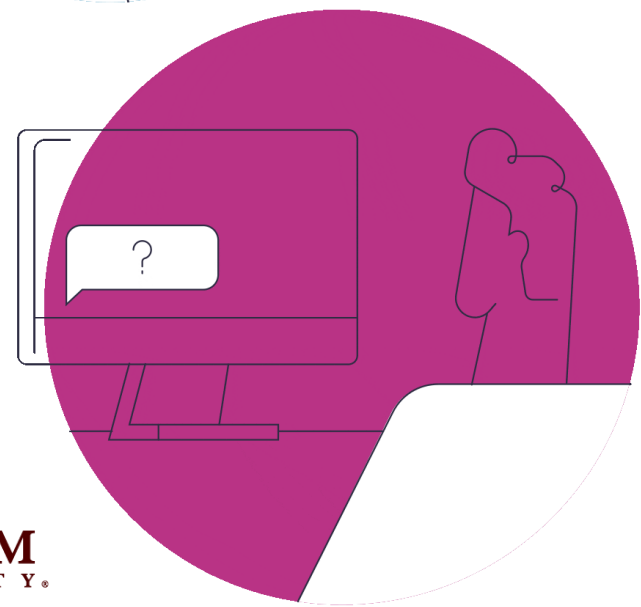
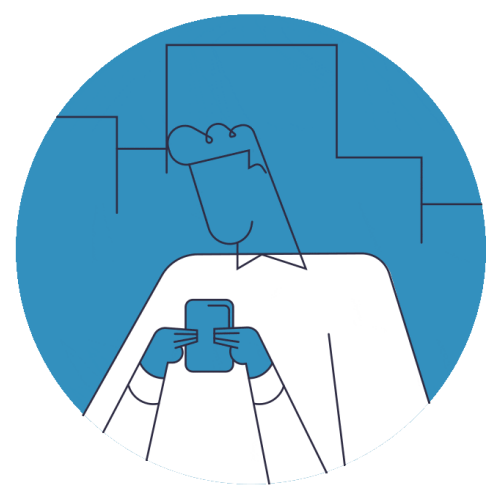


# Open OnDemand: Unlocking HPC Resources Through the Browser

Emily Moffat Sadeghi

*Developer Relations Program Manager*

**Open OnDemand**



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](https://openondemand.org)

# Agenda

**About Open OnDemand**

Community

Support

Development

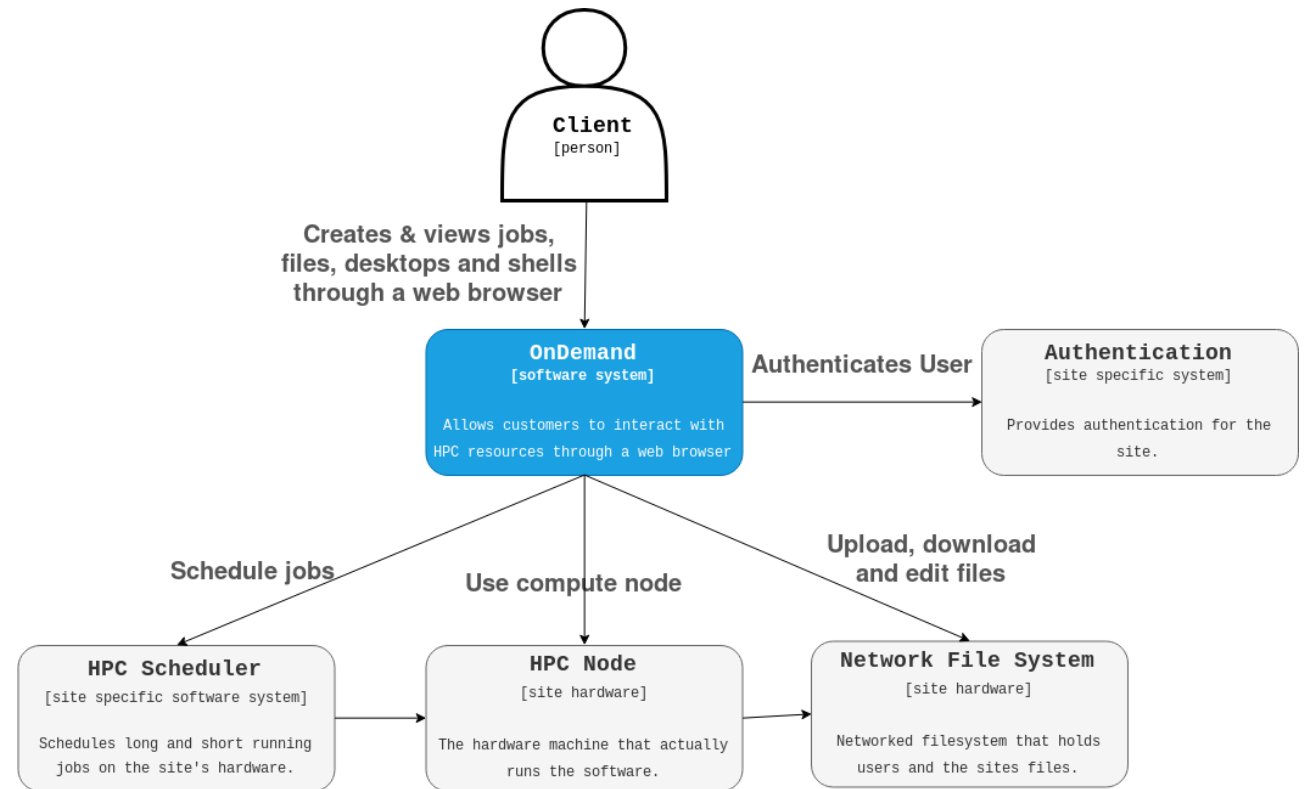


# About Open OnDemand

In the late 2000s, when smartphones made information accessible anywhere, we had an epiphany: what if you could access supercomputers from anywhere, too?

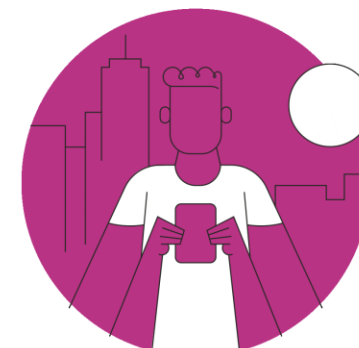
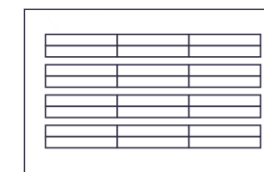
## Enter Open OnDemand

Created as an open-source platform to easily access supercomputing resources through the browser.



# Run Open OnDemand

Access your organization's supercomputers through the web to compute from anywhere, on any device.



## Zero installation

Run Open OnDemand entirely in your browser. No client software installation required.

## Easy to use

Start computing immediately. A simple interface makes Open OnDemand easy to learn and use.

## Compatible with any device

Launch on any device with a browser—even a mobile phone or tablet.

[openondemand.org/run](https://openondemand.org/run)

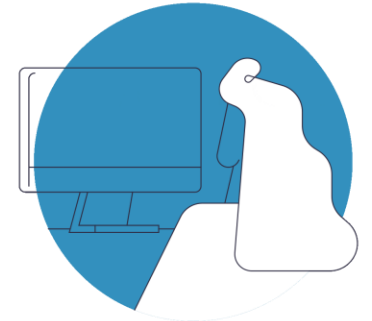
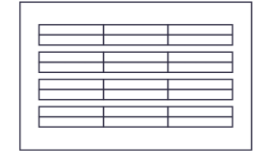
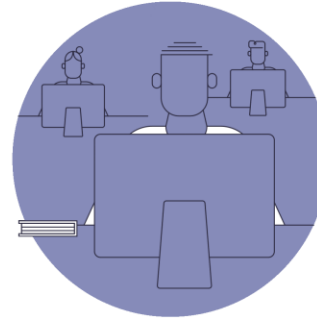
# Any Device, Anywhere



[openondemand.org/anydevice](https://openondemand.org/anydevice)

# Install Open OnDemand

Administer remote web access to your supercomputers to transform the way users work and learn.



## Low barrier to entry

Empower users of all skill levels by offering an alternative to command-line interface.

## Free and open source

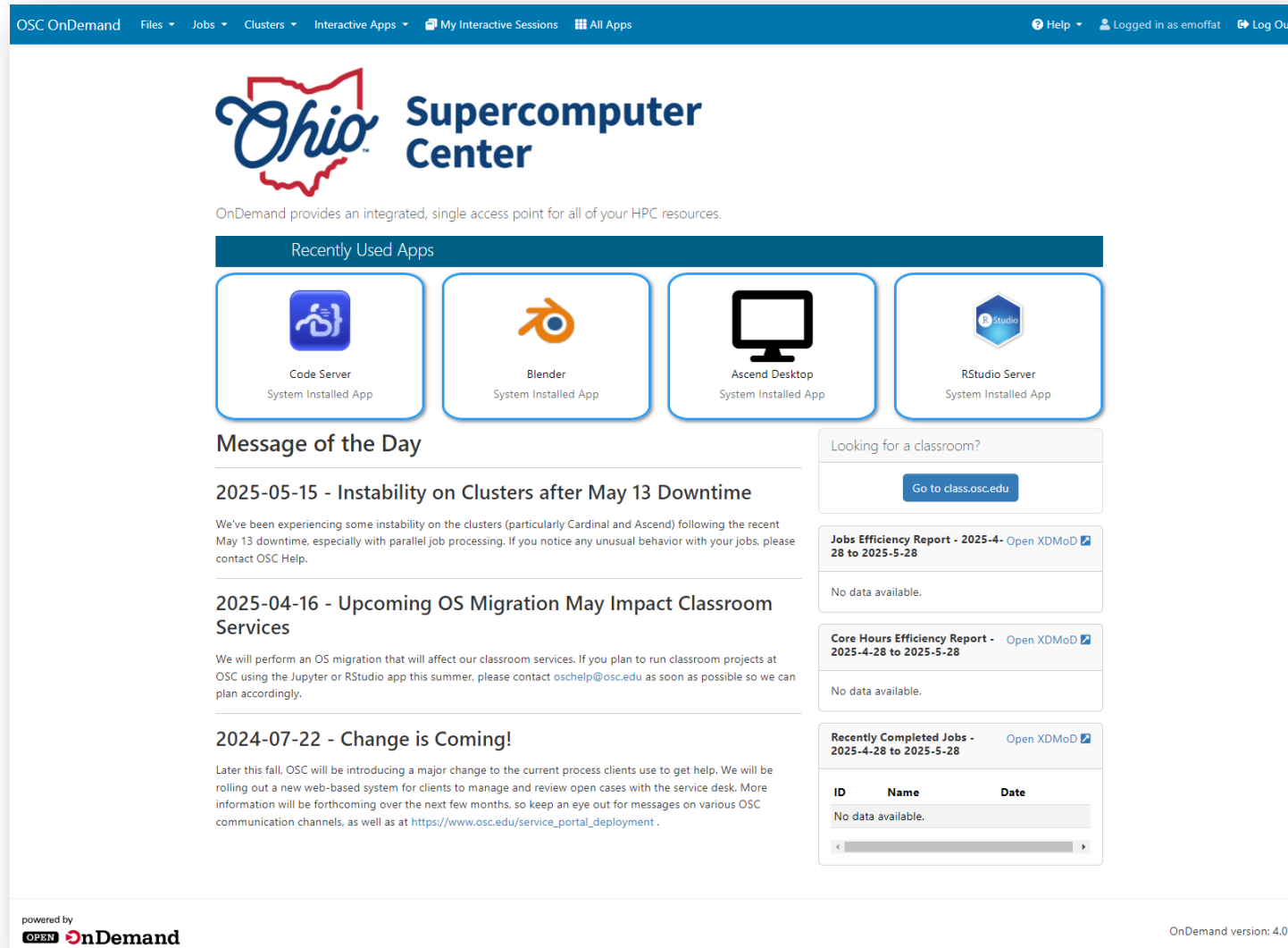
Install Open OnDemand for free, and gather knowledge from our large open-source community.

## Configurable and flexible


Create and deploy your own applications to meet your users' unique needs.

[openondemand.org/install](https://openondemand.org/install)

# Sample Deployments







OSC OnDemand Files Jobs Clusters Interactive Apps My Interactive Sessions All Apps Help Logged in as emoffat Log Out

 Ohio Supercomputer Center

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

Recently Used Apps

-  Code Server System Installed App
-  Blender System Installed App
-  Ascend Desktop System Installed App
-  RStudio Server System Installed App

**Message of the Day**

**2025-05-15 - Instability on Clusters after May 13 Downtime**

We've been experiencing some instability on the clusters (particularly Cardinal and Ascend) following the recent May 13 downtime, especially with parallel job processing. If you notice any unusual behavior with your jobs, please contact OSC Help.

**2025-04-16 - Upcoming OS Migration May Impact Classroom Services**

We will perform an OS migration that will affect our classroom services. If you plan to run classroom projects at OSC using the Jupyter or RStudio app this summer, please contact [oschelp@osc.edu](mailto:oschelp@osc.edu) as soon as possible so we can plan accordingly.

**2024-07-22 - Change is Coming!**

Later this fall, OSC will be introducing a major change to the current process clients use to get help. We will be rolling out a new web-based system for clients to manage and review open cases with the service desk. More information will be forthcoming over the next few months, so keep an eye out for messages on various OSC communication channels, as well as at [https://www.osc.edu/service\\_portal\\_deployment](https://www.osc.edu/service_portal_deployment).

Looking for a classroom?  
[Go to class.osc.edu](#)

**Jobs Efficiency Report - 2025-4-28 to 2025-5-28** [Open XDMoD](#)

No data available.

**Core Hours Efficiency Report - 2025-4-28 to 2025-5-28** [Open XDMoD](#)

No data available.

**Recently Completed Jobs - 2025-4-28 to 2025-5-28** [Open XDMoD](#)

ID	Name	Date
No data available.		

# Sample Deployments

OSC OnDemand Files Jobs Clusters Interactive Apps My Interactive Sessions All Apps Help Logged in as emoffat Log Out


---

SCC OnDemand Files Quotas Login Nodes Interactive Apps My Interactive Sessions Help Logged in as ktrn Log Out

**Scheduled Downtime - June 2-4, 2025**  
 The Shared Computing Cluster (SCC) will be offline while the MGHPCC, which houses the SCC, undergoes scheduled annual maintenance.

**Research Computing Training Series - May 27 - June 13, 2025**  
[Register here](#)

Session was successfully deleted. ✕



Access the SCC using only your web browser!

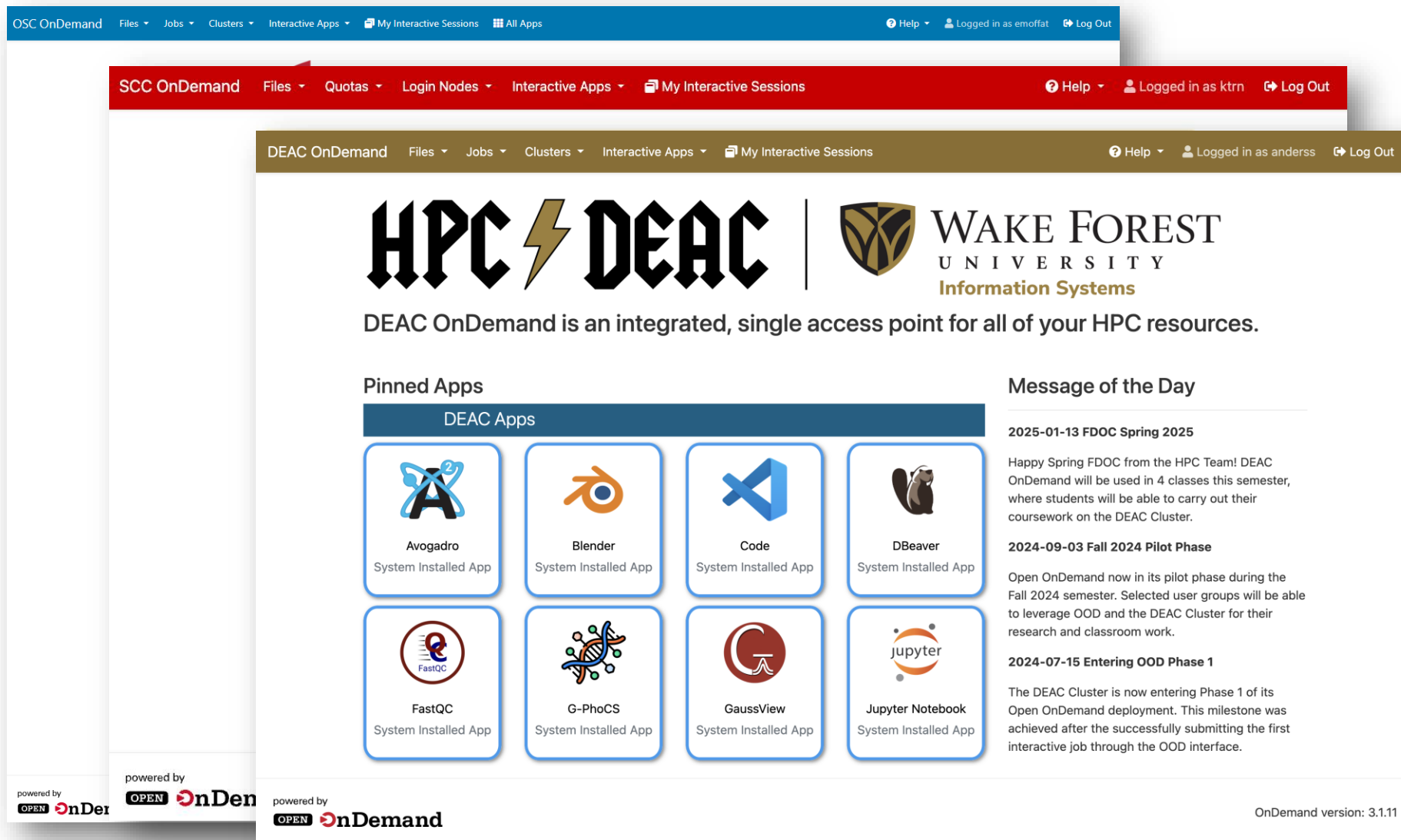
[SCC OnDemand Documentation](#)

---

powered by  
powered by OPEN **OnDemand**

OnDemand version: 3.1.7

# Sample Deployments



The screenshot displays the DEAC OnDemand web interface. At the top, there are three navigation bars: OSC OnDemand (blue), SCC OnDemand (red), and DEAC OnDemand (olive green). The DEAC OnDemand header includes the text "DEAC OnDemand" and navigation links for "Files", "Jobs", "Clusters", "Interactive Apps", and "My Interactive Sessions". It also shows the user is logged in as "anders" and provides "Help" and "Log Out" options.

The main content area features the "HPC DEAC" logo with a lightning bolt, the Wake Forest University logo, and the text "WAKE FOREST UNIVERSITY Information Systems". Below this, a message states: "DEAC OnDemand is an integrated, single access point for all of your HPC resources."

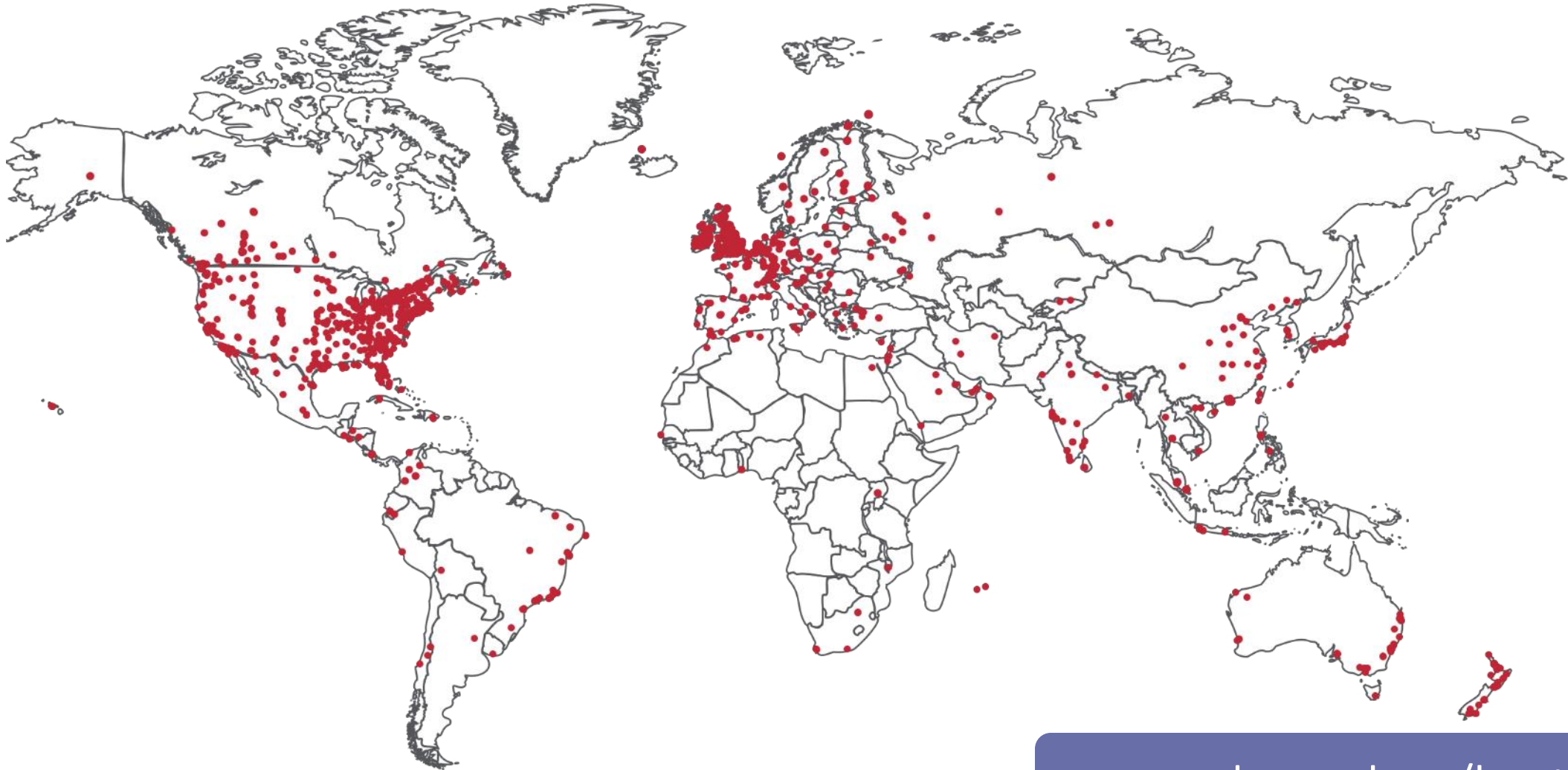
The interface is divided into two main sections:

- Pinned Apps:** A section titled "DEAC Apps" containing eight application tiles, each with an icon and the text "System Installed App":
  - Avogadro
  - Blender
  - Code
  - DBeaver
  - FastQC
  - G-PhoCS
  - GaussView
  - Jupyter Notebook
- Message of the Day:** A section with three announcements:
  - 2025-01-13 FDOC Spring 2025:** "Happy Spring FDOC from the HPC Team! DEAC OnDemand will be used in 4 classes this semester, where students will be able to carry out their coursework on the DEAC Cluster."
  - 2024-09-03 Fall 2024 Pilot Phase:** "Open OnDemand now in its pilot phase during the Fall 2024 semester. Selected user groups will be able to leverage OOD and the DEAC Cluster for their research and classroom work."
  - 2024-07-15 Entering OOD Phase 1:** "The DEAC Cluster is now entering Phase 1 of its Open OnDemand deployment. This milestone was achieved after the successfully submitting the first interactive job through the OOD interface."

At the bottom, there are logos for "powered by OPEN nDemand" and the text "OnDemand version: 3.1.11".

# Deployed Worldwide

100+ Countries | 2,100+ Organizations



[openondemand.org/locations](https://openondemand.org/locations)

# Example Deployments

## Nonprofit / Research centers



## International academia



## Government



## Minority-serving institutions



## Private academia




















































## Public academia



## Industry



# Enabled Utilities & Apps

 Abaqus	 AMDuProf	 ANSYS	 Arm	 BEAST 2	 Blender	 CHIMERA	 COMSOL	 Coot	 DeepLabCut
 Eclipse	 Firefox	 Galaxy	 GaussView	 Grace	 GSEA	 IDL	 jupyter	 LS-DYNA	 Lumerical
 Maestro	 Mathematica	 MATLAB	 Maya	 Meshroom	 MRICron	 NetLogo	 Nsisht Eclipse	 Octave	 OVITO
 ParaView	 PseudoFuN	 PSPP	 PyCharm	 PyMOL	 QGIS	 RELION	 RStudio	 Schrodinger	 Shiny
 Siril	 STAR-CCM+	 Stata	 TensorBoard	 Visit	 Visual Studio Code	 VMD	 WebMO	 XDMoD	

# Commercial Cloud



[openondemand.org/aws](https://openondemand.org/aws)



[openondemand.org/azure](https://openondemand.org/azure)



[openondemand.org/gcp](https://openondemand.org/gcp)



[openondemand.org/oci](https://openondemand.org/oci)

Open OnDemand with Azure CycleCloud Apps Files Jobs Clusters Interactive Apps

OPEN



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

Pinned Apps A featured subset of all available apps

Clusters



Slurm ccw Shell Access  
System Installed App

Interactive Apps



VSCode on Compute Node  
System Installed App



VSCode on Login Node  
System Installed App

# Agenda

About Open OnDemand

**Community**

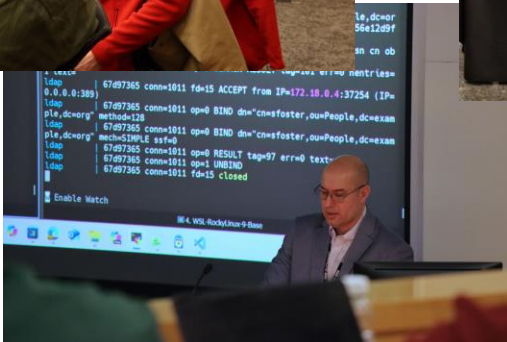
Support

Development



## The Conference for the Global Open OnDemand (GOOD) Community

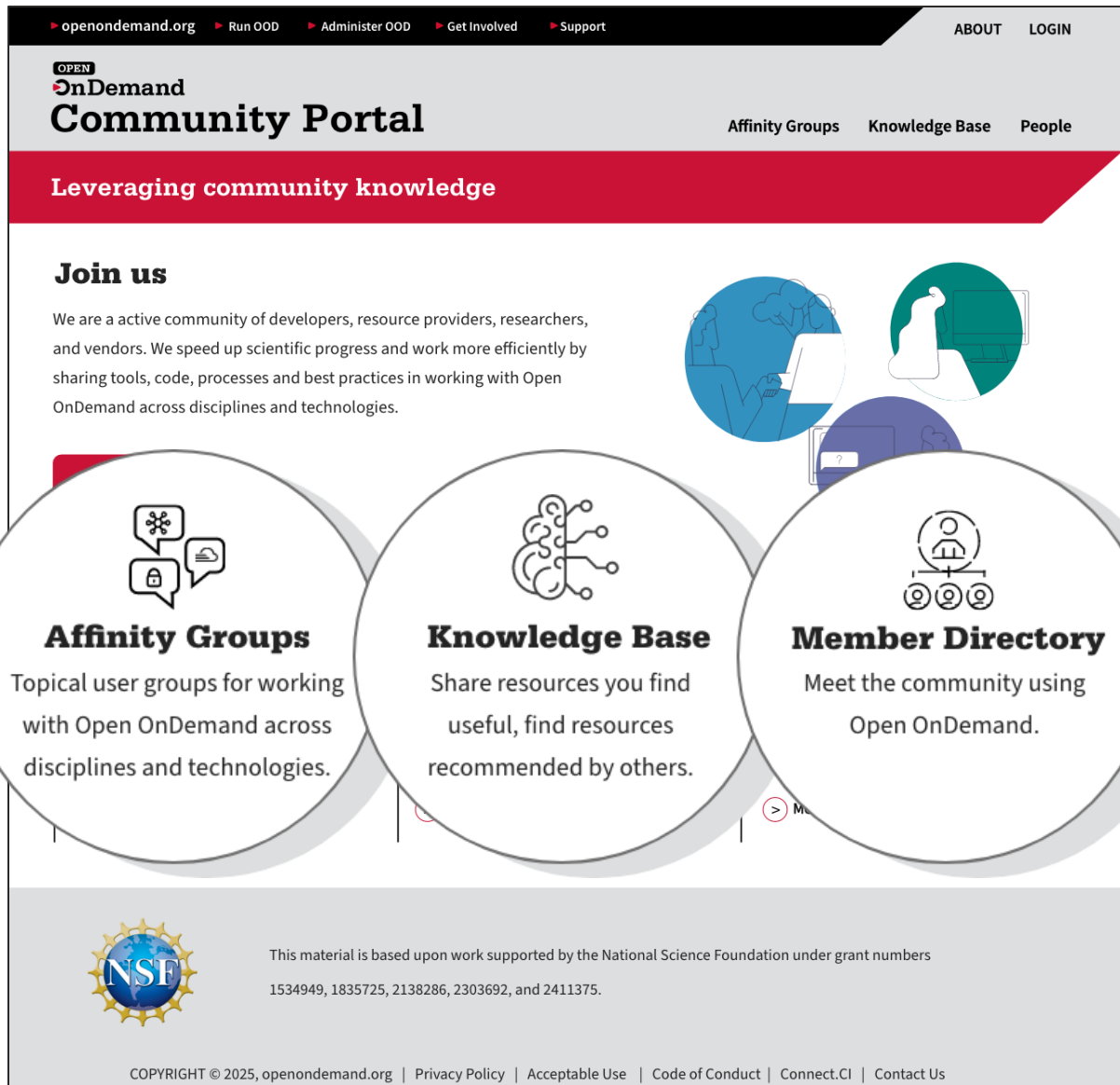
Inaugural Conference was held from  
March 17-20, 2025 at Harvard University



## Outcomes

- 170+ attendees
- 50+ talks
- 10 countries represented
- Attendees from:
  - US government
  - US non-profits
  - US public and private institutions
  - International non-profits
  - International academia
  - Commercial entities

# Community Portal



The screenshot shows the OpenOnDemand Community Portal website. At the top, there is a navigation bar with links for 'openondemand.org', 'Run OOD', 'Administer OOD', 'Get Involved', and 'Support'. On the right side of the navigation bar are links for 'ABOUT' and 'LOGIN'. Below the navigation bar is the 'OPEN OnDemand Community Portal' header. To the right of the header are links for 'Affinity Groups', 'Knowledge Base', and 'People'. A red banner below the header contains the text 'Leveraging community knowledge'. The main content area features a 'Join us' section with a paragraph describing the community. Below this are three circular callouts: 'Affinity Groups' (topical user groups), 'Knowledge Base' (share and find resources), and 'Member Directory' (meet the community). At the bottom left is the NSF logo, and at the bottom right is a copyright notice.

openondemand.org ▶ Run OOD ▶ Administer OOD ▶ Get Involved ▶ Support ABOUT LOGIN

OPEN OnDemand Community Portal Affinity Groups Knowledge Base People

Leveraging community knowledge

## Join us

We are a active community of developers, resource providers, researchers, and vendors. We speed up scientific progress and work more efficiently by sharing tools, code, processes and best practices in working with Open OnDemand across disciplines and technologies.

### Affinity Groups

Topical user groups for working with Open OnDemand across disciplines and technologies.

### Knowledge Base

Share resources you find useful, find resources recommended by others.

### Member Directory

Meet the community using Open OnDemand.

NSF

This material is based upon work supported by the National Science Foundation under grant numbers 1534949, 1835725, 2138286, 2303692, and 2411375.

COPYRIGHT © 2025, openondemand.org | Privacy Policy | Acceptable Use | Code of Conduct | Connect.Cl | Contact Us

## 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](https://openondemand.org/portal)

# Affinity Groups

Open OnDemand Security  
Best Practices

New to Open OnDemand

New to Open OnDemand

Job Stats

Multilingual Community

OOD User Training

Instrumentation/monitoring

Structural Biology  
Applications

OOD on Azure

Containers

LLMs and OOD

Genomics on OOD

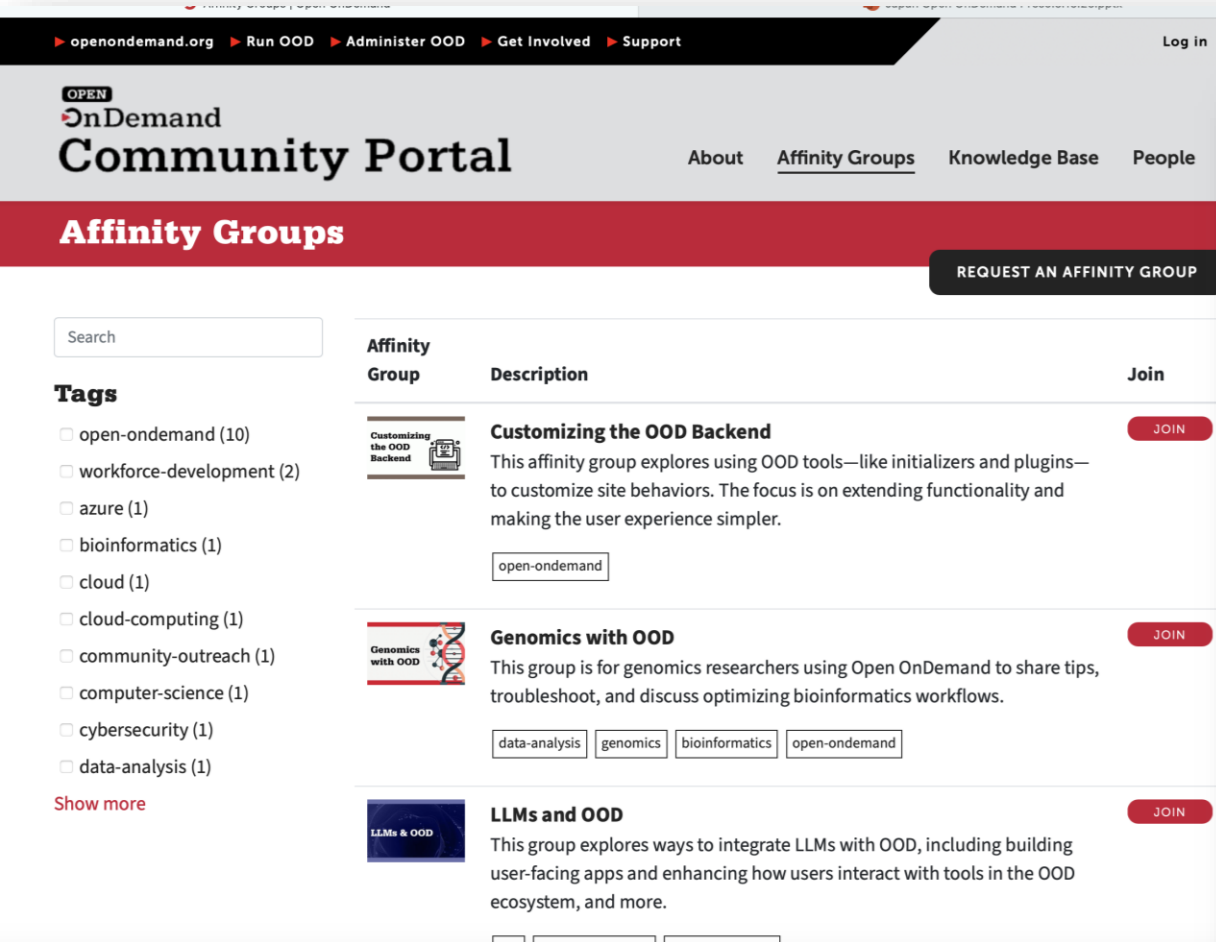
Customizing the OOD  
Front End

Customizing the OOD  
Back End

Web Apps and Absolute  
URLS with OOD

Join at [Openondemand.org/portal](https://Openondemand.org/portal)

# Affinity Group Implementation



openondemand.org > Run OOD > Administer OOD > Get Involved > Support

Log in

OPEN OnDemand Community Portal

About Affinity Groups Knowledge Base People

**Affinity Groups**




REQUEST AN AFFINITY GROUP

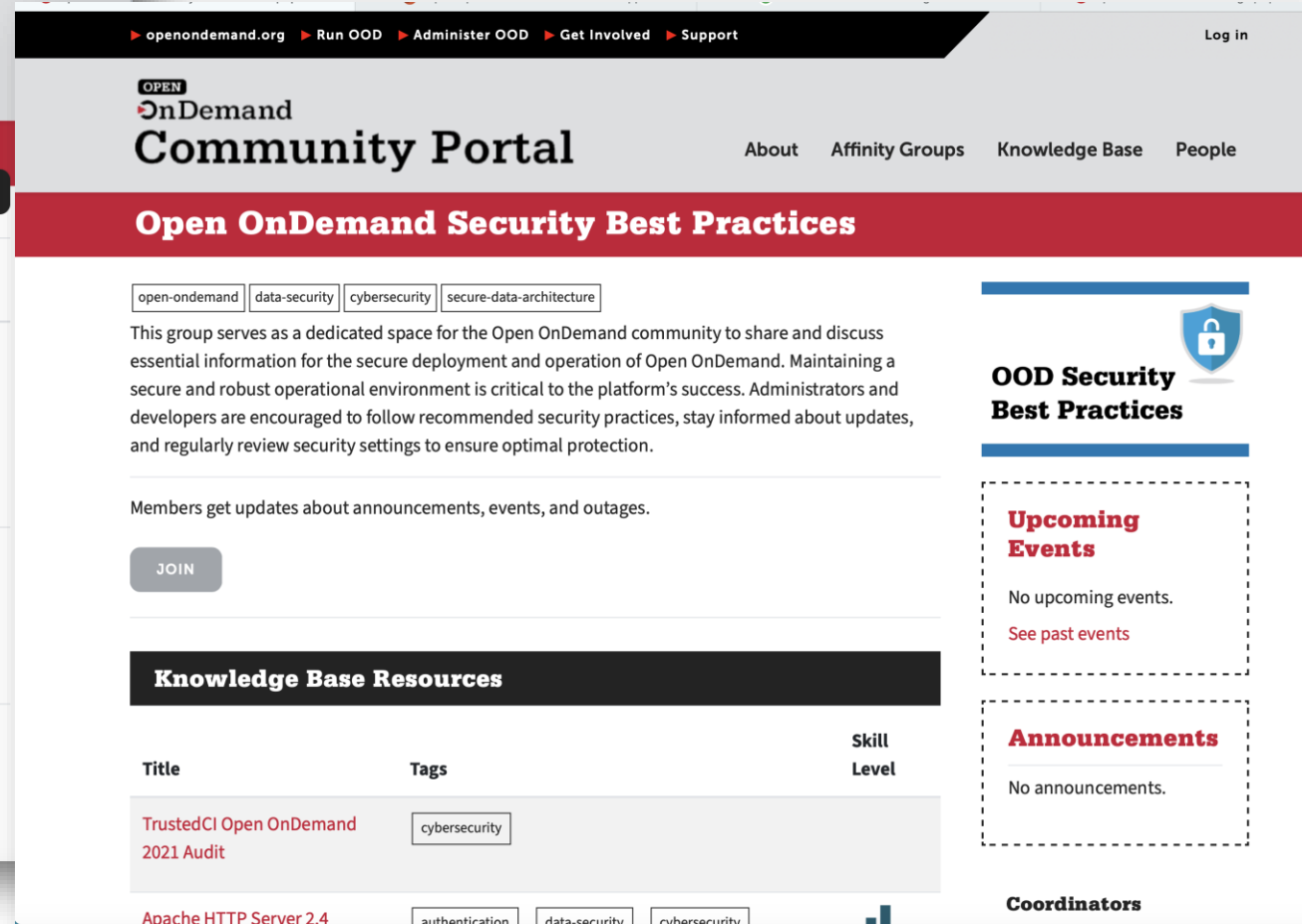
Search

**Tags**

- open-ondemand (10)
- workforce-development (2)
- azure (1)
- bioinformatics (1)
- cloud (1)
- cloud-computing (1)
- community-outreach (1)
- computer-science (1)
- cybersecurity (1)
- data-analysis (1)

Show more

Affinity Group	Description	Join
 Customizing the OOD Backend	<b>Customizing the OOD Backend</b> This affinity group explores using OOD tools—like initializers and plugins—to customize site behaviors. The focus is on extending functionality and making the user experience simpler.	JOIN
 Genomics with OOD	<b>Genomics with OOD</b> This group is for genomics researchers using Open OnDemand to share tips, troubleshoot, and discuss optimizing bioinformatics workflows.	JOIN
 LLMs & OOD	<b>LLMs and OOD</b> This group explores ways to integrate LLMs with OOD, including building user-facing apps and enhancing how users interact with tools in the OOD ecosystem, and more.	JOIN



openondemand.org > Run OOD > Administer OOD > Get Involved > Support

Log in

OPEN OnDemand Community Portal

About Affinity Groups Knowledge Base People

**Open OnDemand Security Best Practices**

open-ondemand data-security cybersecurity secure-data-architecture

This group serves as a dedicated space for the Open OnDemand community to share and discuss essential information for the secure deployment and operation of Open OnDemand. Maintaining a secure and robust operational environment is critical to the platform's success. Administrators and developers are encouraged to follow recommended security practices, stay informed about updates, and regularly review security settings to ensure optimal protection.

Members get updates about announcements, events, and outages.

JOIN

**Knowledge Base Resources**

Title	Tags	Skill Level
TrustedCI Open OnDemand 2021 Audit	cybersecurity	
Apache HTTP Server 2.4	authentication data-security cybersecurity	

**OOD Security Best Practices**

**Upcoming Events**

No upcoming events.  
[See past events](#)

**Announcements**

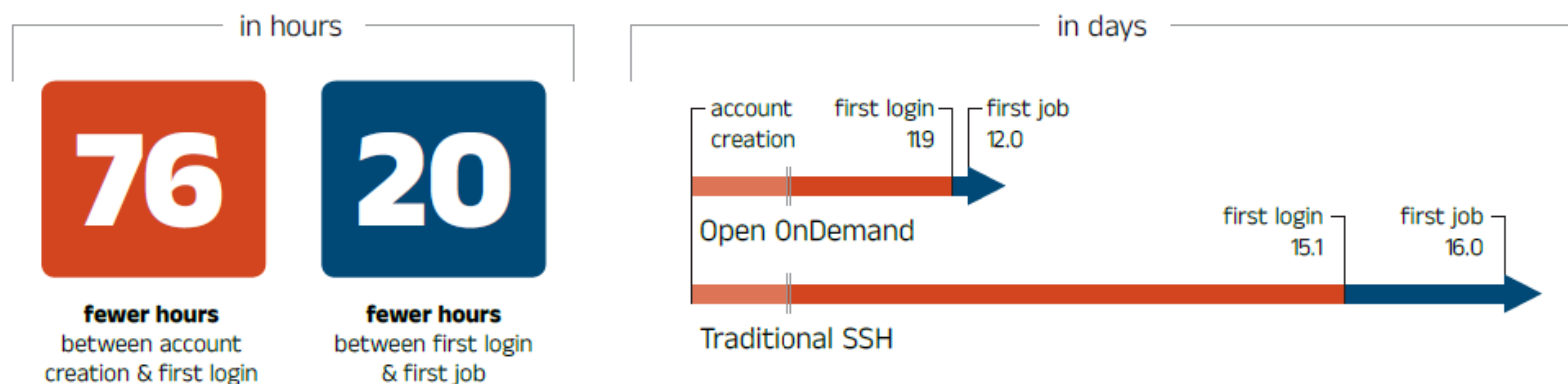
No announcements.

**Coordinators**

Join at [Openondemand.org/portal](https://openondemand.org/portal)

# Science Impact

## Faster time to science Using OnDemand vs. traditional SSH access\*

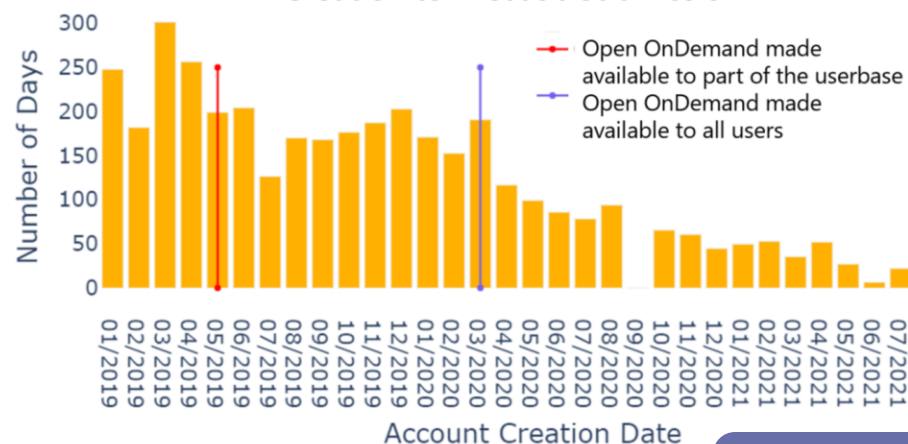


2017

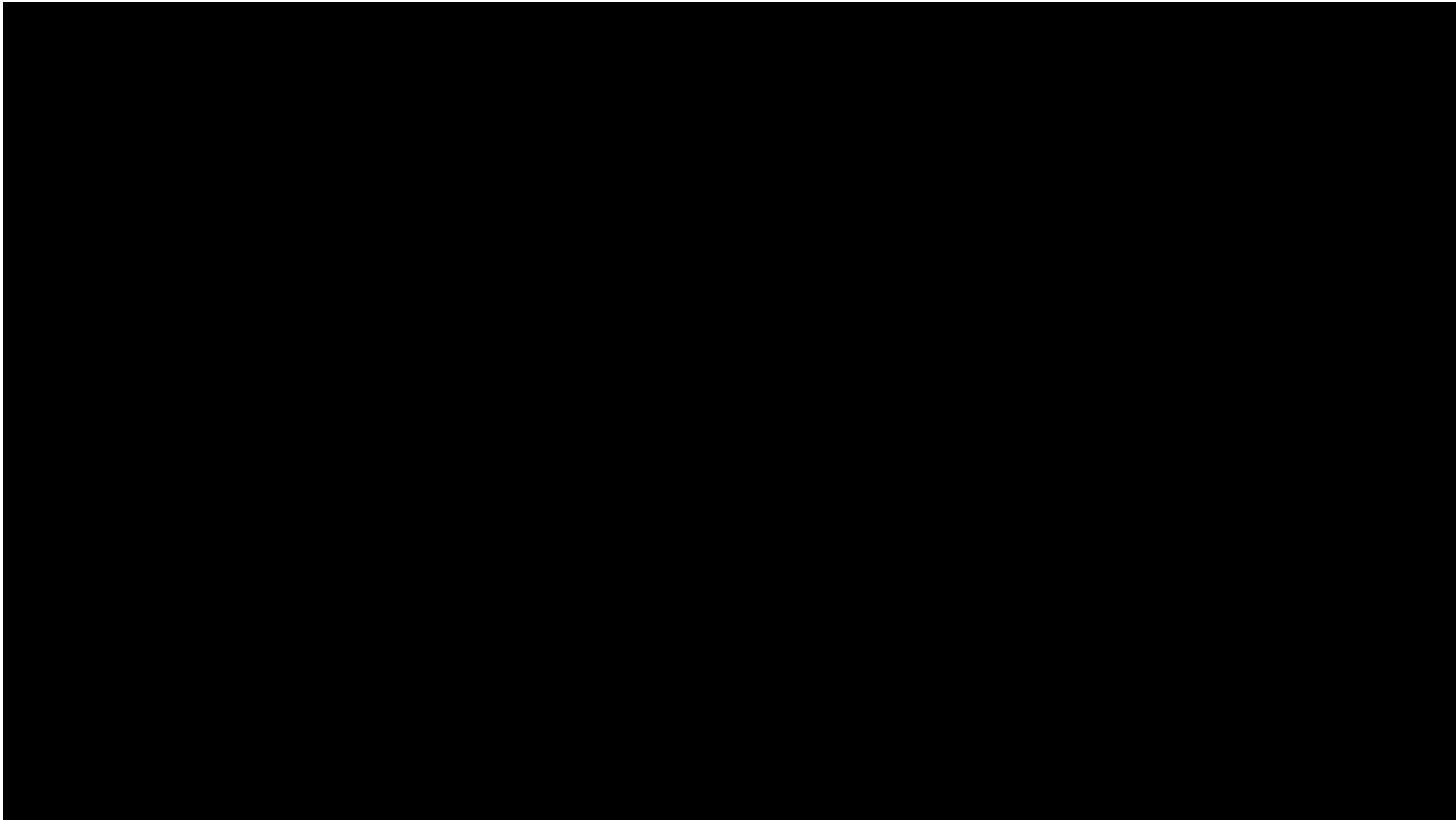
2021

**19x**  
faster time  
to science\*

Average Number of Days Between Account Creation to First Job Submission



# Any Challenge, Every Solution



[openondemand.org/anychallenge](https://openondemand.org/anychallenge)

# Agenda

About Open OnDemand

Community

**Support**

Development



# Established Support Mechanisms



## Discuss on Discourse

The Get Help category features user and admin questions and answers.

[openondemand.org/discourse](https://openondemand.org/discourse)



## Slack Workspace

Communicate and collaborate with the project team and community members.

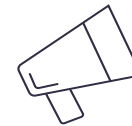
[openondemand.org/slack](https://openondemand.org/slack)



## GitHub Documentation

Outlines installation steps, app guidelines, release notes, and more.

[openondemand.org/docs](https://openondemand.org/docs)



## Constant Contact Newsletter

Subscribe to get notices about upcoming events, new releases and user stories.

[openondemand.org/newsletter](https://openondemand.org/newsletter)

[openondemand.org/support](https://openondemand.org/support)

# 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-timed and Asian-timed versions of these calls will be starting in 2H2025***

[openondemand.org/events](https://openondemand.org/events)

# Customizable Support Subscription

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

## Benefits of Support Subscriptions:

### Priority GitHub issue support

Priority triaging of  
GitHub issues  
opened in the  
Open OnDemand  
repositories.



### Exclusive access to a priority support channel on Discourse

Priority access to a  
support channel,  
monitored by Open  
OnDemand technical  
staff during standard  
business hours.

### Consulting Services available

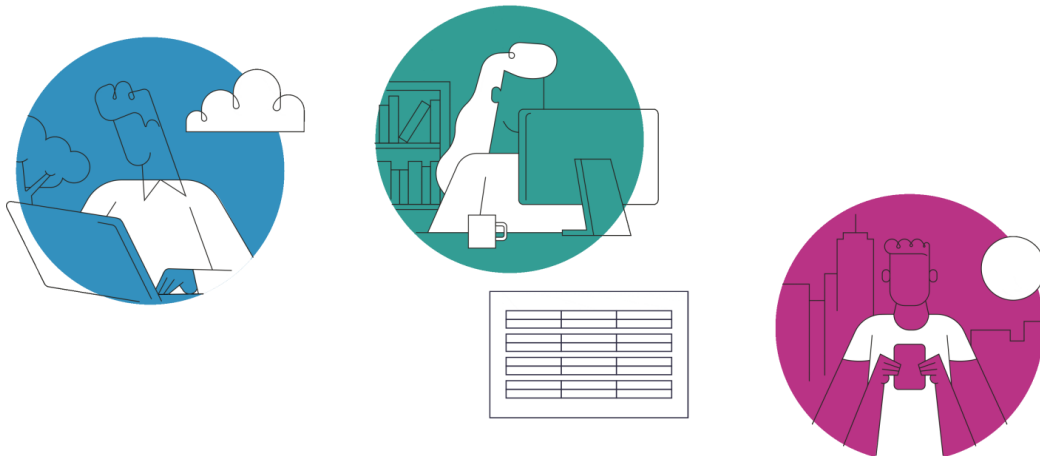
Access to purchase  
consulting hours  
with the Open  
OnDemand  
developers.



[openondemand.org/subscribe](https://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

[openondemand.org/subscribe](https://openondemand.org/subscribe)

# Agenda

About Open OnDemand

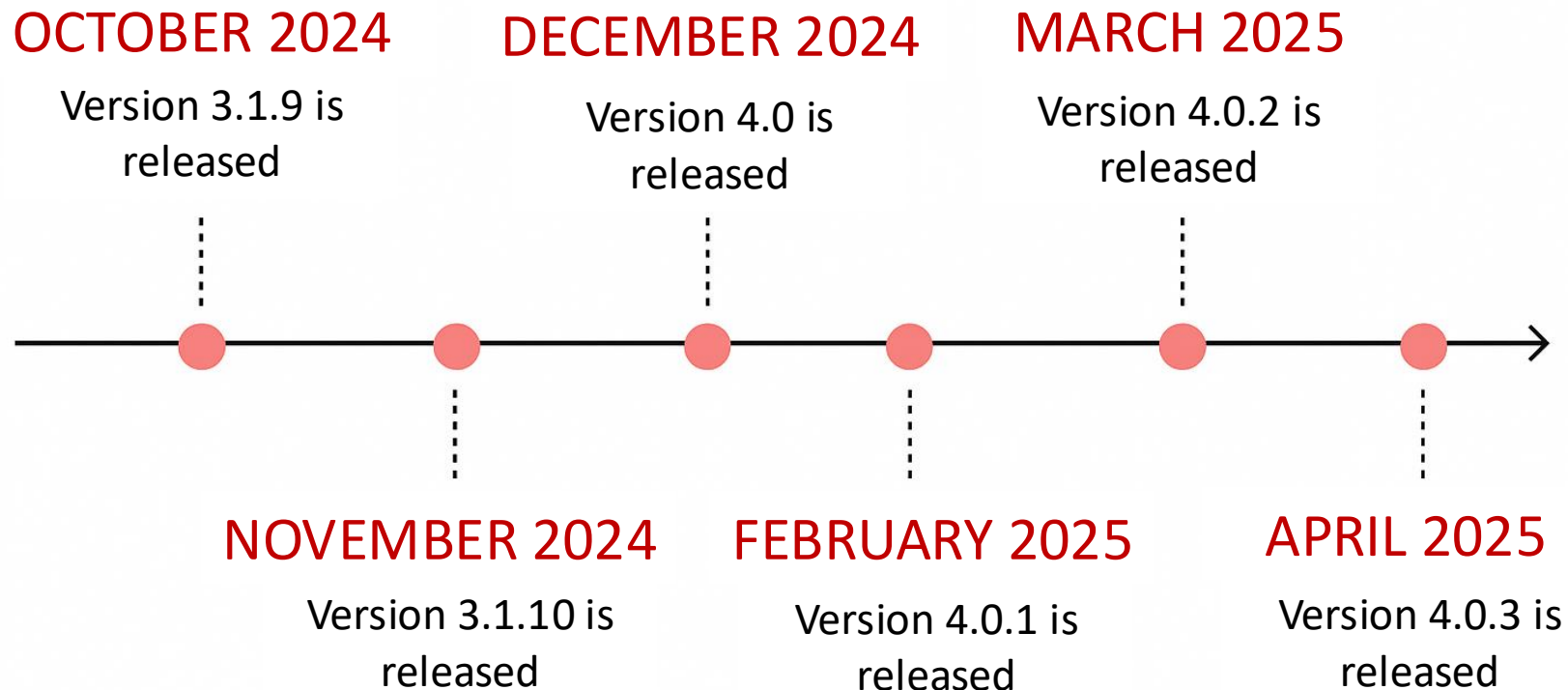
Community

Support

**Development**



# Development Timeline

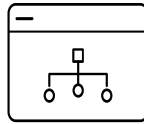


# Development Planning



## Identify

Issues are introduced in  
GitHub or Discourse



## Prioritize

Issues are analyzed and  
prioritized



## Execute

Community or core team  
developers pick up issues



## Release

PRs are reviewed and  
included in the next  
release or patch

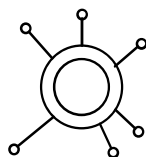
# Technical Updates

**4.1 release in progress** – view GitHub Projects for updates

**New demo container image released** – facilitates  
Open OnDemand test drive

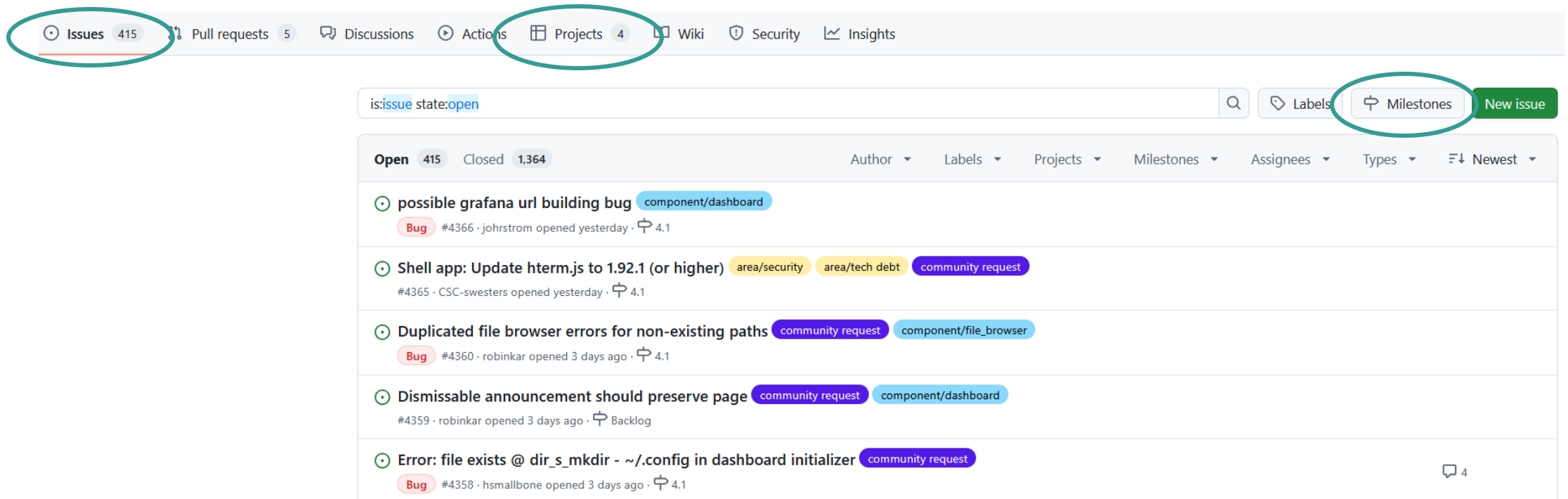
**GitHub issues review effort** – 350+ issues in main repository

**Release announcements** – Thorough Discourse notices



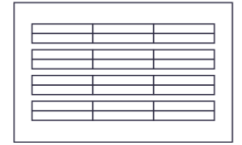
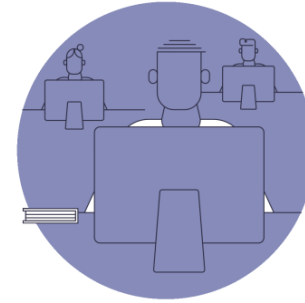
# View the Action

## ondemand Repository



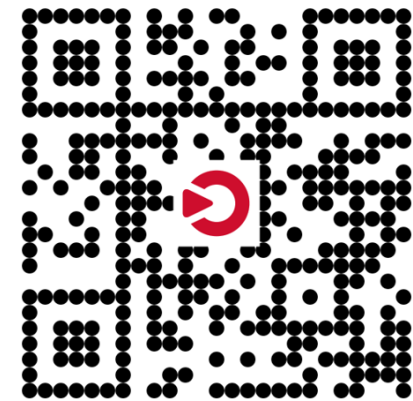
The screenshot shows the GitHub repository page for 'ondemand'. The navigation bar at the top includes 'Issues 415', 'Pull requests 5', 'Discussions', 'Actions', 'Projects 4', 'Wiki', 'Security', and 'Insights'. The 'Issues' and 'Actions' items are circled in green. Below the navigation bar is a search bar containing 'is:issue state:open' and buttons for 'Labels', 'Milestones', and 'New issue'. The 'Milestones' button is also circled in green. The main content area shows a list of issues with filters for 'Open 415' and 'Closed 1,364'. The issues list includes:

- possible grafana url building bug** (Bug #4366 · johrstrom opened yesterday · 4.1) with label 'component/dashboard'.
- Shell app: Update hterm.js to 1.92.1 (or higher)** (area/security, area/tech debt, community request #4365 · CSC-swesters opened yesterday · 4.1).
- Duplicated file browser errors for non-existing paths** (Bug #4360 · robinkar opened 3 days ago · 4.1) with labels 'community request' and 'component/file\_browser'.
- Dismissable announcement should preserve page** (community request, component/dashboard #4359 · robinkar opened 3 days ago · Backlog).
- Error: file exists @ dir\_s\_mkdir - ~/.config in dashboard initializer** (Bug #4358 · hsmallbone opened 3 days ago · 4.1) with label 'community request' and 4 comments.



# Open OnDemand: Unlocking HPC Resources Through the Browser

Emily Moffat Sadeghi  
emoffat@openondemand.org



[openondemand.org/signup](https://openondemand.org/signup)