PG_Y: OSCER Accounts for the Schooner Supercomputer

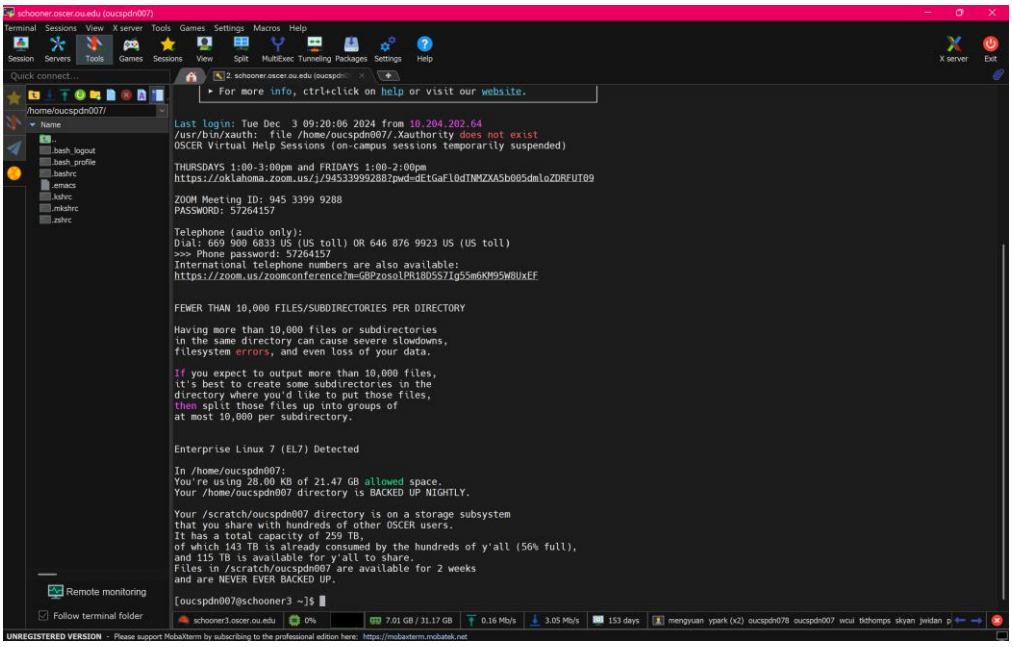
Summary of Video #1 - High Performance Computing:

This video gives a behind-the-scenes look at a university's supercomputer. It supports advanced research across disciplines such as fluid dynamics, aerospace, genomics, astronomy, and any computation-heavy scientific work. The current system consumes significant power leading to high electricity and maintenance costs but is highly reliable. Individual nodes and disks fail regularly, but don't cause the whole system to fail. Additionally, hundreds of jobs can run simultaneously for hours, days, and even months. This requires got and cold aisle containment to maintain temperatures across racks. Finally, in updating the system, instead of a full rip-and-replace, they keep as much of the current hardware as possible while gradually upgrading nodes as research needs evolve.

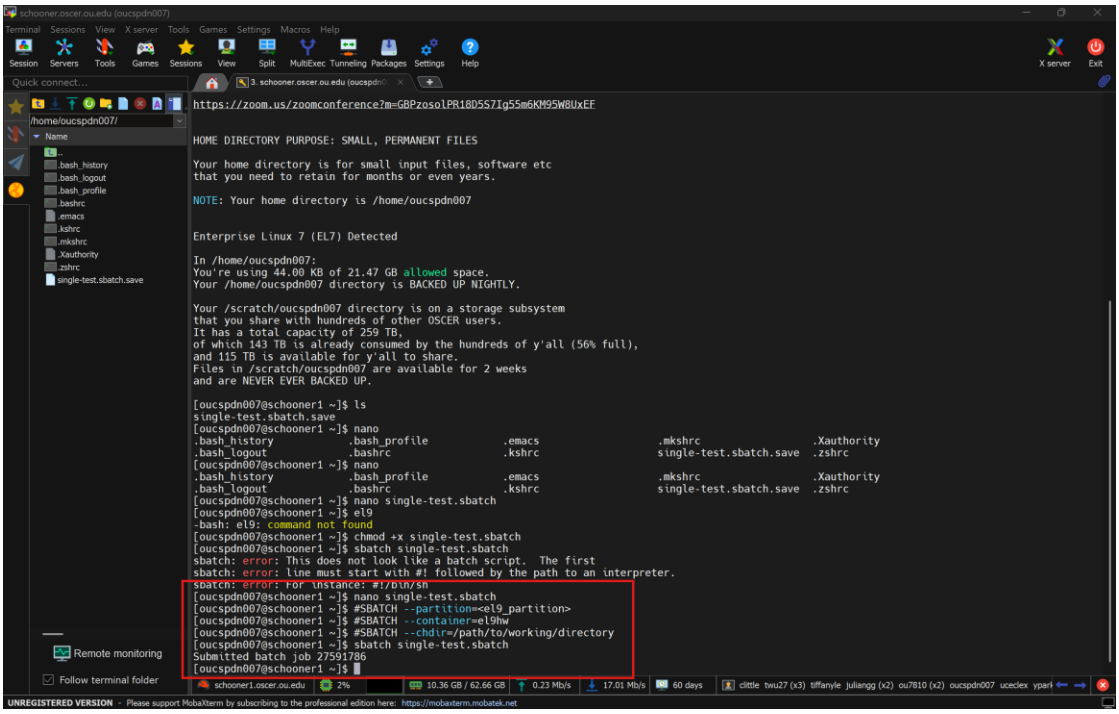
Programming Tasks:

A. Both Class

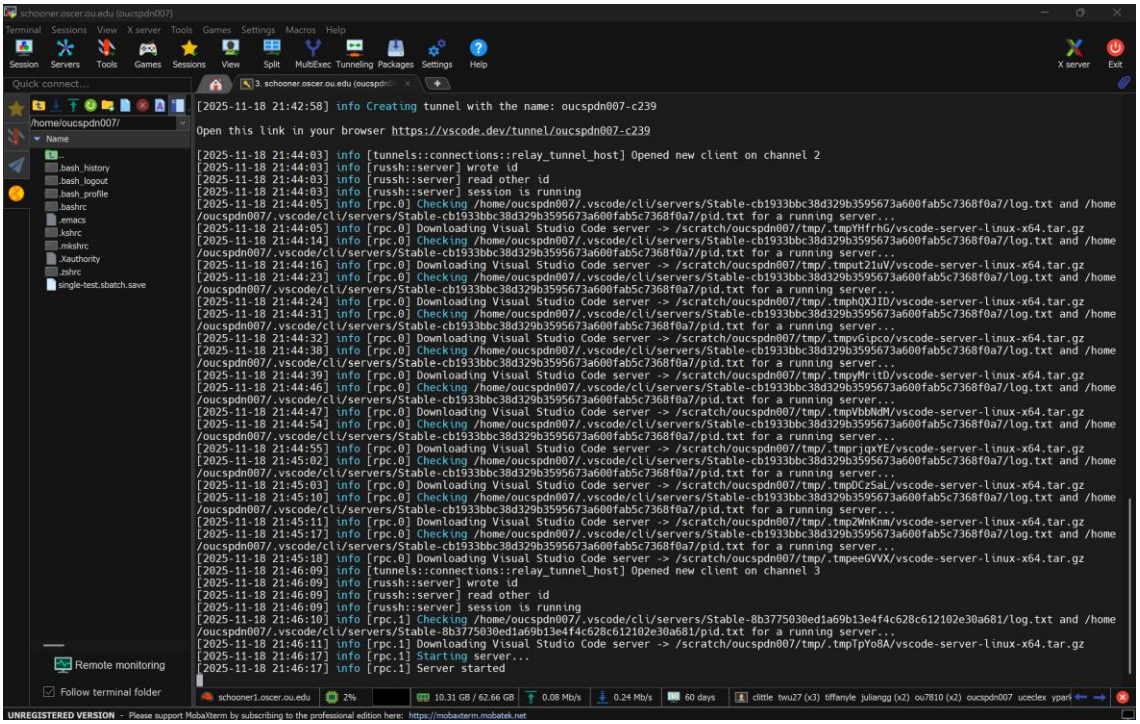
a. Logging into Schooner:

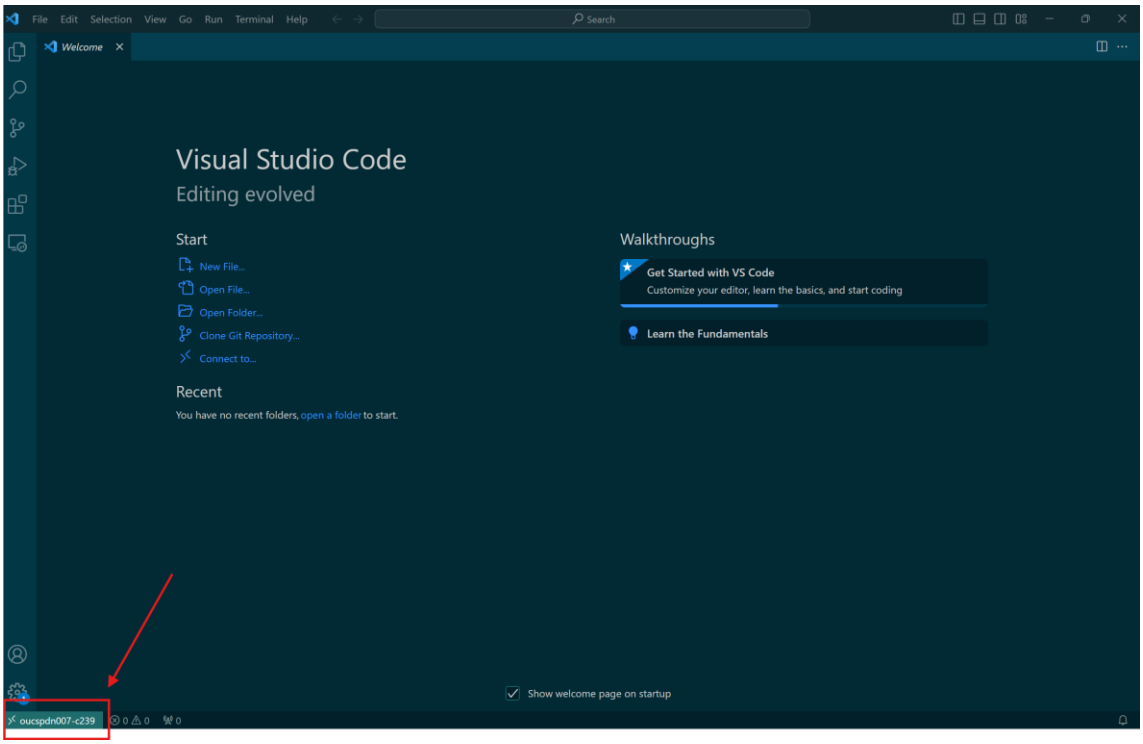


b. Submitting a Job (Read and run the examples up to “Non-Parallel Job”):



c. Setting up your environment. The following instructions will show you how to set up an interactive session through VSCode. Most of the time you will not use this, but in the situations where you need to debug your code interactively this will save you a mountain of time.





B. PDN

a. Submitting an MPI Job. Read and run “Parallel Job”: