Docker WS Windows Subsystem for Linux)

WSL (Windows Subsystem for Linux) kernel Linux Windows 10
Docker www.Limitrack.com

- WSL
  - WSL
  - Windows Terminal
  - WSL
  - Linux WSL
  - WSL 2 (default)
- systemd
  - systemd Linux (WSL)
- Docker WSL
  - Docker WSL
- WSL background Auto Run
  - ! Linux (bandground) Linux Terminal
  - ! wsl (auto start) Windows

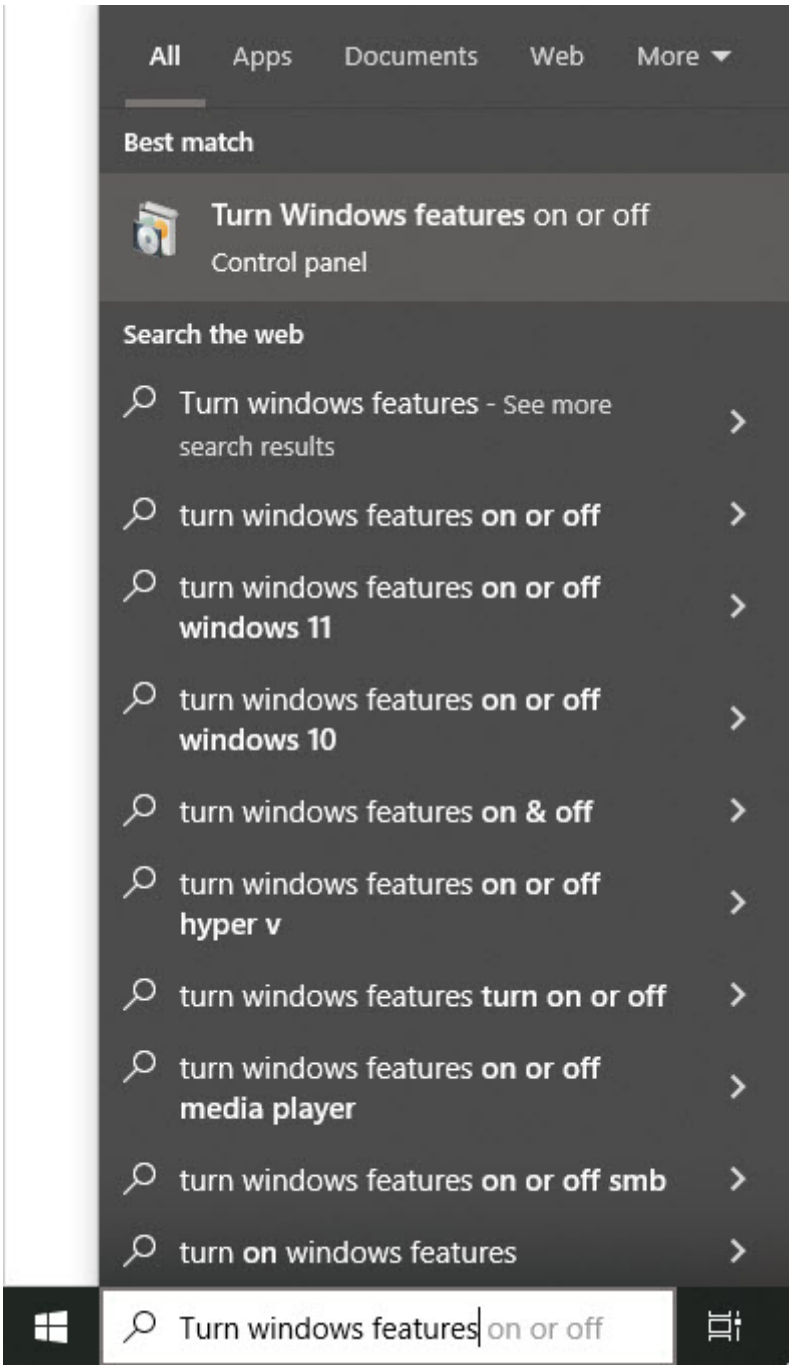
WSL

WSL

Windows

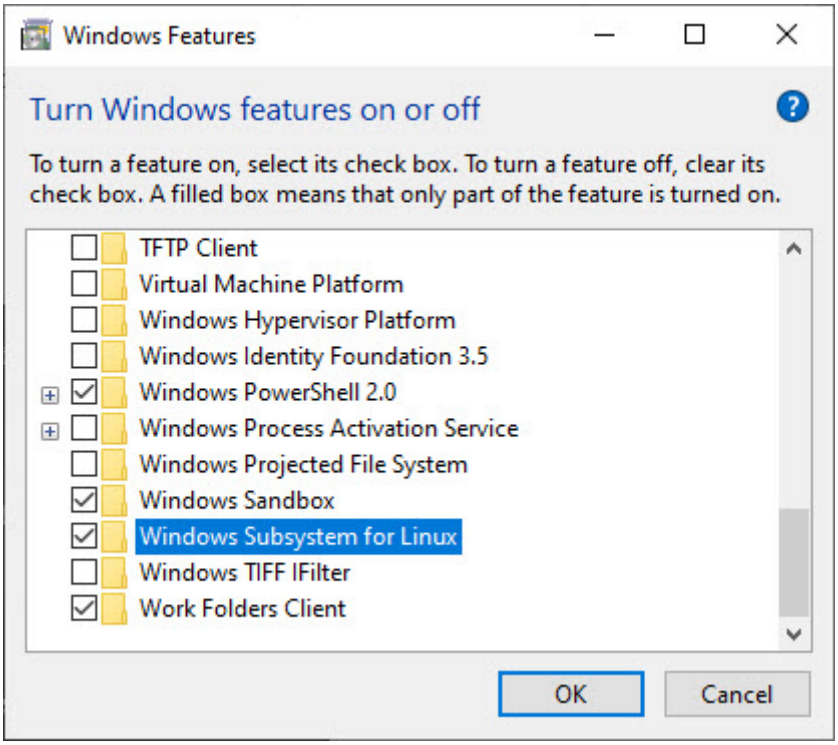
Turn Windows Features on or off

click Windows Features



Windows Subsystem for Linux (WSL)

OK



restart Windows 1

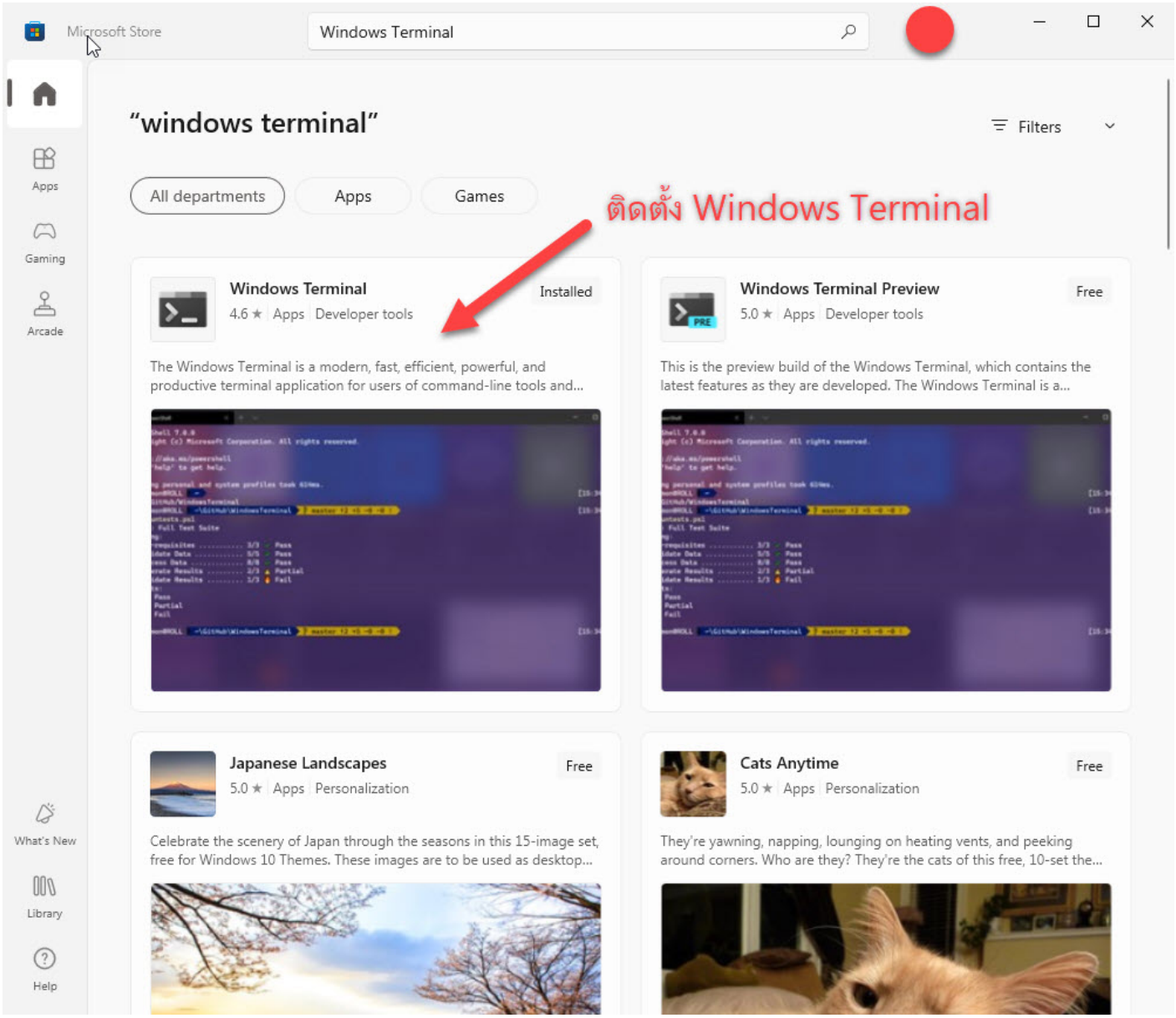
WSL

Windows Terminal

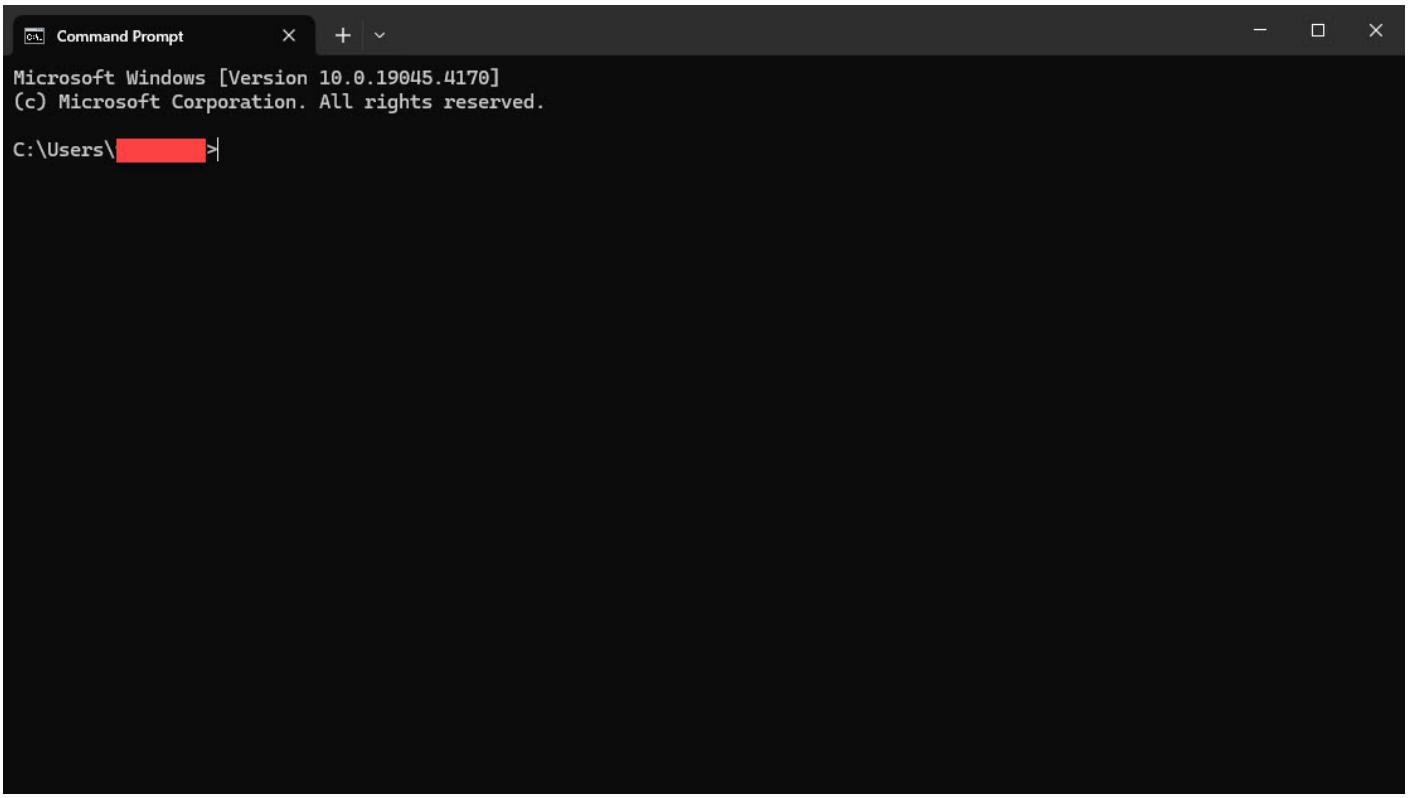
Command Prompt Windows Powershell Windows WSL

Terminal WSL (2024) Windows Terminal

Microsoft Store Windows Terminal ( )

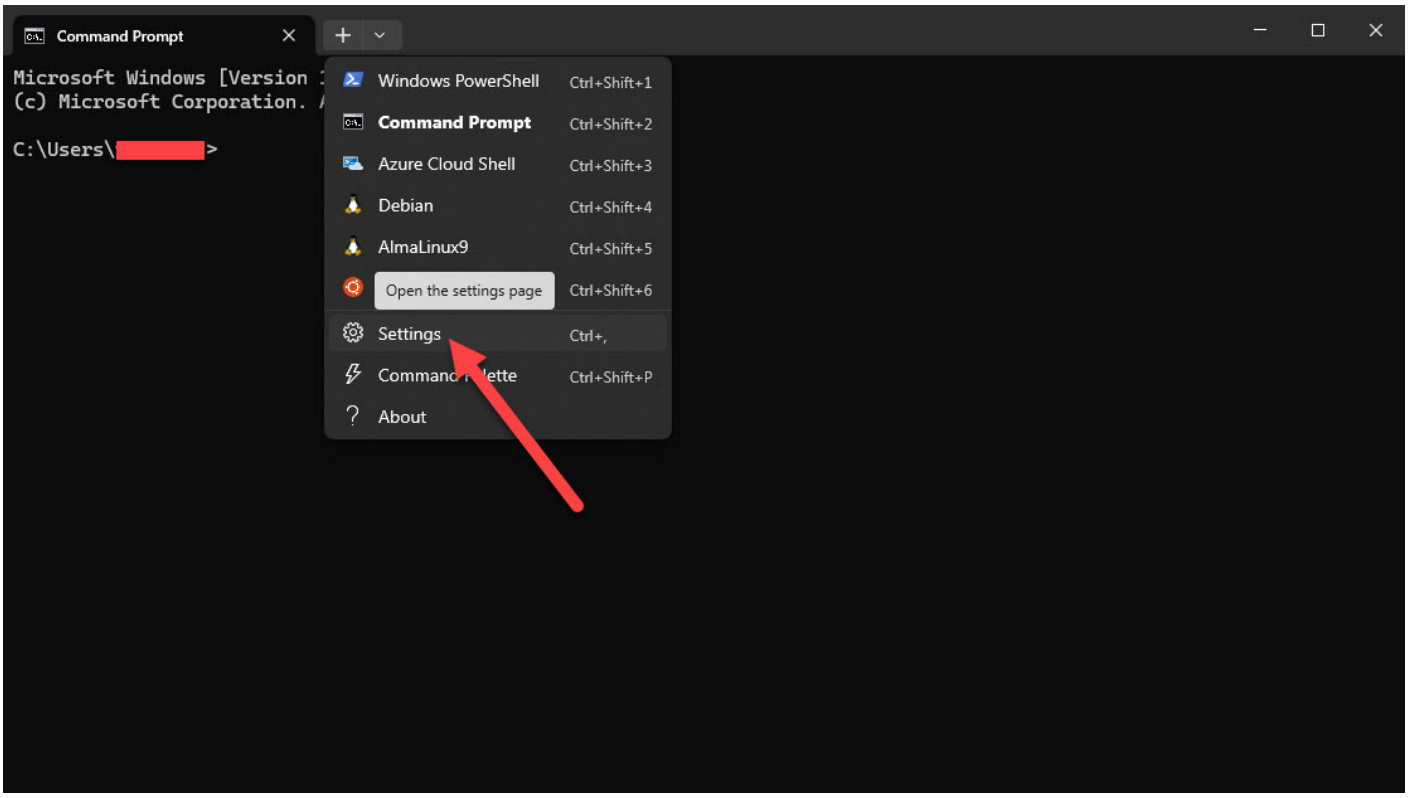


Windows Termial



Windows Terminal wsl.exe

Windows Terminal Settings ( )



WSL

Windows Terminal

wsl

```
wsl -v
```

```
C:\Users\[redacted]>wsl -v
WSL version: 2.1.5.0
Kernel version: 5.15.146.1-2
WSLg version: 1.0.60
MSRDC version: 1.2.5105
Direct3D version: 1.611.1-81528511
DXCore version: 10.0.25131.1002-220531-1700.rs-onecore-base2-hyp
Windows version: 10.0.19045.4170
```

WSL WSL version 2.1.5.0 (04/2024)

WSL WSL

```
wsl --update
```

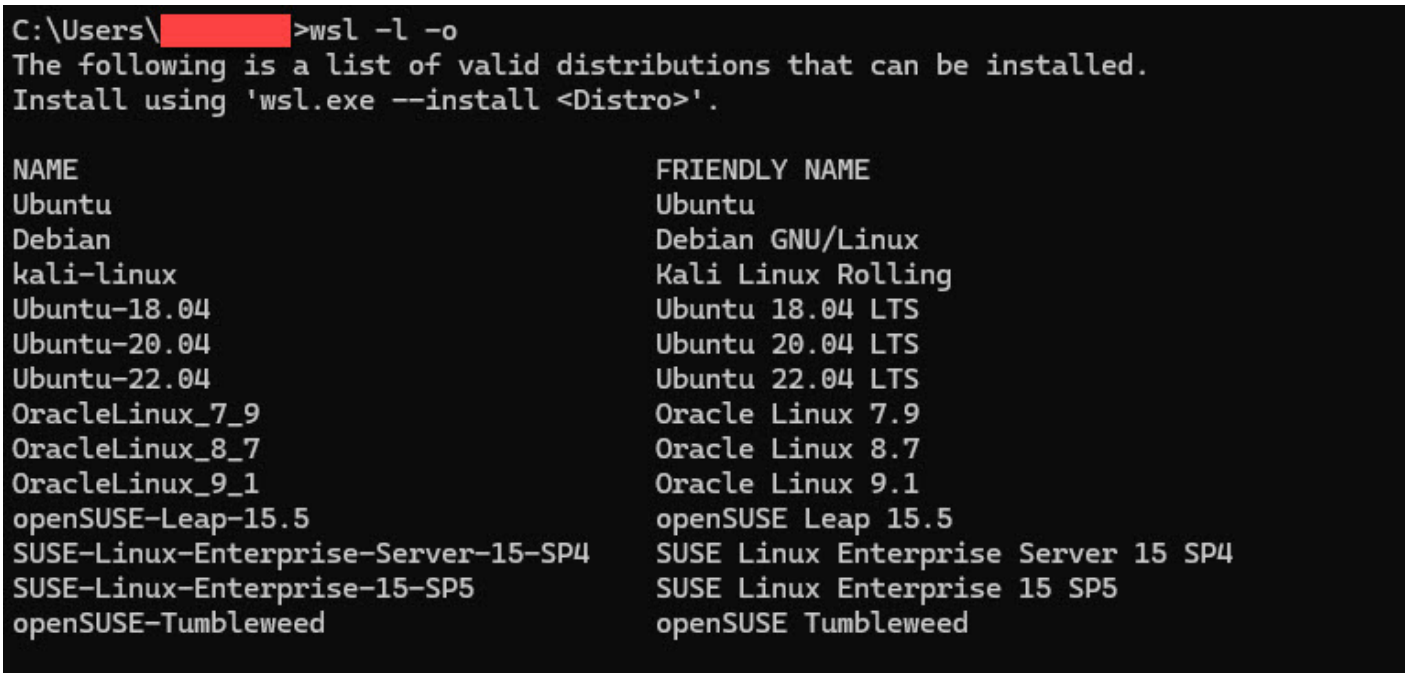
```
C:\Users\[redacted]>wsl --update
Checking for updates.
The most recent version of Windows Subsystem for Linux is already installed.
```

WSL

Linux WSL

Linux distro WSL

```
wsl -l -o
```



Ubuntu-20.04

```
wsl --install Ubuntu-20.04
```

```
C:\Users\[redacted]>wsl --install Ubuntu-20.04
Installing: Ubuntu 20.04 LTS
Ubuntu 20.04 LTS has been installed.
Launching Ubuntu 20.04 LTS...
Installing, this may take a few minutes...
Please create a default UNIX user account. The username does not need to match your Windows username.
For more information visit: https://aka.ms/wslusers
Enter new UNIX username: [redacted]
New password:
Retype new password:
passwd: password updated successfully
Installation successful!
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

Welcome to Ubuntu 20.04.6 LTS (GNU/Linux 5.15.146.1-microsoft-standard-WSL2 x86_64)

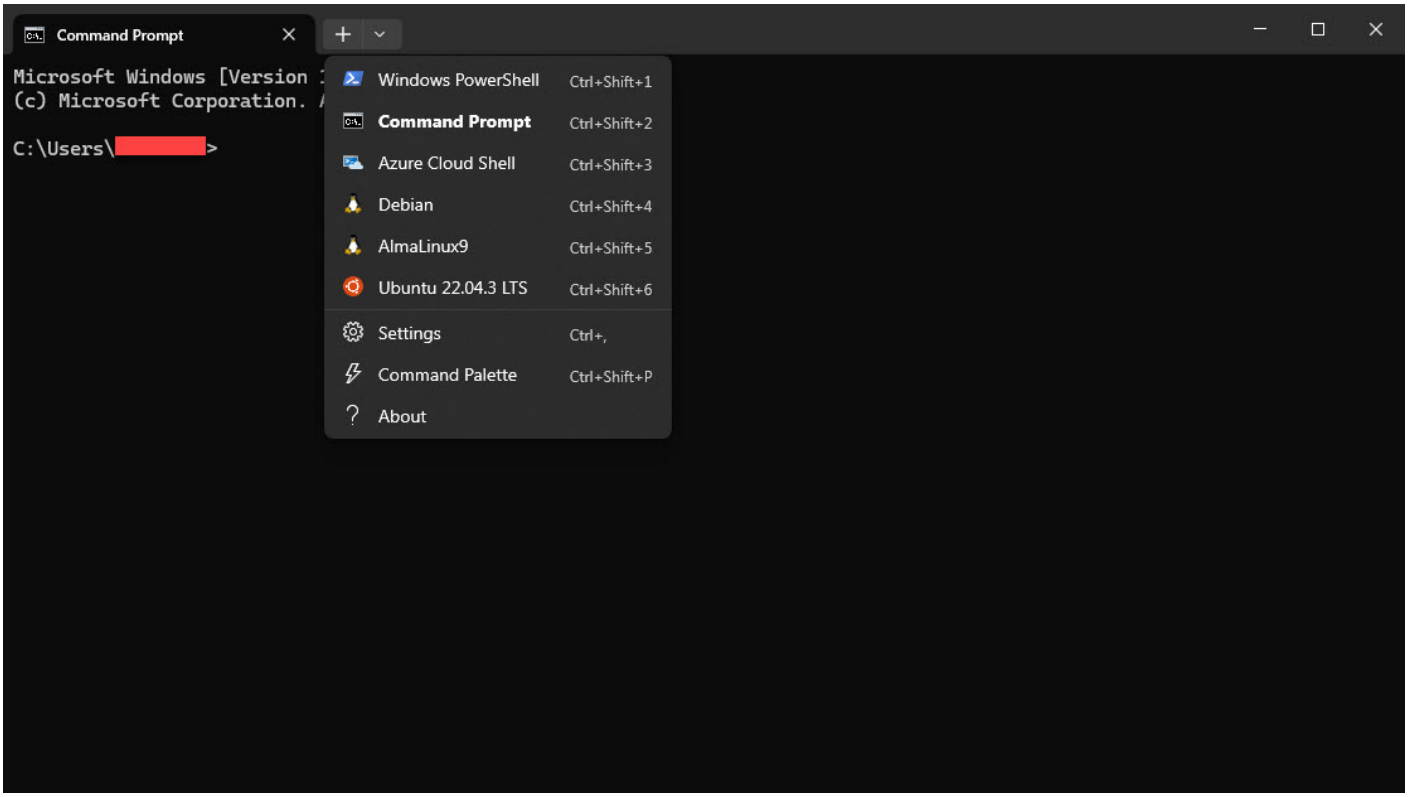
 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

  System information as of Tue Apr  2 15:44:46 +07 2024

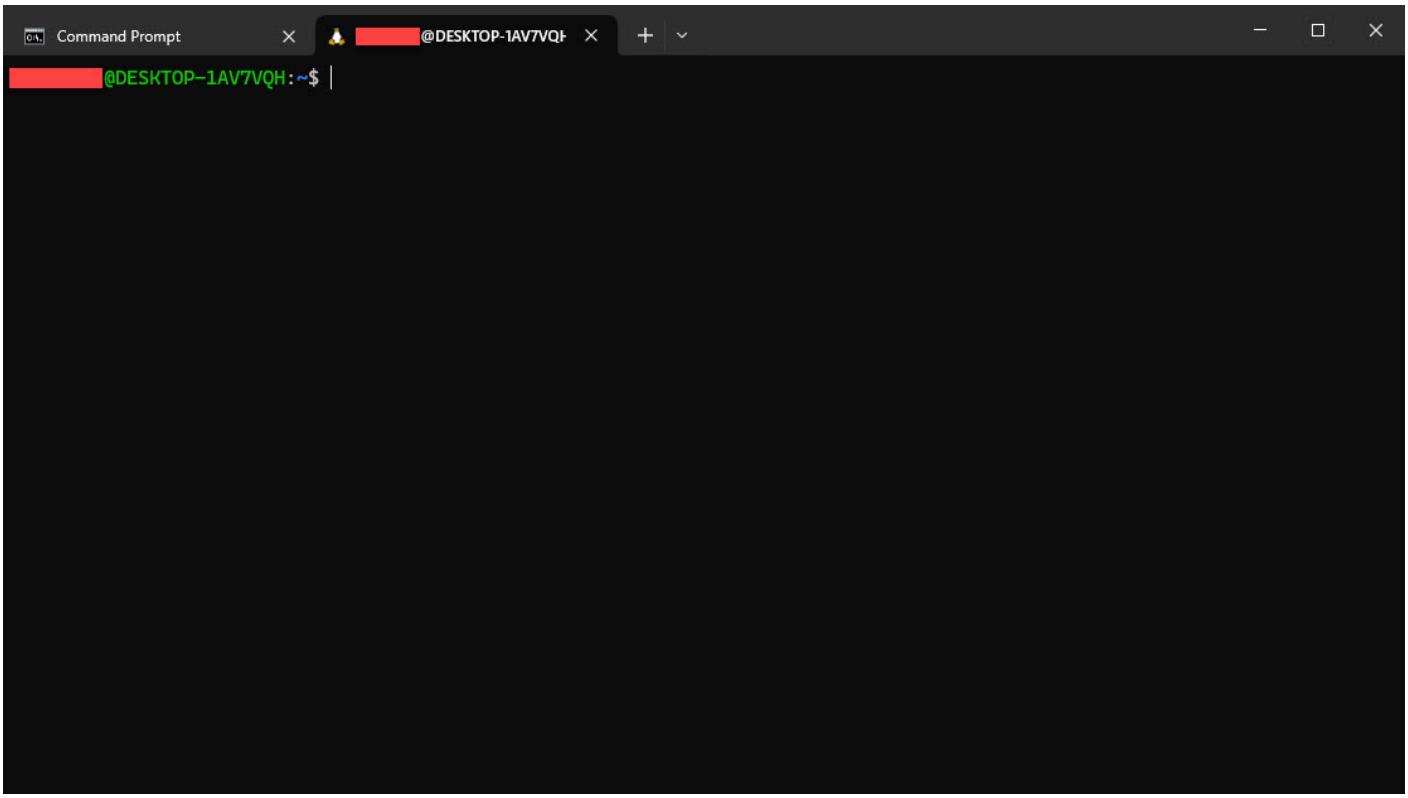
  System load:  0.04               Processes:             77
  Usage of /:   0.1% of 1006.85GB  Users logged in:       0
  Memory usage: 3%                 IPv4 address for eth0: [redacted]
  Swap usage:   0%
```

Linux ( )

Terminal +



Linux distro


Command Prompt
[redacted]@DESKTOP-1AV7VQH
[redacted]@DESKTOP-1AV7VQH:~$

bash linux

WSL 2

WSL 1-2 (04/2024) WSL 1

Microsoft WSL 2 feature WSL 1 (WS

Linux WSL WSL 1 WSL 2

```
C:\Users\[redacted]>wsl -l -v
  NAME            STATE           VERSION
* Debian          Stopped         1
  AlmaLinux9      Stopped         1
  Ubuntu-22.04    Stopped         2
```

WSL version 2 (deault)

```
wsl --set-default-version 2
```

```
C:\Users\[redacted]>wsl --set-default-version 2
For information on key differences with WSL 2 please visit https://aka.ms/wsl2
The operation completed successfully.
```

Debian WSL 2

```
wsl --set-version Debian 2
```

```
C:\Users\[redacted]>wsl -l -v
  NAME            STATE           VERSION
* Debian          Stopped         1
  AlmaLinux9      Stopped         1
  Ubuntu-22.04    Stopped         2

C:\Users\tanakorn>wsl --set-version Debian 2
For information on key differences with WSL 2 please visit https://aka.ms/wsl2
Conversion in progress, this may take a few minutes.
The operation completed successfully.

C:\Users\[redacted]>wsl -l -v
  NAME            STATE           VERSION
* Debian          Stopped         2
  AlmaLinux9      Stopped         1
  Ubuntu-22.04    Stopped         2
```

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systemd

systemd Linux (WS

systemd ?

- systemd daemon Linux background Services Windows

- application Linux Apache , Nginx , MySQL , PostgreSQL ,

- WSL systemd Microsoft WSL systemd version

3 systemd WSL

1. systemd WSL version 2 (Windows 22H2)

2. systemd Auto /etc/wsl.conf ( )

3. WSL systemd (systemd Auto Windows restart ,

1. WSL 2

http://docs.limitrack.com/books/wsl-windows-subsystem-for-linux/page/wsl-IxF

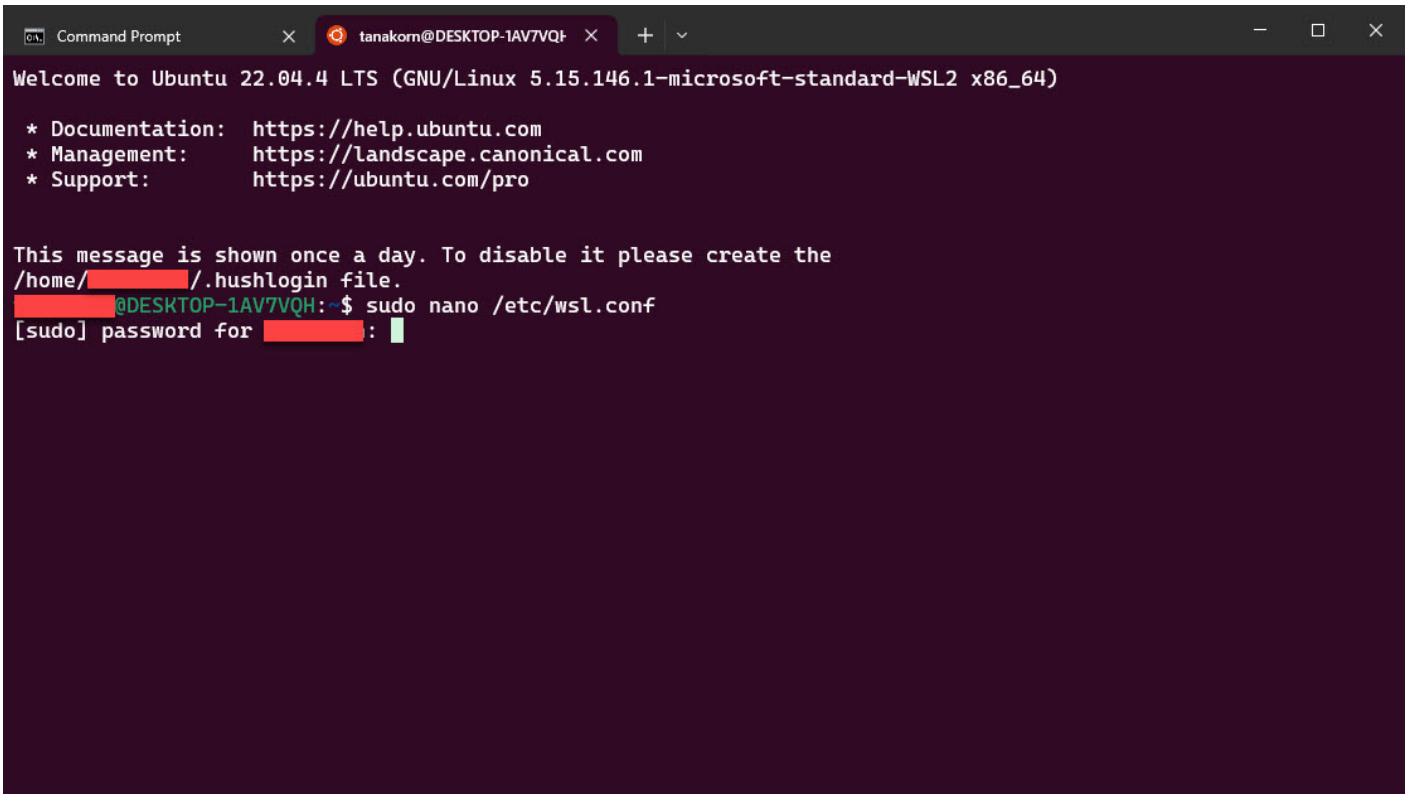
2. systemd Auto

Ubuntu 22.04 systemd Auto

Windows Terminal Ubuntu 22.04

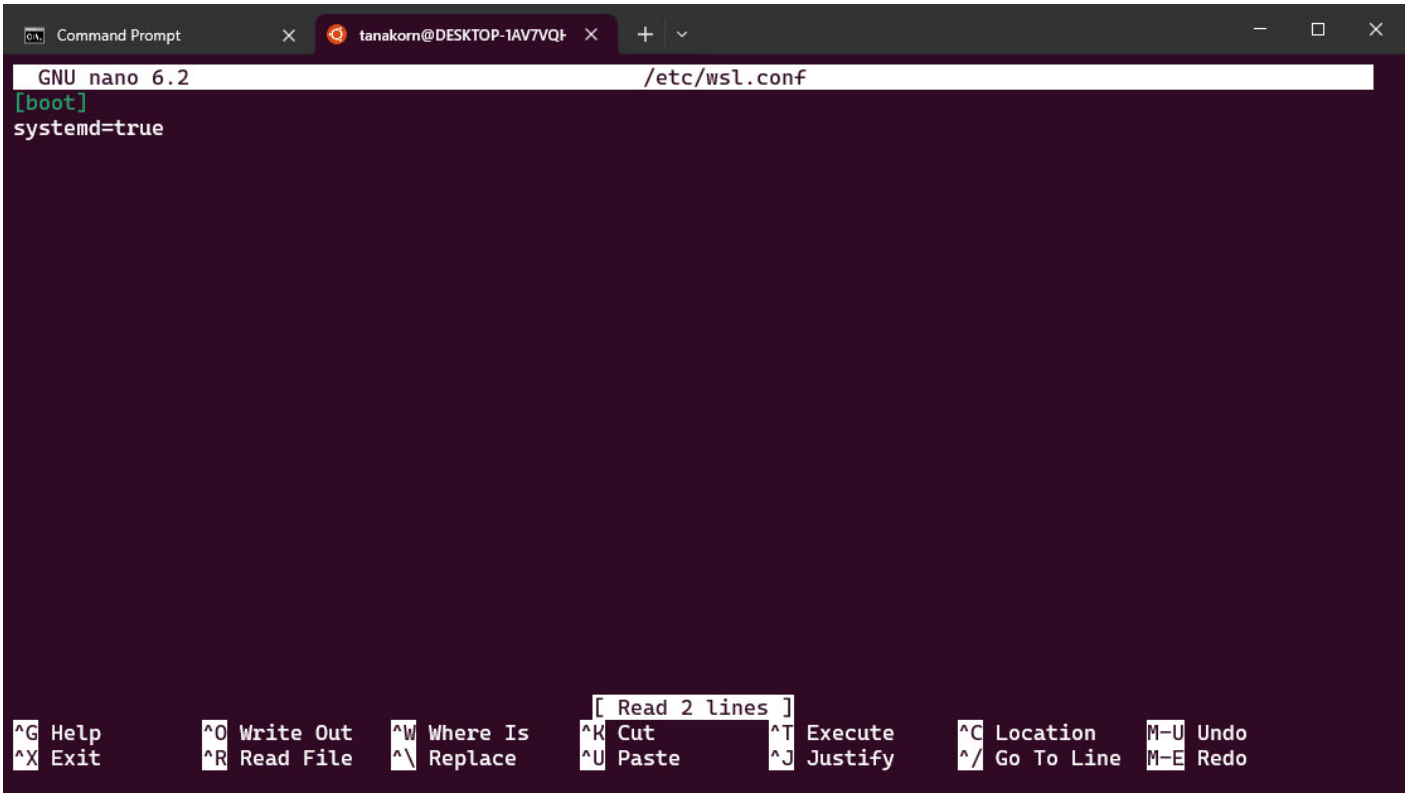
bash shell Ubuntu 22.04

```
sudo nano /etc/wsl.conf
```



2

```
[boot]
systemd=true
```

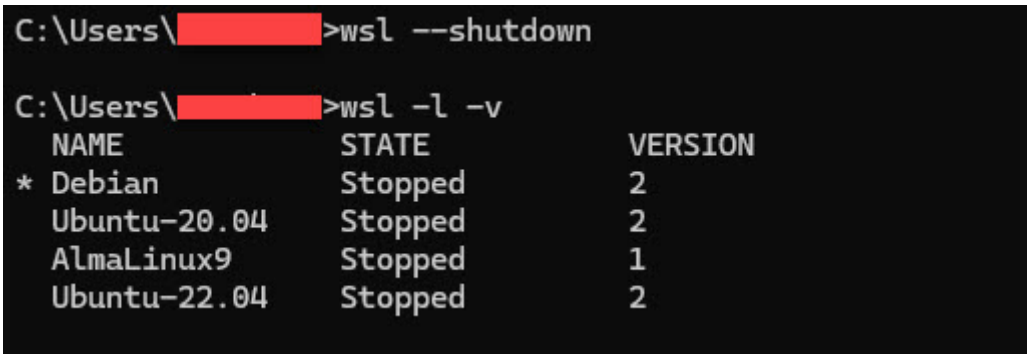


save & exit (Ctrl+X Y)

3. WSL systemd

Windows Terminal (Powershell) WSL

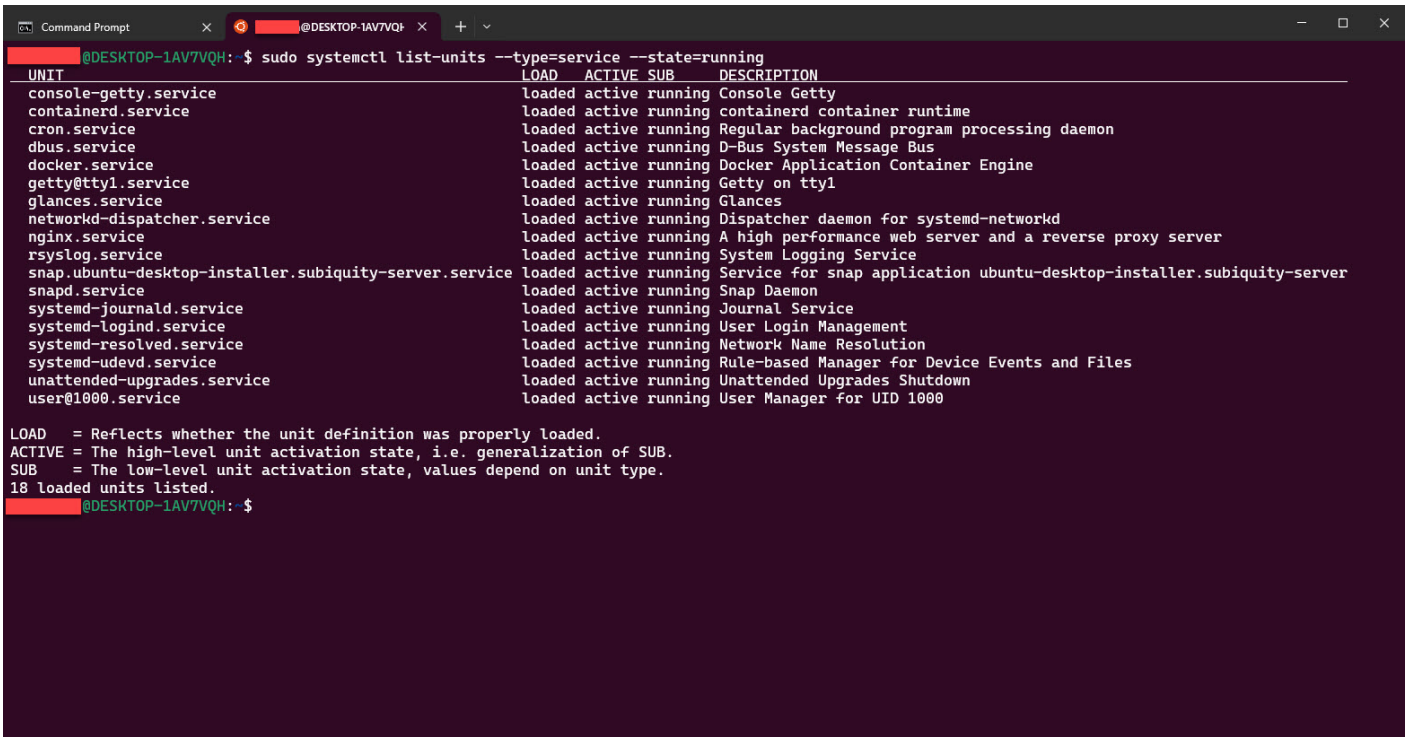
```
wsl --shutdown
```



Linux

Linux systemd Auto ( )

```
sudo systemctl list-units --type=service --state=running
```



application system daemon web server , file server , database serv

www.Limitrack.com

Docker WSL

Docker WSL

Docker WSL

1. WSL
2. systemd
3. Docker
4. docker

1. WSL

WSL

2. systemd

systemd

3. Docker

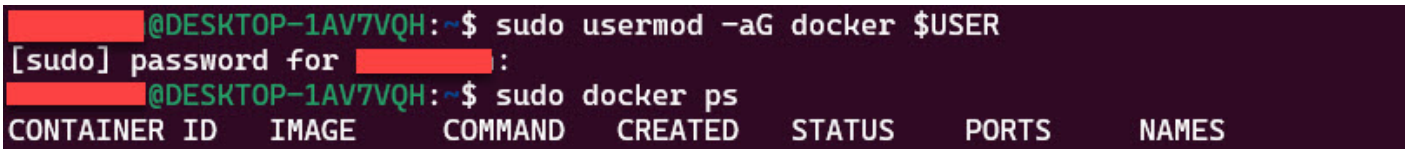
Docker https://docs.docker.com/engine/install/ubuntu/

4. docker

docker docker error



```
sudo usermod -aG docker $USER
```



docker WSL

> www.Limitrack.com

WSL backgrour

WSL (background) systemd (Auto Run) Windows

WSL background Auto Run

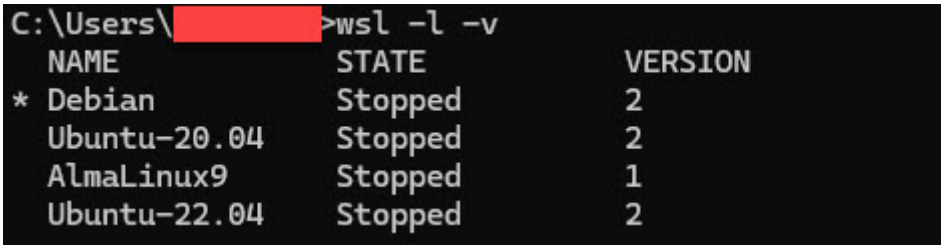
! Linux

Linux Terminal

systemd WSL Linux Terminal Linux

systemd

Linux Linux Stopped



Trick !

Linux (WSL) (Stopped) tmux

Linux

1. tmux

```
$ sudo apt install tmux
```

2. tmux 1 session (tmux background)

```
$ nano ~/.bashrc
```

3 .bashrc

```
if ! tmux ls > /dev/null 2>&1; then
        tmux new -d > /dev/null 2>&1
```

```
fi
```

```
  GNU nano 6.2                          /home/[redacted]/.bashrc *
# Alias definitions.
# You may want to put all your additions into a separate file like
# ~/.bash_aliases, instead of adding them here directly.
# See /usr/share/doc/bash-doc/examples in the bash-doc package.

if [ -f ~/.bash_aliases ]; then
    . ~/.bash_aliases
fi

# enable programmable completion features (you don't need to enable
# this, if it's already enabled in /etc/bash.bashrc and /etc/profile
# sources /etc/bash.bashrc).
if ! shopt -oq posix; then
  if [ -f /usr/share/bash-completion/bash_completion ]; then
    . /usr/share/bash-completion/bash_completion
  elif [ -f /etc/bash_completion ]; then
    . /etc/bash_completion
  fi
fi

if ! tmux ls > /dev/null 2>&1; then
        tmux new -d > /dev/null 2>&1
fi

^G Help        ^O Write Out   ^W Where Is    ^K Cut         ^T Execute     ^C Location    M-U Undo
^X Exit        ^R Read File   ^\ Replace     ^U Paste       ^J Justify     ^/ Go To Line  M-E Redo
```

Ctrl+X Y Enter save

3. Linux tmux session

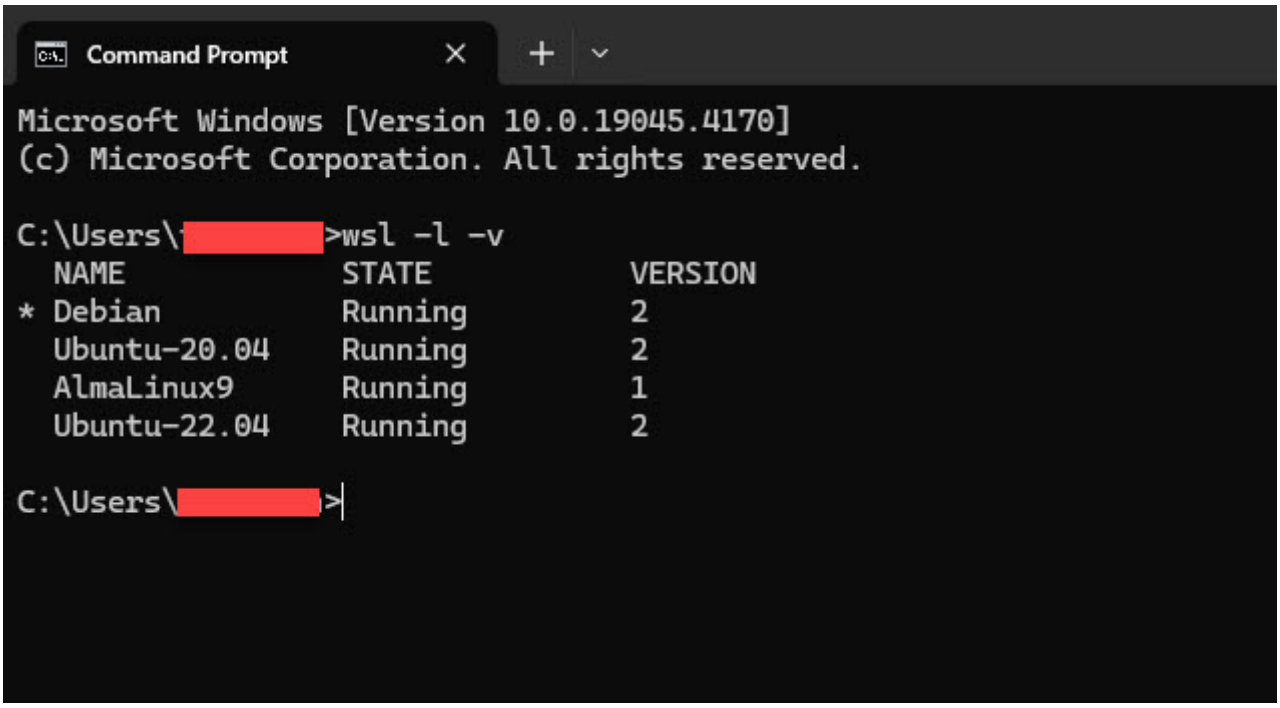
$ tmux ls

```
[redacted]@DESKTOP-1AV7VQH:~$ tmux ls
0: 1 windows (created Sun Apr  7 13:57:43 2024)
[redacted]@DESKTOP-1AV7VQH:~$
```

tmux background 1 session Linux

Linux (Stopped) Linux Terminal

4. Linux Terminal Windowns Terminal



Linux Running Linux Terminal

application & service systemd background

> www.Limitrack.com

WSL background Auto Run

! wsl

Windows

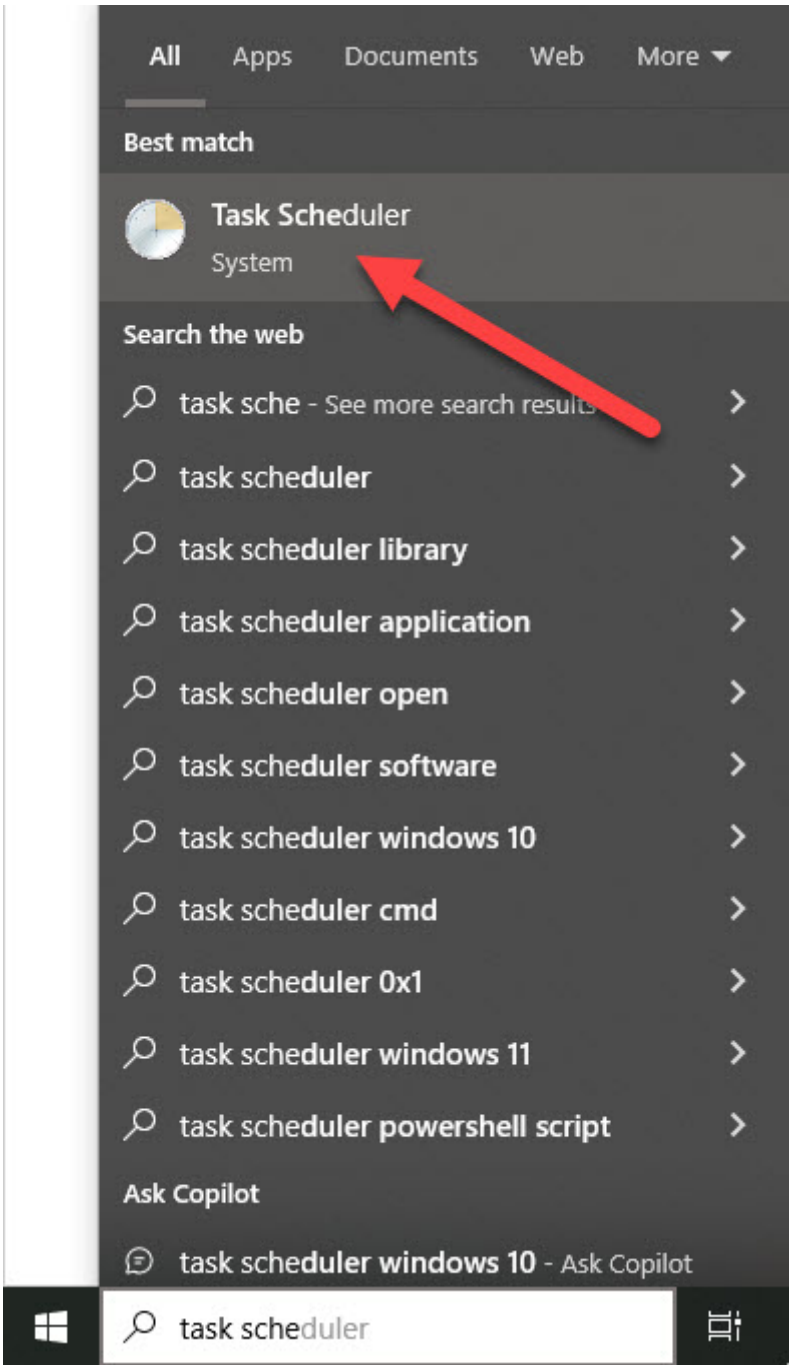
[ ]

! Linux (bandground) Linux Terminal

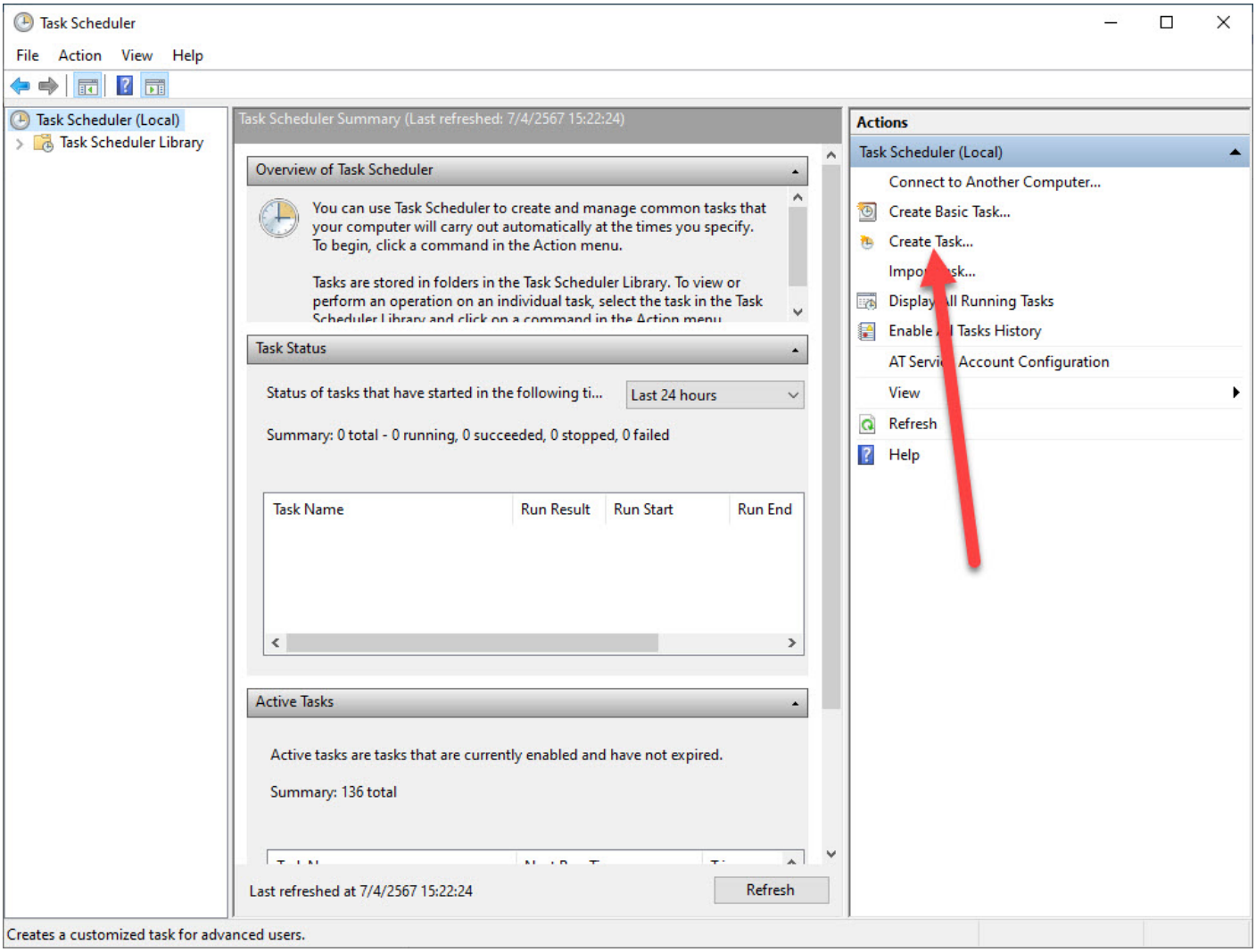
wsl (auto start)

systemd (WSL) Windows Task Schedule

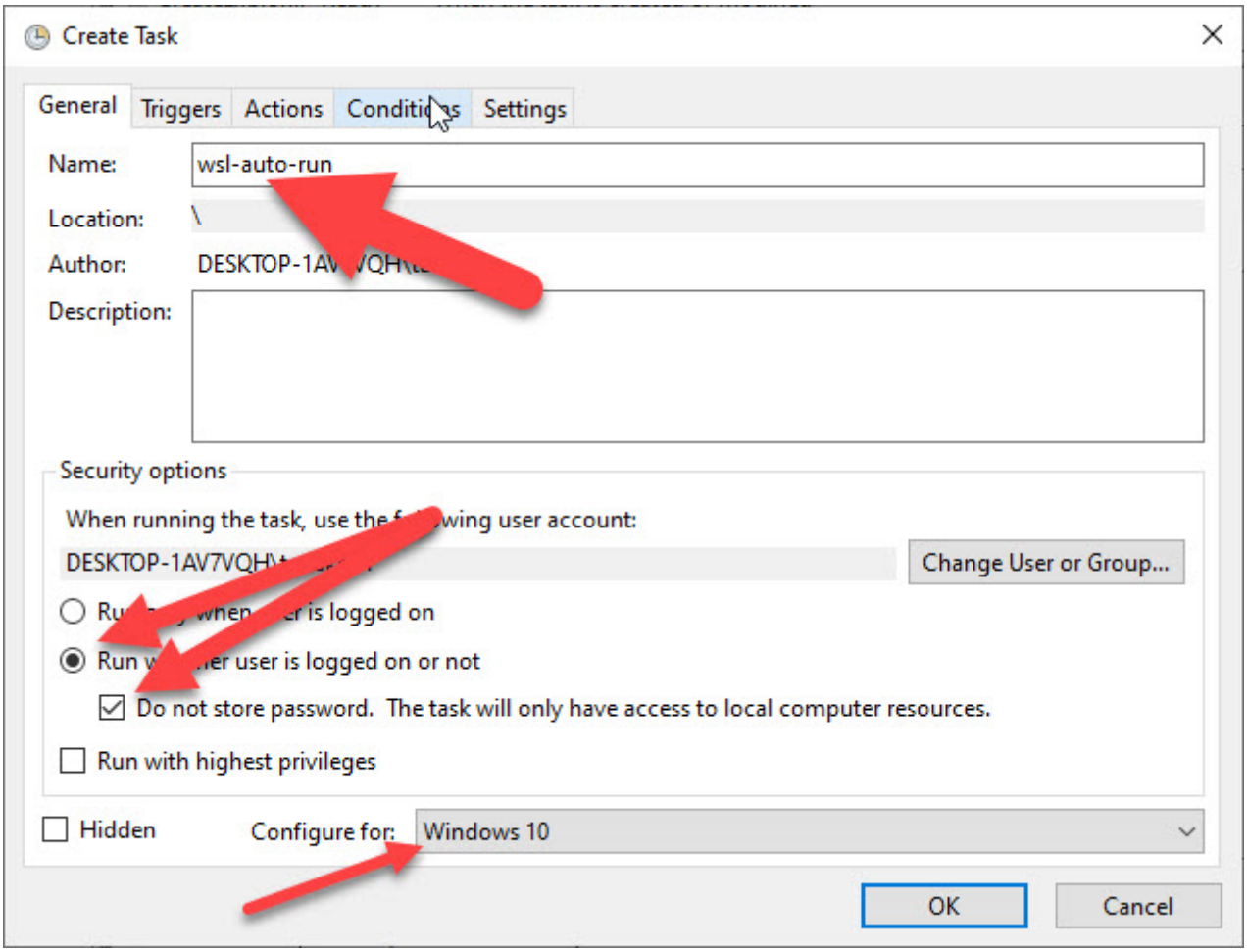
1. Task Schedule



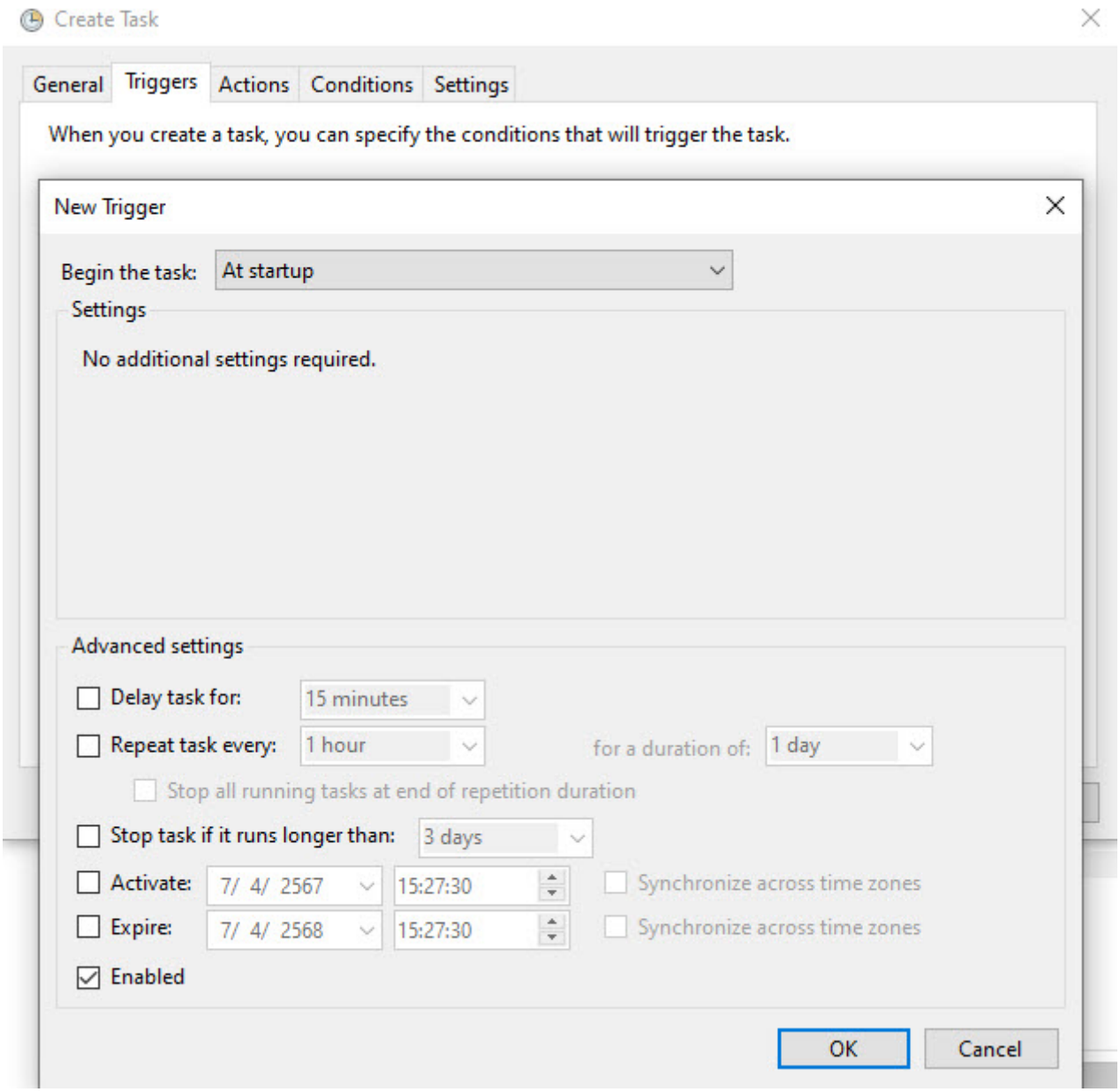
2. Create Task Job


Task Scheduler
File Action View Help
Task Scheduler (Local)
Task Scheduler Library
Task Scheduler Summary (Last refreshed: 7/4/2567 15:22:24)
Overview of Task Scheduler
You can use Task Scheduler to create and manage common tasks that your computer will carry out automatically at the times you specify. To begin, click a command in the Action menu.
Tasks are stored in folders in the Task Scheduler Library. To view or perform an operation on an individual task, select the task in the Task
Task Status
Status of tasks that have started in the following ti...
Last 24 hours
Summary: 0 total - 0 running, 0 succeeded, 0 stopped, 0 failed
Task Name
Run Result
Run Start
Run End
Active Tasks
Active tasks are tasks that are currently enabled and have not expired.
Summary: 136 total
Last refreshed at 7/4/2567 15:22:24
Refresh
Actions
Task Scheduler (Local)
Connect to Another Computer...
Create Basic Task...
Create Task...
Display All Running Tasks
Enable All Tasks History
AT Service Account Configuration
View
Refresh
Help
Creates a customized task for advanced users.

3. General



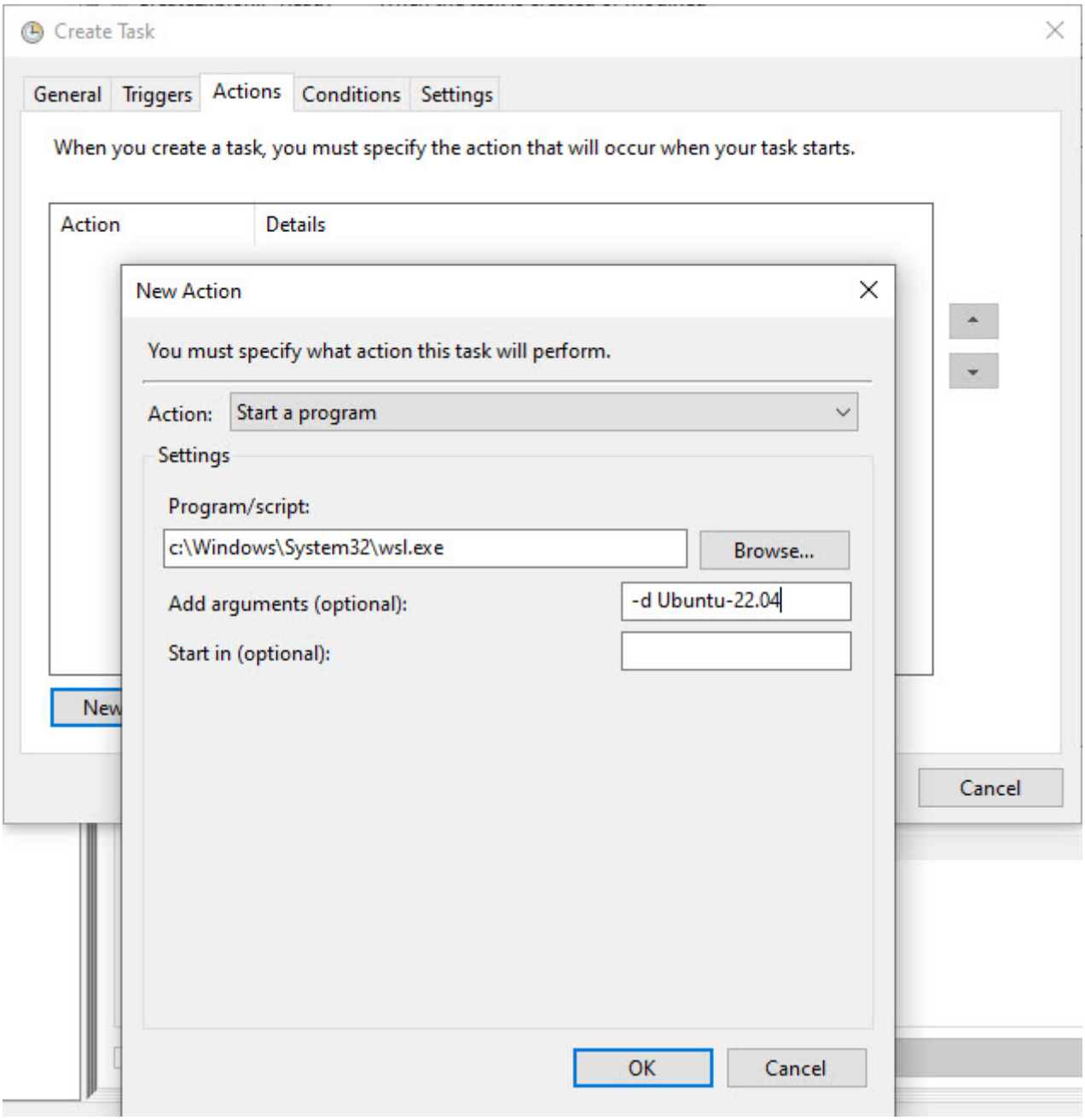
4. Triggers New



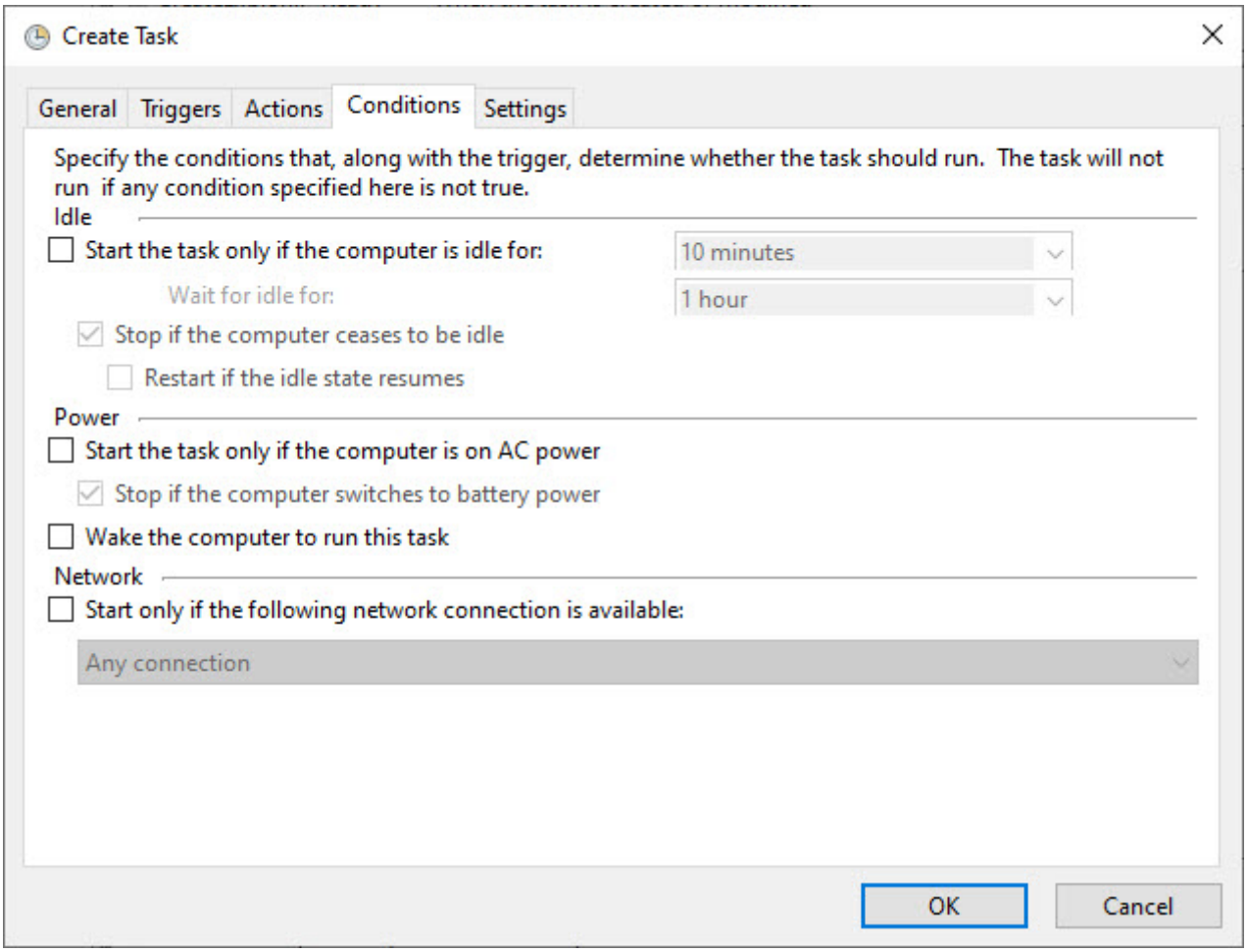
5. Action New Linux distro

```
C:\Windows\system32\wsl.exe -d Ubuntu-22.04
```

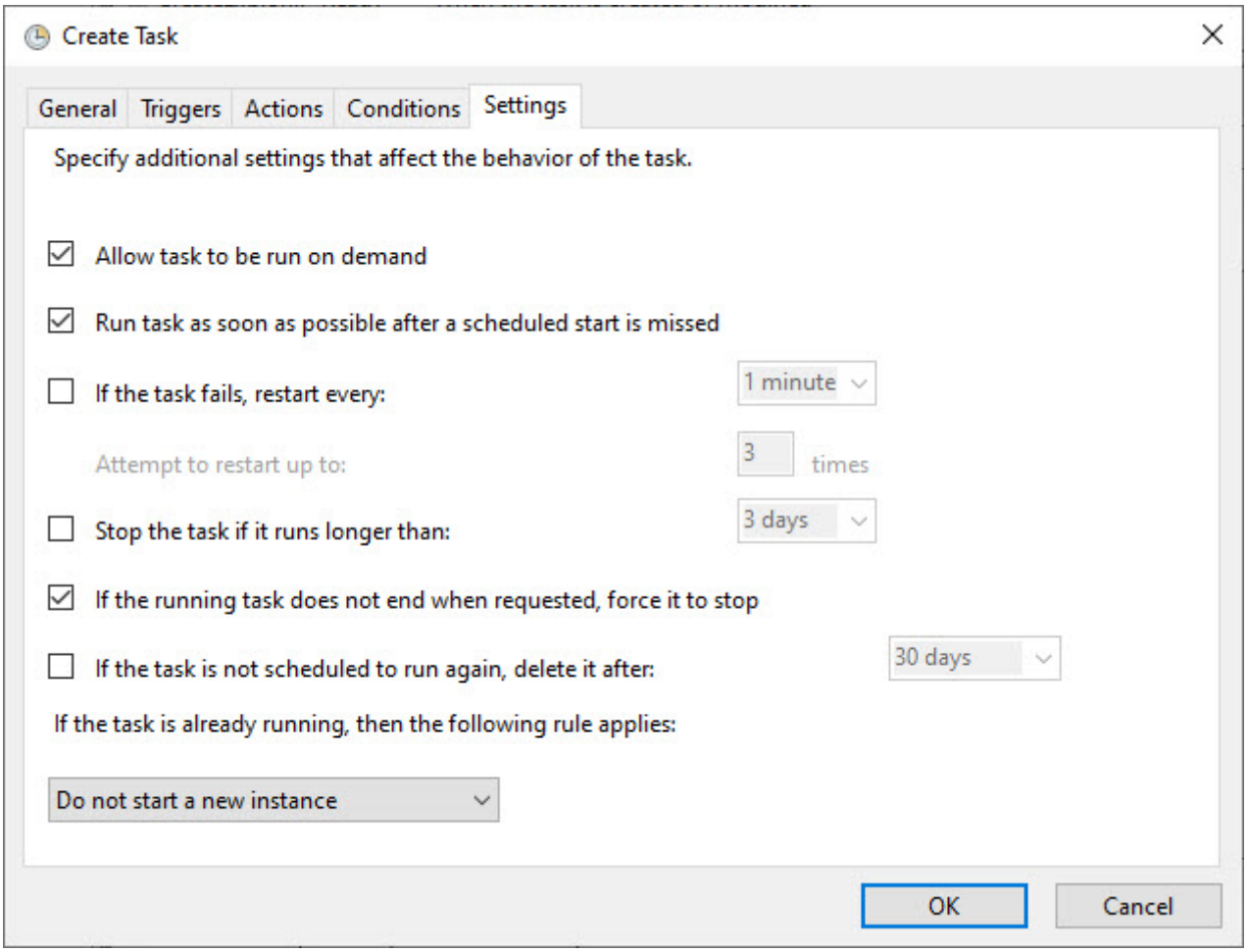
wsl.exe -d Ubuntu-22.04



6. Conditions


Create Task
General
Triggers
Actions
Conditions
Settings
Specify the conditions that, along with the trigger, determine whether the task should run. The task will not run if any condition specified here is not true.
Idle
Start the task only if the computer is idle for:
10 minutes
Wait for idle for:
1 hour
Stop if the computer ceases to be idle
Restart if the idle state resumes
Power
Start the task only if the computer is on AC power
Stop if the computer switches to battery power
Wake the computer to run this task
Network
Start only if the following network connection is available:
Any connection
OK
Cancel

7. Settings



OK

8. restart Windows Windows Linux Ubuntu-22.04 Au

```
C:\Users\[redacted]>wsl -l -v
  NAME            STATE           VERSION
* Debian          Stopped         2
  Ubuntu-20.04    Stopped         2
  AlmaLinux9      Stopped         1
  Ubuntu-22.04    Running         2
```

application & service systemd