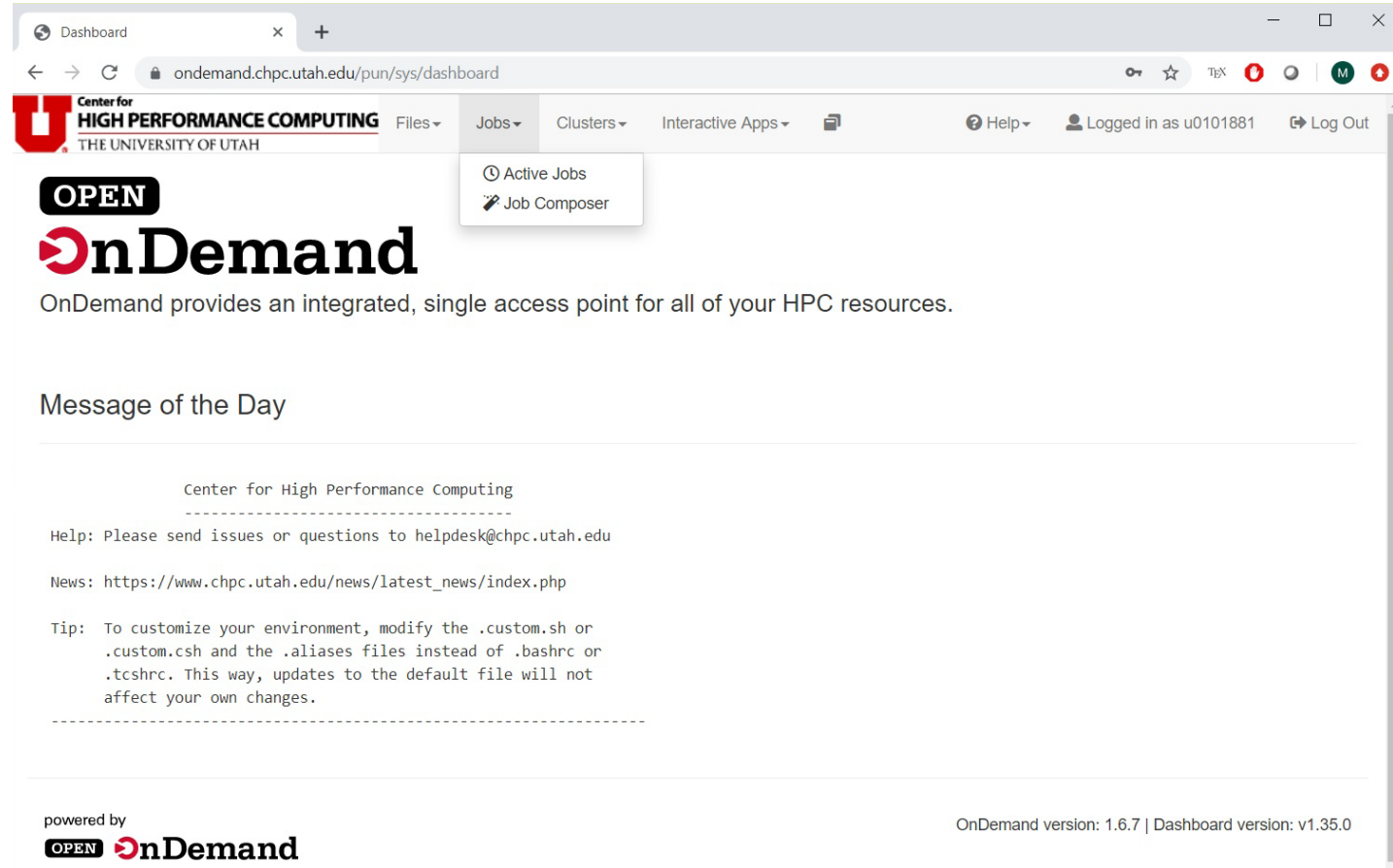


- Drag and drop copying, renaming
- File viewing and editing
- Open in terminal
- Upload and Download

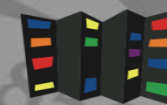




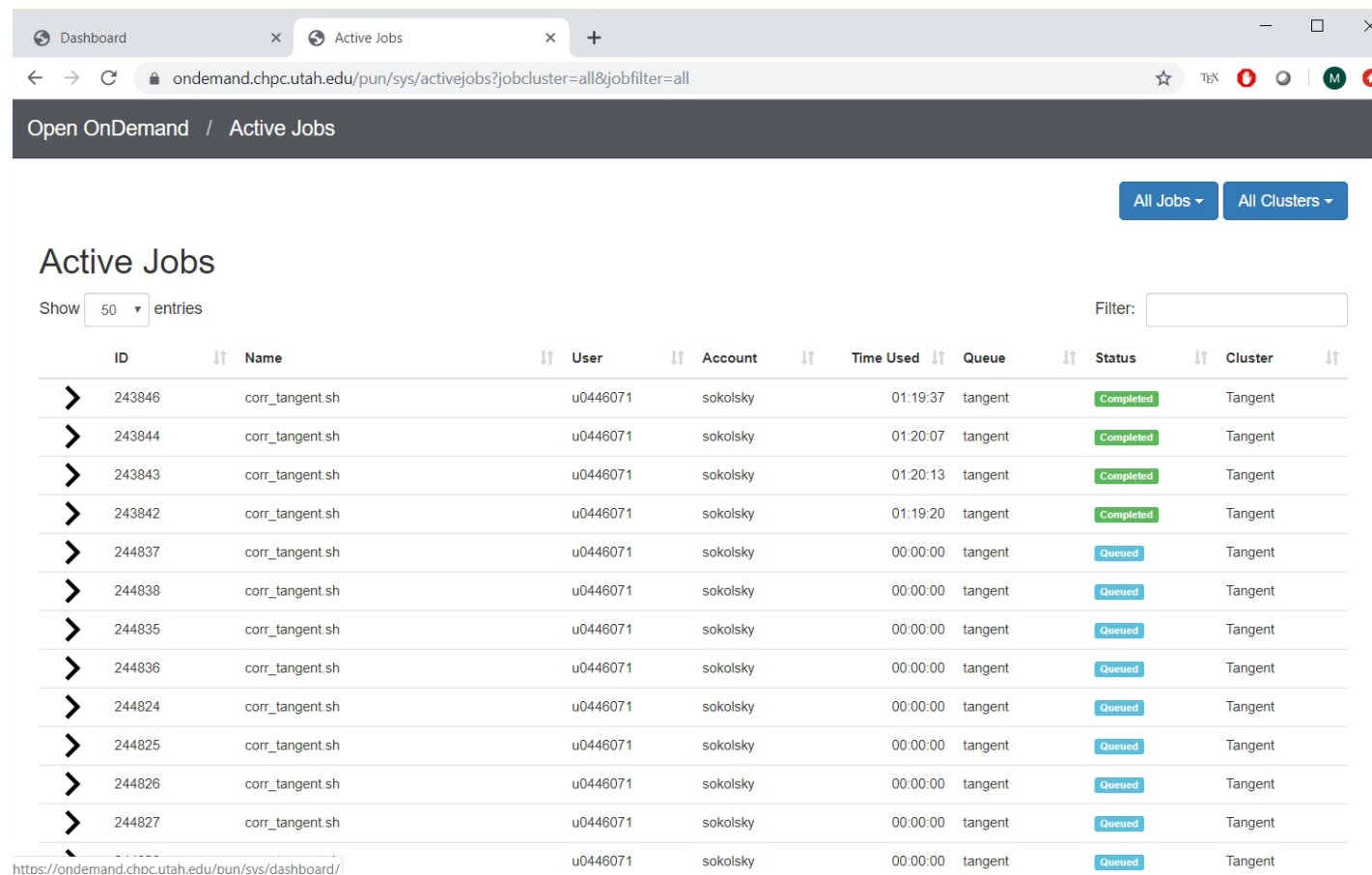
- Listing of active jobs
- Creating and submitting new jobs



The screenshot shows a web browser window with the URL `ondemand.chpc.utah.edu/pun/sys/dashboard`. The page header includes the University of Utah logo and the text "Center for HIGH PERFORMANCE COMPUTING THE UNIVERSITY OF UTAH". A navigation menu contains "Files", "Jobs", "Clusters", and "Interactive Apps". The "Jobs" menu is open, showing "Active Jobs" and "Job Composer". The main content area features the "OPEN OnDemand" logo and the text "OnDemand provides an integrated, single access point for all of your HPC resources." Below this is a "Message of the Day" section with contact information for helpdesk@chpc.utah.edu and a tip about customizing the environment. The footer includes "powered by OPEN OnDemand" and version information: "OnDemand version: 1.6.7 | Dashboard version: v1.35.0".



- Filter by all or user only jobs
- Filter by all clusters or specific cluster
- Expanding shows job details
- Use filter to search for jobs



Dashboard x Active Jobs x +

ondemand.chpc.utah.edu/pun/sys/activejobs?jobcluster=all&jobfilter=all

Open OnDemand / Active Jobs

All Jobs ▾ All Clusters ▾

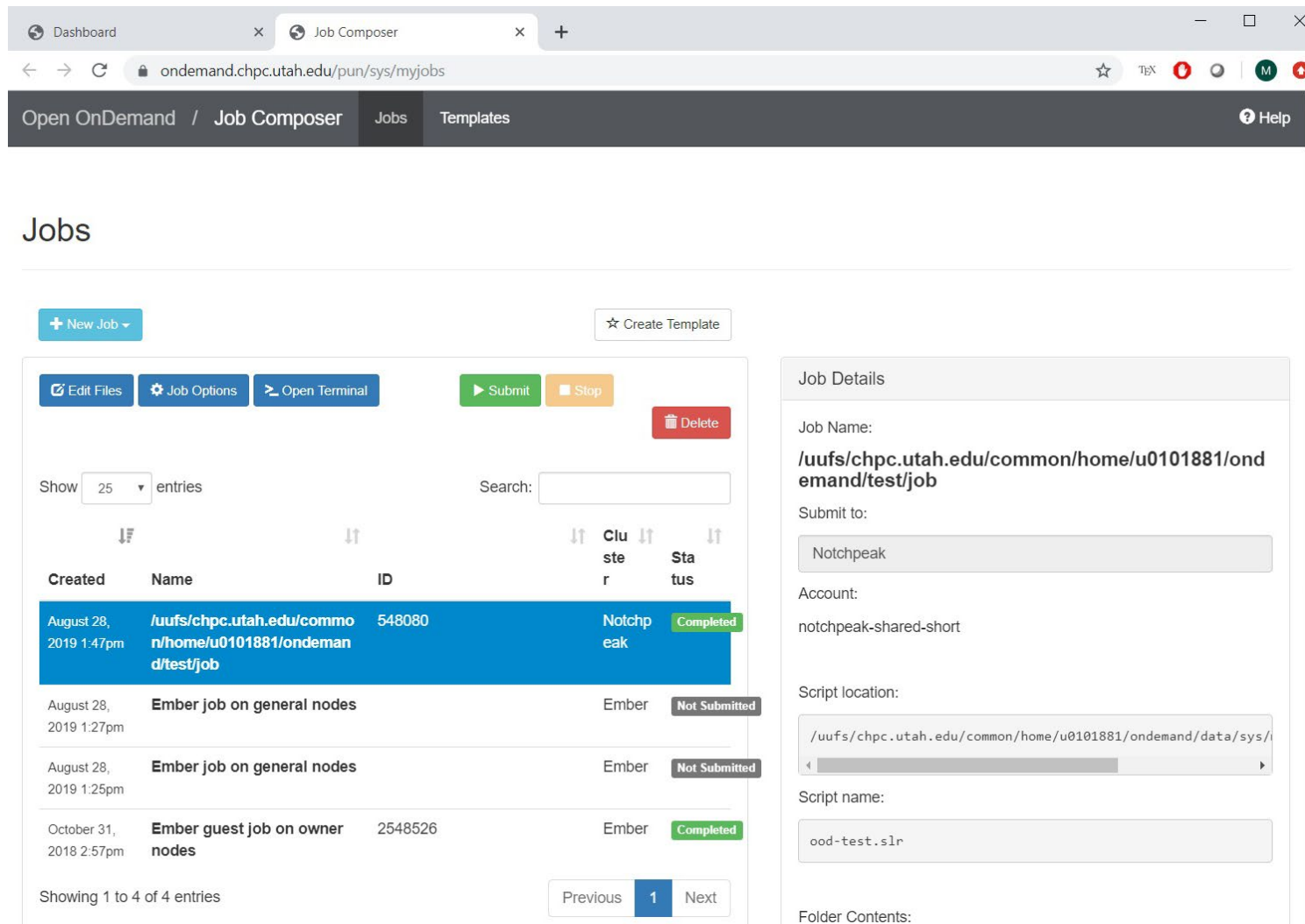
Active Jobs

Show 50 entries Filter:

ID	Name	User	Account	Time Used	Queue	Status	Cluster
> 243846	corr_tangent.sh	u0446071	sokolsky	01:19:37	tangent	Completed	Tangent
> 243844	corr_tangent.sh	u0446071	sokolsky	01:20:07	tangent	Completed	Tangent
> 243843	corr_tangent.sh	u0446071	sokolsky	01:20:13	tangent	Completed	Tangent
> 243842	corr_tangent.sh	u0446071	sokolsky	01:19:20	tangent	Completed	Tangent
> 244837	corr_tangent.sh	u0446071	sokolsky	00:00:00	tangent	Queued	Tangent
> 244838	corr_tangent.sh	u0446071	sokolsky	00:00:00	tangent	Queued	Tangent
> 244835	corr_tangent.sh	u0446071	sokolsky	00:00:00	tangent	Queued	Tangent
> 244836	corr_tangent.sh	u0446071	sokolsky	00:00:00	tangent	Queued	Tangent
> 244824	corr_tangent.sh	u0446071	sokolsky	00:00:00	tangent	Queued	Tangent
> 244825	corr_tangent.sh	u0446071	sokolsky	00:00:00	tangent	Queued	Tangent
> 244826	corr_tangent.sh	u0446071	sokolsky	00:00:00	tangent	Queued	Tangent
> 244827	corr_tangent.sh	u0446071	sokolsky	00:00:00	tangent	Queued	Tangent
>		u0446071	sokolsky	00:00:00	tangent	Queued	Tangent

https://ondemand.chpc.utah.edu/pun/svs/dashboard/

- Create and edit job scripts
- Edit job input files (in File Explorer)
- Submit/cancel jobs
- See job status
- Caveat - OOD copies all job files to `~/ondemand/data/sys/myjobs/projects/default`

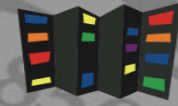


The screenshot shows the Job Composer web interface. The browser address bar displays `ondemand.chpc.utah.edu/pun/sys/myjobs`. The navigation menu includes "Open OnDemand", "Job Composer", "Jobs", and "Templates". The main content area is titled "Jobs" and features a table of job entries. The table has columns for "Created", "Name", "ID", "Cluster", and "Status".

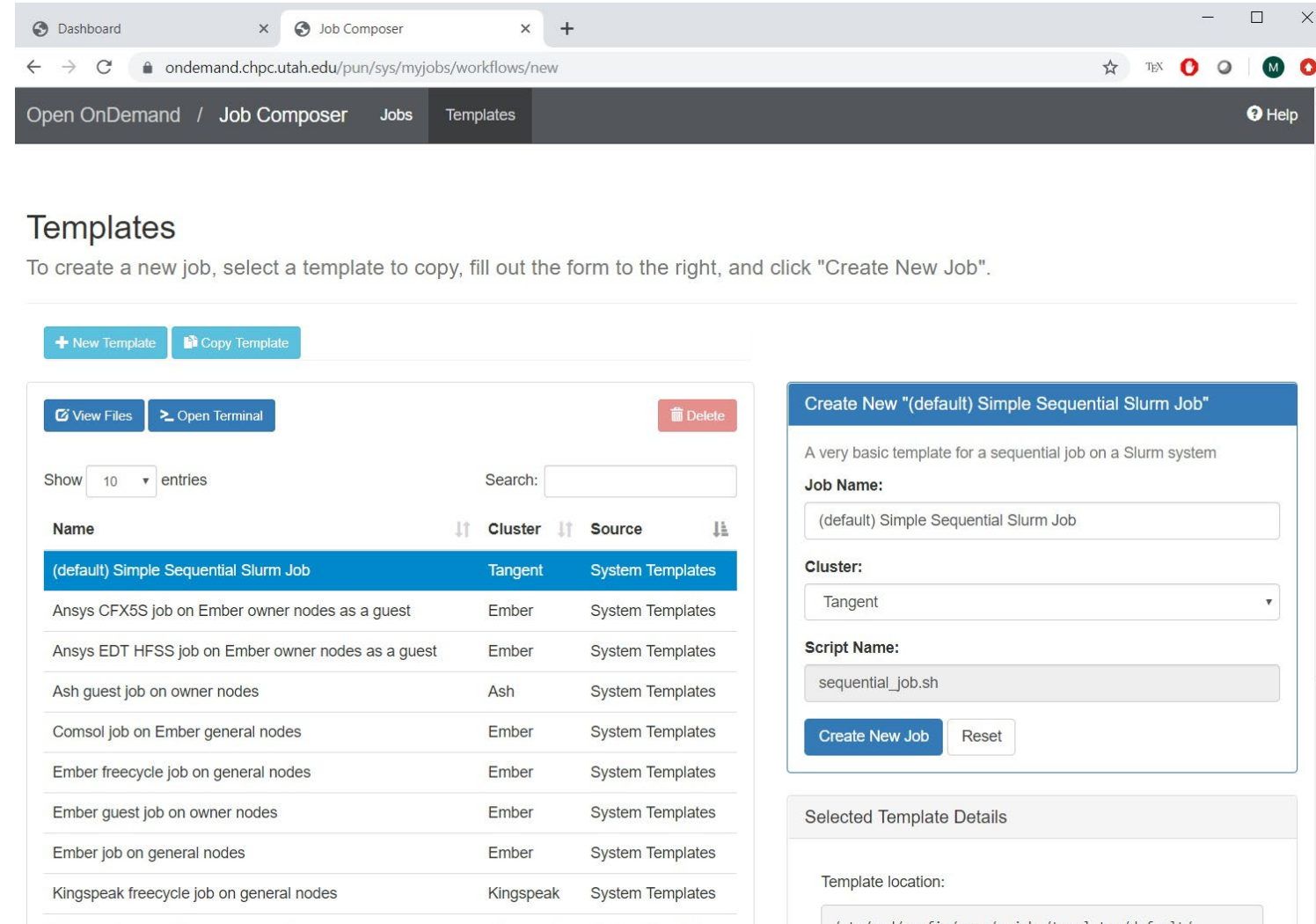
Created	Name	ID	Cluster	Status
August 28, 2019 1:47pm	<code>/uufs/chpc.utah.edu/common/home/u0101881/ondemand/test/job</code>	548080	Notchpeak	Completed
August 28, 2019 1:27pm	Ember job on general nodes		Ember	Not Submitted
August 28, 2019 1:25pm	Ember job on general nodes		Ember	Not Submitted
October 31, 2018 2:57pm	Ember guest job on owner nodes	2548526	Ember	Completed

Job Details sidebar:

- Job Name: `/uufs/chpc.utah.edu/common/home/u0101881/ondemand/test/job`
- Submit to: Notchpeak
- Account: notchpeak-shared-short
- Script location: `/uufs/chpc.utah.edu/common/home/u0101881/ondemand/data/sys/`
- Script name: `ood-test.slr`
- Folder Contents:



- SLURM job script templates
- Create new jobs based on these templates
- Modify these jobs based on specific needs
- <https://github.com/CHPC-UofU/chpc-myjobs-templates>



Dashboard | Job Composer | Jobs | Templates | Help

Templates

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

+ New Template | Copy Template

View Files | Open Terminal | Delete

Show 10 entries | Search:

Name	Cluster	Source
(default) Simple Sequential Slurm Job	Tangent	System Templates
Ansys CFX5S job on Ember owner nodes as a guest	Ember	System Templates
Ansys EDT HFSS job on Ember owner nodes as a guest	Ember	System Templates
Ash guest job on owner nodes	Ash	System Templates
Comsol job on Ember general nodes	Ember	System Templates
Ember freecycle job on general nodes	Ember	System Templates
Ember guest job on owner nodes	Ember	System Templates
Ember job on general nodes	Ember	System Templates
Kingspeak freecycle job on general nodes	Kingspeak	System Templates

Create New "(default) Simple Sequential Slurm Job"

A very basic template for a sequential job on a Slurm system

Job Name:

Cluster:

Script Name:

Selected Template Details

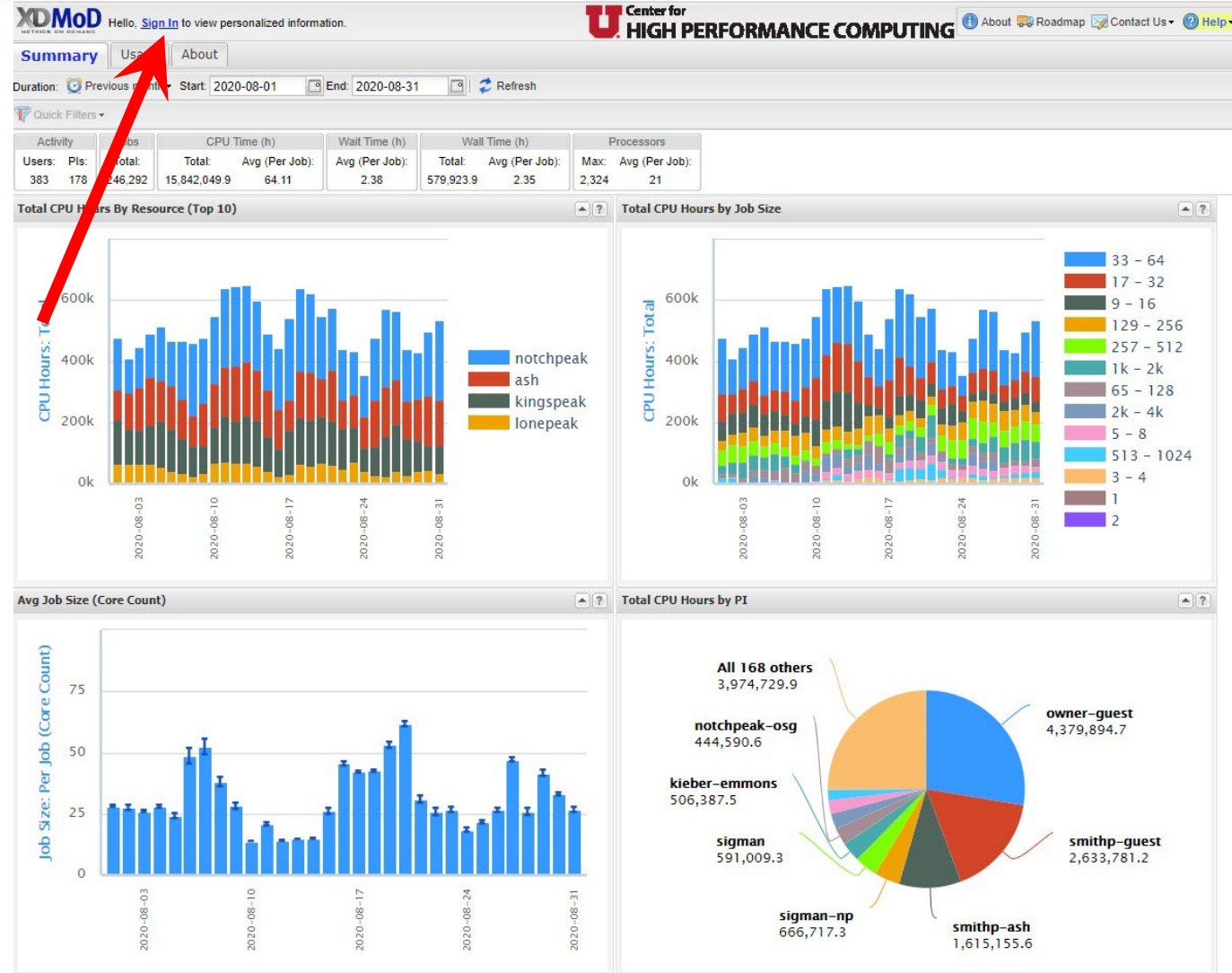
Template location:

- XDMoD provides job efficiency reporting
- OnDemand displays select data from xdmod.chpc.utah.edu
- For now two servers use different authentication so need to authenticate at xdmod.chpc.utah.edu first

The screenshot shows the XDMoD web interface. At the top, there is a navigation bar with the University of Utah logo, the text 'Center for HIGH PERFORMANCE COMPUTING THE UNIVERSITY OF UTAH', and menu items: Files, Jobs, Clusters, Interactive Apps, Help, and a user login status 'Logged in as u0101881'. Below the navigation bar, there are two red warning boxes for quota limits. The first warning is for user 'u0101881' with a 92% quota usage bar. The second warning is for user 'saffarian-group1/u0101881' with a 91% quota usage bar. Below the warnings, there is a help section with contact information and a note about XDMoD efficiency data. On the right side, there are three efficiency report sections, each with a login error message: 'Error: Login failed: Timeout waiting for login to complete Please ensure you are logged into XDMoD first, and then try again.'



- Clicking on link opens XDMoD page
- Sign in with the CHPC credentials
- Then go back to the OnDemand page



- Job efficiency display shows up
- Can click to each job number to go to XDMoD display page
- NOTE: XDMoD does not work with hyperthreading – 50 % efficiency is 100% in reality

Help: Please send issues or questions to helpdesk@chpc.utah.edu

Online documentation: <https://www.chpc.utah.edu/documentation/software/ondemand.php>

News: https://www.chpc.utah.edu/news/latest_news/index.php

Tip: Usage metrics and statistics can be explored graphically and interactively with XDMoD. <https://xdmod.chpc.utah.edu/>

NOTE: The XDMoD efficiency data show in red jobs that use less than 20% of the allocated CPUs.

Jobs Efficiency Report - 2020-08-22 XDMoD to 2020-09-21



Core Hours Efficiency Report - 2020-XDMoD 08-22 to 2020-09-21

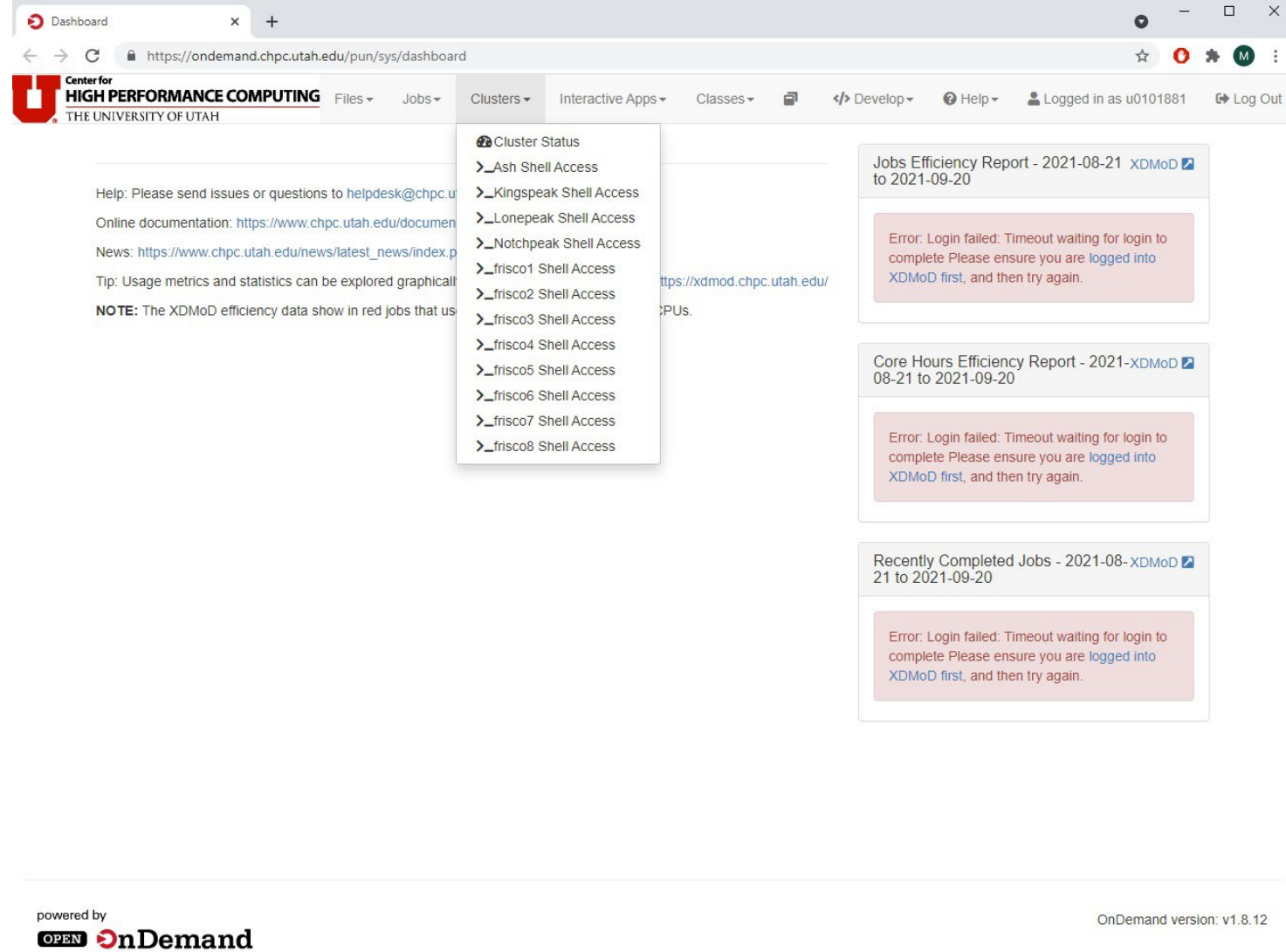


Recently Completed Jobs - 2020-08-XDMoD 22 to 2020-09-21

ID	Name	Date	CPU
1634616	ondemand/sys/dash...	9/6	00.3
1634615	ondemand/sys/dash...	9/6	03.8
1618967	ondemand/sys/dash...	9/3	00.0
1603865	ondemand/sys/dash...	9/5	00.0
1603857	ondemand/sys/dash...	9/5	01.4
1603770	ondemand/sys/dash...	9/5	00.5
1603740	ondemand/sys/dash...	9/5	00.3
8564095	ondemand/sys/dash...	9/6	00.0
1594155	ondemand/sys/dash...	9/6	00.0
8563279	ondemand/sys/dash...	9/6	00.2

Showing first 10 of 78 jobs. See [your XDMoD dashboard](#) for more information.

- Shell terminal access to each cluster
- Opens a new browser tab with terminal



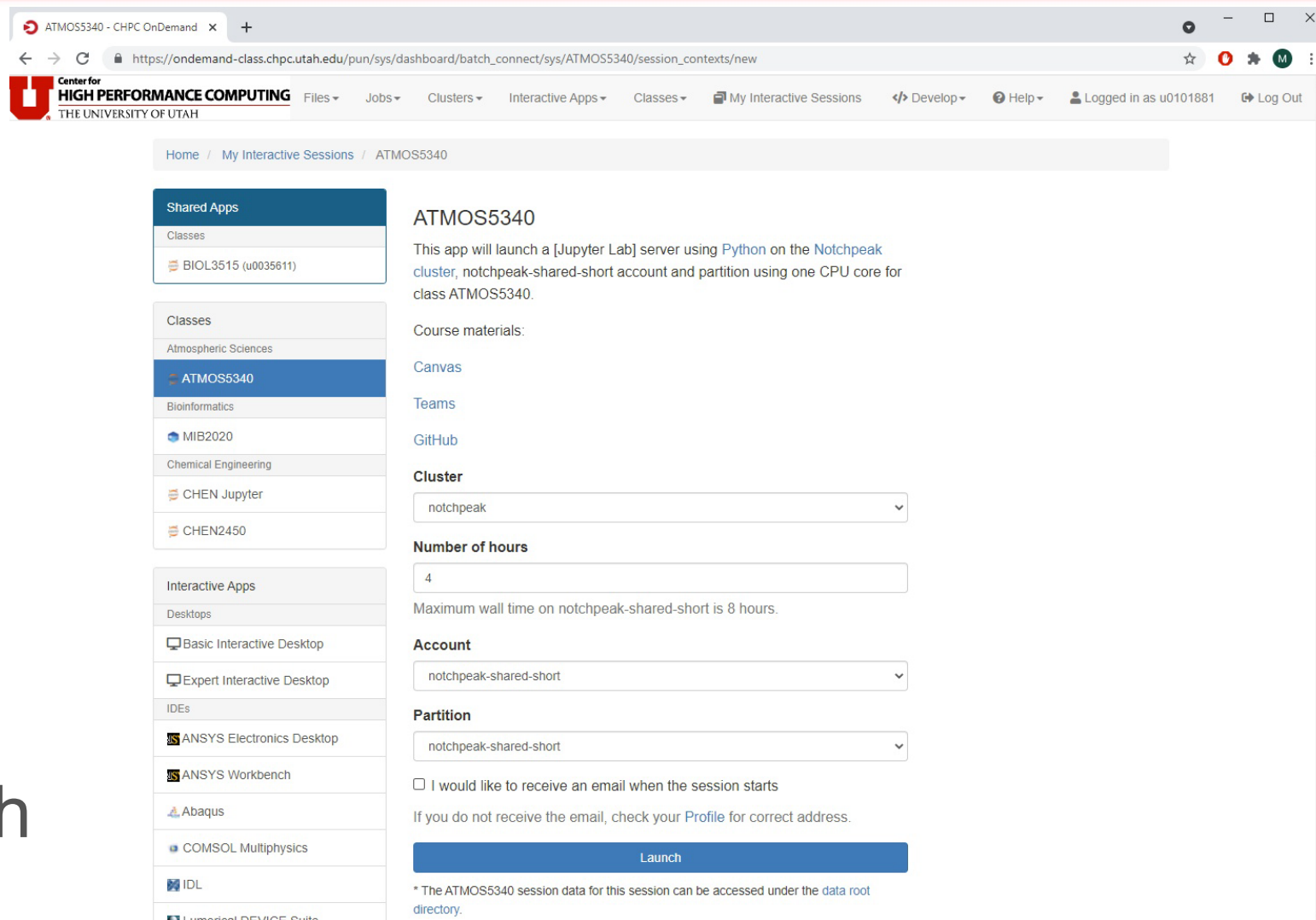
The screenshot shows a web browser window at <https://ondemand.chpc.utah.edu/pun/sys/dashboard>. The page header includes the CHPC logo and navigation tabs for Files, Jobs, Clusters, Interactive Apps, Classes, Develop, Help, and a user profile for 'u0101881'. A dropdown menu is open under the 'Clusters' tab, listing the following options:

- Cluster Status
- >_Ash Shell Access
- >_Kingspeak Shell Access
- >_Lonepeak Shell Access
- >_Notchpeak Shell Access
- >_frisco1 Shell Access
- >_frisco2 Shell Access
- >_frisco3 Shell Access
- >_frisco4 Shell Access
- >_frisco5 Shell Access
- >_frisco6 Shell Access
- >_frisco7 Shell Access
- >_frisco8 Shell Access

The main content area contains several reports, each with a red error message: 'Error: Login failed: Timeout waiting for login to complete. Please ensure you are logged into XDMoD first, and then try again.' The reports include 'Jobs Efficiency Report - 2021-08-21 to 2021-09-20', 'Core Hours Efficiency Report - 2021-08-21 to 2021-09-20', and 'Recently Completed Jobs - 2021-08-21 to 2021-09-20'. The footer indicates the system is 'powered by OPEN OnDemand' and is 'OnDemand version: v1.8.12'.



- ondemand-class.chpc.utah.edu
- Classes can use pre-defined interactive apps
- It's easier for students to have class specific app
- Instructor can work with us to create the app



The screenshot shows a web browser window with the URL `https://ondemand-class.chpc.utah.edu/pun/sys/dashboard/batch_connect/sys/ATMOS5340/session_contexts/new`. The page is titled "ATMOS5340 - CHPC OnDemand" and is part of the "Center for High Performance Computing THE UNIVERSITY OF UTAH" interface. The user is logged in as "u0101881".

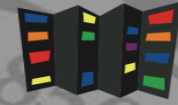
The main content area is titled "ATMOS5340" and describes the app configuration:

- Shared Apps:** A list of classes including "BIOL3515 (u0035611)".
- Classes:** A list of classes including "Atmospheric Sciences", "ATMOS5340" (selected), "Bioinformatics", "MIB2020", "Chemical Engineering", "CHEN Jupyter", and "CHEN2450".
- Interactive Apps:** A list of interactive apps including "Desktops", "Basic Interactive Desktop", "Expert Interactive Desktop", "IDEs", "ANSYS Electronics Desktop", "ANSYS Workbench", "Abaqus", "COMSOL Multiphysics", "IDL", and "Numerical DEVICE Suite".

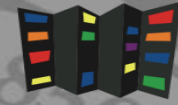
The configuration details for the selected app are:

- ATMOS5340:** This app will launch a [Jupyter Lab] server using Python on the Notchpeak cluster, notchpeak-shared-short account and partition using one CPU core for class ATMOS5340.
- Course materials:** Canvas, Teams, GitHub.
- Cluster:** notchpeak
- Number of hours:** 4. Maximum wall time on notchpeak-shared-short is 8 hours.
- Account:** notchpeak-shared-short
- Partition:** notchpeak-shared-short
- I would like to receive an email when the session starts. If you do not receive the email, check your Profile for correct address.
- Launch:** A blue button to start the session.

A note at the bottom states: "* The ATMOS5340 session data for this session can be accessed under the data root directory."



- Interface improvements
 - Re-designed user interface
 - Job submission from the File Explorer
 - OOD development ideas at <https://trello.com/b/ksr1g141/open-on-demand-ideas-and-dev>
- Other interactive apps based on user demand
- More integrated accounting and metrics from XDMMod
- Integration with other gateways, cloud providers



- <http://ondemand.chpc.utah.edu>
- <https://www.chpc.utah.edu/documentation/software/ondemand.php>
- <http://openondemand.org/>
- https://www.osc.edu/resources/online_portals/ondemand
- Helpdesk: helpdesk@chpc.utah.edu