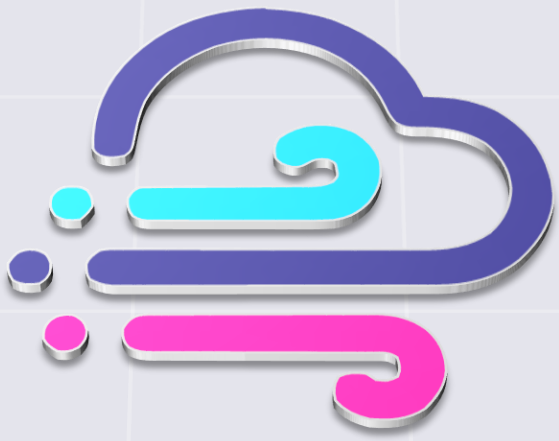
AIR·MS (Artificial Intelligence-Ready Mount Sinai)
2025-2026

Getting Started With AIR·MS

Version 1.0 (February 2026)



AIR·MS Ticketing support system for users: https://hpims.atlassian.net/servicedesk/customer/portal/67

https://labs.icahn.mssm.edu/minervalab/air-ms-artificial-intelligence-ready-mount-sinai/

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Connecting to AIR·MS

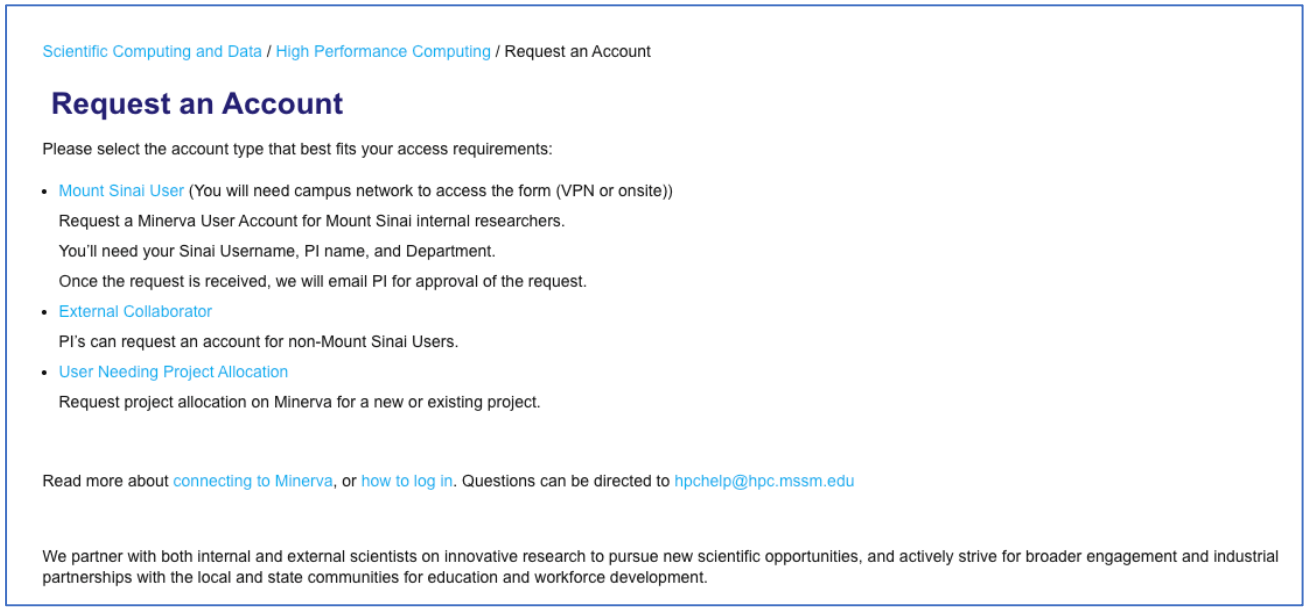
Version 1.0 (December 2025)

STEP 1: REQUEST ACCESS TO HPC

- If you do not have a High Performance Computing (HPC) account, you will need to initiate a request to the **Scientific Computing and Data team** using the link: **https://labs.icahn.mssm.edu/minervalab/request-an-account/**.
    - During this process, please ensure you select '**Mount Sinai User**' (on the form **https://acctreq.hpc.mssm.edu/**) outlined in the next steps.

- Once the request is received, a notification will be sent to the user by email (make sure to check your email "spam" folder for the notification).

- For individuals who already have of an HPC account, you may go directly to **Step 4**.



Scientific Computing and Data / High Performance Computing / Request an Account

Request an Account

Please select the account type that best fits your access requirements:

- Mount Sinai User (You will need campus network to access the form (VPN or onsite))
  Request a Minerva User Account for Mount Sinai internal researchers.
  You'll need your Sinai Username, PI name, and Department.
  Once the request is received, we will email PI for approval of the request.
- External Collaborator
  PI's can request an account for non-Mount Sinai Users.
- User Needing Project Allocation
  Request project allocation on Minerva for a new or existing project.

Read more about connecting to Minerva, or how to log in. Questions can be directed to hpchelp@hpc.mssm.edu

We partner with both internal and external scientists on innovative research to pursue new scientific opportunities, and actively strive for broader engagement and industrial partnerships with the local and state communities for education and workforce development.

STEP 2: COMPLETING THE MINERVA USER ACCOUNT REQUEST PAGE

- Use your Mount Sinai account details to complete the user account request form (the form is located at **https://acctreq.hpc.mssm.edu/**):

STEP 3: ADDING YOUR ACCOUNT TO A MINERVA PROJECT FOLDER

- **Establishment of a Project Folder (REQUIRED):** Using AIR·MS on the Minerva high performance computing platform requires the establishment of a dedicated project folder.
    - You will need to draft an individual Institutional Review Board (IRB) protocol for your project and get it approved. You can find out more about the compliance requirements by visiting this page: **https://labs.icahn.mssm.edu/minervalab/compliance-overview-hipaa-and-institutional-review-board-requirements/.**
    - NOTE: Researchers must be added to an IRB protocol before they can be added to an existing folder or can create a new folder.
    - NOTE: If you are using de-identified data in your project then you will need a **Data Use Agreement** (available here: **https://redcap.mountsinai.org/redcap/surveys/?s=W89LEF8RTXDYCDE8**), but not an IRB.
- **Post-Account Creation Action:** Upon the successful creation of your Minerva account (as indicated by a confirmation notice) you will then need to start the process for accessing a Minerva Project Folder.
    - **For Existing Minerva Project Folders:** In instances where your Principal Investigator (PI) already possesses a Minerva Project Folder, the PI should request to have your userID added to the folder. This is achieved by sending an email to **HPCHelp@mssm.edu**, specifying the necessary user(s) addition.
    - **For New Minerva Project Folders:** Should your PI not have an existing Minerva Project Folder, a request for the creation of a new folder is necessary. This process is initiated by completing the requisite form, accessible **here**: **https://redcap.mountsinai.org/redcap/surveys/?s=7M77D3X4HEFKFHTT**.
    - NOTE: For Hasso Plattner Institute (HPI) Researchers, please send an email to **Lewis Lo** (**lewis.lo@mssm.edu**) who will add your account to a Minerva Project Folder.

STEP 4: OPEN AN SSH SESSION

- To begin, we need to establish an SSH (Secure Shell) session to connect to the Minerva HPC. SSH is a network protocol that provides a secure way to login remotely from one computer to another. Creating an SSH connection can be done with specific software, depending on your operating system:
    - Mac users: Open your Terminal application to open a command prompt.
    - Windows users: Windows users will need to download and install **Putty (https://www.putty.org/)**, which provides an SSH client.

STEP 5: CONNECT TO MINERVA HPC

Connecting to the Minerva HPC using SSH:

- Using your terminal (or Putty for Windows users), establish an SSH session to **minerva.hpc.mssm.edu**. When connecting, you will need to provide your Mount Sinai School of Medicine (MSSM) username and password. **Since HPC enforces 2-factor authentication, you will need to append your VIP token to the password.**
    - Example password: `myH@rd2gu3$$p@$$word123456` where `123456` would be the 6-digit credential from your VIP token.

  Mac users:

  ```
  ssh -X userid@minerva.hpc.mssm.edu
  ```

  Windows users:
    - Open Putty and configure a new session.
    - Specify **minerva.hpc.mssm.edu** as the hostname and SSH as the protocol. Save your session.
    - Enable X11 forwarding by navigating to Connection -> SSH -> X11 and selecting the Enable X11 forwarding checkbox. After making this setting, be sure to navigate to Session and save the connection you are configuring.
    - Click Open.

Alternative Method for Connecting to HPC - Open OnDemand:

- The Scientific Computing and Data department has now installed **Open OnDemand** (**https://labs.icahn.mssm.edu/minervalab/documentation/open-ondemand/**) service portal to access Minerva.

- This product offers a fully compliant job management and desktop portal requiring minimal knowledge of Linux HPC environments and no end-user installation requirements other than an up-to-date web browser (Chrome or Firefox recommended). **OnDemand doesn't need the VIP token appended to the password.** *Please note that you will not be completely logged out of the Open OnDemand application until you both click on the logout icon and close the browser.*

STEP 6: RUN THE JUPYTER NOTEBOOK WRAPPER SCRIPT

- Before running Jupyter, you will need to create your working directory:

  ```
  mkdir /sc/arion/work/<user_id>/airms
  ```

  Note: This may already exist, in which case you can ignore this step.

- Then change to your Jupyter notebook working directory:

  ```
  cd /sc/arion/work/<user_id>/airms
  ```

- Clone the repository containing AIR·MS tutorials using the following commands:

  ```
  ml git
  ```

  ```
  export GIT_SSL_NO_VERIFY=true
  ```

  ```
  git clone https://github.mountsinai.org/AIRMS/airms-researcher-tutorials-minerva
  ```

- Run `minerva-jupyter-module-web.sh` to setup your Jupyter notebook environment:

  ```
  minerva-jupyter-module-web.sh
  ```

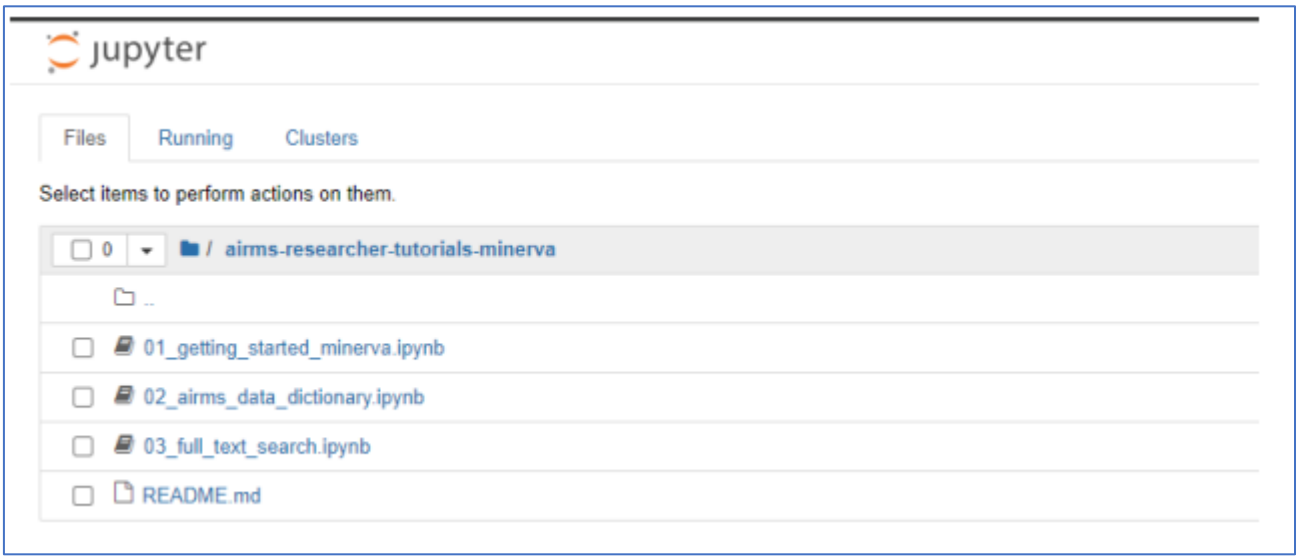
  - Note: The script will display a series of messages as it executes. At the very bottom of the output, you should see a URL for your Jupyter notebook.
  - For more information, please visit the **HPC Documentation page** (**https://labs.icahn.mssm.edu/minervalab/documentation/python-and-jupyter-notebook/**).

STEP 7: ACCESS THE JUPYTER NOTEBOOK

- When running the login script during step 6, a URL was displayed at the bottom of the output. Copy and paste this URL into a browser on your local computer. This will open Jupyter in your web browser.

STEP 8: START THE NOTEBOOK IN USER-SPECIFIC ENVIRONMENT

- Finally, you will be presented with the following Jupyter notebook folder structure where you can start to work:



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