OPEN OnDemand

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Louisiana State University
Baton Rouge
March 4, 2020

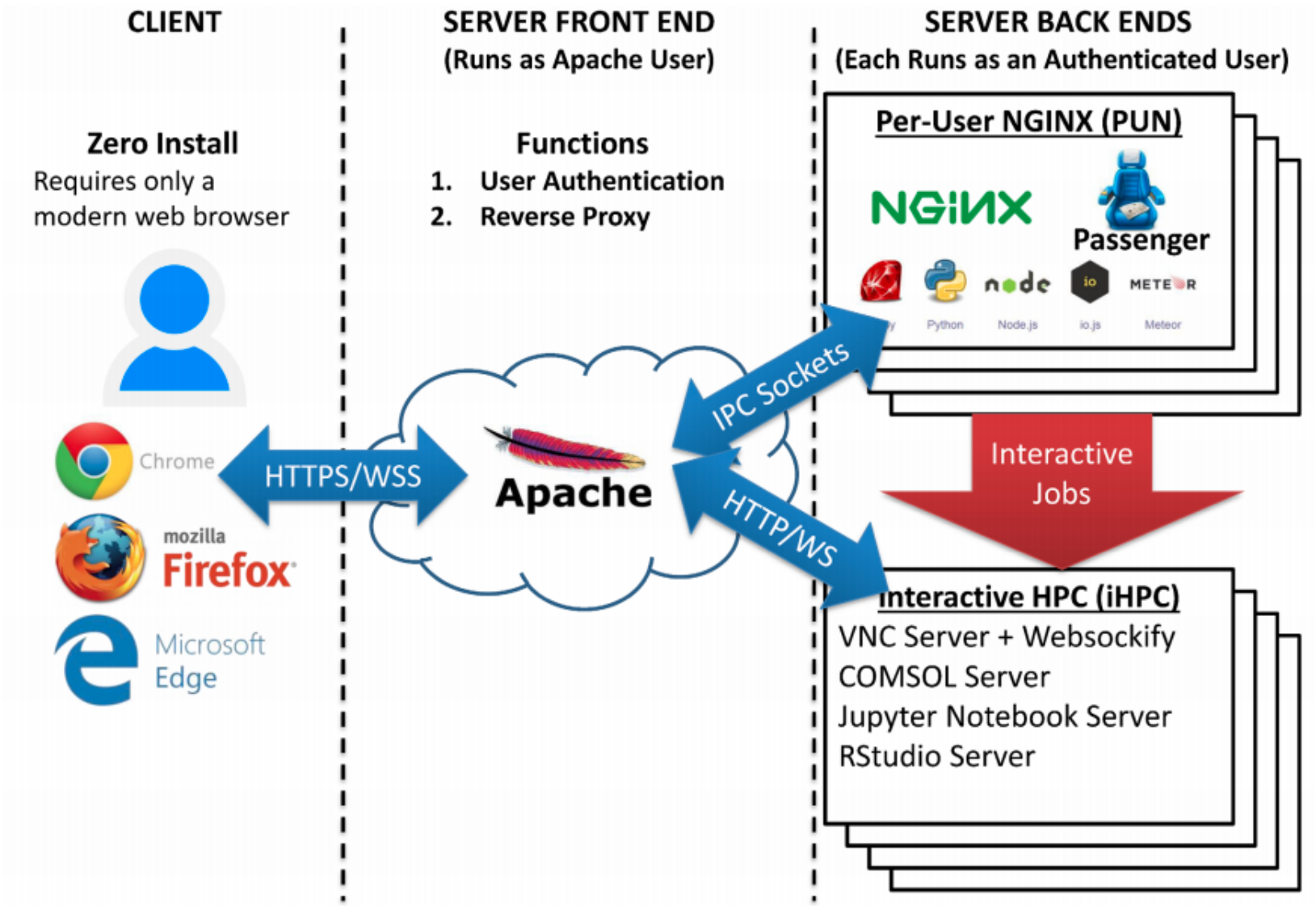
Outline

- **Things to be covered in the training**
  - What is Open OnDemand?
  - Open OnDemand Architecture
  - Open OnDemand at LSU
  - Getting Started
    - New users: create LSU HPC account
    - Logging into Open OnDemand
  - Walkthrough
    - File Explorer
    - Shell Access
    - Submit and Monitor Jobs
    - Apps: Jupyter and RStudio

What is Open OnDemand?

- **Open, Interactive HPC via the Web**
  - Easy to use, plugin-free, web-based access to supercomputers
  - File Management
  - Command-line shell access
  - Job management and monitoring
  - Applications (currently Jupyter and Rstudio)
- **NSF-funded project**
  - SI2-SSE-1534949 and CSSI-Software-Frameworks-1835725
  - Ohio Supercomputing Center
  - Deployed at dozens of sites (universities, supercomputing centers)

Open OnDemand Architecture

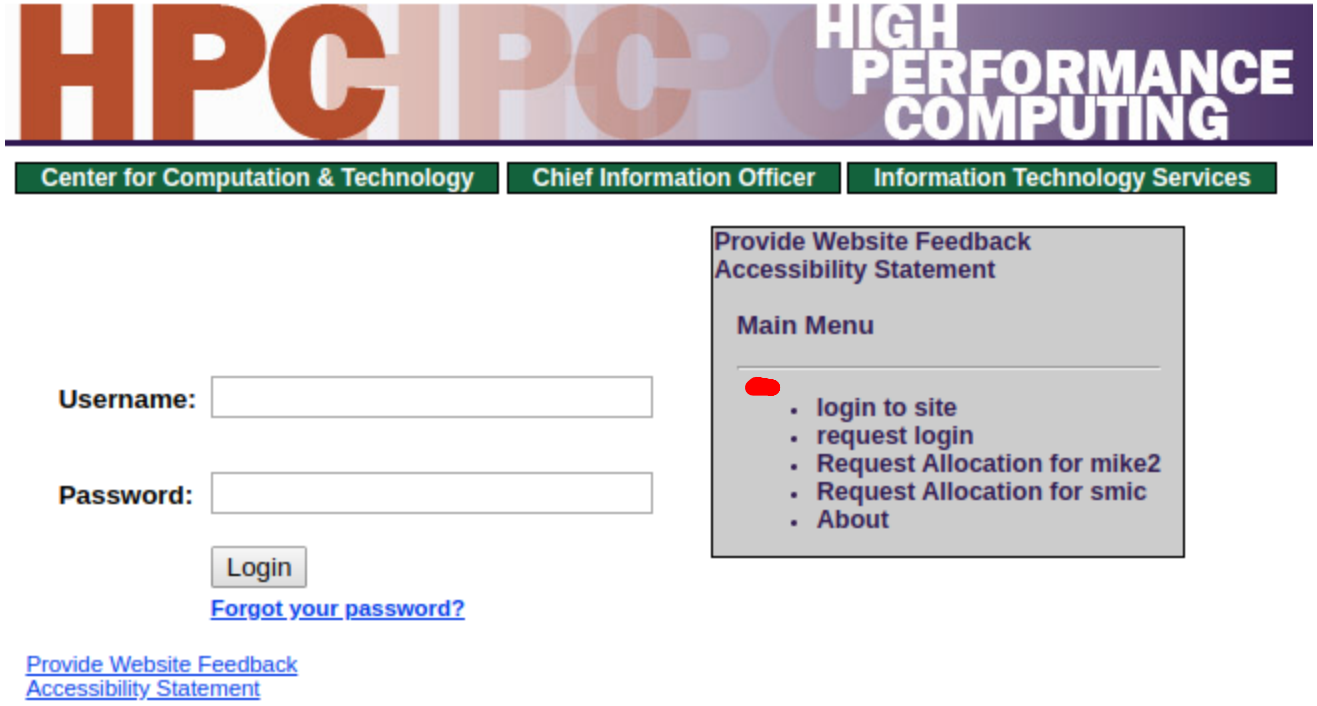


Open OnDemand at LSU

- **Currently only available for SuperMike-II cluster**
- **Accessible on campus (wired and eduroam) and via LSU's VPN**
  - Installing AnyConnect: grok.lsu.edu -> search "vpn"
  - Instructions for Mac, Windows, Linux
- **Launched late 2019**
- **Opened to all LSU HPC users February 2020**
- **Functionality currently available:**
  - File Browser, Allocation balances & Disk quotas
  - Submit and Monitor Jobs
  - Shell Access
  - Interactive Apps: Jupyter Notebooks & RStudio

Getting Started

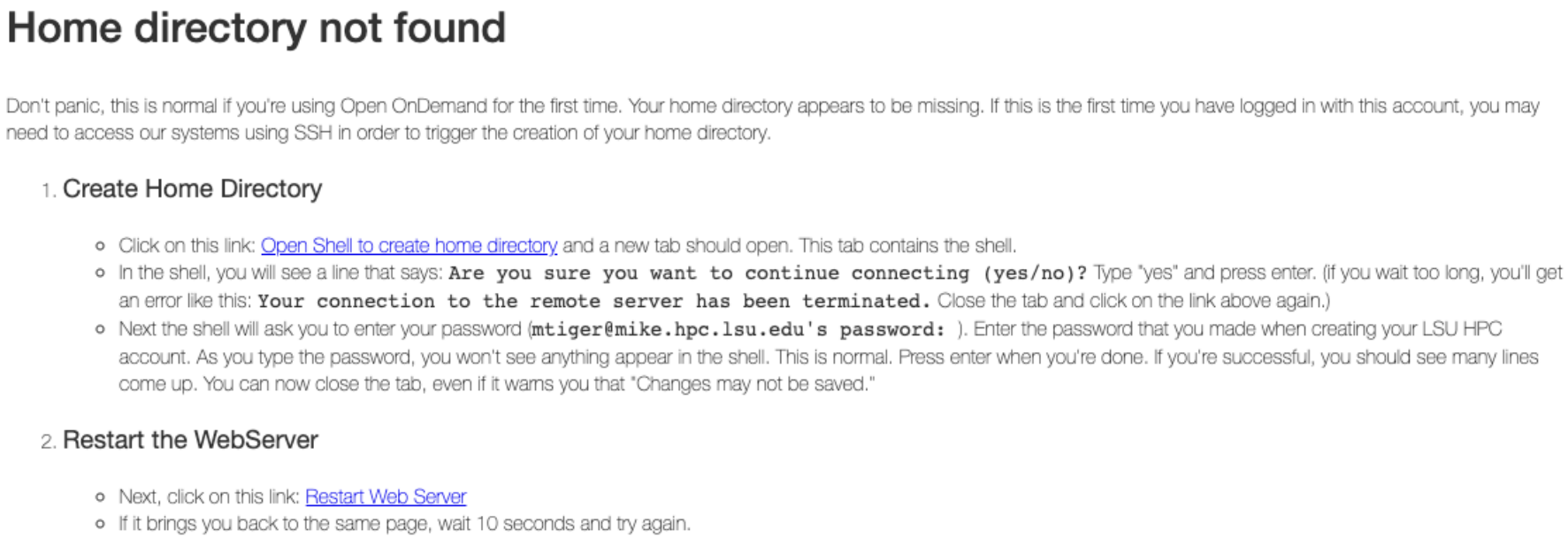
- **What do I need?**
  - **LSU HPC account (and active allocation)**
    - **New users: accounts.hpc.lsu.edu → "request login"**



Getting Started

ondemand.mike.hpc.lsu.edu

- **Logging in for the first time**
  - Sign in with your LSU HPC credentials
  - If you have never logged into an LSU HPC cluster before, follow the instructions to create a home directory
  - Follow the link to launch a shell, which will create your home directory
  - Click the link to reload the web browser



Home directory not found

Don't panic, this is normal if you're using Open OnDemand for the first time. Your home directory appears to be missing. If this is the first time you have logged in with this account, you may need to access our systems using SSH in order to trigger the creation of your home directory.

1. Create Home Directory
   - Click on this link: Open Shell to create home directory and a new tab should open. This tab contains the shell.
   - In the shell, you will see a line that says: **`Are you sure you want to continue connecting (yes/no)?`** Type "yes" and press enter. (if you wait too long, you'll get an error like this: **`Your connection to the remote server has been terminated.`** Close the tab and click on the link above again.)
   - Next the shell will ask you to enter your password (**`mtiger@mike.hpc.lsu.edu's password:`**). Enter the password that you made when creating your LSU HPC account. As you type the password, you won't see anything appear in the shell. This is normal. Press enter when you're done. If you're successful, you should see many lines come up. You can now close the tab, even if it warns you that "Changes may not be saved."
2. Restart the WebServer
   - Next, click on this link: Restart Web Server
   - If it brings you back to the same page, wait 10 seconds and try again.

Getting Started

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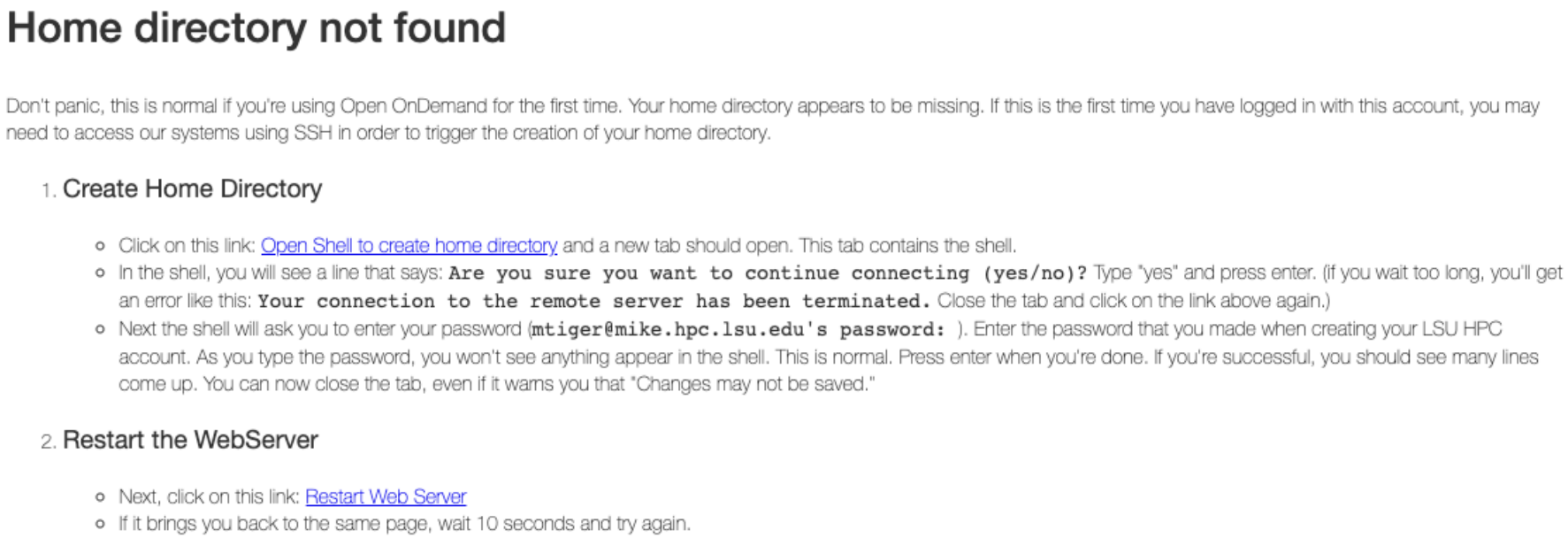

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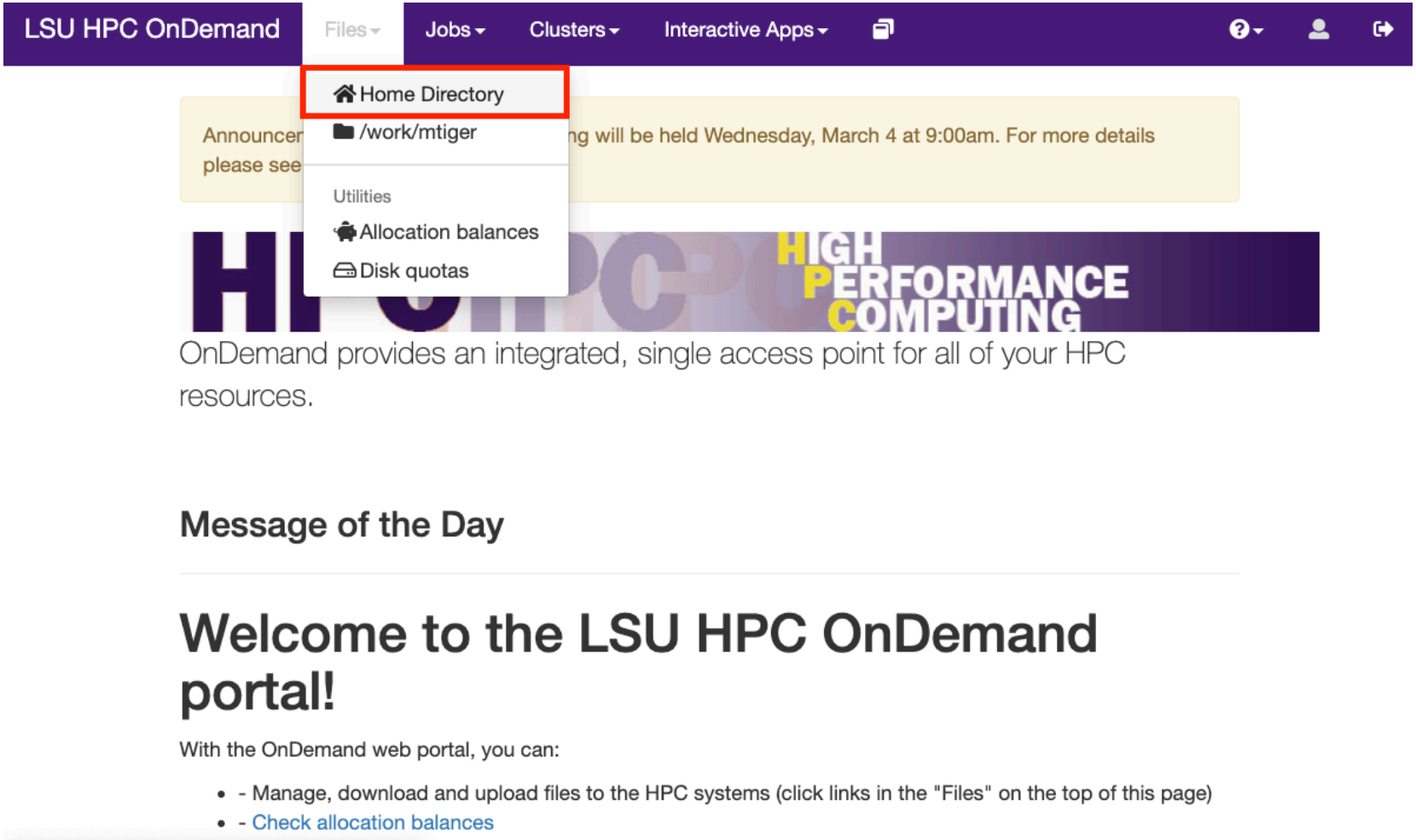
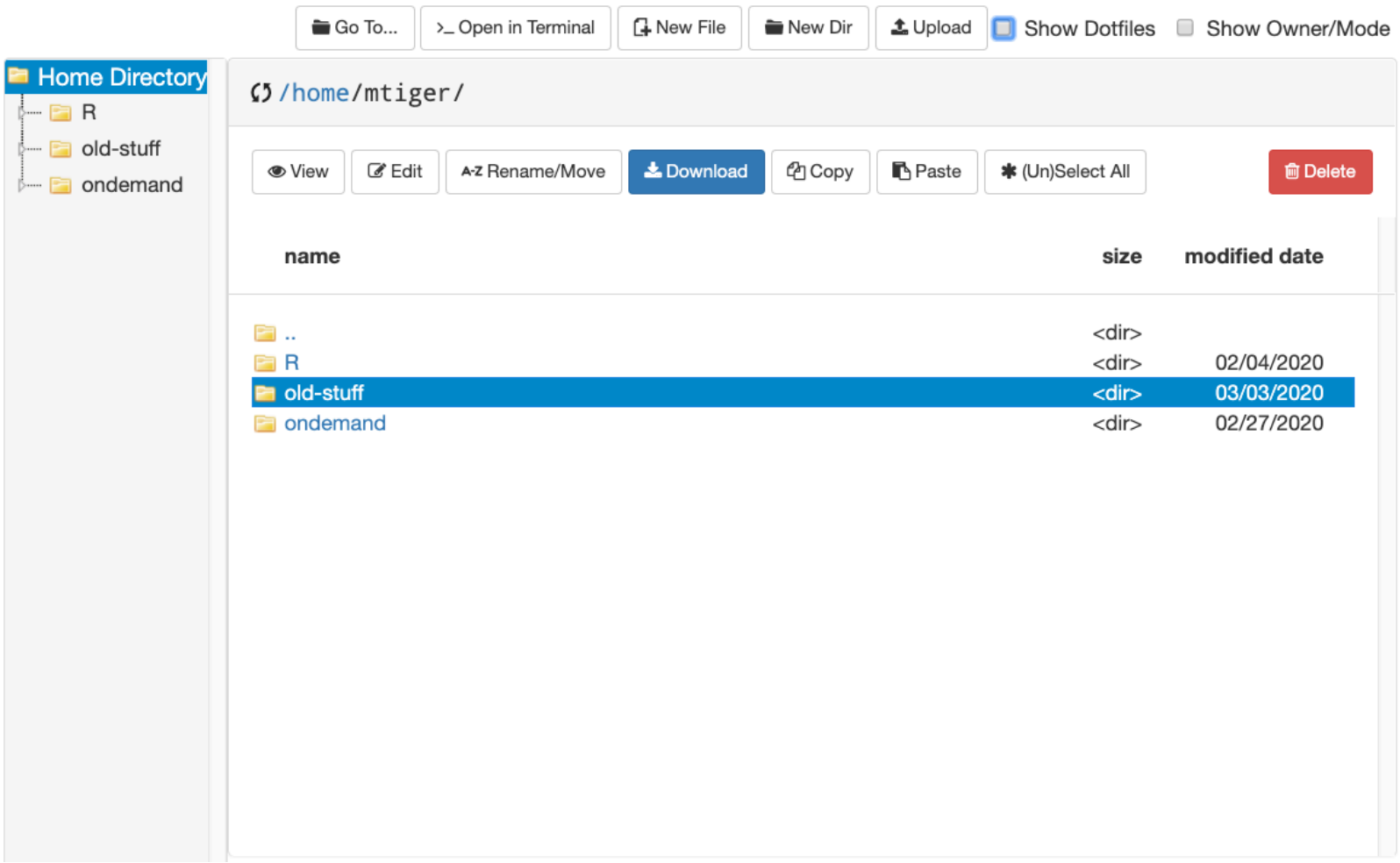
File Explorer



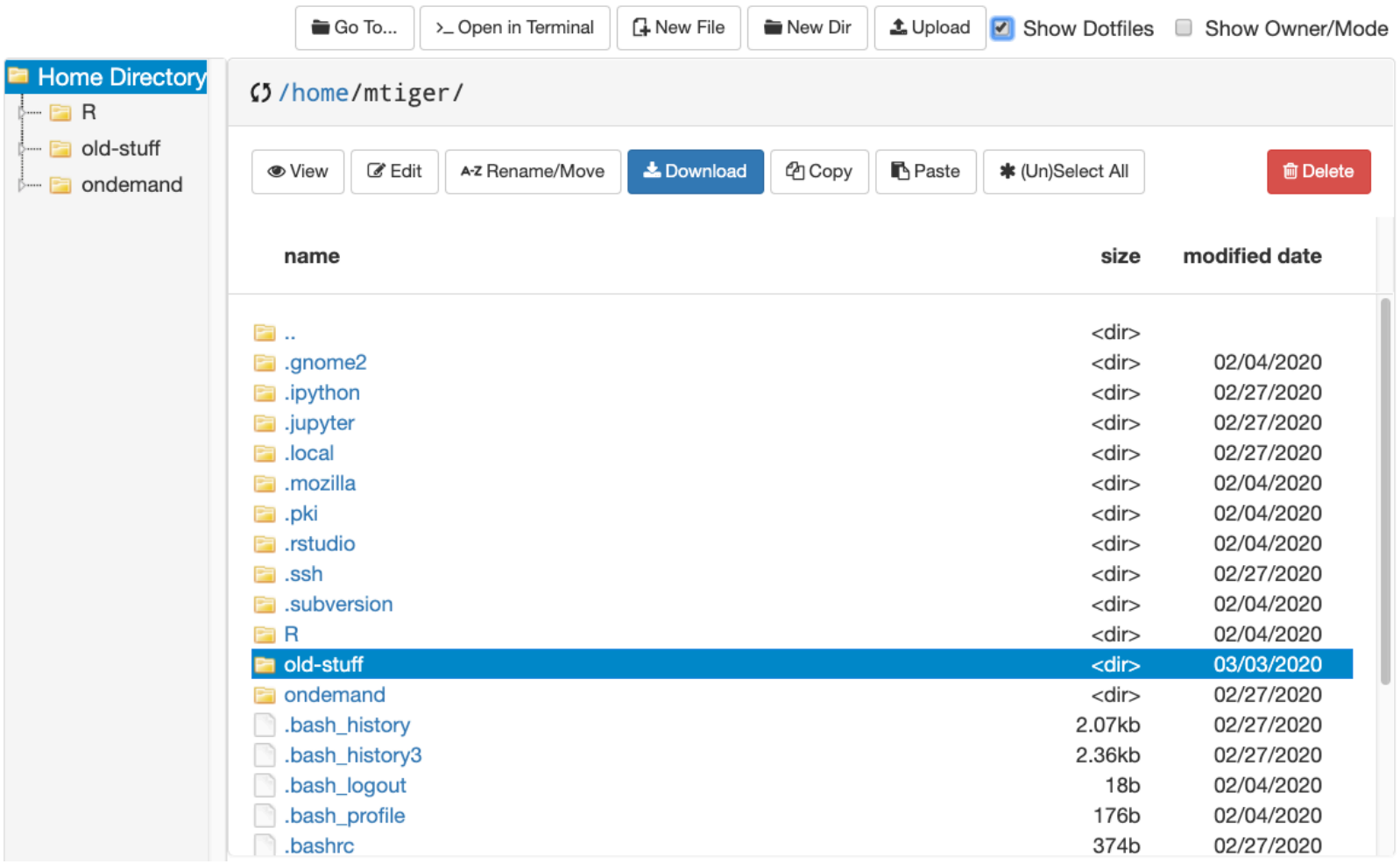
Opening the File Explorer

File Explorer



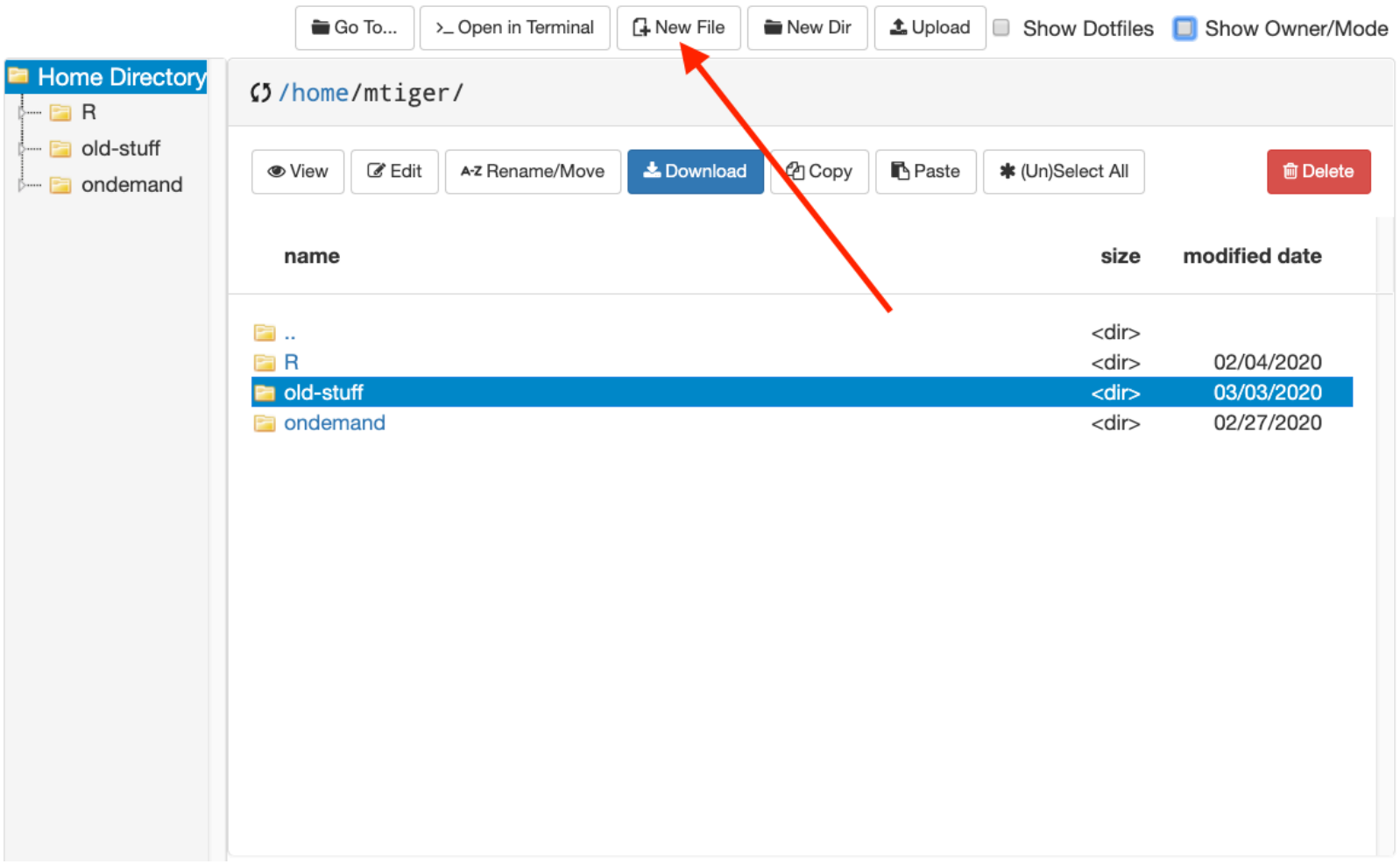
Default view in the File Explorer (opens in new tab)

File Explorer



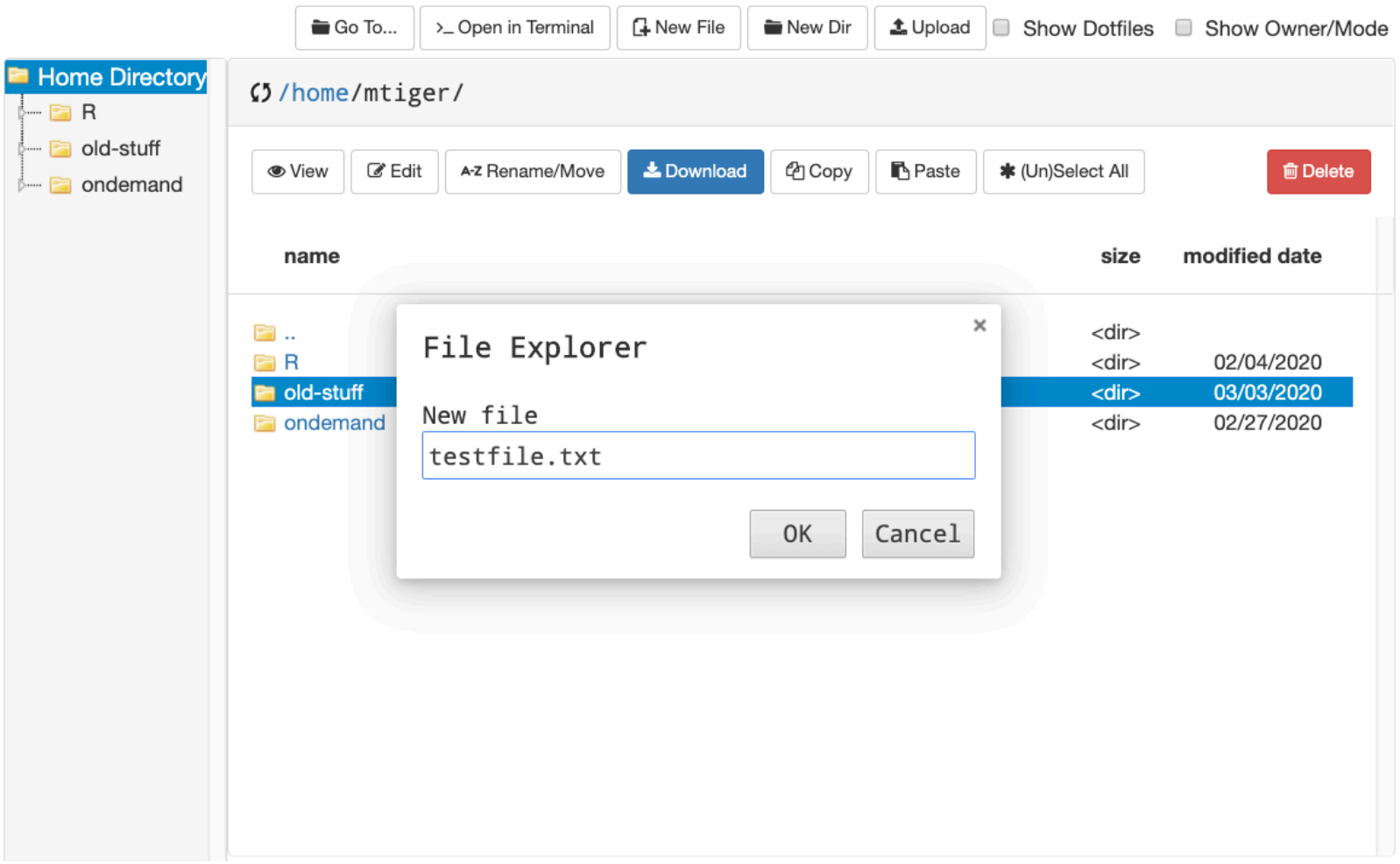
Showing hidden files “Dotfiles” in the File Explorer

File Explorer



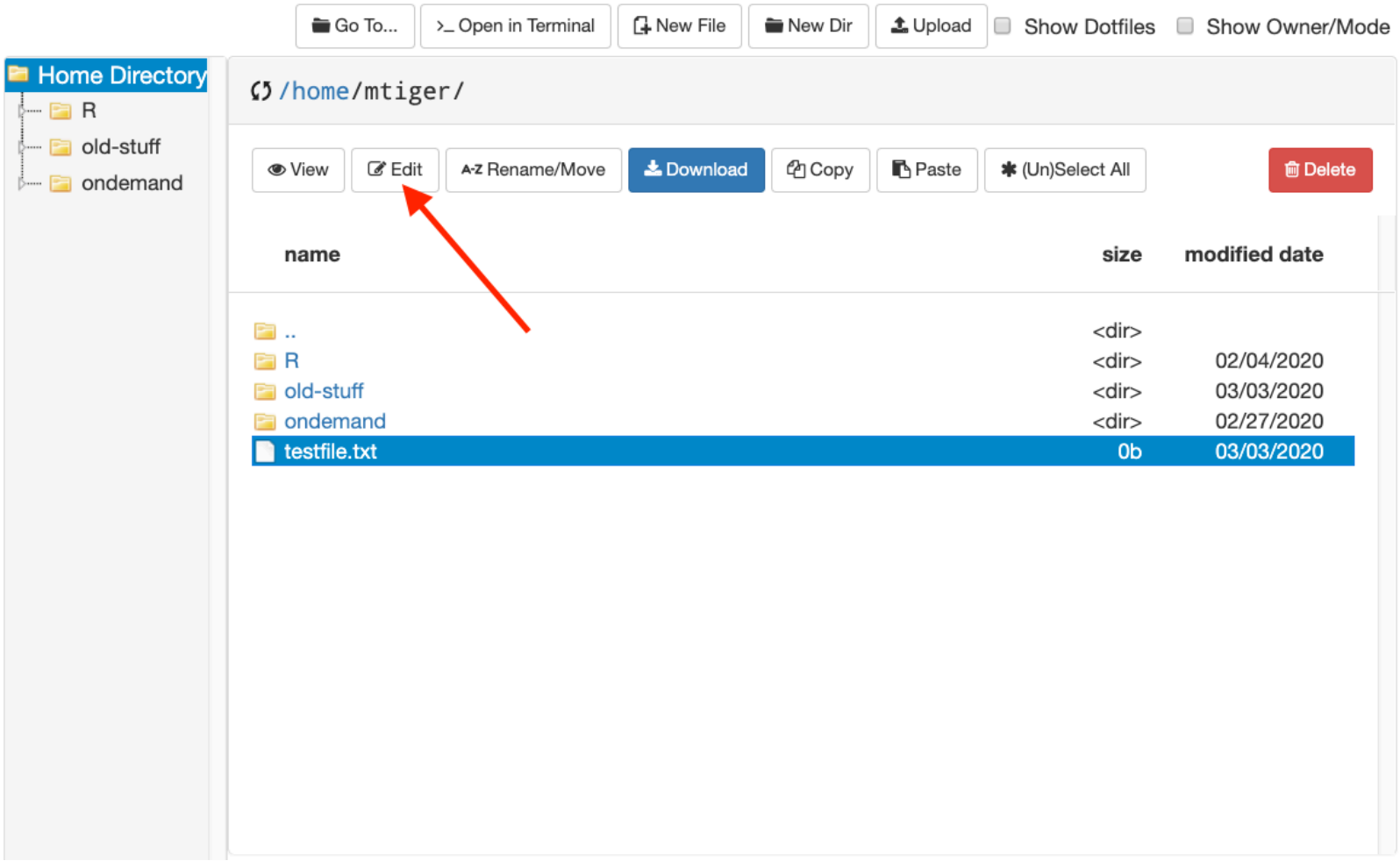
Creating a new file

File Explorer



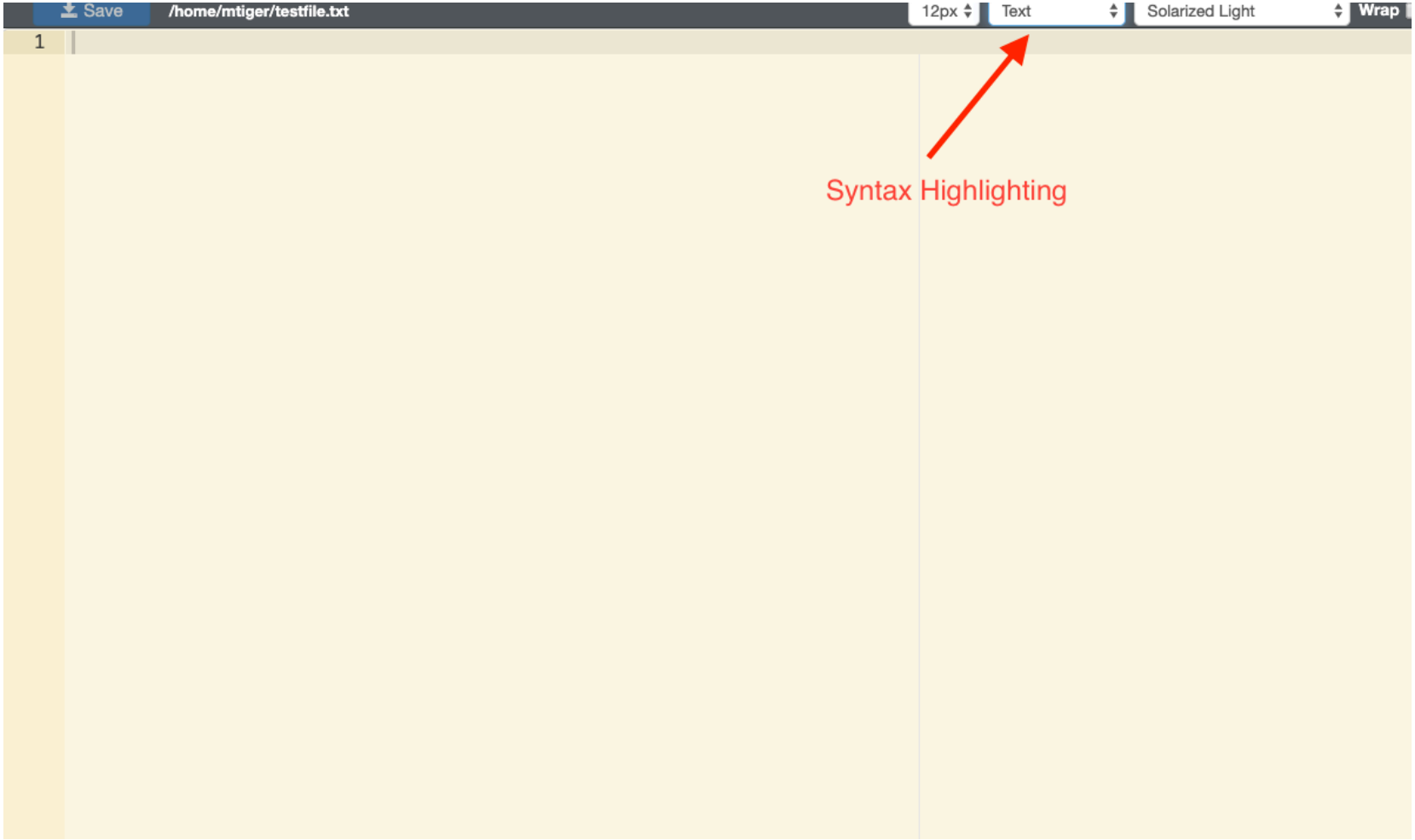
Naming new file

File Explorer



Opening the Text Editor

File Explorer



Text Editor (opens in new tab): Syntax Highlighting

File Explorer

Save /home/mtiger/testfile.txt 12px Python Solarized Light Wrap

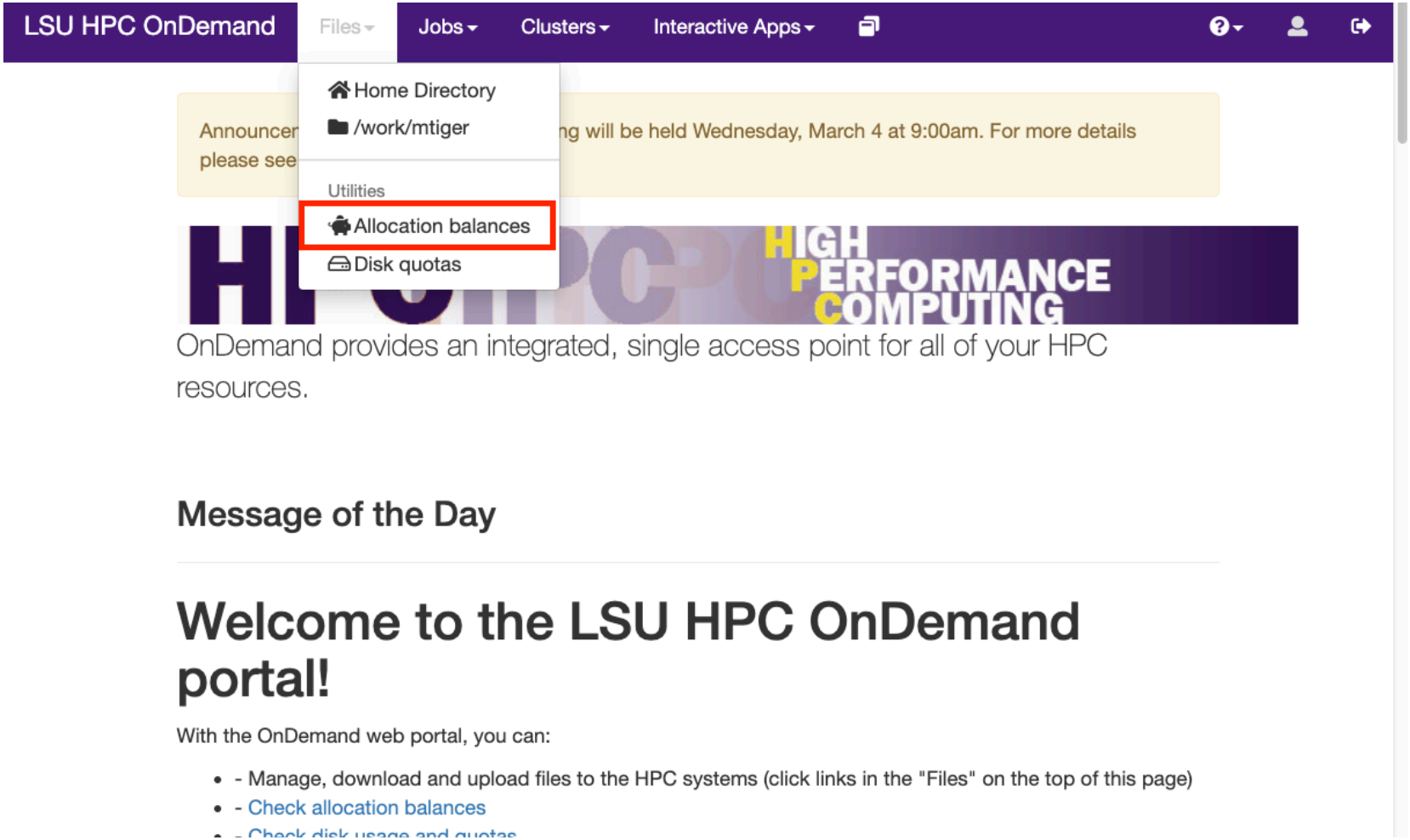
```
1  # Python program to find the factorial of a number provided by the user.
2
3  # change the value for a different result
4  num = 7
5
6  # To take input from the user
7  #num = int(input("Enter a number: "))
8
9  factorial = 1
10
11 # check if the number is negative, positive or zero
12 if num < 0:
13    print("Sorry, factorial does not exist for negative numbers")
14 elif num == 0:
15    print("The factorial of 0 is 1")
16 else:
17    for i in range(1,num + 1):
18        factorial = factorial*i
19    print("The factorial of",num,"is",factorial)
20
```

Text Editor: example Python code

File Explorer

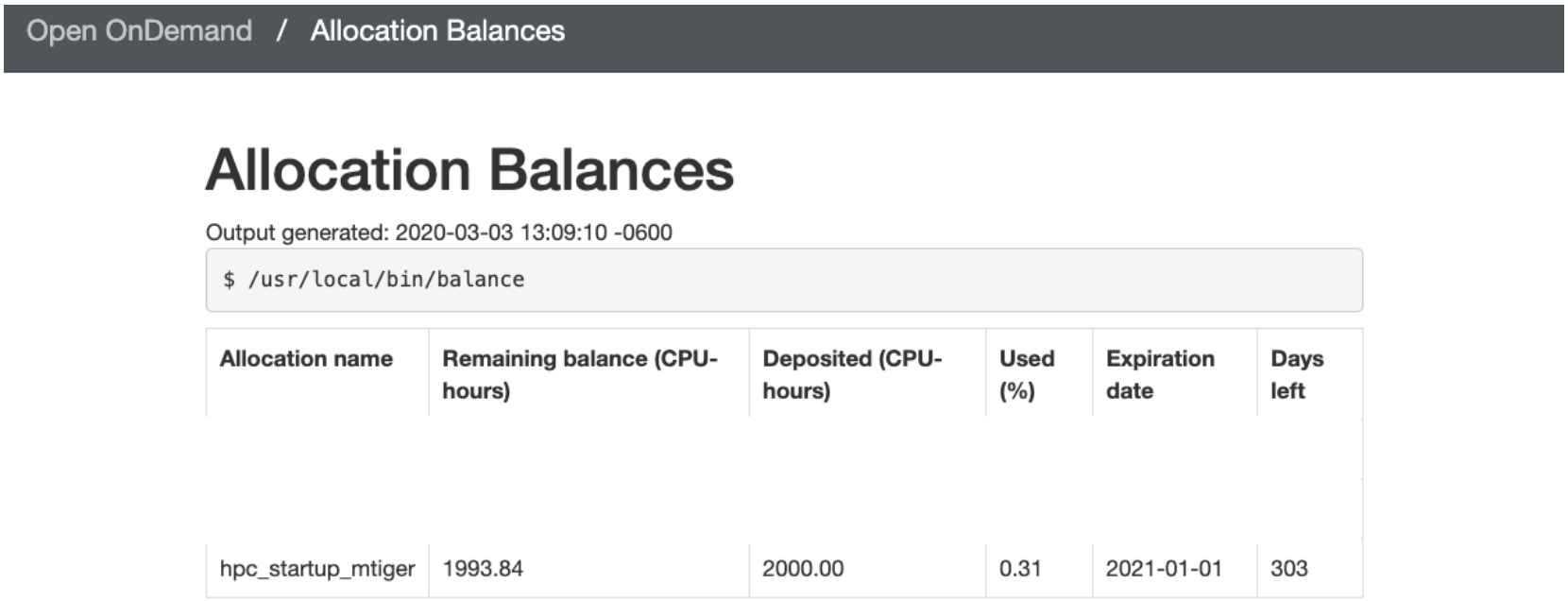
Click Save, then close tab to close File Editor.

Utilities



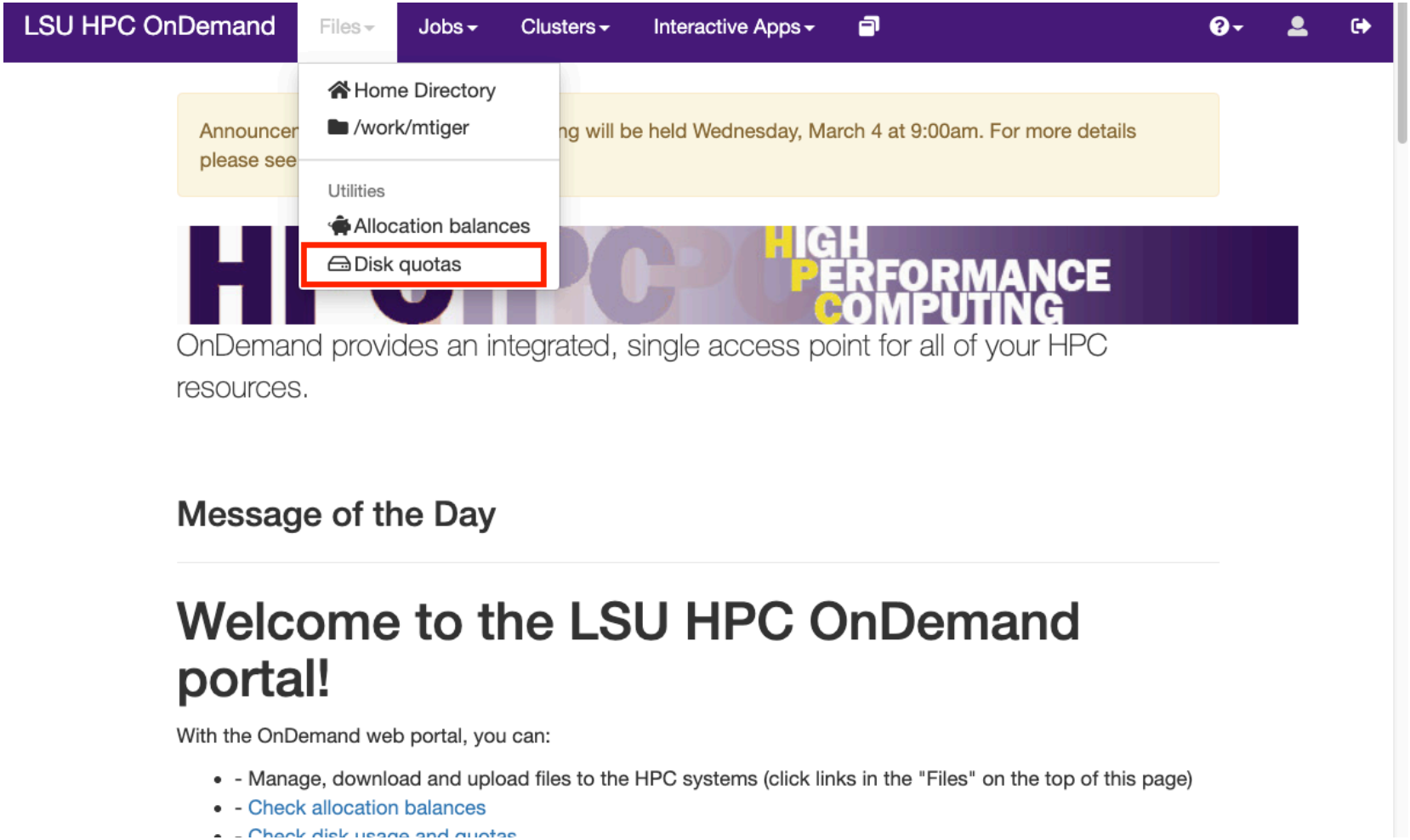
Allocation balances

Utilities



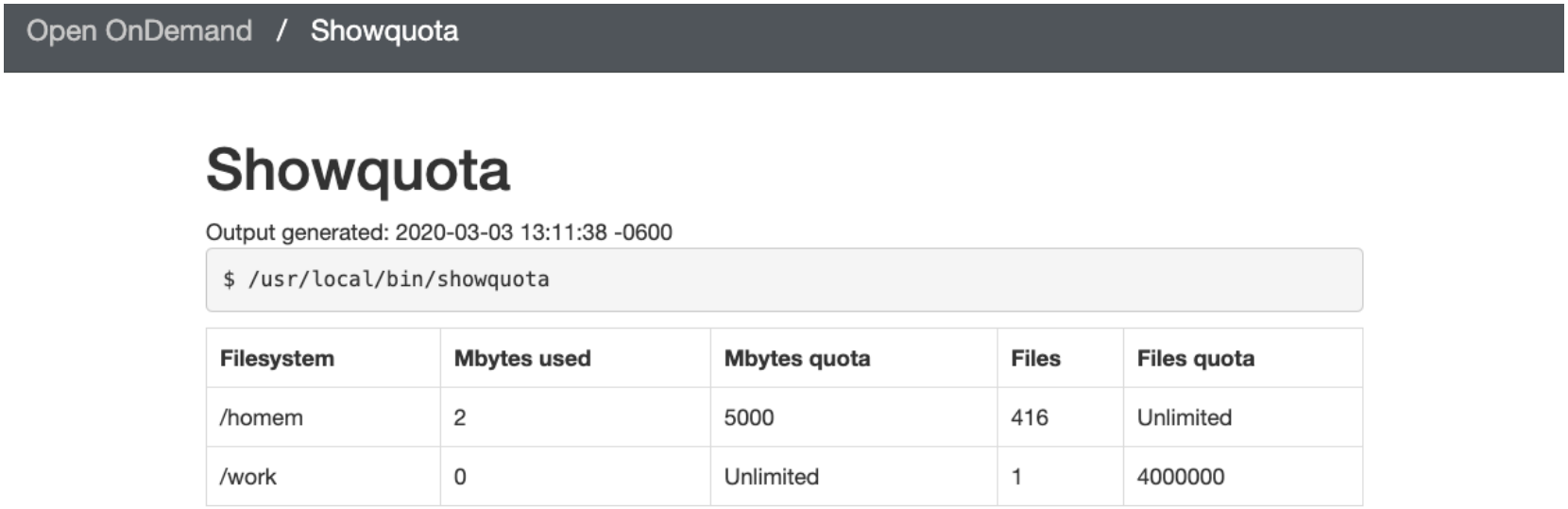
Allocation Balances (close tab when done)

Utilities



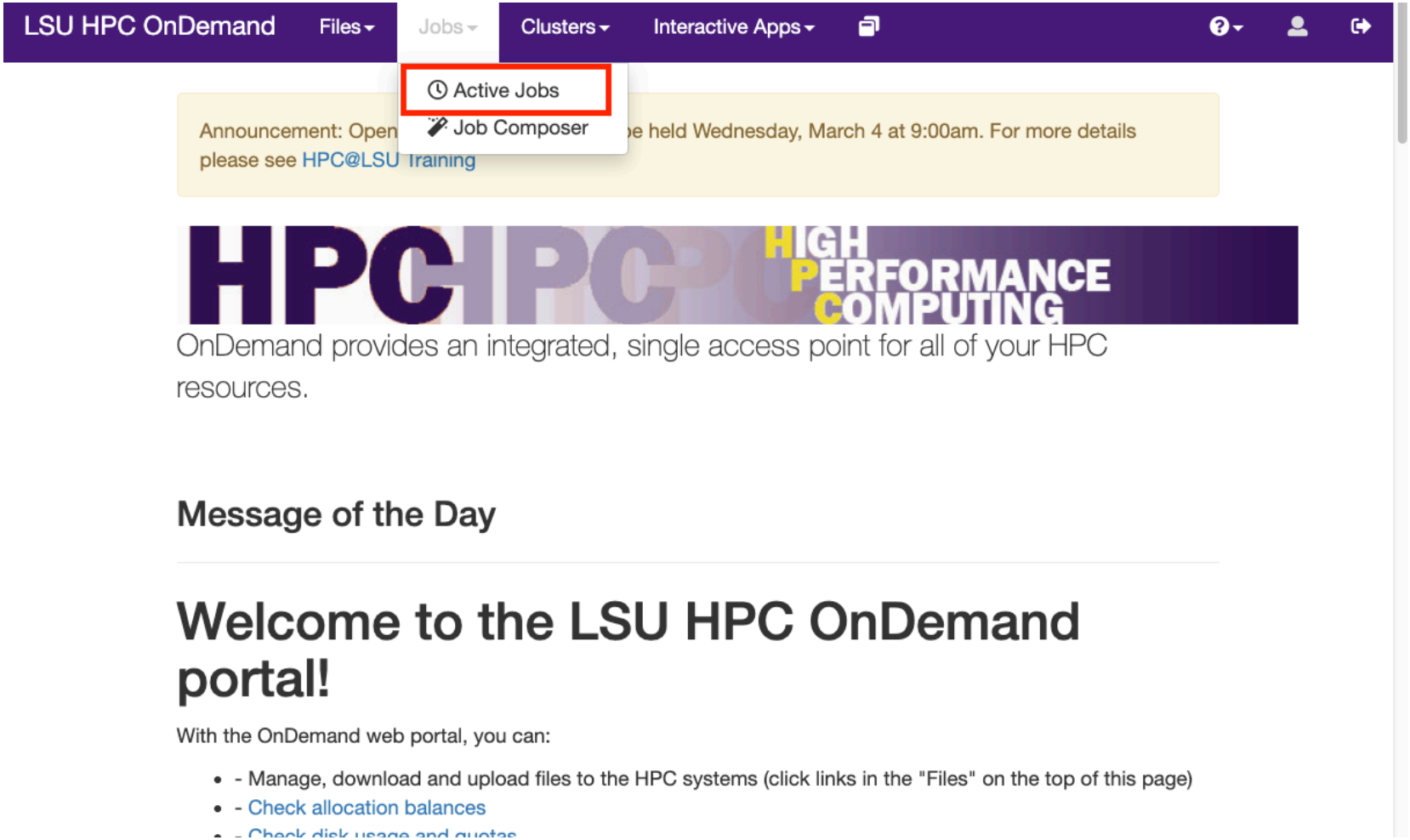
Disk quotas

Utilities



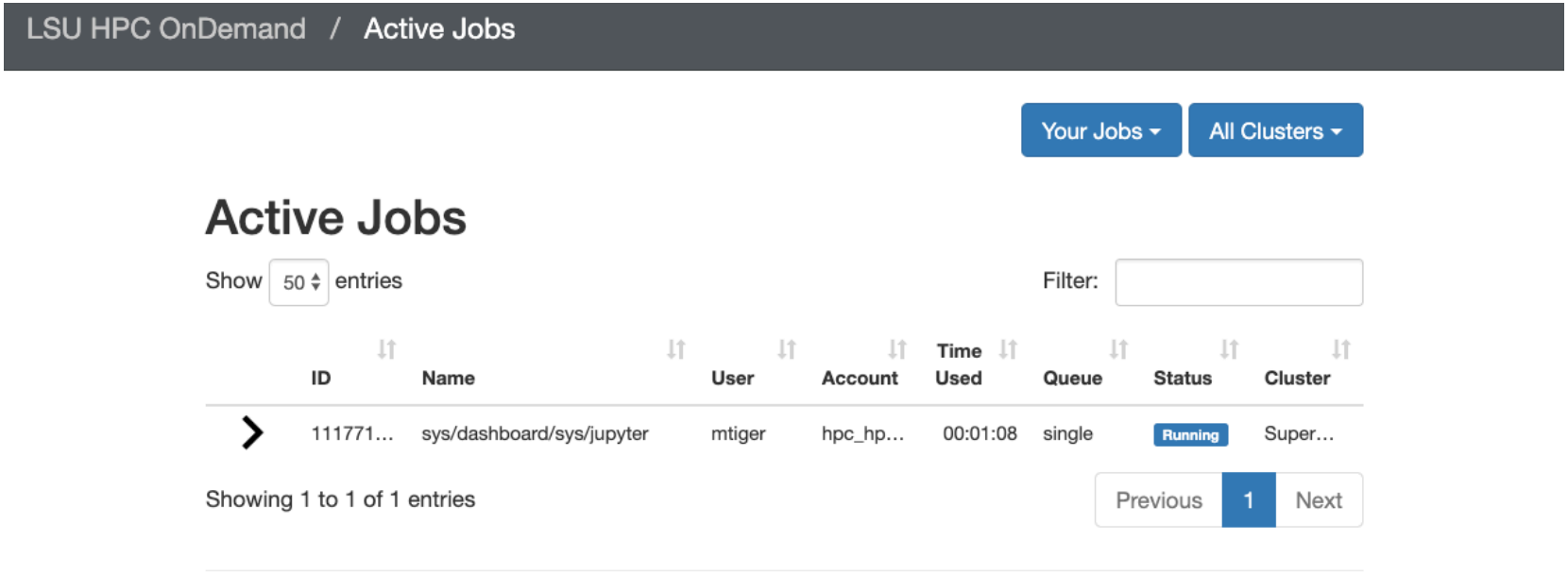
Showquota (close tab when finished)

Jobs



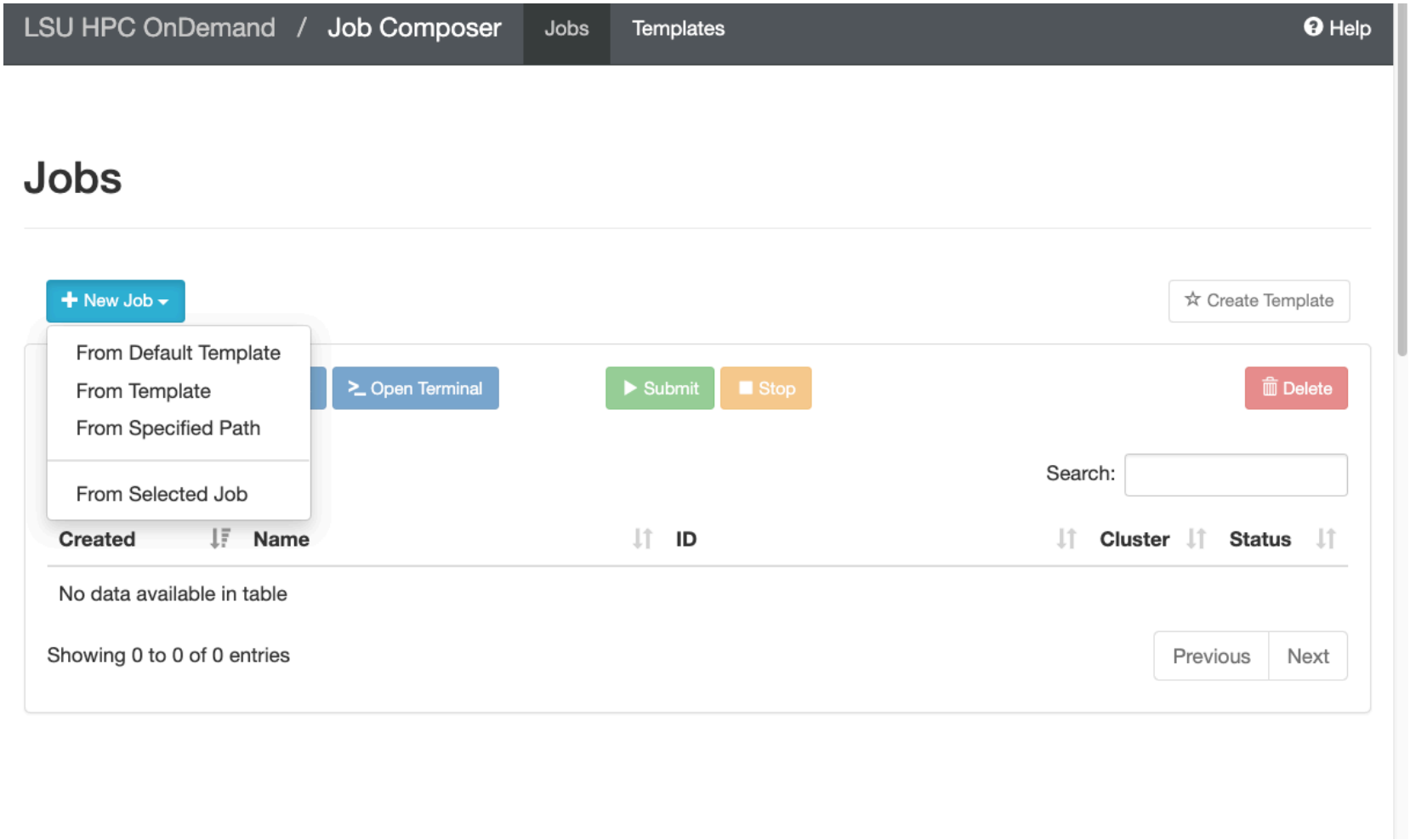
Active Jobs

Jobs



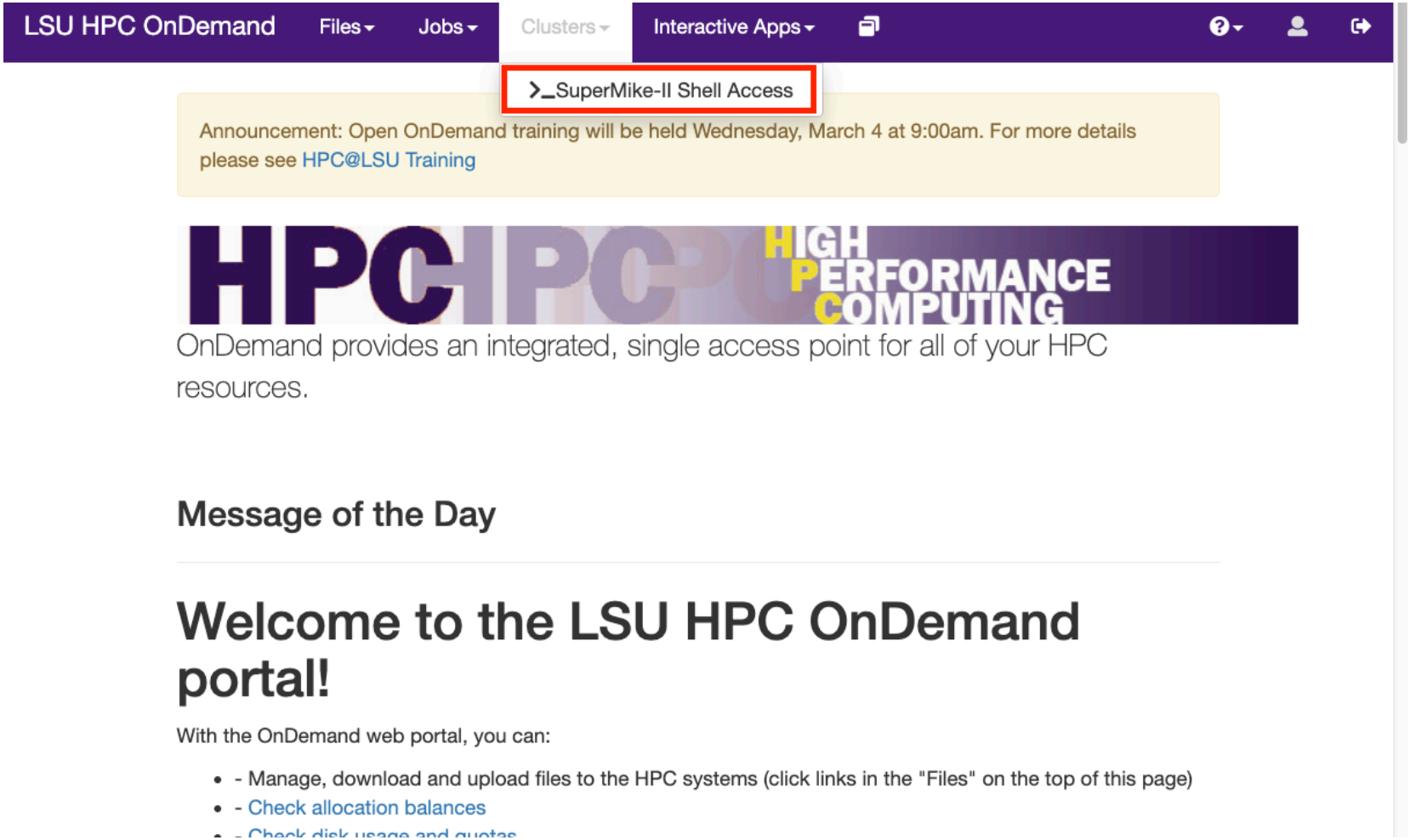
Active Jobs (close tab when finished)

Jobs



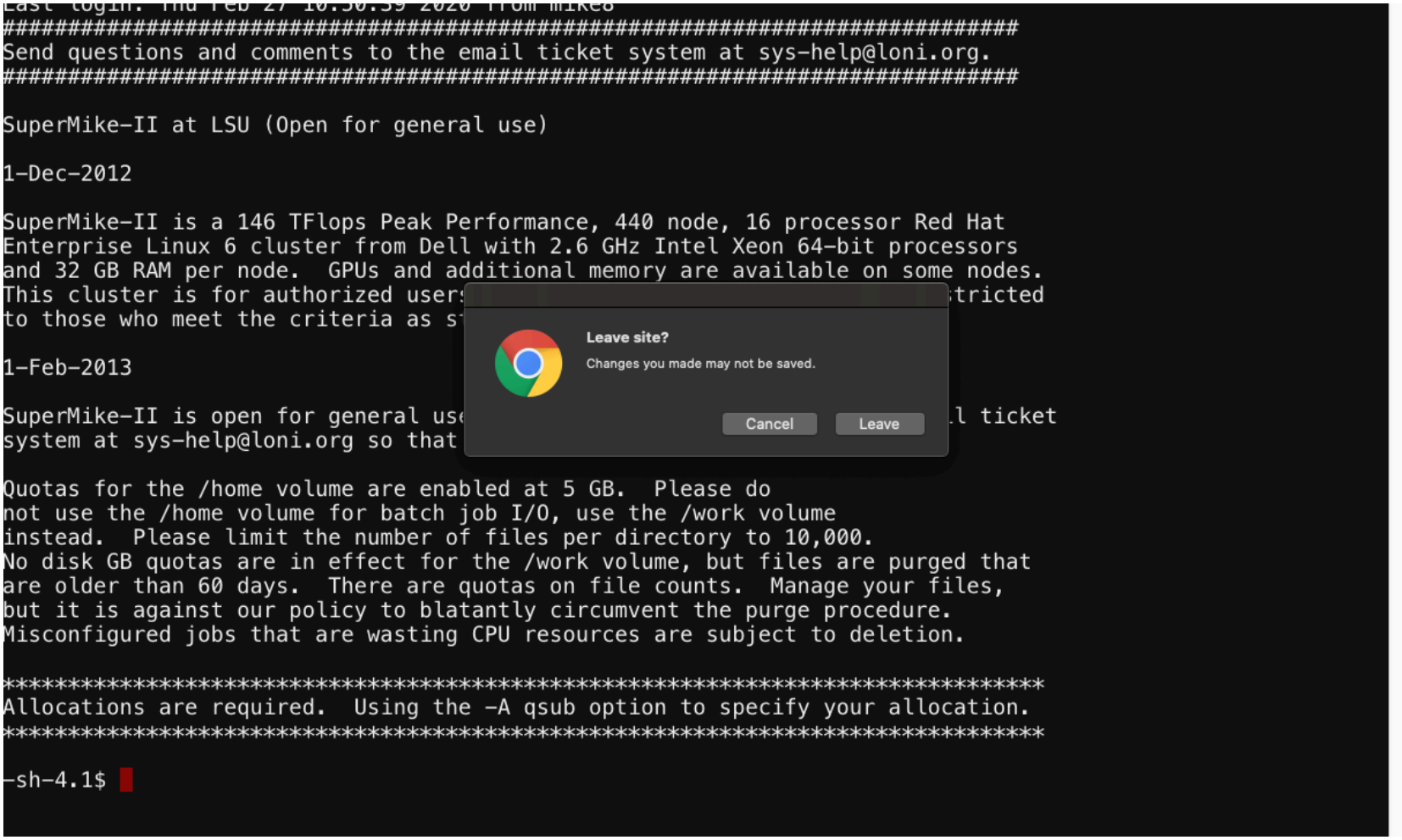
Job Composer (for experienced HPC users)

Shell Access



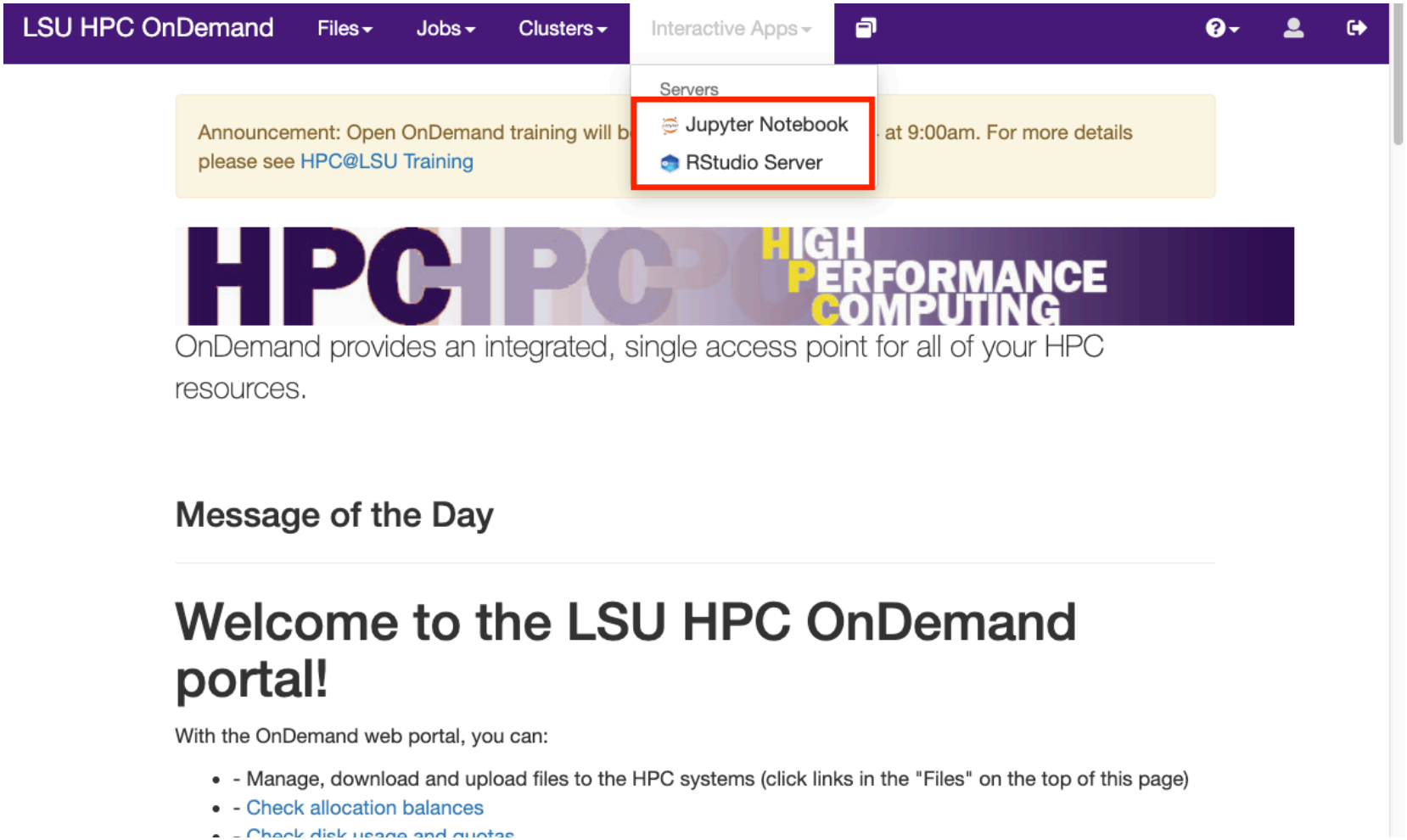
Opening a Shell (will open in new tab)

Shell Access



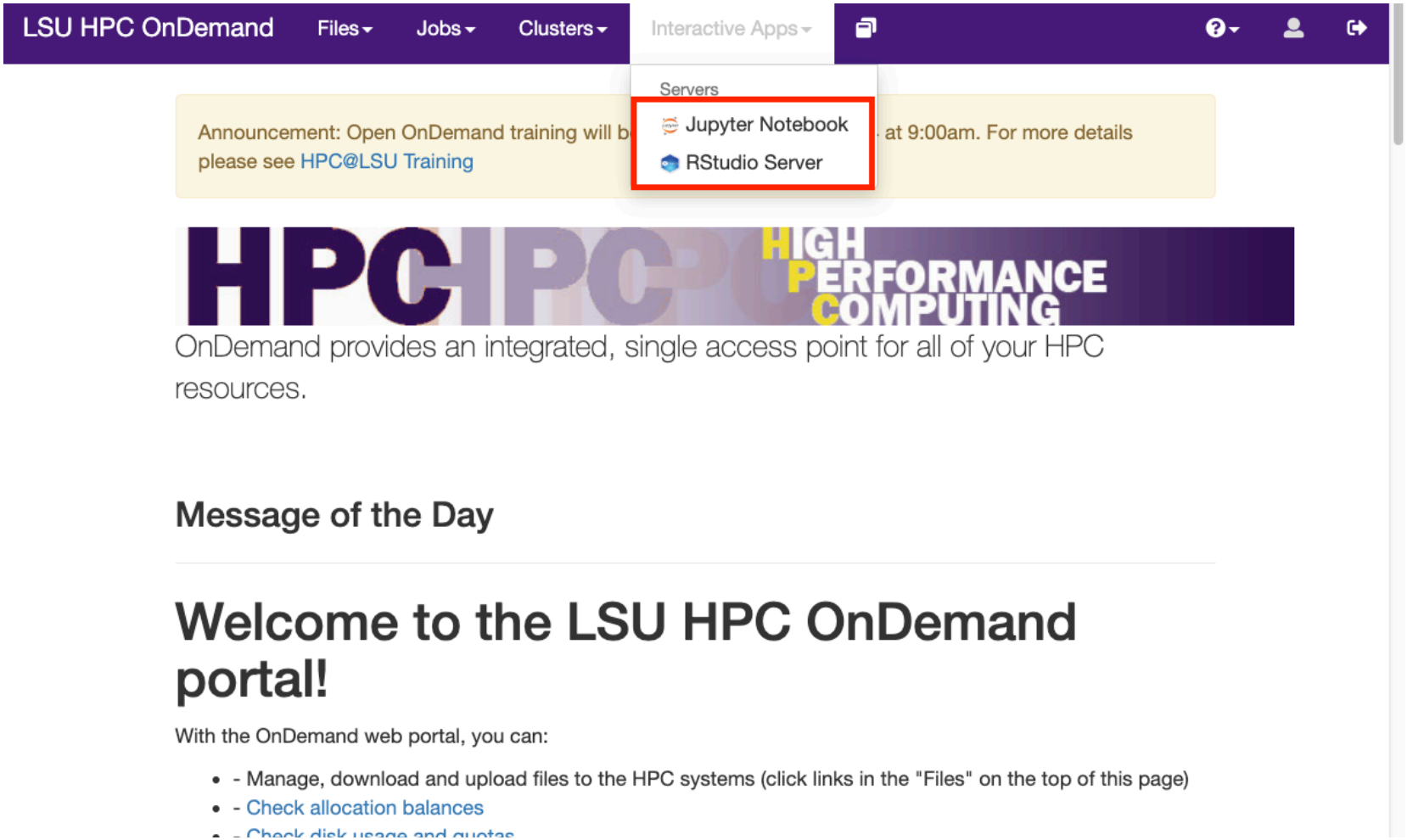
Shell (close tab to exit, ignore the warning message)

Interactive Apps



Choose either Jupyter Notebook or RStudio Server

Interactive Apps



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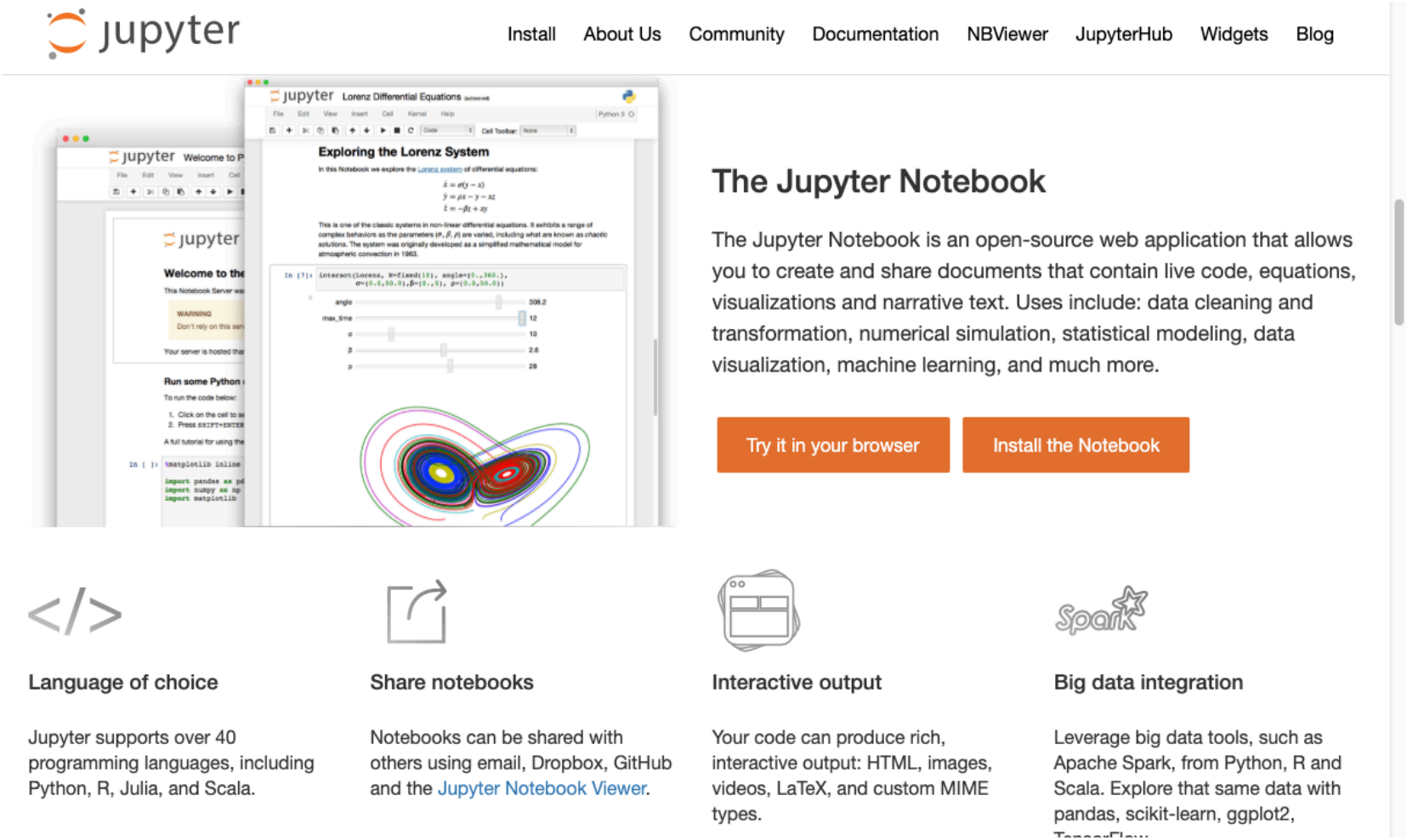
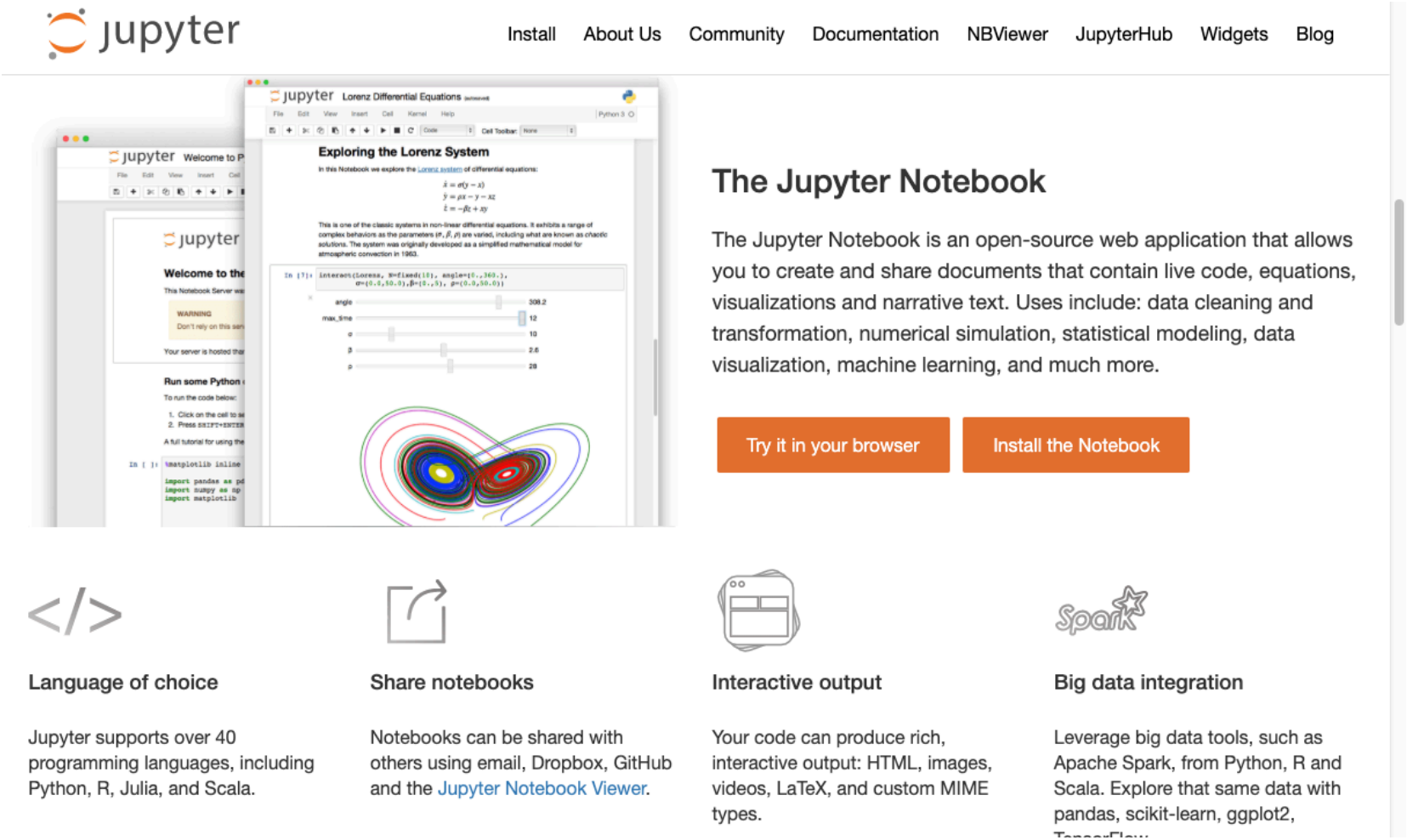
Jupyter Notebooks



jupyter.org

Jupyter Notebooks



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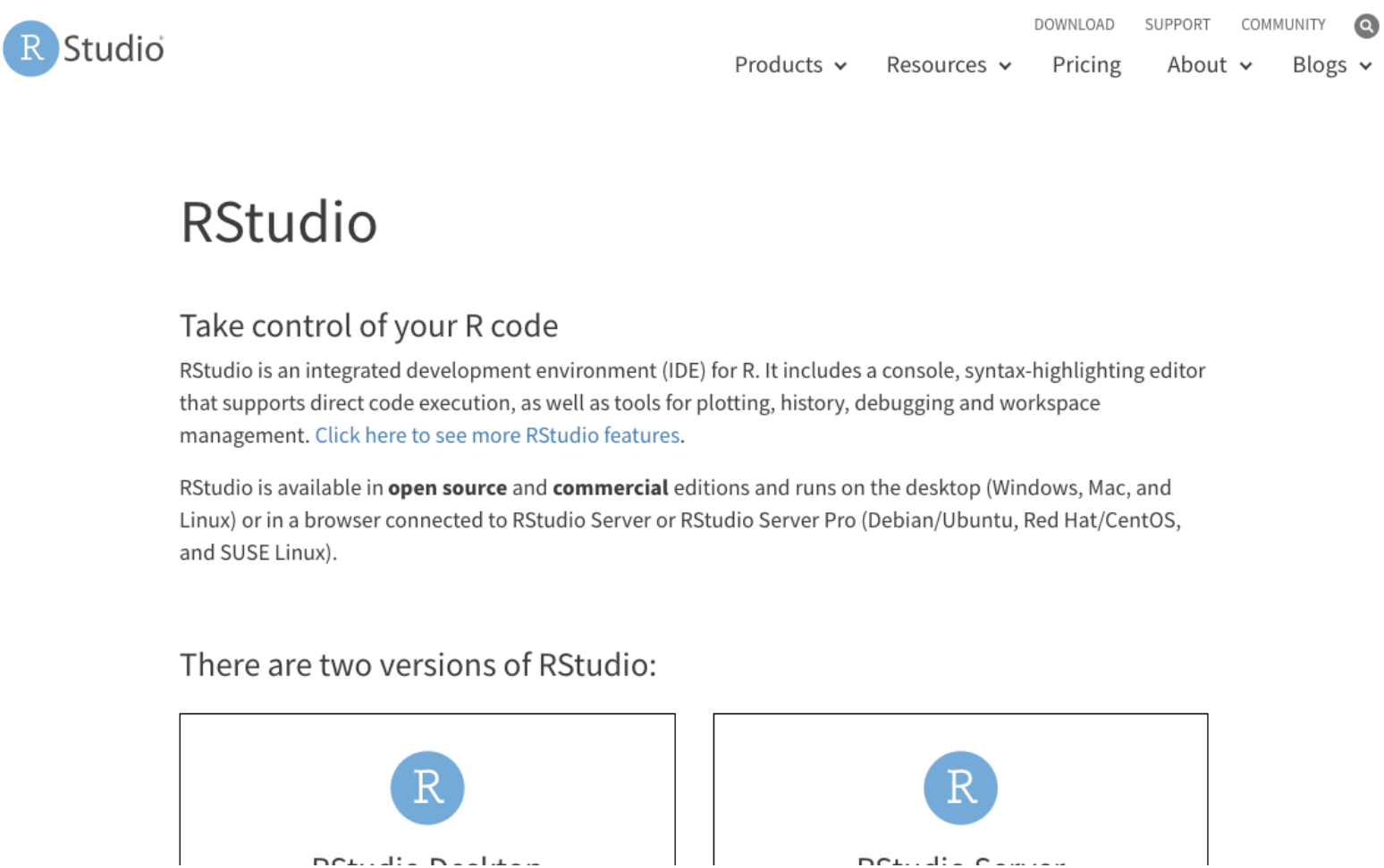
RStudio Server



RStudio

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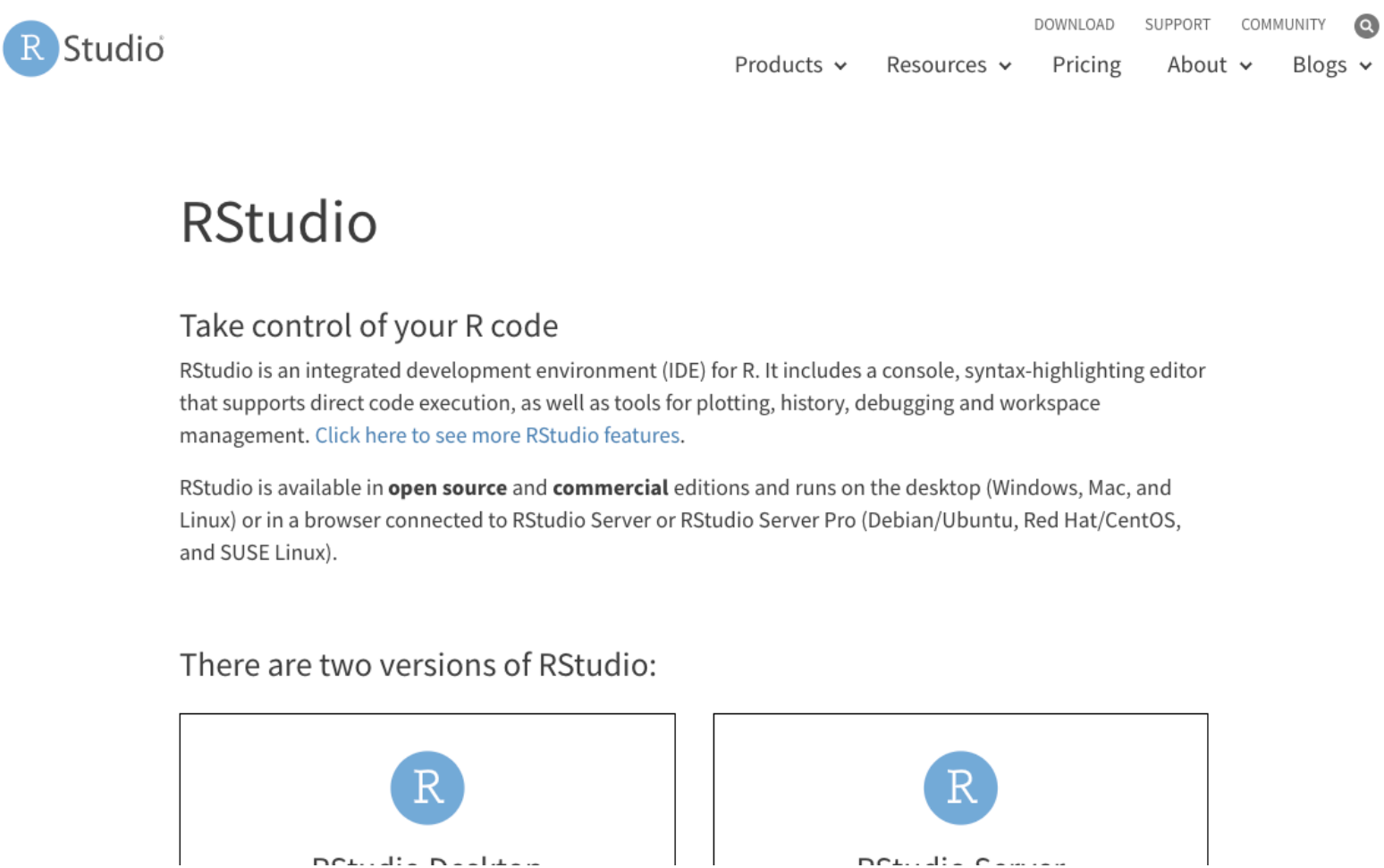

RStudio

Thanks!

For more information, email
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