OPEN OnDemand

PEARC25
Open OnDemand
User Group Meeting

Emily Moffat Sadeghi,

Julie Ma, Dhruva Chakravorty

Ohio Supercomputer Center | University at Buffalo Center for Computational Research | Texas A&M University | MGHPCC Massachusetts Green High Performance Computing Center | Virginia Tech | University of Colorado Boulder | University of Maryland

This work is supported by the National Science Foundation of the United States under the awards 1534949, 1835725, 2138286, 2303692, and 2411375-7

openondemand.org

BoF Menti

OPEN OnDemand

Instructions

Go to

www.menti.com

Enter the code

7980 2306

Or use QR code

Agenda

About Open OnDemand

Community Updates

Community Stories

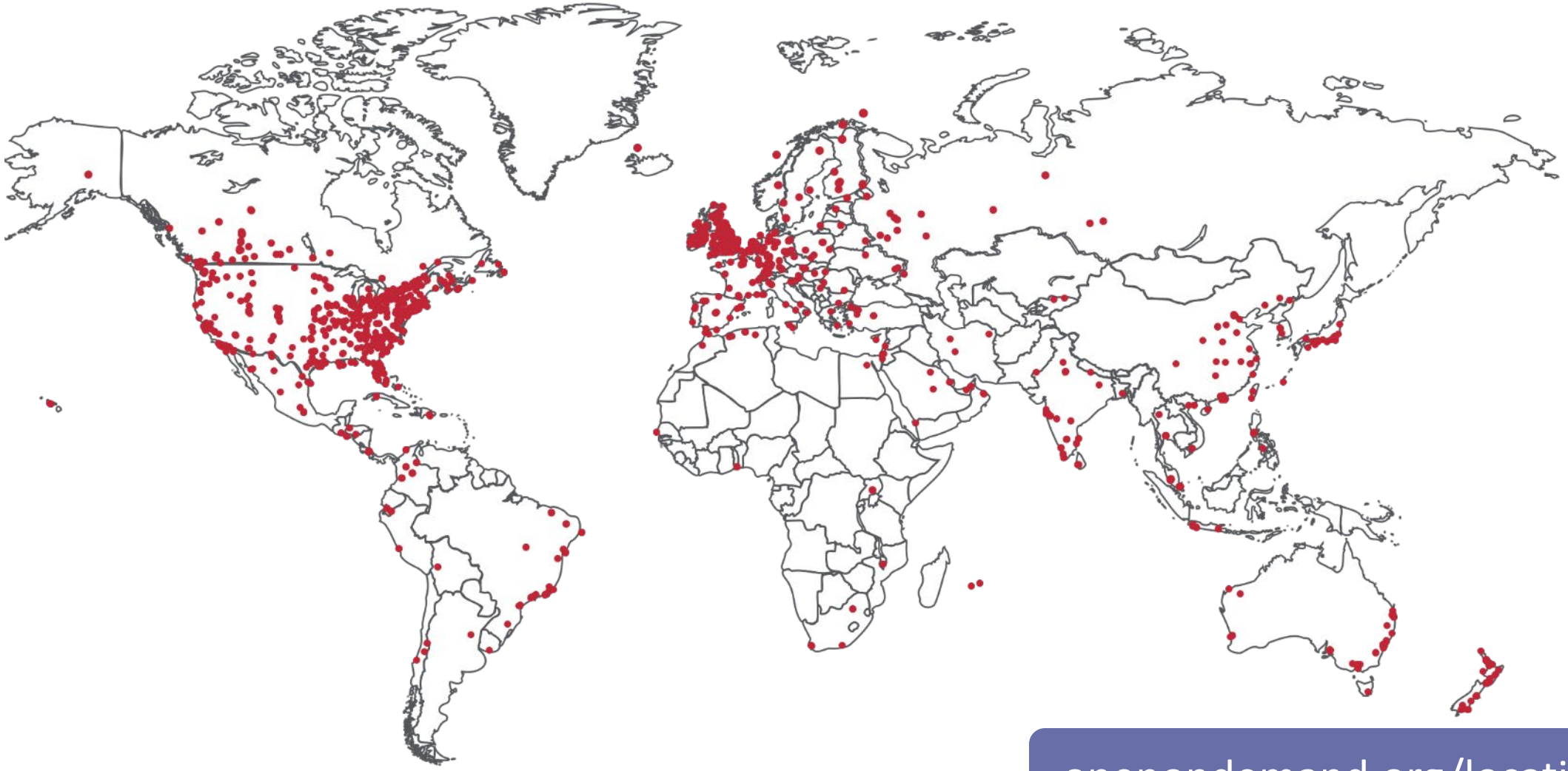
Development and Support

Open Floor Discussion

Deployed Worldwide

OPEN OnDemand

100+ Countries | 2,100+ Organizations



openondemand.org/locations

NSF ACCESS

OPEN OnDemand

Georgia Tech	Johns Hopkins University	Texas A&M	Purdue University	PSC Pittsburgh Supercomputing Center
Hive	Rockfish	ACES & FASTER	Anvil	Bridges-2 & Neocortex
University of Kentucky	NCSA	Stony Brook University	SDSC San Diego Supercomputer Center	
KyRIC	Delta	Ookami	Expanse	

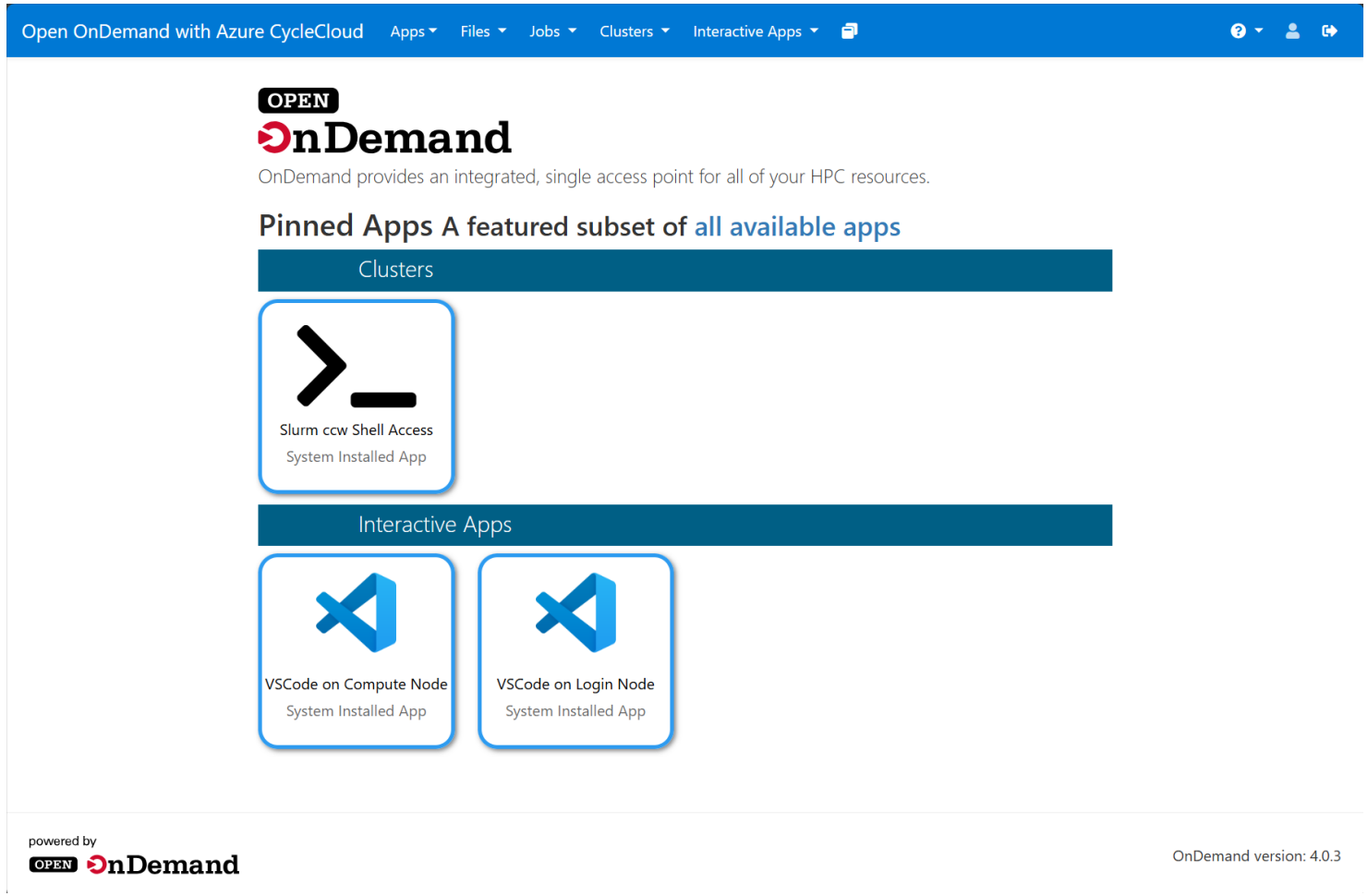
openondemand.org/access

National AI Resources

NAIRR Pilot — National Artificial Intelligence Research Resource Pilot

- Indiana Jetstream2 GPU
- NCSA Delta GPU
- NCSA DeltaAI
- PSC Bridges-2 Extreme Memory (PSC Bridges-2 EM)
- PSC Bridges-2 GPU (PSC Bridges-2 GPU)
- PSC Bridges-2 Regular Memory (PSC Bridges-2 RM)
- Purdue Anvil AI
- Purdue Anvil CPU
- Purdue Anvil GPU
- SDSC Expanse CPU
- SDSC Expanse GPU
- PSC Neocortex CS-2
- SDSC Voyager (Habana Training and Inference Processor based AI System)
- TAMU ACES
- Amazon Web Services
- Cerebras Wafer-Scale Engine 2 (CS-2) AI Accelerator
- DOE Argonne National Laboratory AI Testbed
- Google Cloud Platform
- Groq LPU Inference Engine
- Microsoft Azure
- NVIDIA DGX Cloud
- SambaNova Cloud (API Services for Llama, DeepSeek, Tulu, Qwen, etc.)
- SambaNova Suite (LLMOps platform, fine-tuning, inference and app dev kits)
- TACC Frontera
- TACC Frontera GPU
- TACC Lonestar6
- TACC Lonestar6-GPU
- TACC Vista (NVIDIA GH100 Grace Hopper Superchip)

Commercial Cloud



OPEN OnDemand

aws

openondemand.org/aws

Microsoft Azure

openondemand.org/azure

Google Cloud

openondemand.org/gcp

ORACLE

openondemand.org/oci

Site Configuration

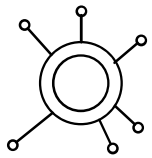
OPEN OnDemand

Known authentication protocols and solutions

OIDC/OAuth 2.0, CAS, SAML, LDAP and Kerberos
Shibboleth, Dex, Keycloak, ADFS, Microsoft Entra ID, and CAS

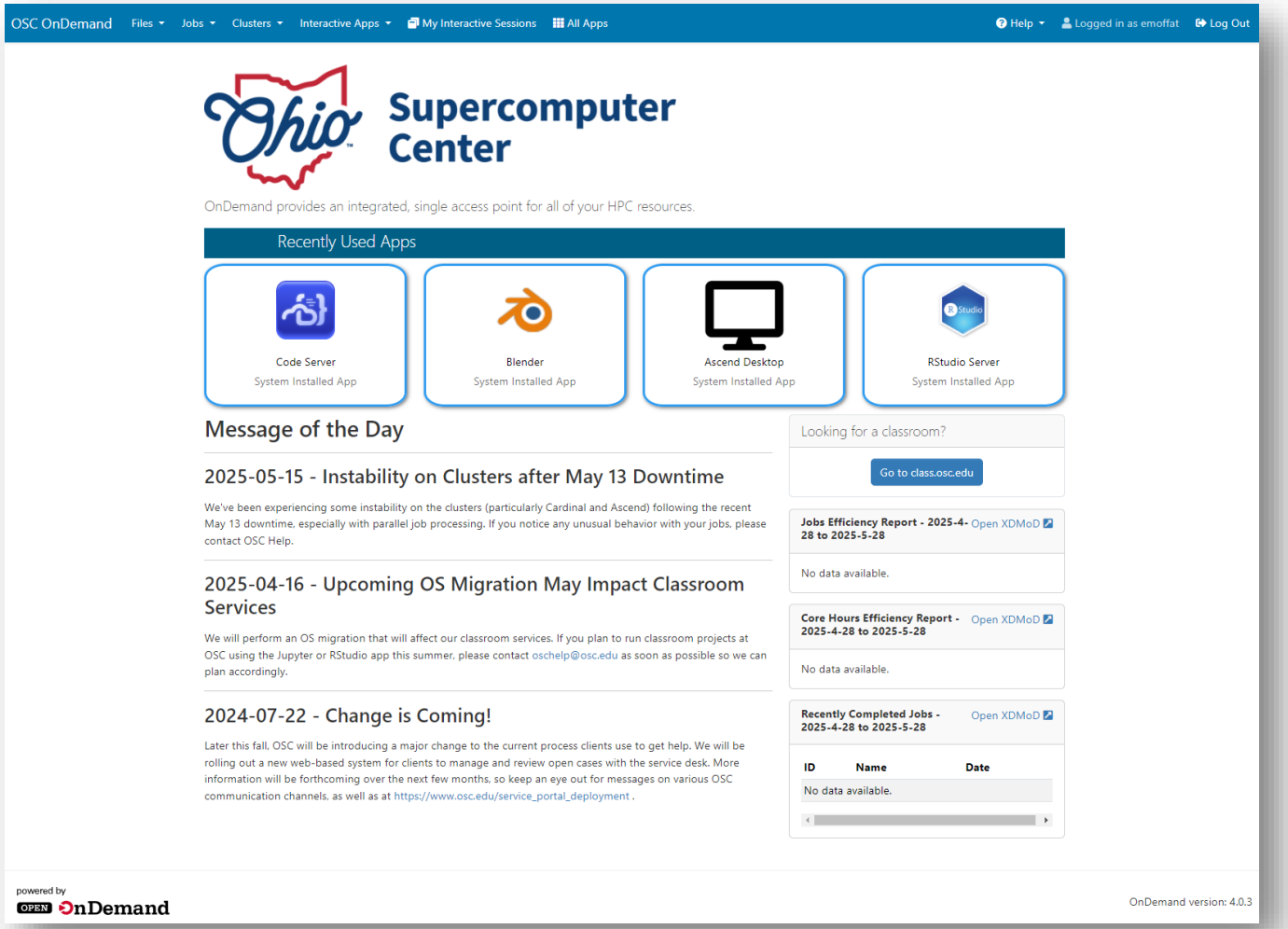
Known scheduler integrations

Slurm, Torque, PBSPro, LSF, Grid Engine, Linux Host, Cloudy Cluster, Kubernetes, Systemd



openondemand.org/run

Sample Deployments



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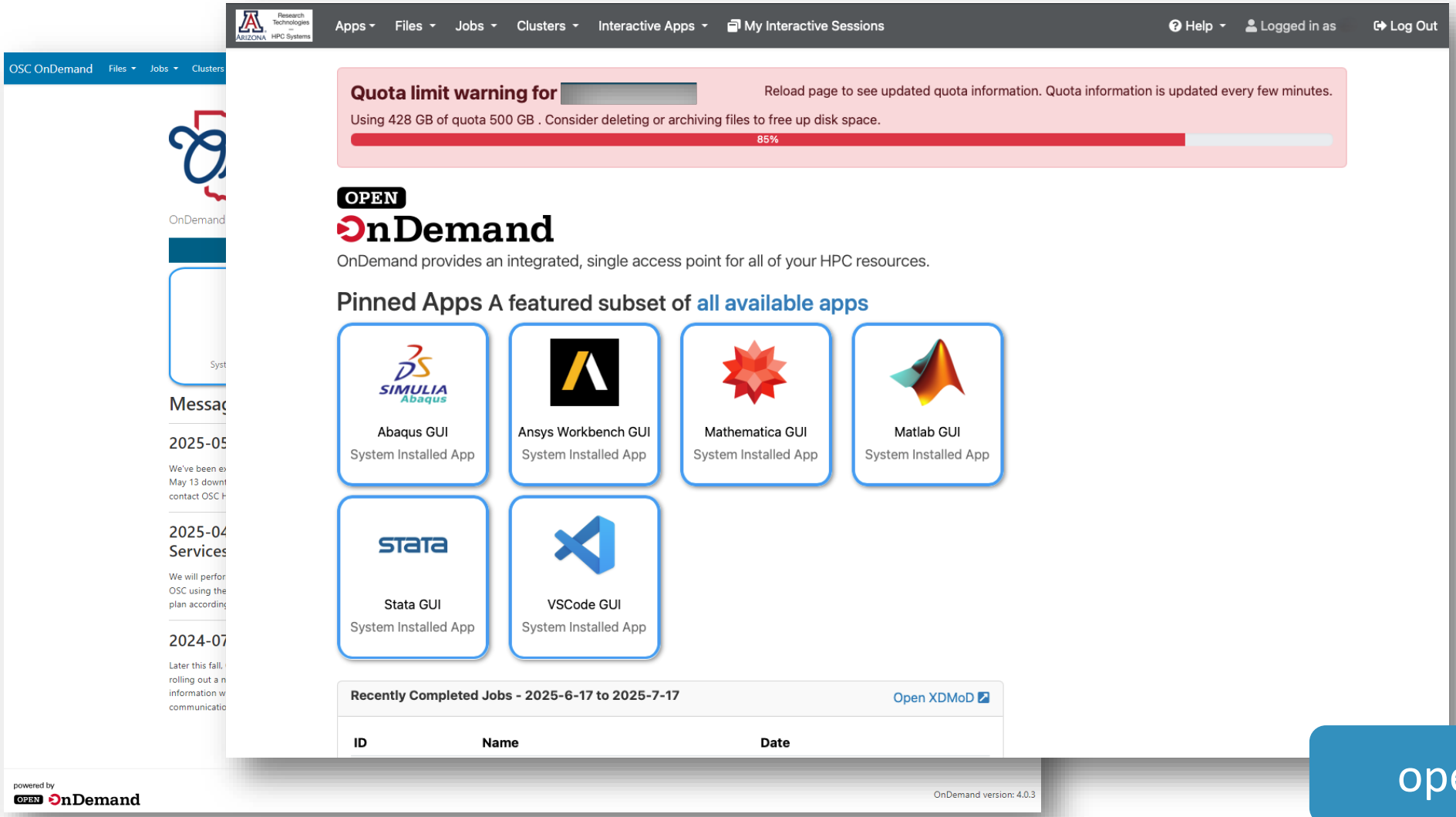
Sample Deployments



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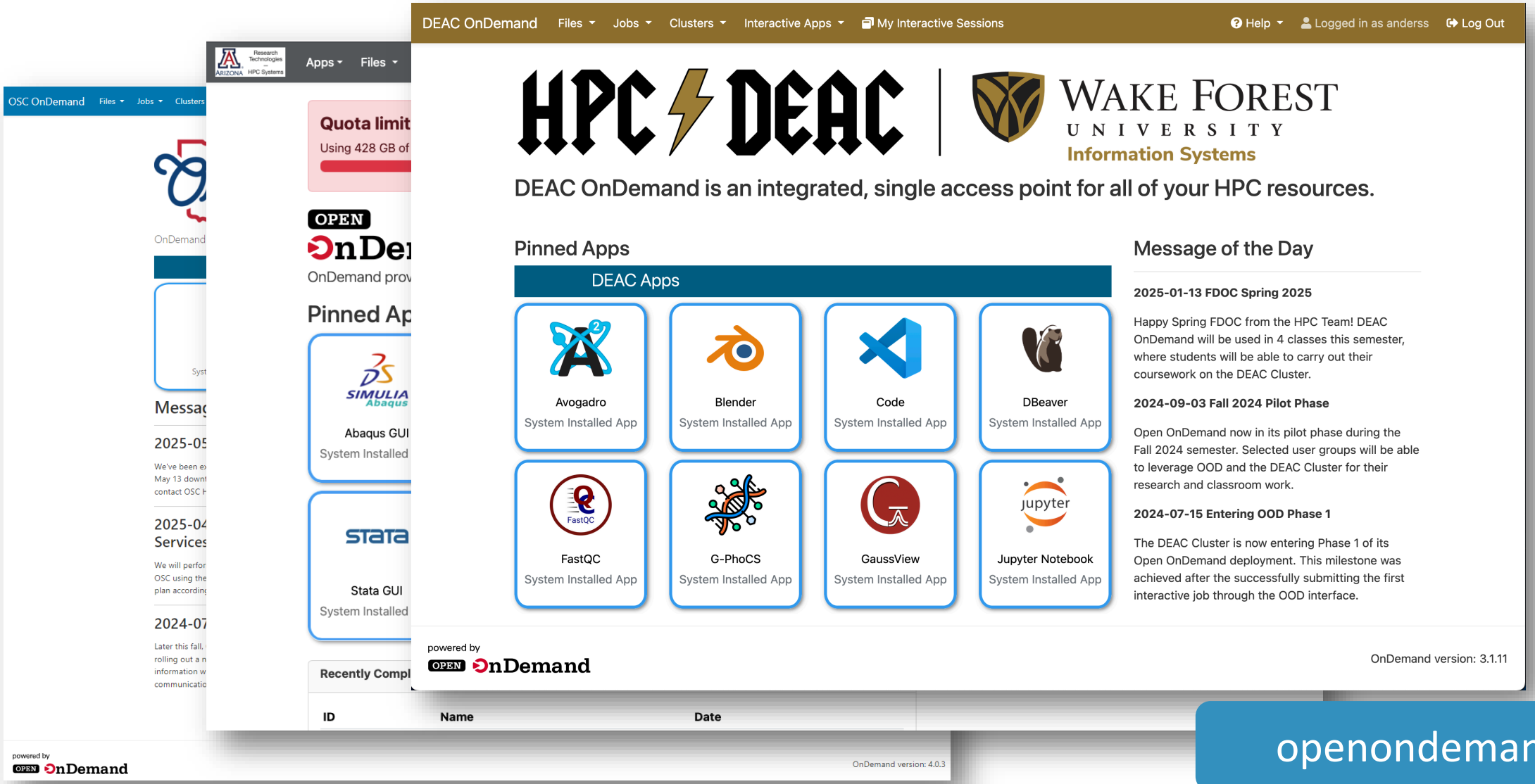
Sample Deployments



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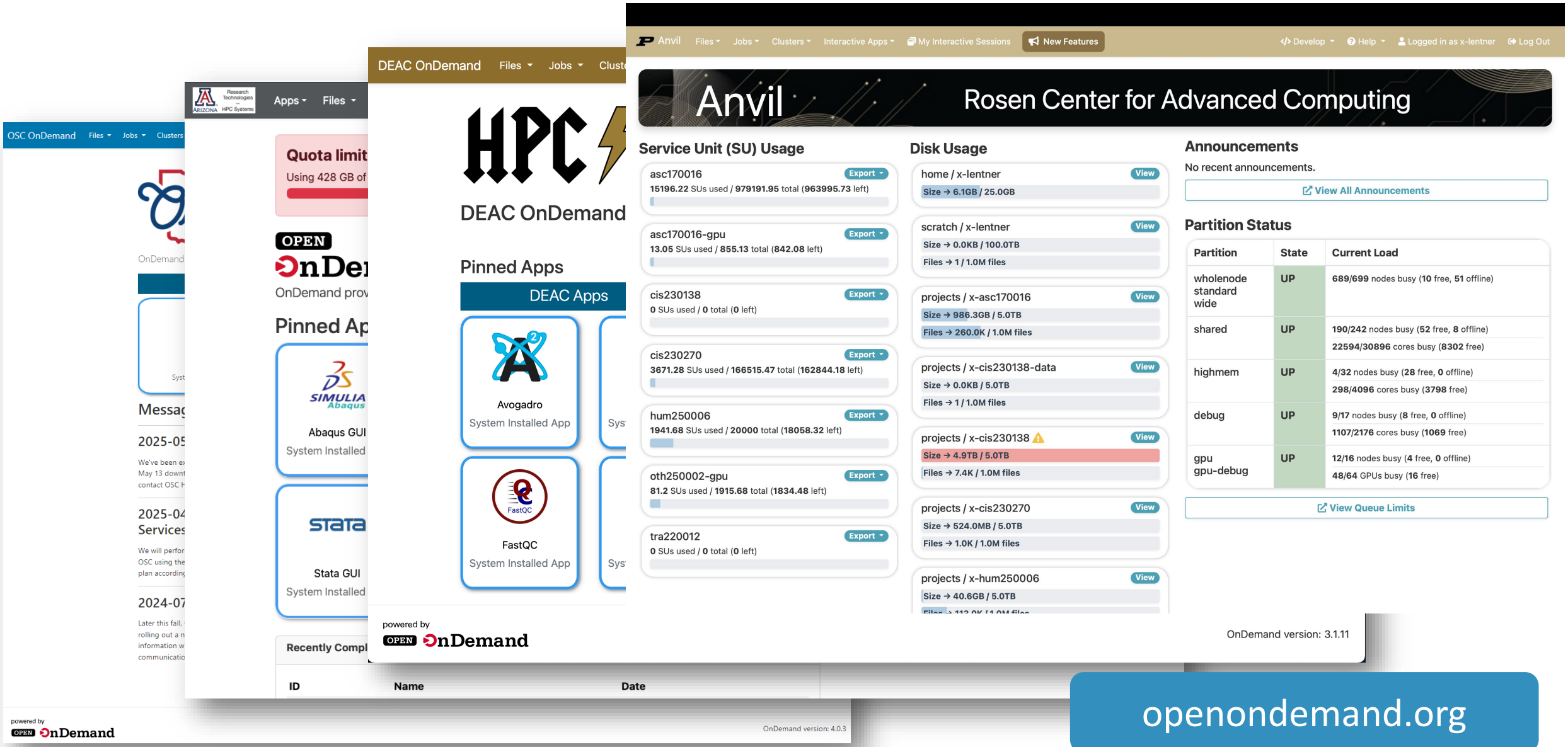
Sample Deployments

OPEN OnDemand



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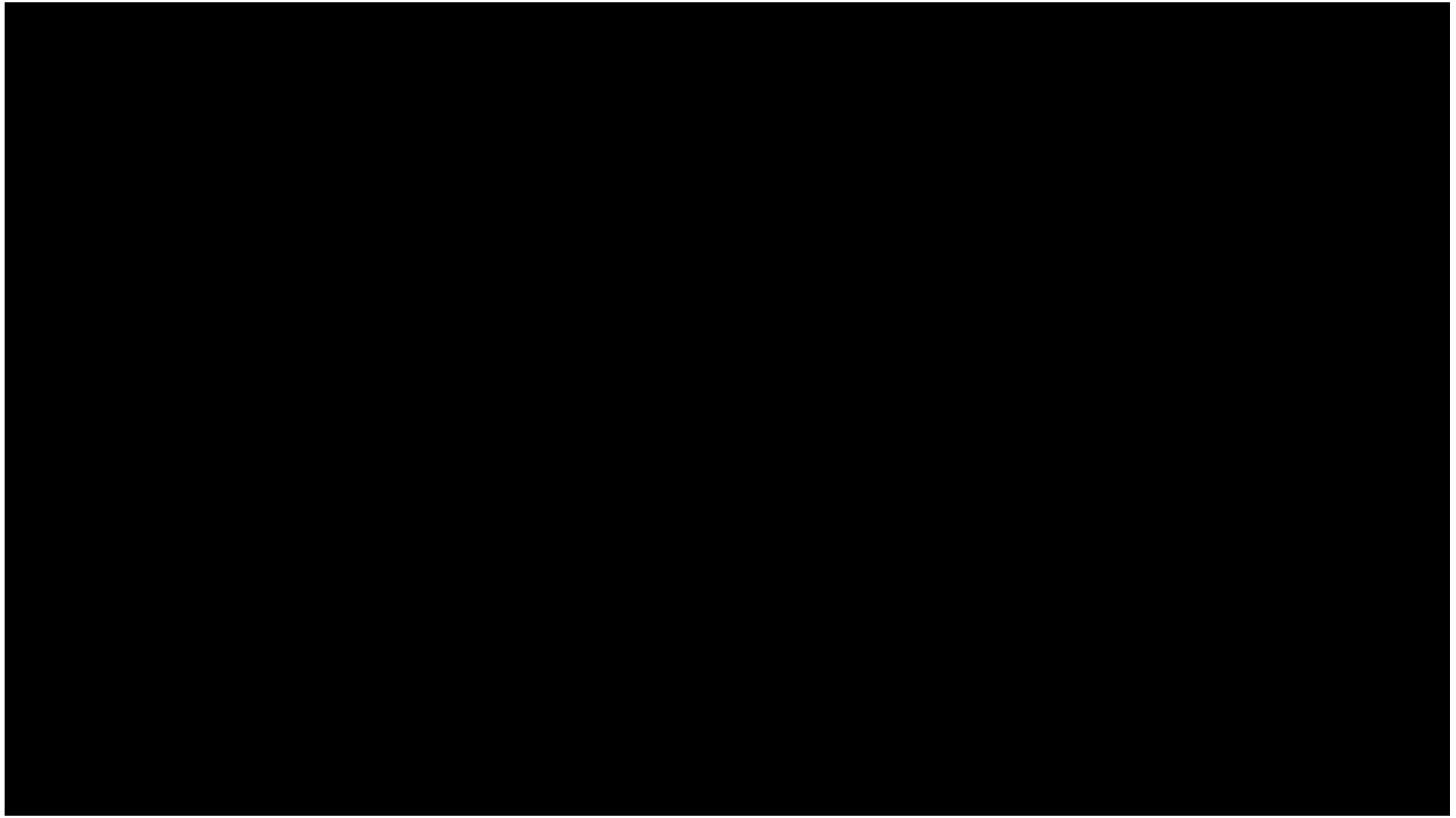
Any Challenge, Every Solution

OPEN OnDemand



openondemand.org/anychallenge

Agenda

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HPCwire Award

Thank you to all who use Open OnDemand and those who voted in the HPCwire Readers' Choice!

openondemand.org

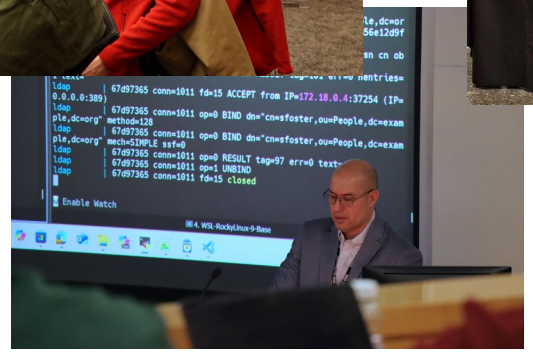
GOOD Conference

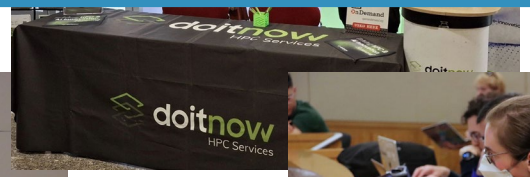
OPEN OnDemand

Inaugural conference was held
March 17-20, 2025, at Harvard University

GOOD26 is coming March 2026!

Speakers: please fill out your proceedings information via email





Outcomes

- 170+ attendees
- 50+ talks
- 10 countries represented
- Attendees from:
  - US government
  - [illegible]n-profits
  - [illegible]blic and private
  - [illegible]tions
  - International non-profits
  - International academia
  - Commercial entities

openondemand.org/good

Contributor Jam

OPEN OnDemand

Outcomes

- 75+ attendees
- 4 hours of content
- 25+ pull requests
- 4 repositories
- 11 individuals awarded

Comprehensive deep dive

Repos, gems, adapters, schedulers

Walkthrough and resources for pull requests

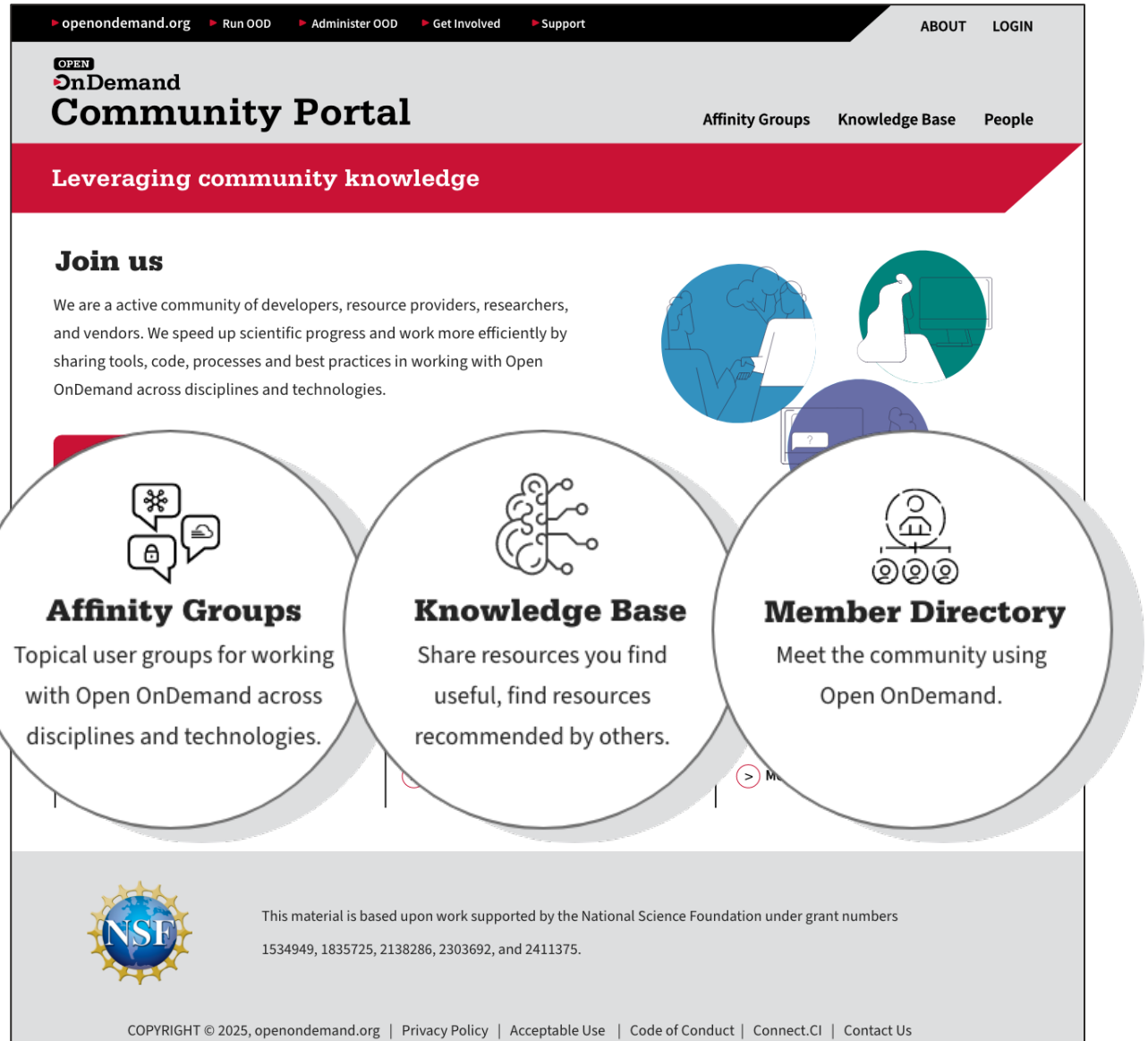
github.com/OSC/contributor_guide

Jam Recognition

OPEN OnDemand

discourse.openondemand.org

Community Portal



Affinity Groups connect community members with common interests

- Links to communication channels
- Central repository for documentation, code samples, tutorials, etc.
- Member email lists
- Announcements, events, and trainings

Flexible usage

- Groups can be short term or long term
- Building repositories or active discussion

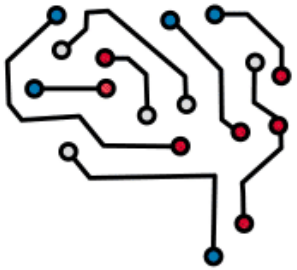
Join at openondemand.org/portal

Affinity Groups

OPEN OnDemand

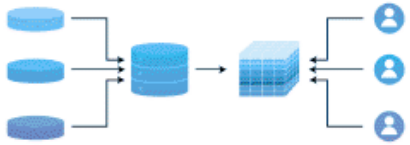
Customizing the Backend

Genomics



LLMs

New to OPEN OnDemand



Project Design

Classroom

Azure

Security Best Practices

Multilingual Community

Structural Biology Apps

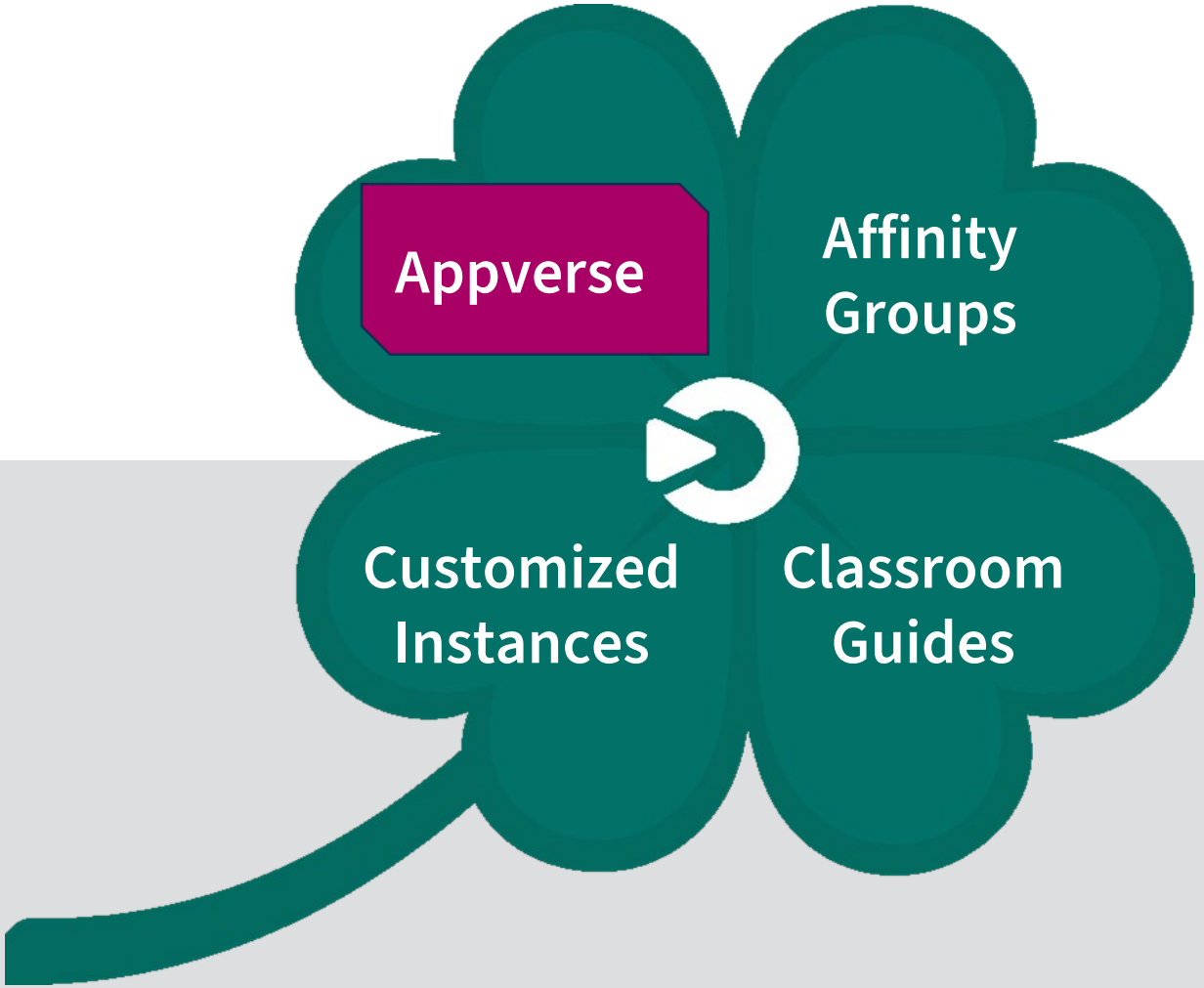
Web Apps & Absolute URLs

Join at openondemand.org/portal

GOODLUCK

OPEN OnDemand

Growing Open OnDemand: Leveraging Unified Community Knowledge



Domain solutions for the sciences, engineering & education

Five year NSF awards #2411375-7

Ohio Supercomputer Center

MGHPCC MASSACHUSETTS GREEN HIGH PERFORMANCE COMPUTING CENTER

TEXAS A&M UNIVERSITY

UNIVERSITY OF MARYLAND

The OOD Appverse

OPEN OnDemand

Apps for scientific applications by developers and researchers

KEY FEATURES

- Build and share apps for your OOD instance
- Central repository for apps
- Apps can be for research or IT functions
- Tiered structure - validated and sponsored apps
- Curation process – maintenance, updates, and training
- AI app integration
- Affinity Groups will publicize the Appverse

ondemand.connectci.org

The Appverse Affinity Group

OPEN OnDemand

openondemand.org ▶ Run OOD ▶ Administer OOD ▶ Get Involved ▶ Support Log in

OPEN OnDemand
Community Portal

Affinity Groups Knowledge Base People Events

OOD Appverse

community-outreach

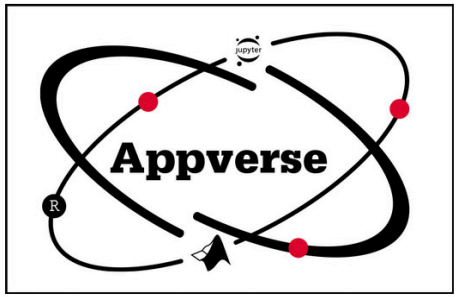
Join the conversation and help shape the Open OnDemand Appverse, a collaborative ecosystem for hosting, developing, and sharing apps within the Open OnDemand community.

The group explores technical, governance, and user experience aspects of a shared Open OnDemand Appverse, including app hosting infrastructure, security, metadata, developer onboarding, and support for diverse software stacks.

Whether you're a developer, admin, or end user, we welcome your ideas and contributions. Join us to help shape the future of app sharing in Open OnDemand .

Members get updates about announcements, events, and outages.

JOIN SLACK



Upcoming Events

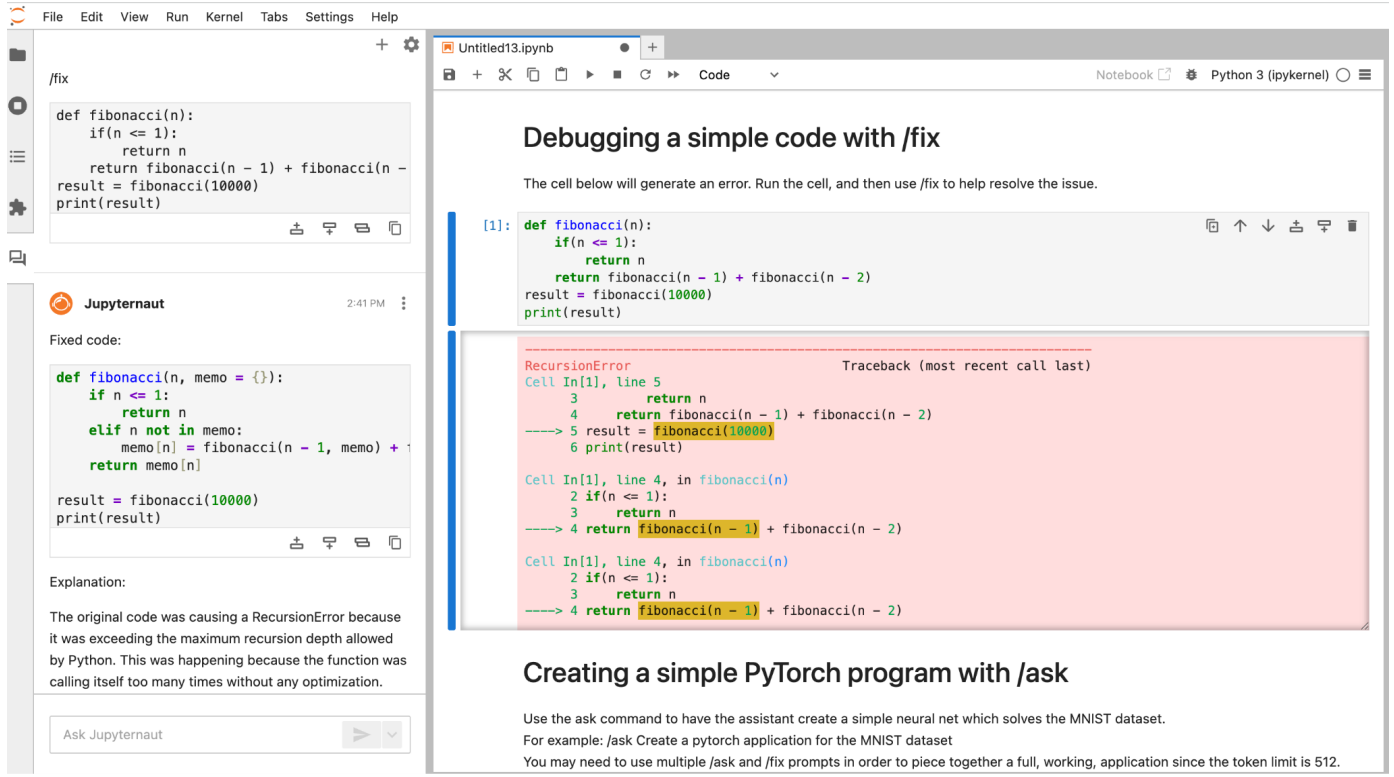
No upcoming events.

See past events

ondemand.connectci.org/appverse

The Appverse is Coming!

We are gathering information about the existing Open OnDemand apps.



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Other Ways to Get Involved

OPEN OnDemand

Join a governance committee!

User Documentation
Write & maintain documentation

Community Engagement
Help build the Open OnDemand community

Contributor Guide
Help maintain the contributor guide

Technical Committee
Help oversee software decisions **(FULL)**

Openondemand.org/get-involved

Agenda

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Open Floor Discussion

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OPEN OnDemand

Ping Luo

openondemand.org/community

Yale *Center for Research Computing*

Open OnDemand on Cluster Misha

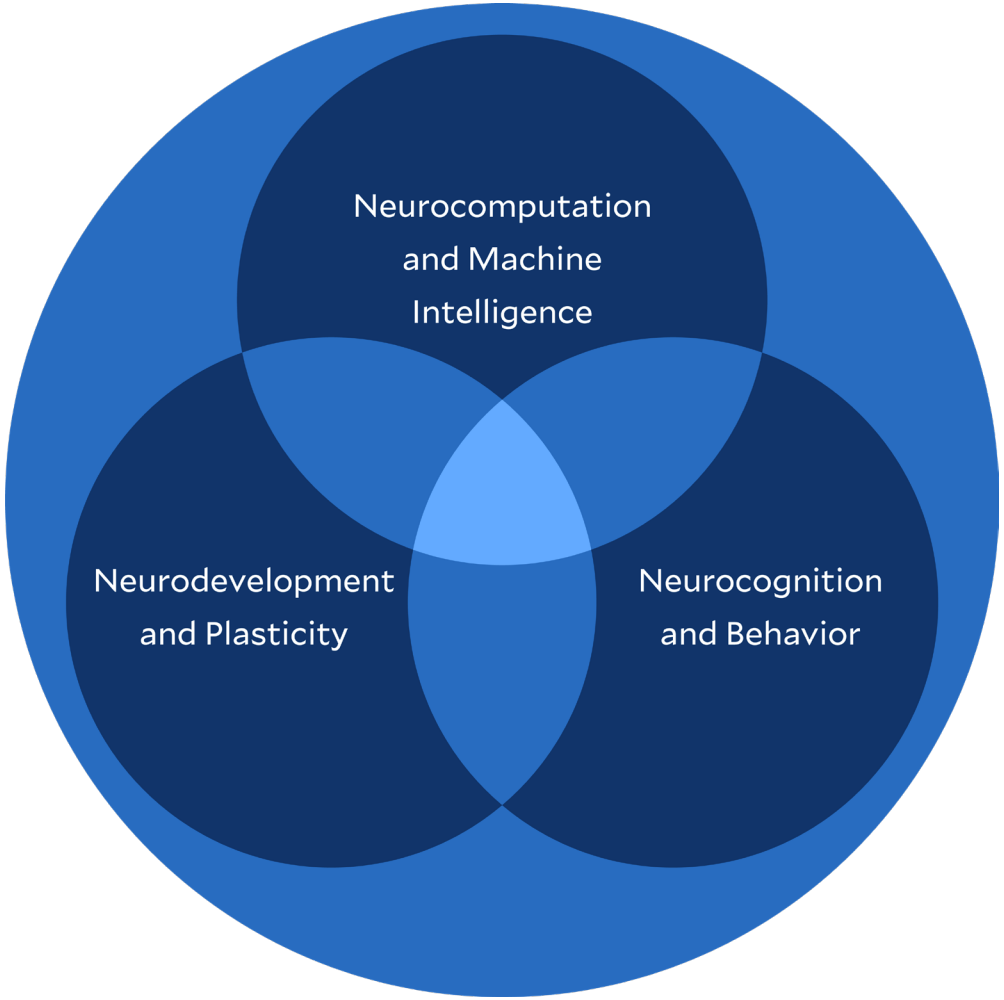
Open OnDemand BOF
PEARC'25

WU TSAI INSTITUTE
YALE UNIVERSITY

Wu Tsai Institute
Yale University

To understand human cognition and explore human potential by sparking interdisciplinary inquiry

Three Centers



Cluster Misha

- Name honors **Misha Mahowald**, a pioneer in brain-inspired computing
- Managed by the Yale Center for Research Computing and the Center for Neurocomputation and Machine Intelligence of WTI
- 33 GPU nodes (4 cards/node) + 26 CPU nodes + 2 large memory nodes
  - 4 H200 nodes
  - 14 H100 nodes
  - 6 A100 nodes
  - 6 A40 nodes
  - 3 L40S nodes

Misha OnDemand | Apps | Files | Jobs | Interactive Apps | Utilities | Clusters | My Interactive Sessions | Develop | Help | Logged in as pl543 | Log Out

WU TSAI INSTITUTE
YALE UNIVERSITY | Yale *Center for Research Computing*

OnDemand provides an integrated, single access point for all of your HPC resources.

Pinned Apps A featured subset of all available apps

- Remote Desktop — System Installed App
- Jupyter — System Installed App
- MATLAB — System Installed App
- Code Server — System Installed App
- RStudio Server — System Installed App

Inefficient GPU Jobs

No inefficient GPU jobs. GPU jobs from the past two weeks can be viewed here.

News

New GPU job dashboard

06/24/2025 GPU Job Performanc Monitor has a new user dashboard with several enhancements, which improve the dashboard's usability and functionality.

`gpu_devel` up with two A40 nodes

06/16/2025 `gpu_devel` is up on two GPU nodes with 8 A40 cards, while YCRC is fixing the MIG-enabled A100 node originally allocated to `gpu_devel`.

Cluster Node Status

Output generated: 2025-07-21 00:56:41 -0400

DOWN | UP | = 100% | < 100% | <= 50% | <= 25% | = 0%

View usage of all GPU nodes (allocated/total)

gpu	r817u03n07 32/48 640G/975G h100 4/4	r817u09n07 17/48 820G/975G h100 4/4	r817u15n05 48/48 192G/975G h100 4/4	r817u15n06 1/48 128G/975G h100 4/4	r817u23n05 1/48 128G/975G h100 4/4	r817u23n06 38/48 512G/975G h100 4/4	r817u29n05 17/48 464G/975G h100 3/4	r817u29n06 48/48 192G/975G h100 4/4	r817u35n05 32/48 640G/975G h100 4/4	r817u35n06 1/48 128G/975G h100 4/4
gpu	r818u29n04 0/48 0G/975G h200 0/4	r818u33n04 17/48 856G/975G h200 4/4	r818u33n06 32/48 800G/975G h200 4/4	r818u33n08 24/48 768G/975G h200 3/4	r4507u05n01 1/48 128G/975G h100 4/4	r4507u13n01 24/48 768G/975G h100 3/4	r4516u01n01 32/32 640G/975G a40 4/4	r4516u08n01 1/48 128G/975G h100 4/4	r4516u16n01 1/48 128G/975G h100 4/4	r4518u01n01 32/32 640G/975G a40 4/4
gpu	r4518u05n01 0/32 0G/975G a40 0/4	r4518u09n01 0/32 0G/975G a40 0/4	r4519u01n01 0/32 0G/1000G a100.MIG.20gb 0/8	r4519u04n01 9/32 512G/1000G a100 4/4	r4519u07n01 9/32 336G/1000G a100 2/4	r4519u10n01 0/32 0G/1000G a100 0/4	r4519u13n01 0/32 0G/1000G a100 0/4	r4519u16n01 0/32 0G/1000G a100 0/4		
gpu_devel	r4516u05n01 0/32 0G/975G a40 0/4	r4516u09n01 0/32 0G/975G a40 0/4								

Browse Jobs

Job Performance Monitor

Job Details

User/Group:	nhb25/ying_rex	Job ID:	404716
Job Name:	kvm	State:	COMPLETED
Started:	2025-07-12 19:56	Ended:	2025-07-13 04:40
Inefficiency Count:	195	Total Count:	420

GPU Information

GPU 0: r818u33n06, h200

GPU 1: r818u33n06, h200

GPU 2: r818u33n06, h200

GPU 3: r818u33n06, h200

Search & Filter

Search by Job ID

Enter Job ID...

Search

Search by Time Range

mm/dd/yyyy, --:-- --

mm/dd/yyyy, --:-- --

Search Time Range

Jobs in selected timeframe will appear here

Community Stories

OPEN OnDemand

Kyriakos Tsoukalas

openondemand.org/community

OPEN OnDemand at Colgate University

- Web Terminals
- Interactive Apps
- VScode
- Data transfers via HTTP
- Announcement visibility
- Batch Queue Monitoring
- Single-user to Multi-user Apps
- Single Sign-On with 2FA
- Research Pipelines
- Non-Edge Login Nodes
- Multiple Schedulers
- Resource Allocation
- File Management

Community Stories

OPEN OnDemand

Rodgers Kimera

openondemand.org/community

AFRICAN CENTERS OF EXCELLENCE IN BIOINFORMATICS & DATA-INTENSIVE SCIENCE

RDCT

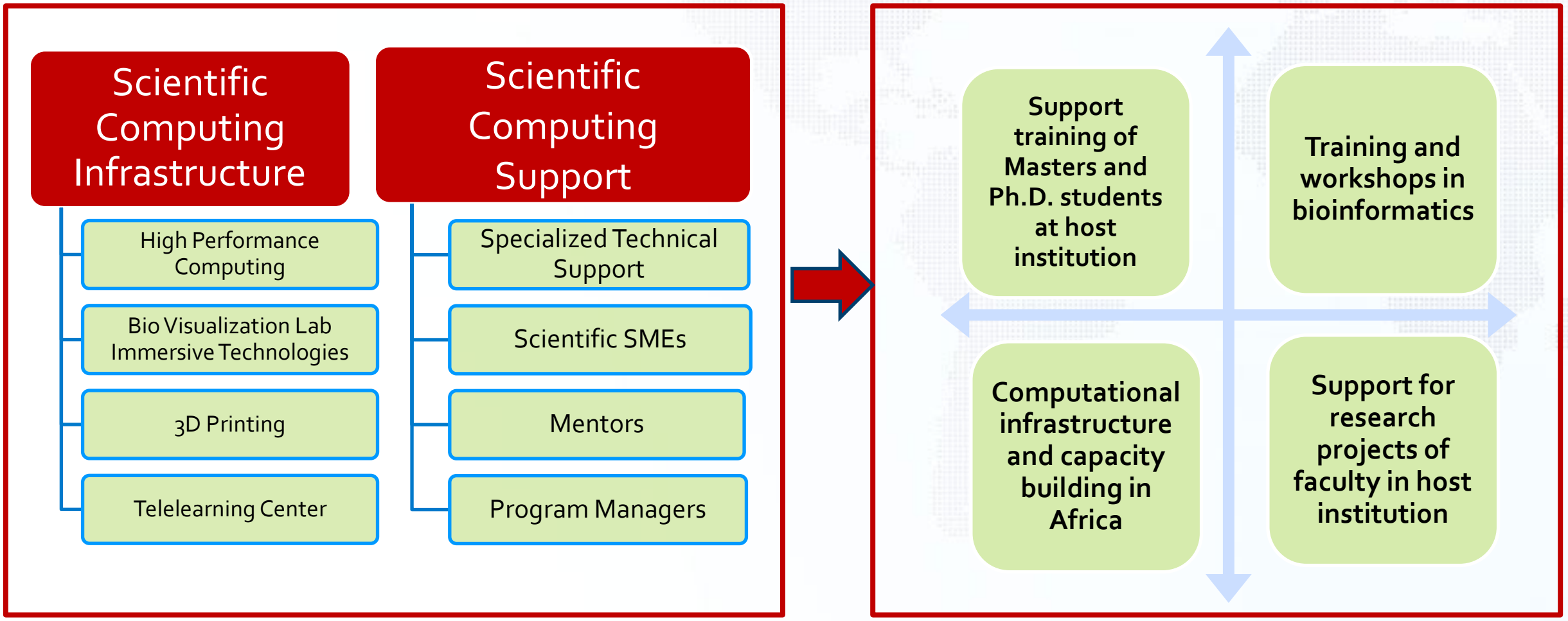
Open OnDemand Use case at ACE Uganda and ACE Mali

July 23, 2025 – BOF-OOD, PEARC25, Columbus, Ohio

PRESENTED BY

Rodgers Kimera,
Lead HPC Engineer,
Research Data and Communication Technologies,
ACE Uganda, ACE Mali
rkimera@reseachdata.us

African Centers of Excellence in Bioinformatics



Supporting Bioinformatics + Data Science in Africa

RDCT

Cluster	CPUs	RAM	Storage
ACE Uganda	15,232	5.376 TB	190TB NetApp, 160 TB Synology
ACE Mali	2,560	1.79 TB	150TB Synology

Why OPEN OnDemand at ACE?

Simplifies remote HPC access, enabling researchers to focus on science while IT staff streamline support, requiring minimal Linux skills and offering global, browser-based usability.

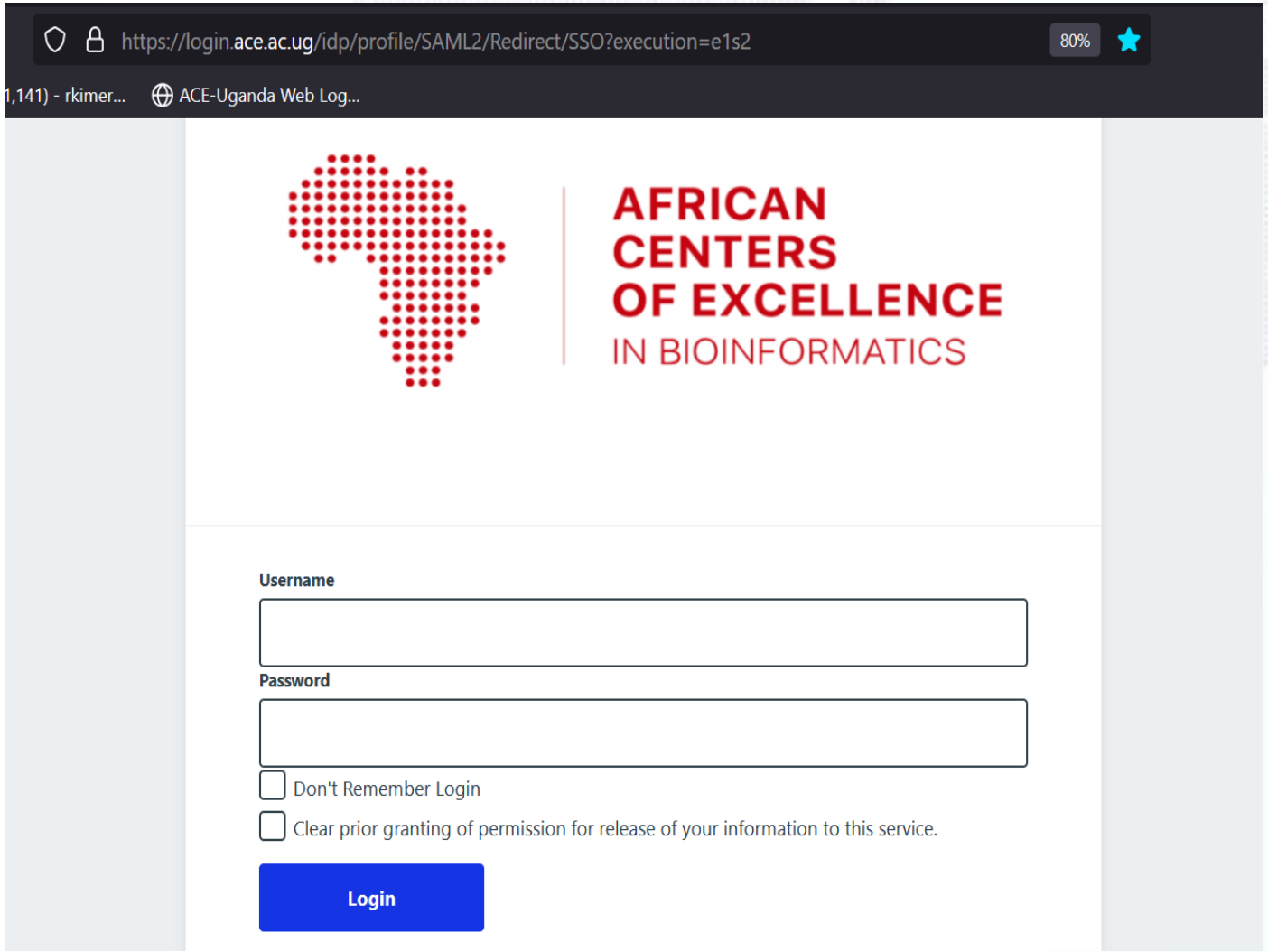
Challenges

- Initial deployment and configuration
  - Getting it set up right?
- User training and adoption
- Application Integrations

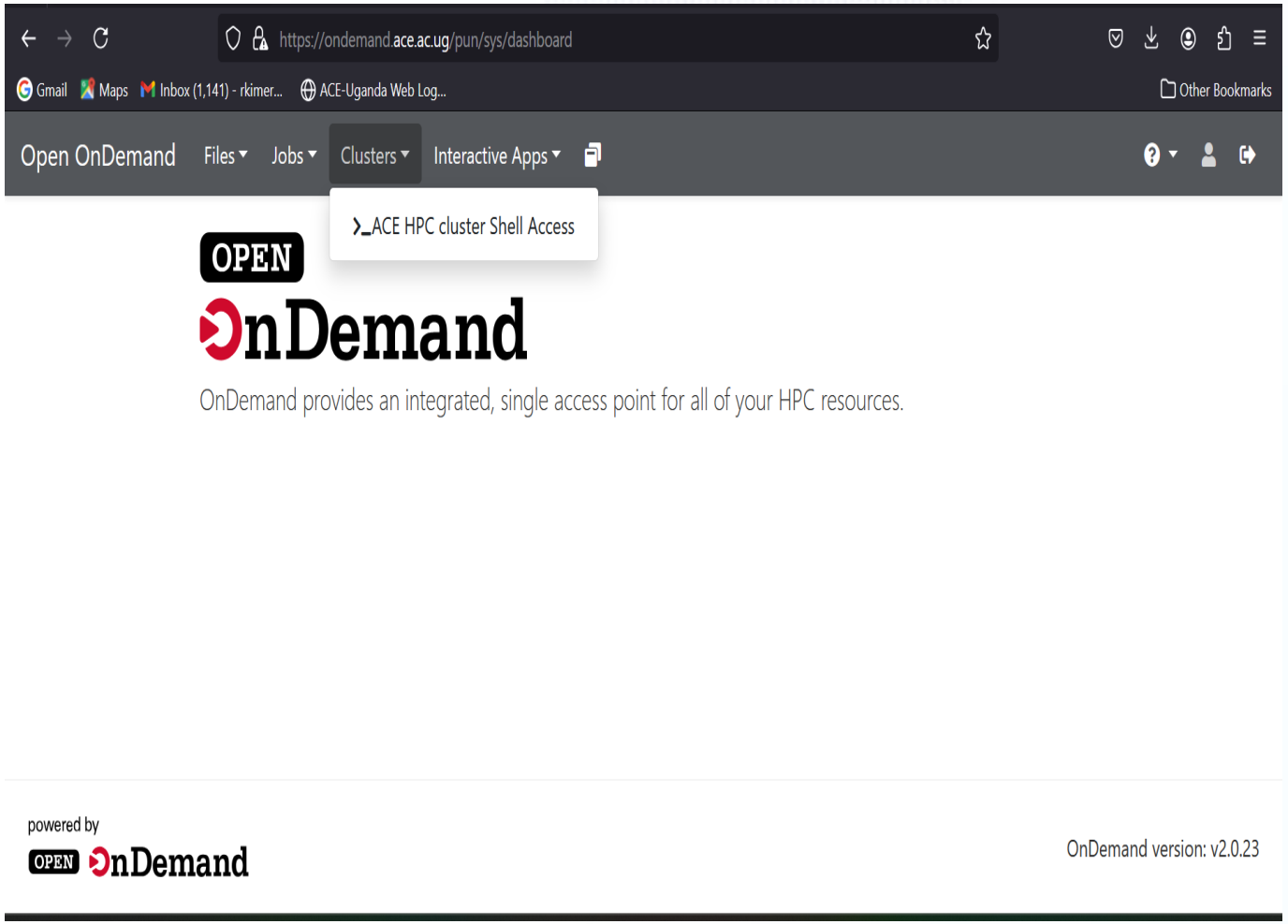
Next Steps

- Customize the dashboard to add apps, motd, etc.
- Adding Applications such as RStudio, Jupiter Notebooks, etc..
- User training

OOD Login


https://login.ace.ac.ug/idp/profile/SAML2/Redirect/SSO?execution=e1s2
80%
1,141) - rkimer...
ACE-Uganda Web Log...
AFRICAN CENTERS OF EXCELLENCE IN BIOINFORMATICS
Username
Password
Don't Remember Login
Clear prior granting of permission for release of your information to this service.
Login

OOD Dashboard



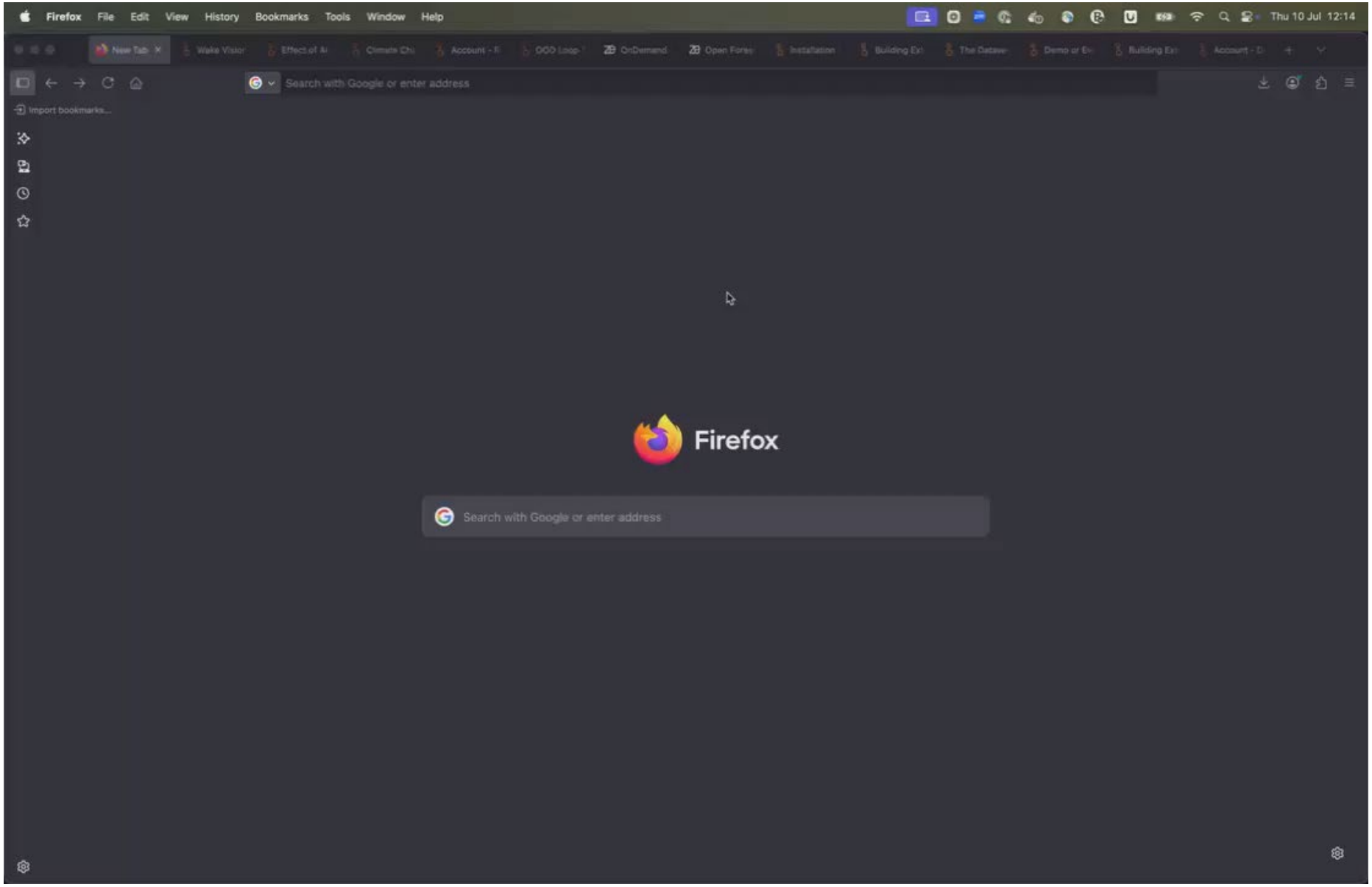
Community Stories

OPEN OnDemand

William Horka

openondemand.org/community

OnDemand Loop



Agenda

About Open OnDemand

Community

Community Stories

Support and Development

Open Floor Discussion

Community Events

Tips and tricks calls

Hosted by the larger Open OnDemand community, tips and tricks webinars share best practices for setting up and using Open OnDemand. They take place on the first Thursday of every month at 1 p.m. ET in the US

Open office hours

Hosted by our development team, Zoom open office hours are the perfect opportunity to ask questions or make a suggestion. They are held on the second Tuesday of every month from 11:15 a.m. to 12:45 p.m. ET in the US

European and Asia Pacific-timed versions of tips and tricks will be starting soon

openondemand.org/events

Established Support Mechanisms

OPEN OnDemand

Discuss on Discourse

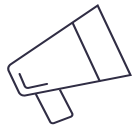
The Get Help category features user and admin questions and answers.
openondemand.org/discourse

Slack Workspace

Communicate and collaborate with the project team and community members.
openondemand.org/slack

GitHub Documentation

Outlines installation steps, app guidelines, release notes, and more.
openondemand.org/docs



Constant Contact Newsletter

Subscribe to get notices about upcoming events, new releases and user stories.
openondemand.org/newsletter

openondemand.org/support

Customizable Support Subscription

- High-level customer support for implementing and maintaining Open OnDemand
- Agreement that commercial or industry entities often require
- Contributes sustainable, ongoing funding for Open OnDemand

Benefits of Support Subscriptions:

Priority GitHub issue support

Exclusive access to a priority support channel on Discourse

Consulting Services available

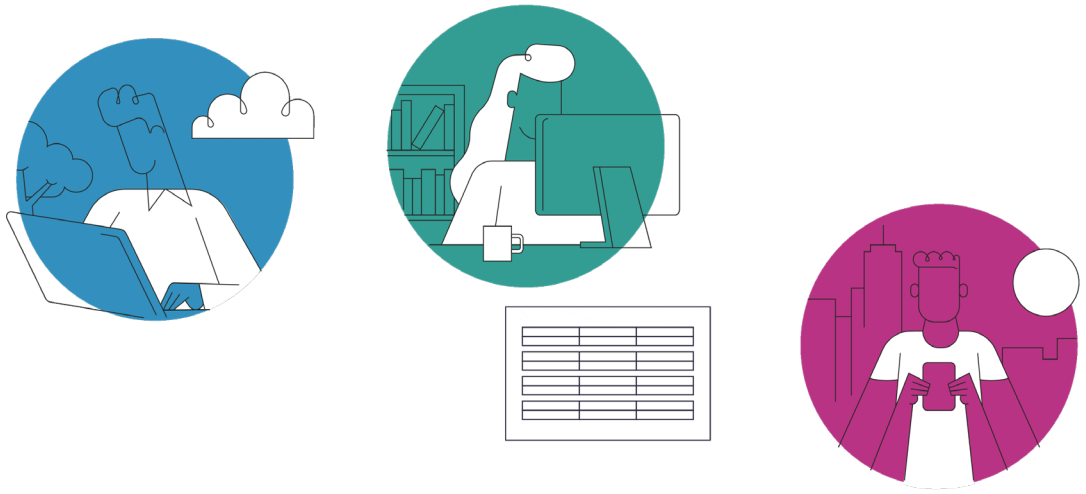
Pilot will run through 2025

Additional services will be introduced as we learn

openondemand.org/subscribe

Support Partners

- Actively working to identify partners worldwide to provide first- and second-level support
- Open OnDemand technical team will provide third-level support and dedicated support, in collaboration with partners, on an as-needed basis



Benefits of Support Partners:

- Native language support available during local business hours
- Enables clients to purchase support from trusted partners with region-specific knowledge
- Ensures clients third-level support for Open OnDemand during tender process

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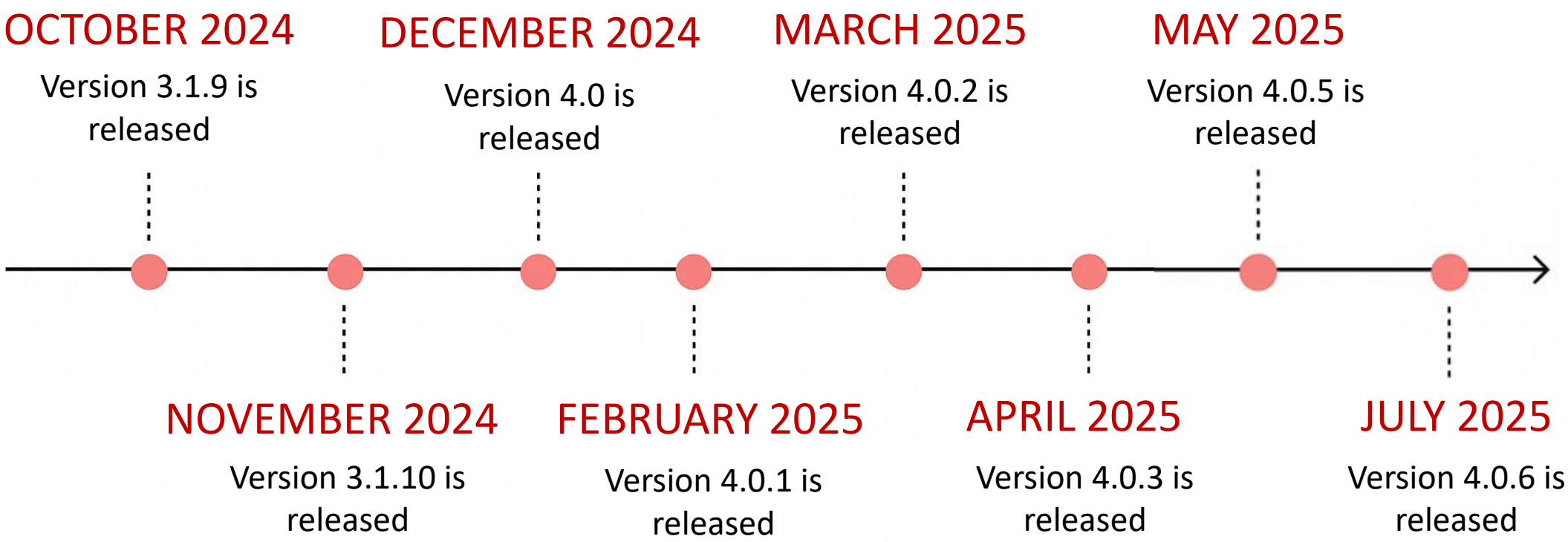
Development Timeline



openondemand.org/docs

4.0 Features and Enhancements

- Global batch connect items. Define once, use in any interactive application.
- File editor interface refreshed
- XDMoD efficiency widget update to include CPU usage, memory usage and elapsed time.
- New 'data-label' directive to dynamically change labels on interactive application's forms.
- System Status application to show current cluster usage, status, details
- Interactive application's saved settings can now be edited and deleted.

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Community Contributions

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4.1 Categorization – Dev Rel Edition

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Milestone Bucket

Milestone Bucket 53

Issues that are not assigned a category of importance / priority and issues that are connected to an epic

- ondemand #1866 — refactor dashboard's inline javascript — 4.1 release, area/tech debt, component/dashboard, enhancement
- ondemand #3348 — support for auto_reservations — 4.1 release, component/batch_connect
- ondemand #3493 — enable http2 in apache — 4.1 release, component/ood_portal_generator
- ondemand #1300 — noVNC controller — 4.1 release, area/security, area/tech debt, area/ux, enhancement
- ondemand #3846 — When home directories are full the error message is not verbose enough to the end

Epics Planned for 4.1

Epics Planned for 4.1 10

Epics planned for 4.1

- ondemand #3393 — enhance path selector — 4.1 release, component/batch_connect, component/path_selector, enhancement, Epic
- ondemand #3570 — Caching overhaul — 4.1 release, community request, Epic
- ondemand #2476 — remaining dynamic batch connect items — 4.1 release, community request, component/batch_connect, Epic
- ondemand #2199 — Overview: OOD Test Coverage — 4.1 release, area/testing, Epic
- ondemand #1454 — refactor configuration singleton — 4.1 release, area/tech debt

High Priority

High Priority / Importance 19

Community requests and accessibility

- ondemand #3910 — Add GPU request to interactive jobs card — 4.1 release, community request, component/batch_connect, enhancement
- ondemand #2067 — add alt text to welcome logo — 4.1 release, area/accessibility, component/dashboard, enhancement, good first issue
- ondemand #3713 — selinux patch for symlinks — 4.1 release, area/installation, community request
- ondemand #1368 — Truncated files cause issues — 4.1 release, community request, component/file_browser, Bug
- ondemand #4358

Medium Priority

Medium Priority / Importance 17

Bugs or other medium importance

- ondemand #3506 — data-hide does not work on radio buttons — 4.1 release, component/batch_connect, Bug
- ondemand #4036 — dashboard widgets overflow — 4.1 release, bug/cosmetic, component/dashboard, Bug
- ondemand #4177 — PM - template selection puts the wrong value for icon — 4.1 release, component/project manager, Bug
- ondemand #1559 — upgrade ood-portal-generator rspec to 3.10.0 — 4.1 release, area/tech debt, Bug
- ondemand #4105 — flaky tests with Dir.mktpmdir — 4.1 release, area/testing, Bug

In Progress

In Progress 14

Currently being worked on by a dev

- ondemand #4366 — possible grafana url building bug — 4.1 release, component/dashboard, Bug
- ondemand #3932 — `auto_queues` widget should check `AllowQos` property for slurm partitions — 4.1 release, community request, component/batch_connect, #4471
- ondemand #3390 — path selector could be larger — 4.1 release, component/path_selector, enhancement
- ondemand #1451 — Warning for expiring interactive sessions — 4.1 release, community request, enhancement
- ondemand #4162 — App/Sub-app attribute label change doesnt always apply

Closed Completed for Release

Closed Completed for Release 39

- ondemand #228 — navbar can overflow a lot — 4.1 release, bug, component/dashboard, enhancement, #4194
- ondemand #673 — landmarks in 'my interactive sessions' page are off — 4.1 release, area/accessibility, component/batch_connect, Bug
- ondemand #1619 — Return HTML rendering — 4.1 release, community request, component/file_browser, enhancement, #4416
- ondemand #1609 — active jobs extended panel show Slurm ArrayJobId and ArrayTaskId — 4.1 release, community request, component/activejobs, enhancement, #4436

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4.1 Features and Enhancements

OPEN OnDemand

- Widgets for file quotas and balances
- Major updates to the Project Manager – improved file management, templates, collaborative projects
- ServiceNow integration with support tickets
- Module browser to view module information
- Enhanced support for rendering and viewing HTML files
- Global batch connect items can reconfigure bc_ form items.

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Thank You!

Open OnDemand User Group Meeting

Emily Moffat Sadeghi,

Julie Ma, Dhruva Chakravorty

www.menti.com

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