MVS-TK5: What is it, and how to set it up
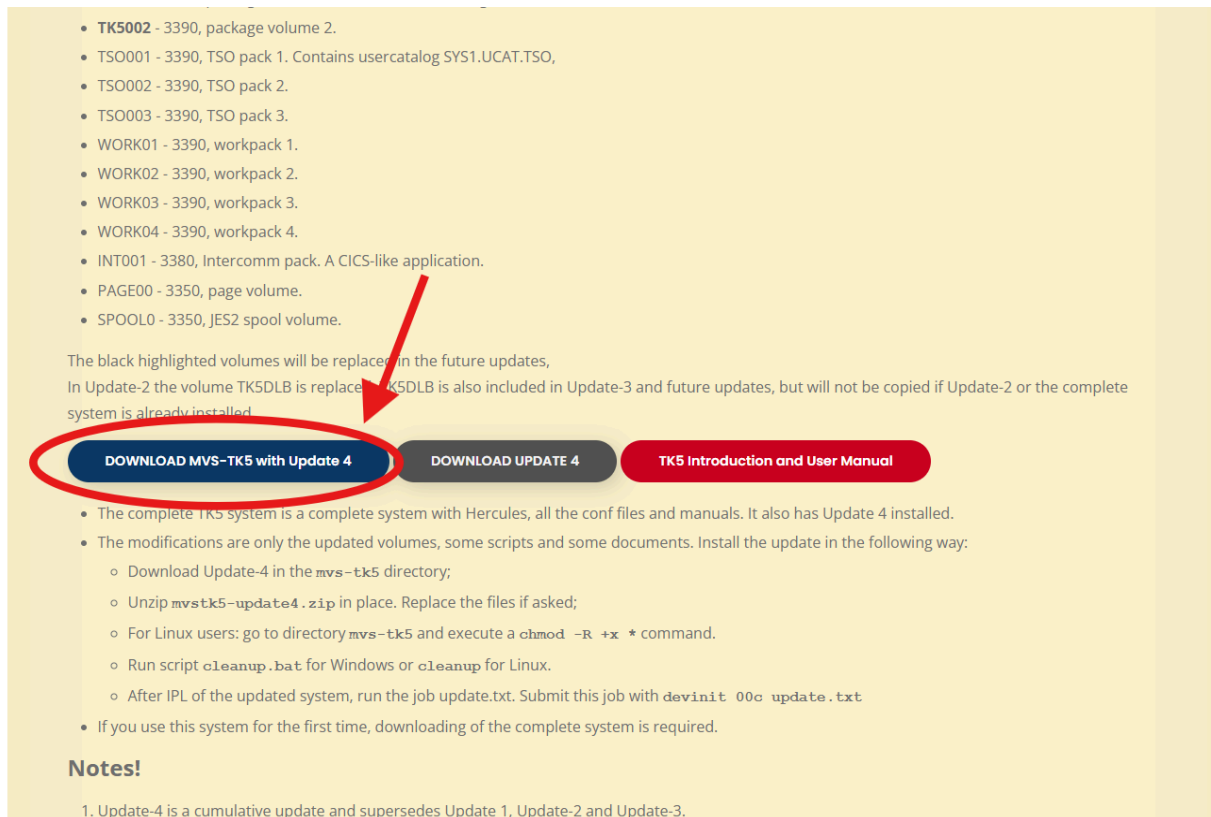
What is MVS-TK5?

- MVS-TK5 is a free software that provides value as an emulator for a mainframe environment

- You can run it on your local machine and access it through various TN3270 emulators; however, for this lesson, we will be using Vista TN3270, the mainframe emulator used by students in CSCI360 and CSCI465

- Once connected to it, you can write jobs using HLASM, COBOL, JCL, and any other languages you would like (including languages not thought of to be mainframe languages, such as C++ and Python), similar to what you would do in either CSCI360 or CSCI465

How to set up MVS-TK5 for use?

- This step-by-step setup will be shown on Windows. However, instructions for setting up MVS-TK5 on Linux will also be shown.

- The step-by-step will start on the next page, and will reference the "Useful Links" at the bottom of the document

- Each step will include instructions written down, along with screenshots of each step, to make it perfectly clear what is supposed to be done.

- Along with installation, this document will also detail how to access the mainframe emulator after installation, as well as how to properly shut it down.

- This is meant to be a comprehensive resource that details everything needed to get started with MVS-TK5.

- Step 1: Download the complete distribution from the MVS-TK5 official website

- Step 2: If not already, place the newly downloaded folder into the root directory of the Windows device
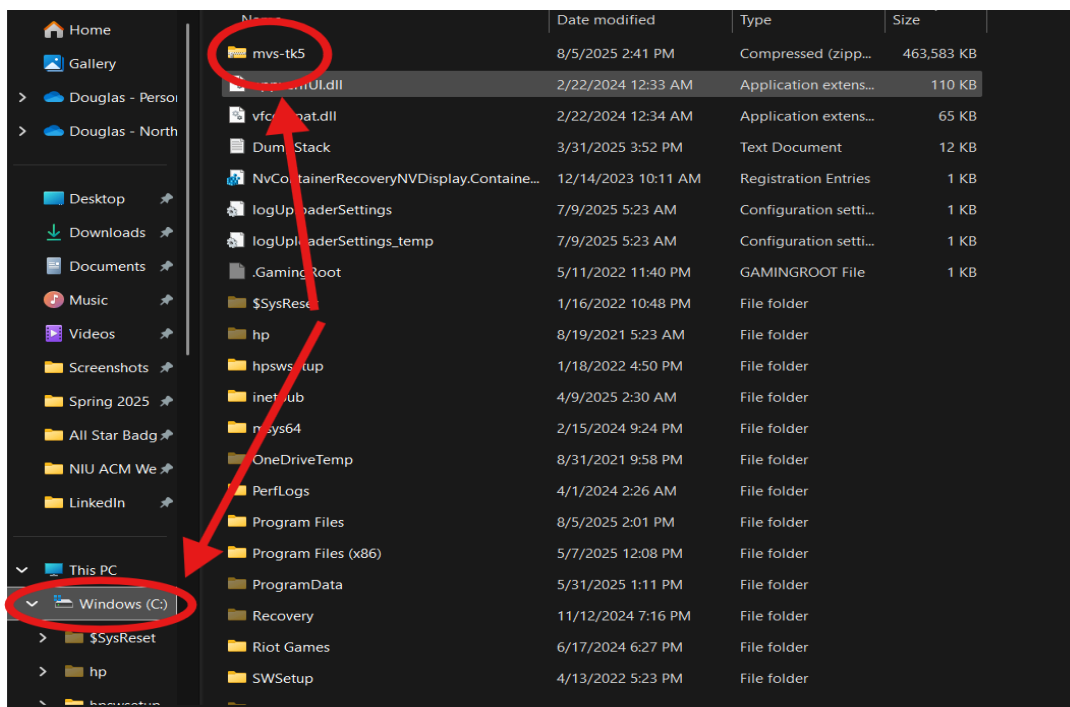
- Step 3: Unzip the file, creating a directory with the name of mvs-tk5
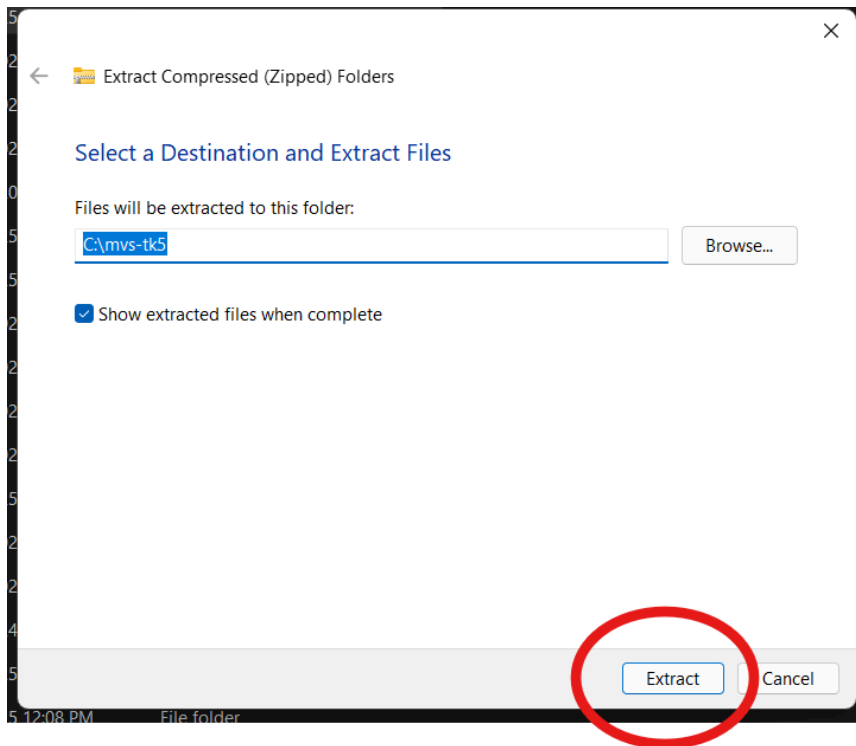
- Step 4: Open a Windows terminal, access the zipped mvs-tk5 directory, and then access the newly created unzipped mvs-tk5 directory. From there, access a directory called unattended, and run the script "./set_console_mode.bat"


```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\dougj> cd ..
PS C:\Users> cd ..
PS C:\> cd mvs-tk5
PS C:\mvs-tk5> cd mvs-tk5
PS C:\mvs-tk5\mvs-tk5> cd unattended
PS C:\mvs-tk5\mvs-tk5\unattended> ./set_console_mode.bat
Hercules console mode activated for unattended operations (mvs.bat)
Press any key to continue...
PS C:\mvs-tk5\mvs-tk5\unattended> |
```

- After this step, MVS-TK5 will be downloaded on your Windows device and will be ready for use.

- Although there are some slightly different steps for installing on Linux, the process shown above is mostly the same. If you're curious, here's a screenshot from the MVS-TK5 manual that includes details for how to set up in Linux as well:

Installing the complete MVS Turnkey 5 system.

MVS-TK5 is available on https://www.prince-webdesign.nl/tk5
The installation of MVS-TK5 is easy. Execute the following steps:

- Download the complete distribution from the website listed above, preferably into the root directory of a disk in Windows or the root directory of /home/userid in Linux.
- For Linux: add the execute attribute with the command `chmod +x mvs-tk5.zip`.
- Unzip the file, creating a directory with the name of mvs-tk5.
- Select the newly created directory mvs-tk5.
- For Linux: set the permissions to execute with the command `chmod -R +x *`.
- Select the unattended directory in the mvs-tk5 directory.
- Run the script `./set_console_mode` for Linux or `set_console_mode.bat` in Windows.

Now that MVS-TK5 is downloaded, how do I access it?

- Step 1: Go to the unzipped mvs-tk5 directory, and run the script "./mvs.bat". Your terminal may freeze for a second, and you may be prompted to allow access to a 3270 software. Once approved, there will be many new lines that will be executed from the script

```
PS C:\mvs-tk5\mvs-tk5> ./mvs.bat
HHC01413I Hercules version 4.7.0.11119-SDL-gf7d2360a
HHC01414I (C) Copyright 1999-2024 by Roger Bowler, Jan Jaeger, and others
HHC01417I ** The SDL 4.x Hyperion version of Hercules **
HHC01415I Build date: Mar  9 2024 at 20:27:46
HHC01417I Built with: Microsoft Visual Studio 2008 (MSVC 150030729 1)
HHC01417I Build type: Windows MSVC AMD64 host architecture build
HHC01417I Modes: S/370 ESA/390 z/Arch
HHC01417I Max CPU Engines: 64
HHC01417I Using    shared libraries
HHC01417I Using    Fish threads Threading Model
HHC01417I Using    Error-Checking Mutex Locking Model
```

- Step 2: Start your 3270 emulator (for this tutorial, I will be using Vista TN3270), and set the Host IP to "localhost" and set the IP Port to "3270", and press connect
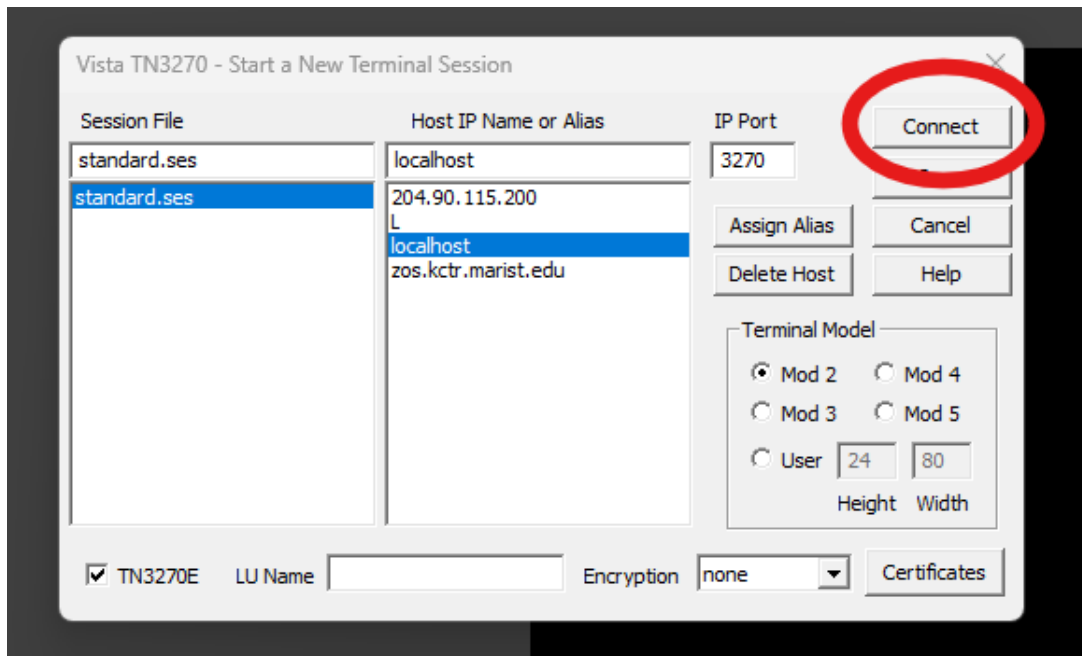
- Step 3: You can now log in to TSO with 4 different accounts. HERC01 and HERC02 (which use the password CUL8TR) are identified as privileged users; in short, this means you have more authoritative powers than normal users would have access to. HERC03 and HERC04 (which use the password PASS4U) are both normal TSO users without the authoritative privileges.

- Step 4: After the username and password are entered, press enter twice to get to the ISPF primary option menu. If everything is done correctly, below is what you should see:

```
                        ISPF primary option menu
Option  ===>
                                                  USERID   : HERC03
   0  ISPF PARMS    Specify terminal and user parms    TIME     : 21:42
   1  BROWSE        Display source data using Review    TERMINAL : 3277
   2  EDIT          Change source data using Revedit    PF KEYS  : 0012
   R  RPF           Browse, EDIT, Reset, PDS with RPF   PANEL    : ISP@PRIM
   3  UTILITIES     Perform utility functions           SCREEN   : 1
   4  FOREGROUND    Invoke language processors          LANGUAGE : ENGLISH
   5  BATCH         Submit job for language processing  APPL ID  : ISP
   6  COMMAND       Enter TSO command or CLIST          RELEASE  : V2.2.000
   7  DIALOG TEST   Perform dialog testing              PRIM     : YES
   C  CHANGES       Summary of changes for this release SYSTEMID : TK5R
   M  TSOAPPLS      Productivity tools and handy apps    PROC     : ISPLOGON
   T  TUTORIAL      Display information about ISPF
   T1 TK5           Summary of changes made in TK5
   X  EXIT          Terminate ISPF using log and list defaults

Enter END command to terminate ISPF.
```

- If this is what you see, then congratulations, MVS-TK5 has been successfully set up on your local machine, and you are ready to start programming in your local mainframe environment!

How do I shut down MVS-TK5?

- In the main menu of ISPF, you can simply enter the command "END", or you can press P and F3 at the same time. After this, type "SHUTDOWN" to end MVS, and then type "logoff" to exit the terminal.

```
                        ISPF primary option menu
Option  ===> END_
                                                  USERID   : HERC03
   0  ISPF PARMS    Specify terminal and user parms    TIME     : 21:50
   1  BROWSE        Display source data using Review    TERMINAL : 3277
   2  EDIT          Change source data using Revedit    PF KEYS  : 0012
   R  RPF           Browse, EDIT, Reset, PDS with RPF   PANEL    : ISP@PRIM
```

- After this, you can close the terminal you ran the command to start MVS on, and you will have successfully logged off of and shut down MVS-TK5

Useful links:

- MVS-TK5 Official Website: https://www.prince-webdesign.nl/tk5

- MVS-TK5 Introduction and User Manual: https://www.prince-webdesign.nl/images/downloads/TK5-Introduction-and-User-Manual.pdf

- https://www.tombrennansoftware.com/download.html