Advanced Molecular Detection
Southeast Region Bioinformatics

Open OnDemand
May 15, 2023

Outline

Agenda

What is Open OnDemand?

Open OnDemand on HPG

Open OnDemand Navigation & Demo

Questions

Agenda

May 29 – AMRFinder+ and Pha4ge's hAMRonization pipeline
June 12 – Outbreak/Cluster Training
June 26 – GitHub and git clone

Future Trainings
- ONT & FL's Flisochar pipeline
- Bactopia programs
- StaPH-B Toolkit Programs/Pipelines
- GISAID flagged SARS-CoV-2
- Dryad pipeline
- R Training series
- …and more

What is Open OnDemand?

- Open OnDemand is setup to provide a web interface to starting and attaching to HiPerGator jobs and it supports GUI programs, Job status, and other interactions with HiPerGator via seamless connections through web browsers.

- Open OnDemand service is available at the following URL: https://ondemand.rc.ufl.edu

- **Note:** IT Department may block from using Open OnDemand on your computer, so please make sure you contact IT people to solve this issue.

Open OnDemand on HPG

1. Connect to https://ood.rc.ufl.edu/
2. Launch a terminal
3. Launch many graphical applications like Rstudio, VScode, Matlab, etc.
4. Manage job submission
5. Upload, download, and edit files via your browser

Open OnDemand Dashboard

Navigating menus on Dashboard

Files:

This menu will allow you to access your group's storage areas including:

- Home
- Orange
- Blue

Jobs:

This menu shows both the status and job composer links

- Job status – shows the current status of your jobs like pending, running, and recently completed jobs
- Job composer – allows the user to access OnDemand to run your existing SLURM scripts

Navigating Menus on Dashboard

Clusters

- Opens a terminal shell in your browser that allows to access the HPG

Interactive apps

- Drop-down menu with a list of the current interactive GUI applications available in OnDemand
- If you don't find the application you were looking for, feel free to select the "console" application and use the HPG 'module load' command to load and run your application

Navigating Menus on Dashboard

- Some of the applications that are currently available are:
  - GUIs – console, Matlab, Rstudio, VScode, Spyder, etc.
  - HWGUI (Hardware GUI) Apps – Freeview, MRview, etc.
  - Servers – Jupyter Notebook

My Interactive sessions

- Provides access to the list of the currently running interactive OnDemand jobs

Navigating Menus on Dashboard

Help

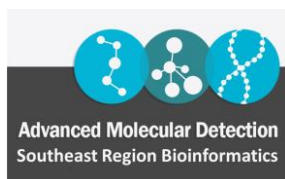- Provides access to some quick links for help on HPG and OnDemand

Logout

- This helps you to logout of the OnDemand page

Starting an Interactive Application

- Select the application from drop-down menu of "Interactive Applications" to start an interactive application
- A form with the SLURM options will pop up on the screen for that application
- Fill in the fields with the resources you would like to allocate for the application session

Interactive Application

General Form Fields

- Version – select the version of the application you want to load

- Number of MPI Tasks (--ntasks)

- Number of CPU cores requested per MPI task (--cpus-per-task, -p)

- Maximum memory requested for this job in Gigabytes (--mem, -m)

    - **Note**: If you are using advanced memory options in Additional SLURM Options below, then leave this blank.

- Time Requested for this job in hours (--time, -t)

General Form Fields

- SLURM Account (--account, -A): bphl-umbrella
- QoS (Required if custom Account is set, --qos, -q): bphl-umbrella
- Cluster partition (--partition, -p)
- Generic Resource Request (--gres)
- Additional SLURM Options

Select launch to submit your job request

Connecting to an Interactive application

- Once the job has started, connect using the **"My Interactive Applications"** menu

- Select this menu and you will see a connection box for each application you have running and pending

- Once the job starts, a **Launch (App Name)** icon will appear

- Select this link to open a new browser window connecting you to your application

Job Connect Card

Job Connect Card

- This section outlines several of the key features of the job connect card:

  - **JobID**: This is the SLURM JobID for this job

  - **Delete**: This will cancel a running job, (or delete the session if the job has already ended)

  - **OOD Session ID**: This is the unique identifier for the OOD session for this job, can be clicked to bring up the OOD log directory for troubleshooting

Job Connect Card

- **Image Quality**: This setting controls the quality of the visual interface at the source, use a lower setting for slower internet connections
- **Compression**: This setting adjusts the amount of CPU based compression used for the NoVNC connection, use higher settings for slower connections but note it will increase CPU usage on both the job and client
- **Launch Button**: Click this button to connect to your running job in a web-browser session

VS Code Remote Development

- Detailed information on VS Code Development can be accessed here [VSCode Remote Development - UFRC (ufl.edu)](ufl.edu)

- Visual Studio Code is a code editor redefined and optimized for building and debugging modern web and cloud applications

- Running VSCode on HiPerGator through OOD is kind of slow and limiting in terms of extensions and updates

Time for Questions & Feedback

- Questions?
  - Do you need help with anything?
  - Requests for separate trainings?
- Feedback
  - What would you like to see?

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Questions?

bphl-sebioinformatics@flhealth.gov

Lakshmi Thsaliki, MS
Bioinformatician
Lakshmi.Thsaliki@flhealth.gov

Molly Mitchell, PhD
Bioinformatician
Molly.Mitchell@flhealth.gov

Sarah Schmedes, PhD
Bioinformatics Supervisor
Sarah.Schmedes@flhealth.gov