



MPI INSTALLATION

FOR WINDOWS, MAC, and UBUNTU



FEBRUARY 27, 2024

Contents

MPI Installation on Ubuntu for Windows.....	1
MPI Installation on MAC OS / OSX.....	5

MPI Installation on Ubuntu for Windows

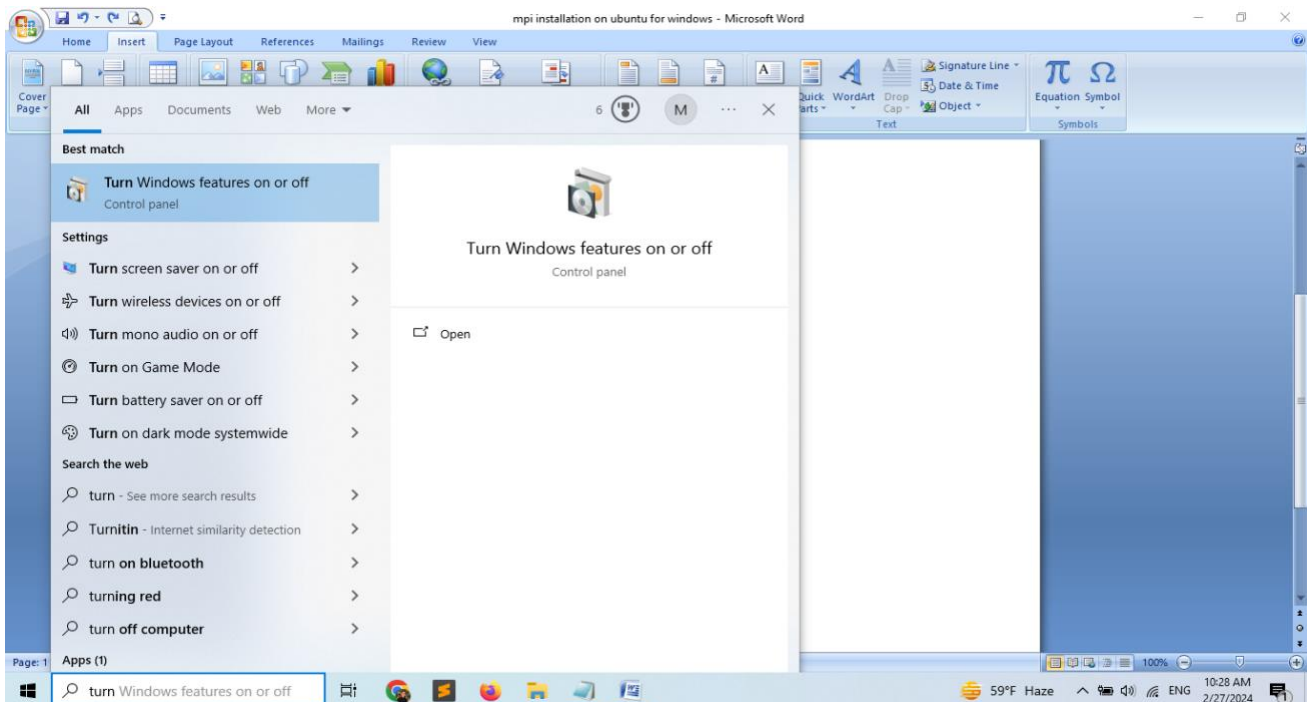
Step 1-:

Go to search bar of your beautiful machine.



Step 2-:

Type “Turn Windows Features On or Off”



When you hit enter on Turn windows features on or off.

Turn Windows features on or off

To turn a feature on, select its check box. To turn a feature off, clear its check box. A filled box means that only part of the feature is turned on.

- ☐ .NET Framework 3.5 (includes .NET 2.0 and 3.0)
- ☒ .NET Framework 4.8 Advanced Services
- ☒ Internet Explorer 11
- ☐ Internet Information Services
- ☐ Internet Information Services Hostable Web Core
- ☐ Legacy Components
- ☒ Microsoft Message Queue (MSMQ) Server
- ☒ Microsoft Print to PDF
- ☒ Microsoft XPS Document Writer
- ☒ Print and Document Services
- ☒ Remote Differential Compression API Support
- ☐ Simple TCP/IP services (i.e. echo, daytime etc)
- ☐ SMB 1.0/CIFS File Sharing Support
- ☐ Telnet Client
- ☐ TFTP Client
- ☒ Virtual Machine Platform
- ☐ Windows Hypervisor Platform
- ☐ Windows Identity Foundation 3.5
- ☒ Windows PowerShell 2.0
- ☐ Windows Process Activation Service
- ☐ Windows Projected File System
- ☒ Windows Subsystem for Linux
- ☐ Windows TIFF IFilter
- ☒ Work Folders Client

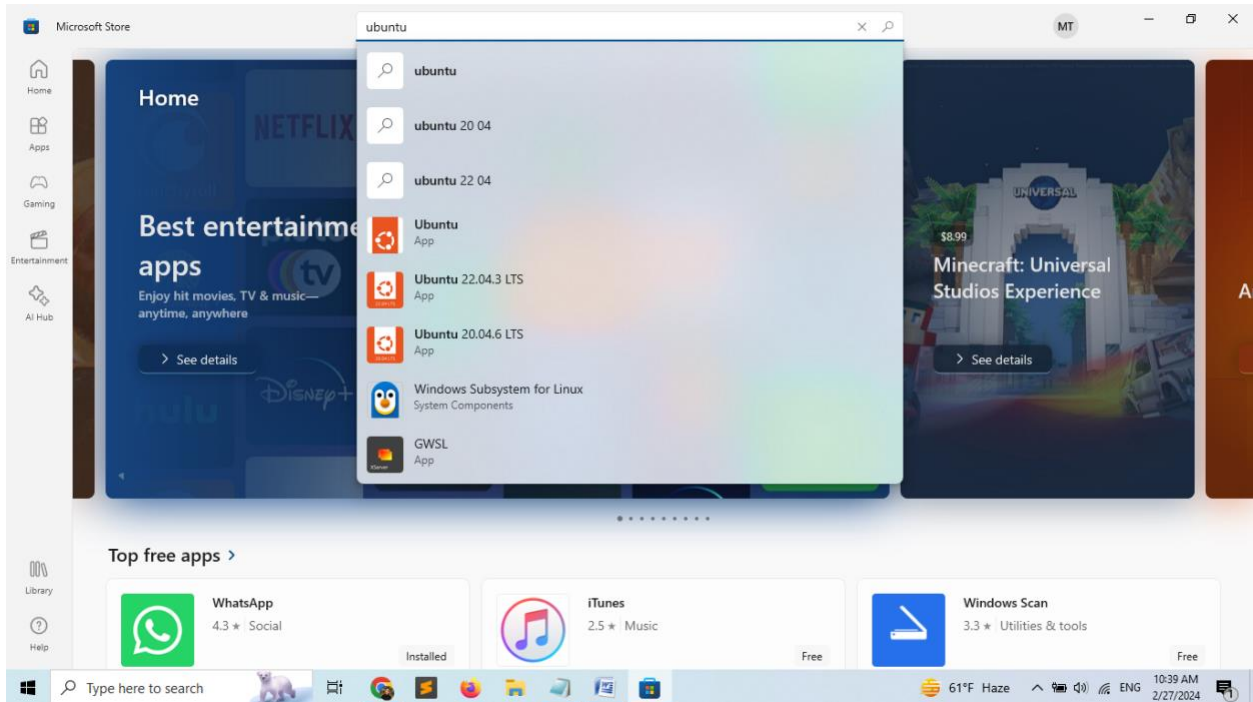
⇒ Click on the red line that has been tick.

- ☐ TFTP Client
- ☒ Virtual Machine Platform
- ☐ Windows Hypervisor Platform
- ☐ Windows Identity Foundation 3.5
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- ☒ Work Folders Client

After you tick on the square. Click on 'OK' . It will give the option to reboot the computer. You need to restart your beautiful machine to make 'ubuntu' and 'MPI' run.

Step 3-:

After restarting the machine, Go to the Search bar and Open Microsoft Store by typing Microsoft Store and inside type '**Ubuntu**'.



- ⇒ Download any one of it. It will not matter which version you have downloaded. After downloaded, you need to install it on your beautiful machine.

Step 4-:

After you have successfully installed Ubuntu on your machine.

- ➔ Type 'ubuntu' on the search bar
- 1) You need to provide a username and password for credential.

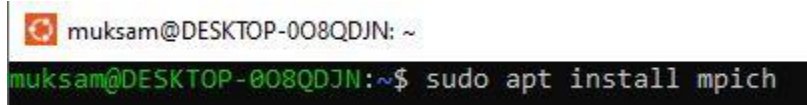
Step 5:-

- > First Type '**sudo apt-get update**' and type the password you have given in the **step 4** process. To fetch the latest-version of the package list from your distro's software repository, and any third-party repositories you may have configured.
- > Again Type '**sudo apt-get upgrade**'. To download and install the updates for each outdated package and dependency on your system.

It takes time to download it.

Step 6:-

- To Install MPI in Ubuntu.

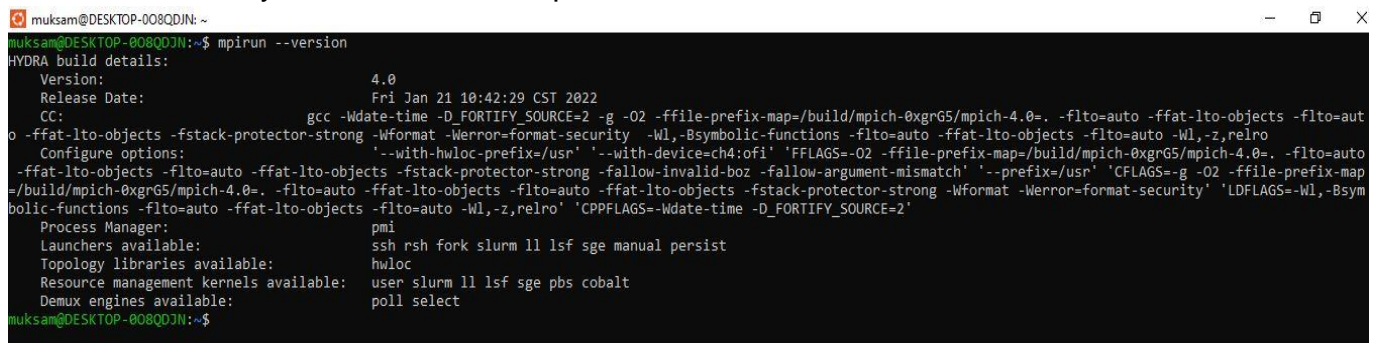


```

muksam@DESKTOP-008QDJN: ~
muksam@DESKTOP-008QDJN:~$ sudo apt install mpich

```

- After you have installed mpich. See the version of it.



```

muksam@DESKTOP-008QDJN: ~
muksam@DESKTOP-008QDJN:~$ mpirun --version
HYDRA build details:
  Version: 4.0
  Release Date: Fri Jan 21 10:42:29 CST 2022
  CC: gcc -Wdate-time -D_FORTIFY_SOURCE=2 -g -O2 -ffile-prefix-map=/build/mpich-0xgrG5/mpich-4.0=. -flto=auto -ffat-lto-objects -flto=auto -fstack-protector-strong -Wformat -Werror=format-security -Wl,-Bsymbolic-functions -flto=auto -ffat-lto-objects -flto=auto -Wl,-z,relro
  Configure options: '--with-hwloc-prefix=/usr' '--with-device=ch4:ofi' 'FFLAGS=-O2 -ffile-prefix-map=/build/mpich-0xgrG5/mpich-4.0=. -flto=auto -ffat-lto-objects -flto=auto -ffat-lto-objects -fstack-protector-strong -fallow-invalid-boz -fallow-argument-mismatch' '--prefix=/usr' 'CFLAGS=-g -O2 -ffile-prefix-map=/build/mpich-0xgrG5/mpich-4.0=. -flto=auto -ffat-lto-objects -flto=auto -ffat-lto-objects -fstack-protector-strong -Wformat -Werror=format-security' 'LDFLAGS=-Wl,-Bsymbolic-functions -flto=auto -ffat-lto-objects -flto=auto -Wl,-z,relro' 'CPPFLAGS=-Wdate-time -D_FORTIFY_SOURCE=2'
  Process Manager: pmi
  Launchers available: ssh rsh fork slurm ll lsf sge manual persist
  Topology libraries available: hwloc
  Resource management kernels available: user slurm ll lsf sge pbs cobalt
  Demux engines available: poll select
muksam@DESKTOP-008QDJN:~$

```

/ Congratulations you have successfully installed MPI on your beautiful machine**/**

MPI Installation on MAC OS / OSX

Step 1-:

To install MPI on macOSX you will require a package such as **Homebrew**

You can install homebrew from this link:

<https://youtu.be/IWJKRmFLn-g?si=1UqUOz7ArVI0tRam>

Step 2-:

Once Homebrew is installed, you can install MPI by running:

brew install open-mpi

This command will install Open MPI, which is one of the most popular implementations of MPI.

Step 3-:

After the installation is complete, you can verify the installation by running:

mpicc --version

This will display the version of the MPI compiler.

Step 4-:

You can now use MPI on your macOS system. You can compile MPI programs using **mpicc** and run them using **mpirun**.