



Mainframe Systems with IBM Z Xplore

Sponsored by: *Farmers Insurance*

Competition Overview and Components

The Mainframe Systems with Z Xplore competition is a progressive set of tasks to be completed by individuals that will include:

- logging in to a mainframe environment using Visual Studio Code
- modifying and submitting JCL
- checking the status of JES jobs by investigating SDSF
- compiling and running programs written in languages such as Python and COBOL
- interacting with UNIX System Services (USS)

The challenges are designed such that a student with no mainframe experience can succeed – all necessary tools will be introduced along the way!

Students will be given an additional overview of IBM Z Xplore at the beginning of the competition time. Time will be allowed to ask any questions in a common session. Further questions will be permitted at any point during the competition. At the end of the competition period, the competitor's scores will be locked in via a live dashboard visible only to the competition sponsors. The competition is divided into "Challenges" and those who complete the most Challenges correctly gain more points.

Students will want to have the necessary tools (*Node.js, Java, VS Code*) preloaded on their machines prior to the competition. These are quick installs, and students are encouraged to compete in the competition even if they haven't already installed the software.

Team Composition

This is an individual participant event – teams are limited to ONE student.

Skills

All mainframe skills needed to do well in this competition will be presented as you go. Experience with programming in a language such as Java or Python is preferred, but a motivated student with no prior programming experience can do very well in this competition. Students wishing to be successful should have an inquisitive nature and a drive to succeed.

Competitors may track their progress and challenge completion on the IBM Z Xplore website as they go. Points will be given for successful and correct completion of challenges. Competitors will be able to see their personal score during the competition. All competitor scores are tracked by a live leaderboard made available to the sponsors courtesy of IBM.

In the event of multiple students ending the competition with identical scores, the student who first reached the highest score will be the winner.

Schedule

See competition schedule for competition time and place. The time will include competition overview, competition work and turn in.

Check in will begin 20 minutes before the competition begins.

IBM Z Xplore Prerequisites | MWC3 2026

1) You will need Node.js installed

If you do not already have Node.js installed, download Node.js from the following webpage:

<https://nodejs.org/en/download>



The screenshot shows the Node.js download page with the following configuration: "v24.14.0 (LTS)" selected in the version dropdown, "Windows" selected in the OS dropdown, "Docker" selected in the "using" dropdown, and "npm" selected in the "with" dropdown. A green info bar at the top says "Info Want new features sooner? Get the latest Node.js version instead and try the latest improvements!". Below this is a code block for Docker installation instructions. At the bottom, the "Windows Installer (.msi)" button is highlighted with a red box.

```
1 # Docker has specific installation instructions for each operating system.
2 # Please refer to the official documentation at https://docker.com/get-started/
3
4 # Pull the Node.js Docker image:
5 docker pull node:24-alpine
6
7 # Create a Node.js container and start a Shell session:
8 docker run -it --rm --entrypoint sh node:24-alpine
9
10 # Verify the Node.js version:
11 node -v # Should print "v24.14.0".
12
13 # Verify npm version:
14 npm -v # Should print "11.9.0".
```

PowerShell </> Copy to clipboard

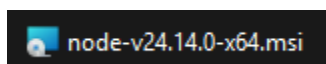
Docker is a containerization platform. If you encounter any issues please visit [Docker's website](#) ↗

Or get a prebuilt Node.js® for Windows running a x64 architecture.

Windows Installer (.msi) Standalone Binary (.zip)

Select the recommended LTS (Long Term Support) version to download.

Install Node.js by double clicking the downloaded msi file:



You may accept all default options/settings.

2) You will need 64-Bit Java version 17 or higher

If you need to download and install a Java runtime, you may do so using this link:

<https://developer.ibm.com/languages/java/semeru-runtimes/downloads/>

Again, choose one of the LTS (Long Term Support) versions. At this time, I see Java 21(LTS) and Java 25(LTS). You will need to choose Java 21(LTS) or higher.

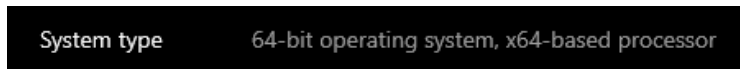
IBM Semeru Runtimes Downloads

To verify these packages, download our public keys and follow the instructions on how to [verify IBM Semeru Runtimes](#).

Note: InstallAnywhere (.bin and .archive.bin) packages of IBM Semeru Runtime™ Certified Edition will be discontinued starting with the first quarter release of 2024. For more information, see the [Withdrawal of InstallAnywhere packages news article](#).

Version	Operating System	Architecture	License	Certified	Download
25.0.2.1 OpenJDK 25.0.2+10 OpenJ9 0.57.0 Latest	Linux	x64	GPLv2+CE	No	JDK tar.gz SHA256 signature rpm SHA256
25.0.2.1 OpenJDK 25.0.2+10 OpenJ9 0.57.0 Latest	Windows	x64	GPLv2+CE	No	JRE tar.gz SHA256 signature zip SHA256 signature msi SHA256

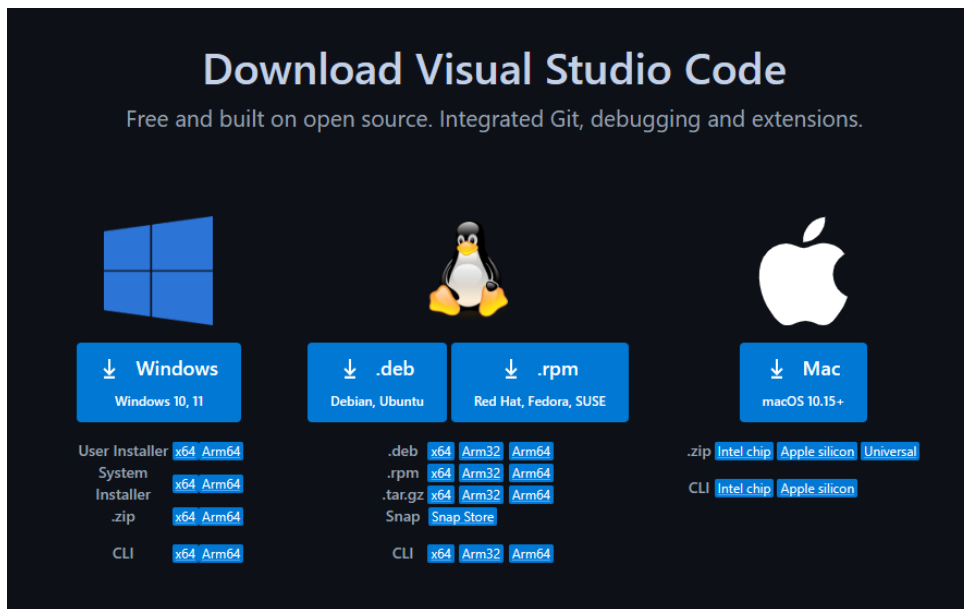
Choose the download that matches your PCs architecture. If you're unsure about your PCs operating system architecture, look in your settings for "About" information (I'm on Windows):



Proceed to install after download completes. In my case, I installed the 21.0.6.0 JRE via msi.

3) Install Visual Studio Code: <https://code.visualstudio.com/download>

Use the link provided in the previous line to download the correct version of VS Code for your machine.



Download Visual Studio Code
Free and built on open source. Integrated Git, debugging and extensions.

Windows
Windows 10, 11

.deb
Debian, Ubuntu

.rpm
Red Hat, Fedora, SUSE

Mac
macOS 10.15+

User Installer: [x64](#) [Arm64](#)
System Installer: [x64](#) [Arm64](#)
.zip: [x64](#) [Arm64](#)
CLI: [x64](#) [Arm64](#)

.deb: [x64](#) [Arm32](#) [Arm64](#)
.rpm: [x64](#) [Arm32](#) [Arm64](#)
.tar.gz: [x64](#) [Arm32](#) [Arm64](#)
Snap: [Snap Store](#)
CLI: [x64](#) [Arm32](#) [Arm64](#)

.zip: [Intel chip](#) [Apple silicon](#) [Universal](#)
CLI: [Intel chip](#) [Apple silicon](#)