

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

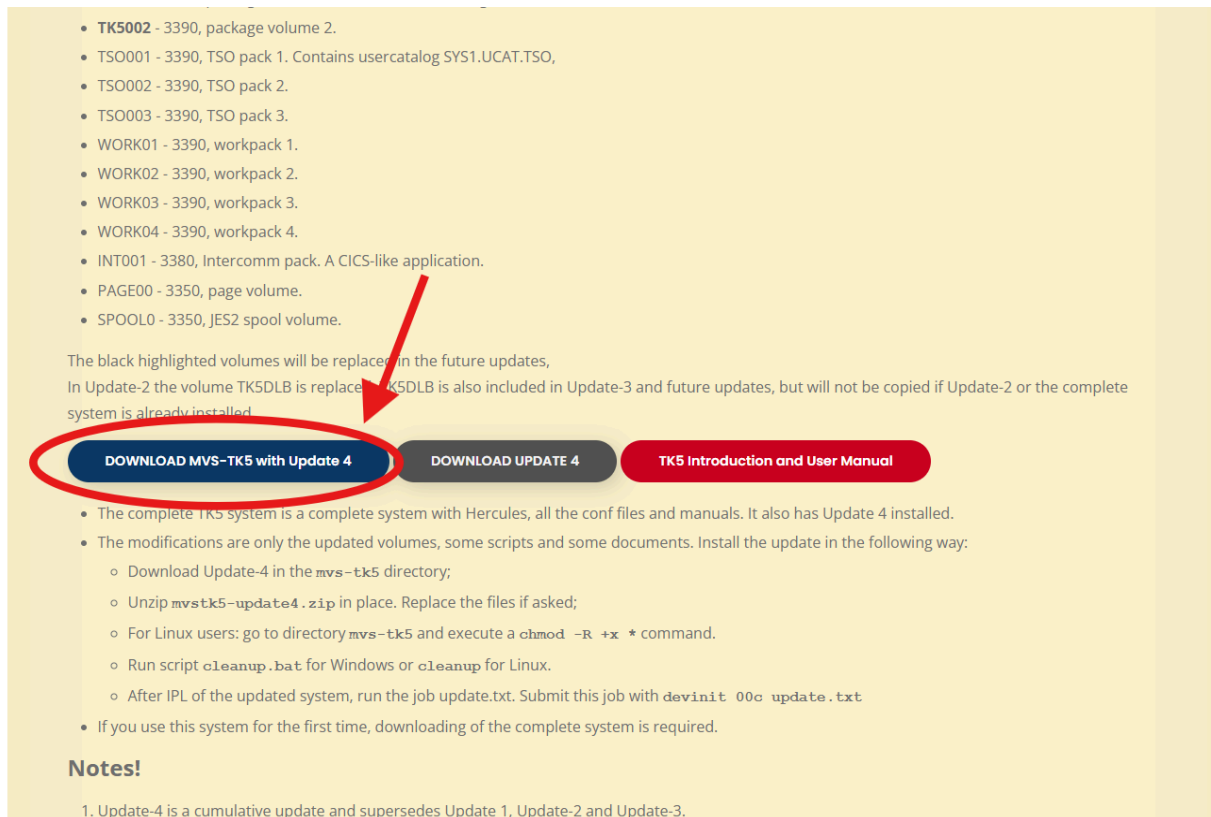
What is MVS-TK5?

- 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



- TK5002 - 3390, package volume 2.
- TSO001 - 3390, TSO pack 1. Contains usercatalog SYS1.UCAT.TSO,
- TSO002 - 3390, TSO pack 2.
- TSO003 - 3390, TSO pack 3.
- WORK01 - 3390, workpack 1.
- WORK02 - 3390, workpack 2.
- WORK03 - 3390, workpack 3.
- WORK04 - 3390, workpack 4.
- INT001 - 3380, Intercomm pack. A CICS-like application.
- PAGE00 - 3350, page volume.
- SPOOL0 - 3350, JES2 spool volume.

The black highlighted volumes will be replaced in the future updates,
In Update-2 the volume TK5DLB is replaced. TK5DLB is also included in Update-3 and future updates, but will not be copied if Update-2 or the complete system is already installed.

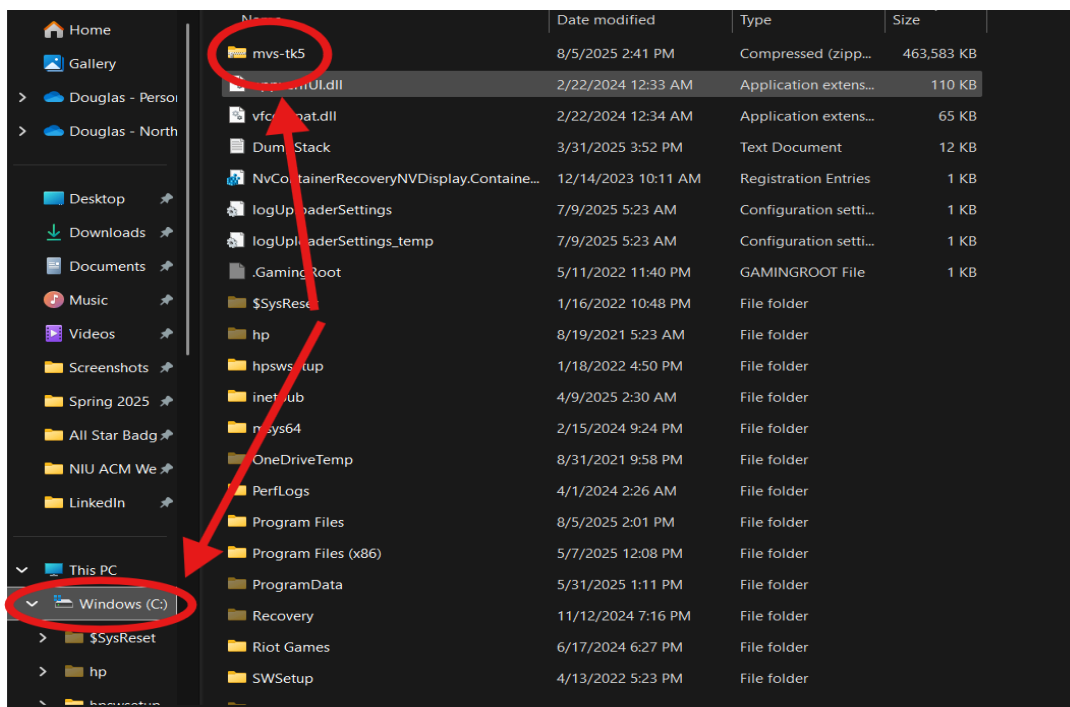
[DOWNLOAD MVS-TK5 with Update 4](#)
[DOWNLOAD UPDATE 4](#)
[TK5 Introduction and User Manual](#)

- The complete TK5 system is a complete system with Hercules, all the conf files and manuals. It also has Update 4 installed.
- The modifications are only the updated volumes, some scripts and some documents. Install the update in the following way:
 - Download Update-4 in the `mvs-tk5` directory;
 - Unzip `mvsttk5-update4.zip` in place. Replace the files if asked;
 - For Linux users: go to directory `mvs-tk5` and execute a `chmod -R +x *` command.
 - Run script `cleanup.bat` for Windows or `cleanup` for Linux.
 - After IPL of the updated system, run the job `update.txt`. Submit this job with `devinit 000 update.txt`
- If you use this system for the first time, downloading of the complete system is required.

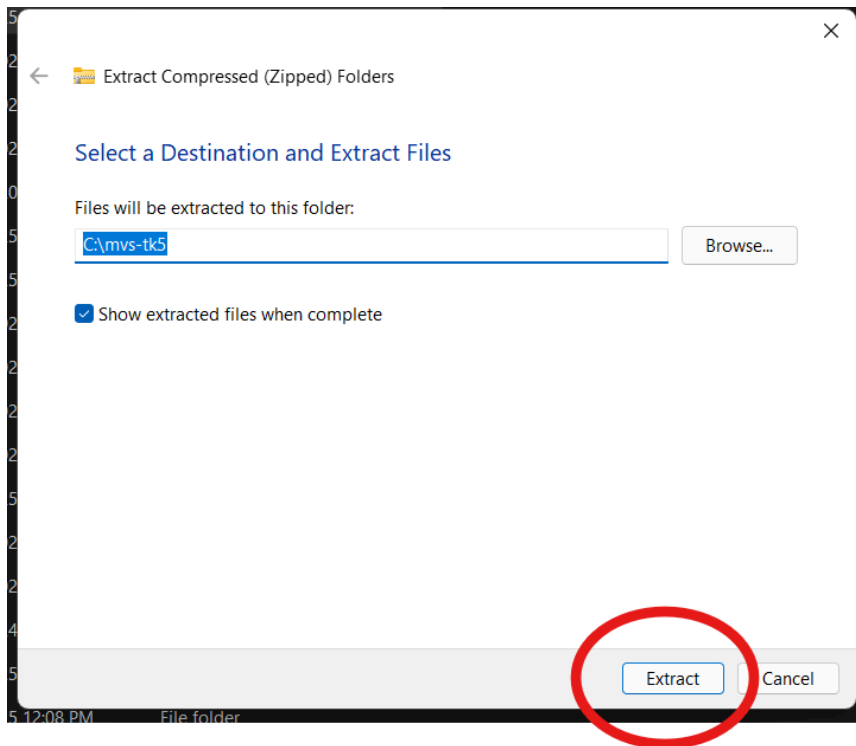
Notes!

1. Update-4 is a cumulative update and supersedes Update 1, Update-2 and Update-3.

- 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
Copyright (C) Microsoft Corporation. All rights reserved.

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:

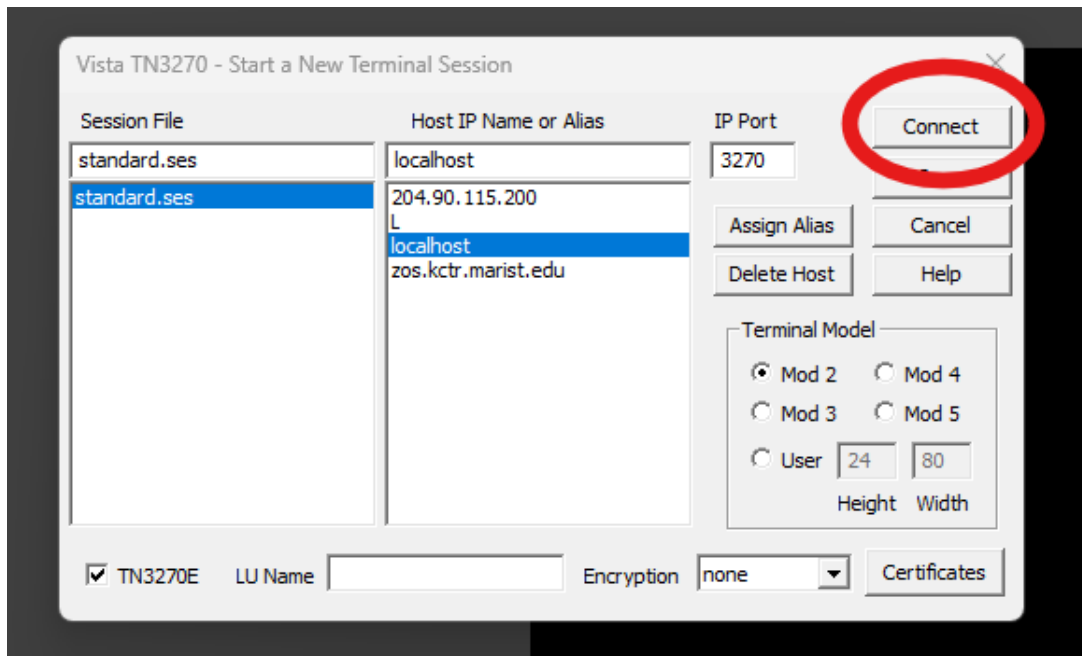
- Download the complete distribution from the website listed above, preferably into the root directory of a disk in Windows or the root directory of /home/userid in Linux.
 - For Linux: add the execute attribute with the command `chmod +x mvs-tk5.zip`.
 - Unzip the file, creating a directory with the 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.

```
READY
READY
READY
LOGON HERC03
HERC03 LOGGED OFF TSO AT 21:40:42 ON AUGUST 5, 2025
ENTER CURRENT PASSWORD FOR HERC03-
HERC03 LOGON IN PROGRESS AT 21:40:51 ON AUGUST 5, 2025
NO BROADCAST MESSAGES
```

- 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  ==>

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

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

```

```
READY
SHUTDOWN
JOB SHUTDOWN(JOB00002) SUBMITTED
READY
logoff_
```

- 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>