

```
Removing python3-sympy (1.12-7) ...
Removing python3-mpmath (1.2.1-3) ...
Removing python3-unicodedata2 (15.1.0+ds-1build1) ...
Removing unicode-data (15.1.0-1) ...
Processing triggers for libc-bin (2.39-0ubuntu8.3) ...
/sbin/ldconfig.real: /usr/lib/wsl/lib/libcuda.so.1 is not a symbolic link
```

```
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libgl1:amd64 (2.80.0-6ubuntu3.1) ...
Processing triggers for udev (255.4-1ubuntu8.4) ...
Processing triggers for sgml-base (1.31) ...
Processing triggers for install-info (7.1-3build2) ...
Processing triggers for fontconfig (2.15.0-1.1ubuntu2) ...
```

```
abi@LAPTOP-UVGVSCCU:~$ locale
LANG=en_US.UTF-8
LANGUAGE=
LC_CTYPE="en_US.UTF-8"
LC_NUMERIC="en_US.UTF-8"
LC_TIME="en_US.UTF-8"
LC_COLLATE="en_US.UTF-8"
LC_MONETARY="en_US.UTF-8"
LC_MESSAGES="en_US.UTF-8"
LC_PAPER="en_US.UTF-8"
LC_NAME="en_US.UTF-8"
LC_ADDRESS="en_US.UTF-8"
LC_TELEPHONE="en_US.UTF-8"
LC_MEASUREMENT="en_US.UTF-8"
LC_IDENTIFICATION="en_US.UTF-8"
LC_ALL=
abi@LAPTOP-UVGVSCCU:~$
```

```
Processing triggers for sgml-base (1.31) ...
Processing triggers for install-info (7.1-3build2) ...
Processing triggers for fontconfig (2.15.0-1.1ubuntu2) ...
abi@LAPTOP-UVGVSCCU:~$ locale
LANG=en_US.UTF-8
LANGUAGE=
LC_CTYPE="en_US.UTF-8"
LC_NUMERIC="en_US.UTF-8"
LC_TIME="en_US.UTF-8"
LC_COLLATE="en_US.UTF-8"
LC_MONETARY="en_US.UTF-8"
LC_MESSAGES="en_US.UTF-8"
LC_PAPER="en_US.UTF-8"
LC_NAME="en_US.UTF-8"
LC_ADDRESS="en_US.UTF-8"
LC_TELEPHONE="en_US.UTF-8"
LC_MEASUREMENT="en_US.UTF-8"
LC_IDENTIFICATION="en_US.UTF-8"
LC_ALL=
abi@LAPTOP-UVGVSCCU:~$ sudo apt update && sudo apt install locales
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:3 http://packages.ros.org/ros2/ubuntu noble InRelease [4,670 B]
Get:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:5 http://packages.ros.org/ros2/ubuntu noble/main amd64 Packages [975 kB]
Get:6 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [380 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:8 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [535 kB]
Get:9 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [82.9 kB]
Get:10 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [4,560 B]
Get:11 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [272 kB]
Get:12 http://archive.ubuntu.com/ubuntu noble-updates/main Translation-en [130 kB]
Get:13 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [8,652 B]
Get:14 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [377 kB]
Get:15 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [115 kB]
Get:16 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [10.3 kB]
Get:17 http://archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [156 kB]
Get:18 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [14.8 kB]
Get:19 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Packages [10.6 kB]
Get:20 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 c-n-f Metadata [1,104 B]
Fetched 3,456 kB in 3s (1,170 kB/s)
```

```
abi@LAPTOP-UVGVSCCU: ~  
Get:9 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [82.9 kB]  
Get:10 http://security.ubuntu.com/ubuntu noble-security/main amd64 c-n-f Metadata [4,560 B]  
Get:11 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [272 kB]  
Get:12 http://archive.ubuntu.com/ubuntu noble-updates/main Translation-en [130 kB]  
Get:13 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 c-n-f Metadata [8,652 B]  
Get:14 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [377 kB]  
Get:15 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [115 kB]  
Get:16 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [10.3 kB]  
Get:17 http://archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [156 kB]  
Get:18 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [14.8 kB]  
Get:19 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Packages [10.6 kB]  
Get:20 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 c-n-f Metadata [1,104 B]  
Fetched 3,456 kB in 3s (1,170 kB/s)  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
9 packages can be upgraded. Run 'apt list --upgradable' to see them.  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
locales is already the newest version (2.39-0ubuntu8.3).  
locales set to manually installed.  
0 upgraded, 0 newly installed, 0 to remove and 9 not upgraded.  
abi@LAPTOP-UVGVSCCU:~$ sudo locale-gen en_US en_US.UTF-8  
Generating locales (this might take a while)...  
  en_US.ISO-8859-1... done  
  en_US.UTF-8... done  
Generation complete.  
abi@LAPTOP-UVGVSCCU:~$ sudo update-locale LC_ALL=en_US.UTF-8 LANG=en_US.UTF-8  
abi@LAPTOP-UVGVSCCU:~$ export LANG=en_US.UTF-8  
abi@LAPTOP-UVGVSCCU:~$ locale  
LANG=en_US.UTF-8  
LANGUAGE=  
LC_CTYPE="en_US.UTF-8"  
LC_NUMERIC="en_US.UTF-8"  
LC_TIME="en_US.UTF-8"  
LC_COLLATE="en_US.UTF-8"  
LC_MONETARY="en_US.UTF-8"  
LC_MESSAGES="en_US.UTF-8"  
LC_PAPER="en_US.UTF-8"  
LC_NAME="en_US.UTF-8"  
LC_ADDRESS="en_US.UTF-8"
```



```
locales set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 9 not upgraded.
abi@LAPTOP-UVGVSCCU:~$ sudo locale-gen en_US en_US.UTF-8
Generating locales (this might take a while)...
  en_US.ISO-8859-1... done
  en_US.UTF-8... done
Generation complete.
abi@LAPTOP-UVGVSCCU:~$ sudo update-locale LC_ALL=en_US.UTF-8 LANG=en_US.UTF-8
abi@LAPTOP-UVGVSCCU:~$ export LANG=en_US.UTF-8
abi@LAPTOP-UVGVSCCU:~$ locale
LANG=en_US.UTF-8
LANGUAGE=
LC_CTYPE="en_US.UTF-8"
LC_NUMERIC="en_US.UTF-8"
LC_TIME="en_US.UTF-8"
LC_COLLATE="en_US.UTF-8"
LC_MONETARY="en_US.UTF-8"
LC_MESSAGES="en_US.UTF-8"
LC_PAPER="en_US.UTF-8"
LC_NAME="en_US.UTF-8"
LC_ADDRESS="en_US.UTF-8"
LC_TELEPHONE="en_US.UTF-8"
LC_MEASUREMENT="en_US.UTF-8"
LC_IDENTIFICATION="en_US.UTF-8"
LC_ALL=
abi@LAPTOP-UVGVSCCU:~$ sudo apt install software-properties-common
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
software-properties-common is already the newest version (0.99.48).
0 upgraded, 0 newly installed, 0 to remove and 9 not upgraded.
abi@LAPTOP-UVGVSCCU:~$ sudo add-apt-repository universe
Adding component(s) 'universe' to all repositories.
Press [ENTER] to continue or Ctrl-c to cancel.
Hit:1 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:2 http://packages.ros.org/ros2/ubuntu noble InRelease
Hit:3 http://archive.ubuntu.com/ubuntu noble InRelease
Hit:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Reading package lists... Done
abi@LAPTOP-UVGVSCCU:~$ sudo apt update && sudo apt install curl -y
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
```

USD/CAD
+0.36%



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9:05 AM
9/28/2024



```
abi@LAPTOP-UVGVSCCU: ~  
LC_COLLATE="en_US.UTF-8"  
LC_MONETARY="en_US.UTF-8"  
LC_MESSAGES="en_US.UTF-8"  
LC_PAPER="en_US.UTF-8"  
LC_NAME="en_US.UTF-8"  
LC_ADDRESS="en_US.UTF-8"  
LC_TELEPHONE="en_US.UTF-8"  
LC_MEASUREMENT="en_US.UTF-8"  
LC_IDENTIFICATION="en_US.UTF-8"  
LC_ALL=  
abi@LAPTOP-UVGVSCCU:~$ sudo apt install software-properties-common  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
software-properties-common is already the newest version (0.99.48).  
0 upgraded, 0 newly installed, 0 to remove and 9 not upgraded.  
abi@LAPTOP-UVGVSCCU:~$ sudo add-apt-repository universe  
Adding component(s) 'universe' to all repositories.  
Press [ENTER] to continue or Ctrl-c to cancel.  
Hit:1 http://security.ubuntu.com/ubuntu noble-security InRelease  
Hit:2 http://packages.ros.org/ros2/ubuntu noble InRelease  
Hit:3 http://archive.ubuntu.com/ubuntu noble InRelease  
Hit:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease  
Hit:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease  
Reading package lists... Done  
abi@LAPTOP-UVGVSCCU:~$ sudo apt update && sudo apt install curl -y  
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease  
Hit:2 http://security.ubuntu.com/ubuntu noble-security InRelease  
Hit:3 http://packages.ros.org/ros2/ubuntu noble InRelease  
Hit:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease  
Hit:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
9 packages can be upgraded. Run 'apt list --upgradable' to see them.  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
curl is already the newest version (8.5.0-2ubuntu10.4).  
curl set to manually installed.  
0 upgraded, 0 newly installed, 0 to remove and 9 not upgraded.  
abi@LAPTOP-UVGVSCCU:~$
```

```
abi@LAPTOP-UVGVSCCU: ~  
LC_COLLATE="en_US.UTF-8"  
LC_MONETARY="en_US.UTF-8"  
LC_MESSAGES="en_US.UTF-8"  
LC_PAPER="en_US.UTF-8"  
LC_NAME="en_US.UTF-8"  
LC_ADDRESS="en_US.UTF-8"  
LC_TELEPHONE="en_US.UTF-8"  
LC_MEASUREMENT="en_US.UTF-8"  
LC_IDENTIFICATION="en_US.UTF-8"  
LC_ALL=  
abi@LAPTOP-UVGVSCCU:~$ sudo apt install software-properties-common  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
software-properties-common is already the newest version (0.99.48).  
0 upgraded, 0 newly installed, 0 to remove and 9 not upgraded.  
abi@LAPTOP-UVGVSCCU:~$ sudo add-apt-repository universe  
Adding component(s) 'universe' to all repositories.  
Press [ENTER] to continue or Ctrl-c to cancel.  
Hit:1 http://security.ubuntu.com/ubuntu noble-security InRelease  
Hit:2 http://packages.ros.org/ros2/ubuntu noble InRelease  
Hit:3 http://archive.ubuntu.com/ubuntu noble InRelease  
Hit:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease  
Hit:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease  
Reading package lists... Done  
abi@LAPTOP-UVGVSCCU:~$ sudo apt update && sudo apt install curl -y  
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease  
Hit:2 http://security.ubuntu.com/ubuntu noble-security InRelease  
Hit:3 http://packages.ros.org/ros2/ubuntu noble InRelease  
Hit:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease  
Hit:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
9 packages can be upgraded. Run 'apt list --upgradable' to see them.  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
curl is already the newest version (8.5.0-2ubuntu10.4).  
curl set to manually installed.  
0 upgraded, 0 newly installed, 0 to remove and 9 not upgraded.  
abi@LAPTOP-UVGVSCCU:~$
```



```
abi@LAPTOP-UVGVSCCU: ~  
LC_COLLATE="en_US.UTF-8"  
LC_MONETARY="en_US.UTF-8"  
LC_MESSAGES="en_US.UTF-8"  
LC_PAPER="en_US.UTF-8"  
LC_NAME="en_US.UTF-8"  
LC_ADDRESS="en_US.UTF-8"  
LC_TELEPHONE="en_US.UTF-8"  
LC_MEASUREMENT="en_US.UTF-8"  
LC_IDENTIFICATION="en_US.UTF-8"  
LC_ALL=
```

```
abi@LAPTOP-UVGVSCCU:~$ sudo apt install software-properties-common  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
software-properties-common is already the newest version (0.99.48).  
0 upgraded, 0 newly installed, 0 to remove and 9 not upgraded.
```

```
abi@LAPTOP-UVGVSCCU:~$ sudo add-apt-repository universe  
Adding component(s) 'universe' to all repositories.  
Press [ENTER] to continue or Ctrl-c to cancel.  
Hit:1 http://security.ubuntu.com/ubuntu noble-security InRelease  
Hit:2 http://packages.ros.org/ros2/ubuntu noble InRelease  
Hit:3 http://archive.ubuntu.com/ubuntu noble InRelease  
Hit:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease  
Hit:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease  
Reading package lists... Done
```

```
abi@LAPTOP-UVGVSCCU:~$ sudo apt update && sudo apt install curl -y  
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease  
Hit:2 http://security.ubuntu.com/ubuntu noble-security InRelease  
Hit:3 http://packages.ros.org/ros2/ubuntu noble InRelease  
Hit:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease  
Hit:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
9 packages can be upgraded. Run 'apt list --upgradable' to see them.  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
curl is already the newest version (8.5.0-2ubuntu10.4).  
curl set to manually installed.  
0 upgraded, 0 newly installed, 0 to remove and 9 not upgraded.
```

```
abi@LAPTOP-UVGVSCCU:~$
```

1 USD/CAD
+0.36%



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12:56 PM
9/28/2024



```
abi@LAPTOP-UVGVSCCU: ~  
Hit:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease  
Reading package lists... Done  
abi@LAPTOP-UVGVSCCU:~$ sudo apt update && sudo apt install curl -y  
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease  
Hit:2 http://security.ubuntu.com/ubuntu noble-security InRelease  
Hit:3 http://packages.ros.org/ros2/ubuntu noble InRelease  
Hit:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease  
Hit:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
9 packages can be upgraded. Run 'apt list --upgradable' to see them.  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
curl is already the newest version (8.5.0-2ubuntu10.4).  
curl set to manually installed.  
0 upgraded, 0 newly installed, 0 to remove and 9 not upgraded.  
abi@LAPTOP-UVGVSCCU:~$ sudo curl -sSL https://raw.githubusercontent.com/ros/rosdistro/master/ros.key -o /usr/share/keyrings/ros-archive-keyring.gpg  
[sudo] password for abi:  
abi@LAPTOP-UVGVSCCU:~$ sudo curl -sSL https://raw.githubusercontent.com/ros/rosdistro/master/ros.key -o /usr/share/keyrings/ros-archive-keyring.gpg  
abi@LAPTOP-UVGVSCCU:~$ echo "deb [arch=$(dpkg --print-architecture) signed-by=/usr/share/keyrings/ros-archive-keyring.gpg] http://packages.ros.org/ros2/ubuntu $(. /etc/os-rel  
ease && echo $UBUNTU_CODENAME) main" | sudo tee /etc/apt/sources.list.d/ros2.list > /dev/null  
abi@LAPTOP-UVGVSCCU:~$ sudo apt update && sudo apt install ros-dev-tools  
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease  
Hit:2 http://security.ubuntu.com/ubuntu noble-security InRelease  
Hit:3 http://packages.ros.org/ros2/ubuntu noble InRelease  
Get:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]  
Hit:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease  
Get:6 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [535 kB]  
Get:7 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [377 kB]  
Fetched 1,038 kB in 3s (314 kB/s)  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
9 packages can be upgraded. Run 'apt list --upgradable' to see them.  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
ros-dev-tools is already the newest version (1.0.1).  
0 upgraded, 0 newly installed, 0 to remove and 9 not upgraded.  
abi@LAPTOP-UVGVSCCU:~$
```



```
abi@LAPTOP-UVGVSCCU: ~  
Reading state information... Done  
9 packages can be upgraded. Run 'apt list --upgradable' to see them.  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
curl is already the newest version (8.5.0-2ubuntu10.4).  
curl set to manually installed.  
0 upgraded, 0 newly installed, 0 to remove and 9 not upgraded.  
abi@LAPTOP-UVGVSCCU:~$ sudo curl -sSL https://raw.githubusercontent.com/ros/rosdistro/master/ros.key -o /usr/share/keyrings/ros-archive-keyring.gpg  
[sudo] password for abi:  
abi@LAPTOP-UVGVSCCU:~$ sudo curl -sSL https://raw.githubusercontent.com/ros/rosdistro/master/ros.key -o /usr/share/keyrings/ros-archive-keyring.gpg  
abi@LAPTOP-UVGVSCCU:~$ echo "deb [arch=$(dpkg --print-architecture) signed-by=/usr/share/keyrings/ros-archive-keyring.gpg] http://packages.ros.org/ros2/ubuntu $(. /etc/os-rel  
ease && echo $UBUNTU_CODENAME) main" | sudo tee /etc/apt/sources.list.d/ros2.list > /dev/null  
abi@LAPTOP-UVGVSCCU:~$ sudo apt update && sudo apt install ros-dev-tools  
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease  
Hit:2 http://security.ubuntu.com/ubuntu noble-security InRelease  
Hit:3 http://packages.ros.org/ros2/ubuntu noble InRelease  
Get:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]  
Hit:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease  
Get:6 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [535 kB]  
Get:7 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [377 kB]  
Fetched 1,038 kB in 3s (314 kB/s)  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
9 packages can be upgraded. Run 'apt list --upgradable' to see them.  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
ros-dev-tools is already the newest version (1.0.1).  
0 upgraded, 0 newly installed, 0 to remove and 9 not upgraded.  
abi@LAPTOP-UVGVSCCU:~$ sudo apt update  
Hit:1 http://packages.ros.org/ros2/ubuntu noble InRelease  
Hit:2 http://archive.ubuntu.com/ubuntu noble InRelease  
Hit:3 http://security.ubuntu.com/ubuntu noble-security InRelease  
Hit:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease  
Hit:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
9 packages can be upgraded. Run 'apt list --upgradable' to see them.  
abi@LAPTOP-UVGVSCCU:~$
```

```
abi@LAPTOP-UVGVSCCU: ~  
abi@LAPTOP-UVGVSCCU:~$ sudo apt upgrade  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
Calculating upgrade... Done  
#  
# Patches available for packages affected by CUPS Remote Code Execution issue  
# tracked by CVE-2024-47076, CVE-2024-47175, CVE-2024-47176, and CVE-2024-47177  
# For more see: https://ubuntu.com/blog/cups-remote-code-execution  
#  
The following upgrades have been deferred due to phasing:  
python3-distupgrade ubuntu-release-upgrader-core  
The following packages will be upgraded:  
cloud-init libapr1t64 libcups2t64 libopenjp2-7 python3-update-manager update-manager-core wsl-setup  
7 upgraded, 0 newly installed, 0 to remove and 2 not upgraded.  
3 standard LTS security updates  
Need to get 1,213 kB of archives.  
After this operation, 59.4 kB of additional disk space will be used.  
Do you want to continue? [Y/n] y  
Get:1 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 python3-update-manager all 1:24.04.8 [43.0 kB]  
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 update-manager-core all 1:24.04.8 [11.6 kB]  
Get:3 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libapr1t64 amd64 1.7.2-3.1ubuntu0.1 [108 kB]  
Get:4 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libcups2t64 amd64 2.4.7-1.2ubuntu7.3 [272 kB]  
Get:5 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 wsl-setup amd64 0.5.4~24.04 [4,002 B]  
Get:6 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 cloud-init all 24.3.1-0ubuntu0~24.04.1 [601 kB]  
Get:7 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libopenjp2-7 amd64 2.5.0-2ubuntu0.1 [173 kB]  
Fetched 1,213 kB in 2s (576 kB/s)  
Preconfiguring packages ...  
(Reading database ... 55008 files and directories currently installed.)  
Preparing to unpack .../0-python3-update-manager_1%3a24.04.8_all.deb ...  
Unpacking python3-update-manager (1:24.04.8) over (1:24.04.6) ...  
Preparing to unpack .../1-update-manager-core_1%3a24.04.8_all.deb ...  
Unpacking update-manager-core (1:24.04.8) over (1:24.04.6) ...  
Preparing to unpack .../2-libapr1t64_1.7.2-3.1ubuntu0.1_amd64.deb ...  
Unpacking libapr1t64:amd64 (1.7.2-3.1ubuntu0.1) over (1.7.2-3.1build2) ...  
Preparing to unpack .../3-libcups2t64_2.4.7-1.2ubuntu7.3_amd64.deb ...  
Unpacking libcups2t64:amd64 (2.4.7-1.2ubuntu7.3) over (2.4.7-1.2ubuntu7.2) ...  
Preparing to unpack .../4-wsl-setup_0.5.4~24.04_amd64.deb ...  
Unpacking wsl-setup (0.5.4~24.04) over (0.5.3~24.04) ...  
Preparing to unpack .../5-cloud-init_24.3.1-0ubuntu0~24.04.1_all.deb ...  
Unpacking cloud-init (24.3.1-0ubuntu0~24.04.1) over (24.2-0ubuntu1~24.04.2) ...  
dpkg: warning: unable to delete old directory '/etc/systemd/system/sshd-keygen@.service.d': Directory not empty
```



```
abi@LAPTOP-UVGVSCCU: ~  
Preparing to unpack .../0-python3-update-manager_1%3a24.04.8_all.deb ...  
Unpacking python3-update-manager (1:24.04.8) over (1:24.04.6) ...  
Preparing to unpack .../1-update-manager-core_1%3a24.04.8_all.deb ...  
Unpacking update-manager-core (1:24.04.8) over (1:24.04.6) ...  
Preparing to unpack .../2-libapr1t64_1.7.2-3.1ubuntu0.1_amd64.deb ...  
Unpacking libapr1t64:amd64 (1.7.2-3.1ubuntu0.1) over (1.7.2-3.1build2) ...  
Preparing to unpack .../3-libcups2t64_2.4.7-1.2ubuntu7.3_amd64.deb ...  
Unpacking libcups2t64:amd64 (2.4.7-1.2ubuntu7.3) over (2.4.7-1.2ubuntu7.2) ...  
Preparing to unpack .../4-wsl-setup_0.5.4~24.04_amd64.deb ...  
Unpacking wsl-setup (0.5.4~24.04) over (0.5.3~24.04) ...  
Preparing to unpack .../5-cloud-init_24.3.1-0ubuntu0~24.04.1_all.deb ...  
Unpacking cloud-init (24.3.1-0ubuntu0~24.04.1) over (24.2-0ubuntu1~24.04.2) ...  
dpkg: warning: unable to delete old directory '/etc/systemd/system/ssh-keygen@.service.d': Directory not empty  
Preparing to unpack .../6-libopenjp2-7_2.5.0-2ubuntu0.1_amd64.deb ...  
Unpacking libopenjp2-7:amd64 (2.5.0-2ubuntu0.1) over (2.5.0-2build3) ...  
Setting up wsl-setup (0.5.4~24.04) ...  
Installing new version of config file /etc/cloud/cloud.cfg.d/99_wsl.cfg ...  
Setting up cloud-init (24.3.1-0ubuntu0~24.04.1) ...  
Setting up python3-update-manager (1:24.04.8) ...  
Setting up libapr1t64:amd64 (1.7.2-3.1ubuntu0.1) ...  
Setting up libopenjp2-7:amd64 (2.5.0-2ubuntu0.1) ...  
Setting up libcups2t64:amd64 (2.4.7-1.2ubuntu7.3) ...  
Setting up update-manager-core (1:24.04.8) ...  
Processing triggers for rsyslog (8.2312.0-3ubuntu9) ...  
Processing triggers for man-db (2.12.0-4build2) ...  
Processing triggers for libc-bin (2.39-0ubuntu8.3) ...  
/sbin/ldconfig.real: /usr/lib/wsl/lib/libcuda.so.1 is not a symbolic link
```

```
abi@LAPTOP-UVGVSCCU:~$ sudo apt upgrade  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
Calculating upgrade... Done  
#  
# Patches available for packages affected by CUPS Remote Code Execution issue  
# tracked by CVE-2024-47076, CVE-2024-47175, CVE-2024-47176, and CVE-2024-47177  
# For more see: https://ubuntu.com/blog/cups-remote-code-execution  
#  
The following upgrades have been deferred due to phasing:  
python3-distupgrade ubuntu-release-upgrader-core  
0 upgraded, 0 newly installed, 0 to remove and 2 not upgraded.  
abi@LAPTOP-UVGVSCCU:~$
```



```
abi@LAPTOP-UVGVSCCU:~$ sudo apt install ros-jazzy-desktop
```

```
Building dependency tree... Done
```

Reading state information... Done

The following additional packages will be installed:

```
also-topology-conf alsa-ucm-conf babeltrace catch2 cppcheck fonts-liberation2 fonts-lyx gdal-data gdal-plugins girdl-2-ibus-1.0 google-mock googletest graphviz
gststreamer1.0-plugins-base i965-va-driver ibverbs-providers intel-media-va-driver isympy-common isympy3 libaacs0 libaec0 libamd-comgr2 libamdhip64-5 libann0 libarmadillo12
libarpack2t64 libasound2-data libasound2-dev libasound2t64 libassimp-dev libassimp5 libasyncns0 libavcodec-dev libavcodec60 libavformat-dev libavformat60 libavutil-dev
libavutil58 libbabeltrace1 libbdplus0 libblas3 libblkid-dev libbloscl libbluray2 libboost-filesystem1.83.0 libboost-iostreams1.83.0 libboost-python1.83.0 libbrotli-dev
libbullet-dev libbullet3.24t64 libbz2-dev libcdparanoia0 libcdt5 libcfitsio10t64 libcgraph6 libcharls2 libchromaprint1 libcjson1 libclang1-18 libcodec2-1.2
libconsole-bridge-dev libconsole-bridge1.0 libcurl4-openssl-dev libdavl7 libdbus-1-dev libddc1394-25 libddc1394-dev libdecor-0-0 libdecor-0-dev libdecor-0-plugin-1-gtk
libdeflate-dev libdouble-conversion3 libdraco8 libdrm-dev libegl-dev libeigen3-dev libevdev2 libevent-pthreads-2.1-7t64 libexif-dev libexif-doc libexif12 libexpat1-dev
libfabric1 libffi-dev libflac12t64 libfmt-dev libfmt9 libfreetype-dev libfreexl1 libfyba0t64 libgbm-dev libgdal34t64 libgdc-dev libgdc3.0t64 libgeos-clt64
libgeos3.12.1t64 libgeotiff5 libgfortran5 libgif7 libgirepository-2.0-0 libgl-dev libgl1-mesa-dev libgl2ps1.4 libgles-dev libgles1 libgles2 libglew2.2 libglib2.0-dev
libglib2.0-dev-bin libglul-mesa libglul-mesa-dev libglut3.12 libglvnd-core-dev libglvnd-dev libglx-dev libgme0 libgphoto2-6t64 libgphoto2-dev libgphoto2-l10n
libgphoto2-port12t64 libgsm1 libgststreamer-plugins-base1.0-0 libgtest-dev libgts-0.7-5t64 libgts-bin libgudev-1.0-0 libgvc6 libgvpr2 libhdf4-0-alt libhdf5-103-1t64
libhdf5-hl-100t64 libhsa-runtime64-1 libhsakmt1 libhwloc-plugins libhwloc15 libhwy1t64 libibus-1.0-5 libibus-1.0-dev libibverbs1 libice-dev libice6 libigdgmm12
libimath-3-1-29t64 libimath-dev libinput-bin libinput10 libjbig-dev libjpeg-dev libjpeg-turbo8-dev libjpeg8-dev libjs-jquery-ui libjs-sphinxdoc libjs-underscore libjxl0.7
libkmlbase1t64 libkmlDOM1t64 libkmlengine1t64 liblab-gamut1 liblapack3 liblbfgsb0 libleft5 liblerc-dev libllvm18 libltdl7 liblttng-ctl0t64 liblttng-ust-common1t64
liblttng-ust-ctl5t64 liblttng-ust-dev liblttng-ust-python-agent1t64 liblttng-ust1t64 liblz4-dev liblzma-dev libmbcdevcrypto7t64 libmd4c0 libminizip1t64 libmount-dev
libmp3lame0 libmpeg123-0t64 libmtdev1t64 libmunge2 libmysqlclient21 libnetcdf19t64 libnl-3-200 libnl-route-3-200 libnorm1t64 libnspr4 libnss3 libnuma1 libodbc2
libodbcinst2 libogdi4.1 libogg0 libopencv-calib3d-dev libopencv-calib3d406t64 libopencv-contrib-dev libopencv-contrib406t64 libopencv-core-dev libopencv-core406t64
libopencv-dev libopencv-dnn-dev libopencv-dnn406t64 libopencv-features2d-dev libopencv-features2d406t64 libopencv-flann-dev libopencv-flann406t64 libopencv-highgui-dev
libopencv-highgui406t64 libopencv-imgcodecs-dev libopencv-imgcodecs406t64 libopencv-imgproc-dev libopencv-imgproc406t64 libopencv-java libopencv-ml-dev libopencv-ml406t64
libopencv-objdetect-dev libopencv-objdetect406t64 libopencv-photo-dev libopencv-photo406t64 libopencv-shape-dev libopencv-shape406t64 libopencv-stitching-dev
libopencv-stitching406t64 libopencv-superres-dev libopencv-superres406t64 libopencv-video-dev libopencv-video406t64 libopencv-videoio-dev libopencv-videoio406t64
libopencv-videostab-dev libopencv-videostab406t64 libopencv-viz-dev libopencv-viz406t64 libopencv406-jni libopenexr-3-1-30 libopenexr-dev libopengl-dev libopengl0
libopenmpi3t64 libopenmpt0t64 libopenni-sensor-pointclouds0 libopenni0t64 libopenni2-0 libopus0 liborc-0.4-0t64 liborocos-kdl-dev liborocos-kdl1.5 libpathplan4
libpcap0.8t64 libpciaccess-dev libpci-common1.14 libpci-io1.14 libpcr2-16-0 libpcr2-32-0 libpcr2-dev libpcr2-posix3 libpgm-5.3-0t64 libpkgconf3 libpmix2t64 libpng-dev
libpng-tools libpoppler134 libpq5 libproj25 libprotobuf32t64 libpsm-infinipath1 libpsm-2 libpthread-stubs0-dev libpugixml-dev libpugixml1v5 libpulse-dev
libpulse-mainloop-glib0 libpulse0 libpyside2-dev libpyside2-py3-5.15t64 libpython3-dev libpython3.12-dev libqhull-r8.0 libqt5concurrent5t64 libqt5core5t64 libqt5dbus5t64
libqt5designer5 libqt5gui5t64 libqt5help5 libqt5network5t64 libqt5opengl5-dev libqt5opengl5t64 libqt5printsupport5t64 libqt5qml5 libqt5qmlmodels5 libqt5quick5
libqt5sql5-sqlite libqt5sql5t64 libqt5svg5 libqt5test5t64 libqt5waylandclient5 libqt5waylandcompositor5 libqt5widgets5t64 libqt5xml5t64 librabbitmq4 libraw1e0
libraw1394-11 libraw1394-dev libraw1394-tools librdmacm1t64 librist4 librtt0p1 libsample0 libsample0-dev libstdl2-2.0-0 libstdl2-dev libselinux1-dev libsepol-dev
libsharpyuv-dev libshiboken2-dev libshiboken2-py3-5.15t64 libshine3 libsm-dev libsm6 libsnappy1v5 libsndfile1 libsndio-dev libsndio7.0 libsocket++1 libsoxr0
libspatialite8t64 libspdlog-dev libspdlog1.12 libspeex1 libsqlite3-dev libstr1.5-gnutls libssh-gcrypt-4 libssl-dev libsuperlu6 libsvtav1enc1d1 libswresample-dev
libswresample4 libswscale-dev libswscale7 libsz2 libtbb-dev libtbb12 libtbbbind-2-5 libtbbmalloc2 libtesseract5 libtheora0 libtiff-dev libtiffxx6 libtinyxml2-10
libtinyxml2-dev libtinyxml2.6.2v5 libtwolame0 libucx0 libudev-dev libudfread0 liburcu-dev liburcu8t64 liburiparser1 libusb-1.0-0 libva-drm2 libva-x11-2 libva2 libvdpau1
libvisual-0.4-0 libvorbis0a libvorbisenc2 libvorbisfile3 libvpl2 libvpx9 libvtk9.1t64 libvulkan-dev libwacom-common libwacom libwayland-bin libwayland-dev libwebp-dev
libwebpdecoder3 libx11-dev libx264-164 libx265-199 libxau-dev libxaw7 libxaw7-dev libxcb-icccm4 libxcb-image0 libxcb-keysyms1 libxcb-render-util0 libxcb-shape0
libxcb-util1 libxcb-xinerama0 libxcb-xinput0 libxcb-xkb1 libxcb1-dev libxcursor-dev libxdmcp-dev libxerces-c3.2t64 libxext-dev libxfixedev libxi-dev libxinerama-dev
```