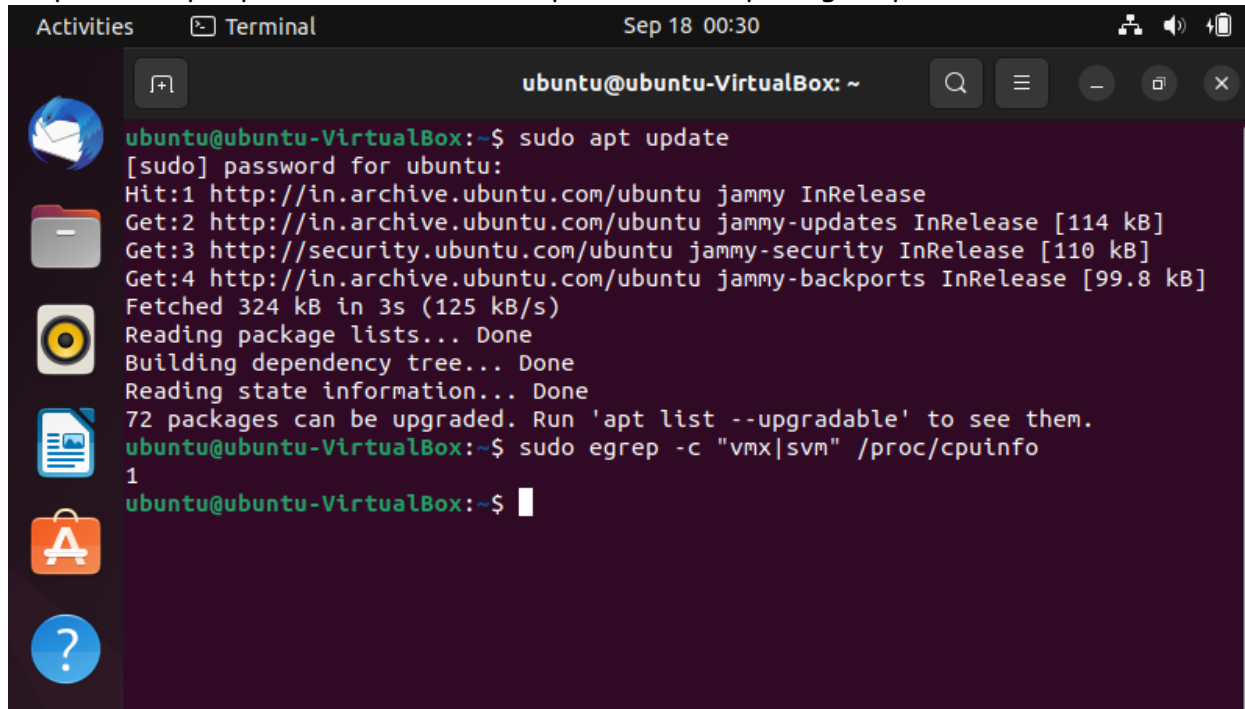


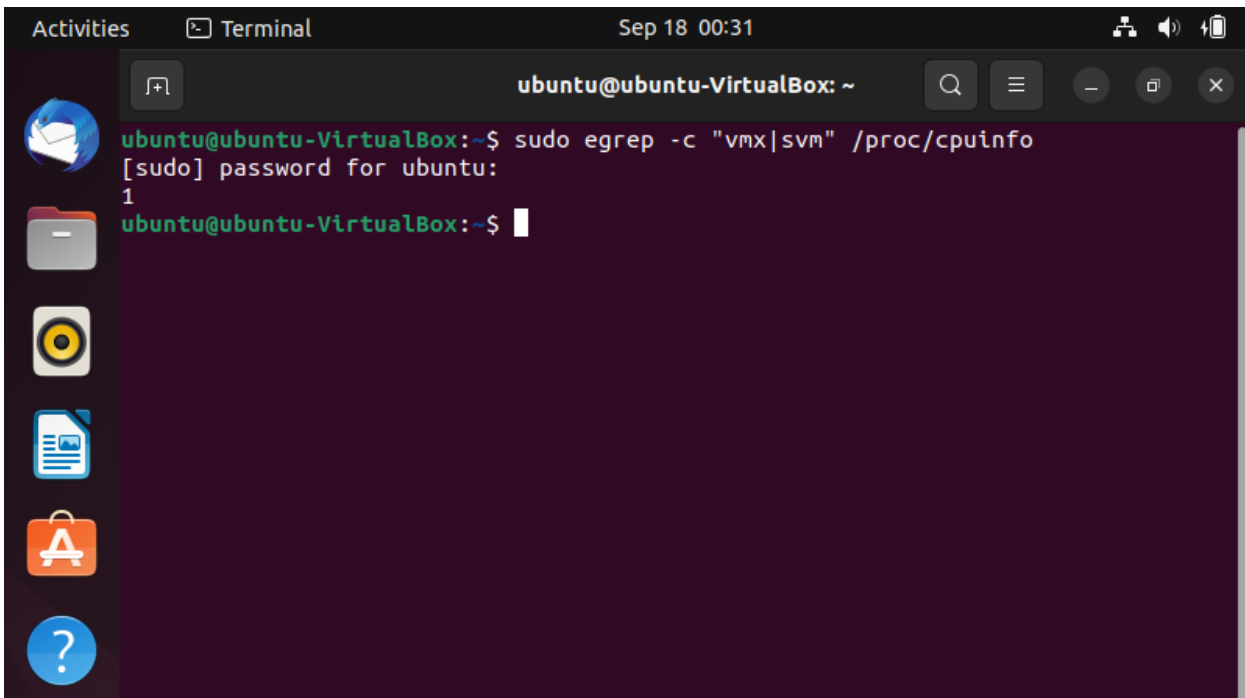
Lab 4: Ubuntu Commands And Installing QEMU

Step1: `sudo apt update`: This command updates our all packages up to date.



```
ubuntu@ubuntu-VirtualBox: ~  
ubuntu@ubuntu-VirtualBox:~$ sudo apt update  
[sudo] password for ubuntu:  
Hit:1 http://in.archive.ubuntu.com/ubuntu jammy InRelease  
Get:2 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease [114 kB]  
Get:3 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]  
Get:4 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease [99.8 kB]  
Fetched 324 kB in 3s (125 kB/s)  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
72 packages can be upgraded. Run 'apt list --upgradable' to see them.  
ubuntu@ubuntu-VirtualBox:~$ sudo egrep -c "vmx|svm" /proc/cpuinfo  
1  
ubuntu@ubuntu-VirtualBox:~$
```

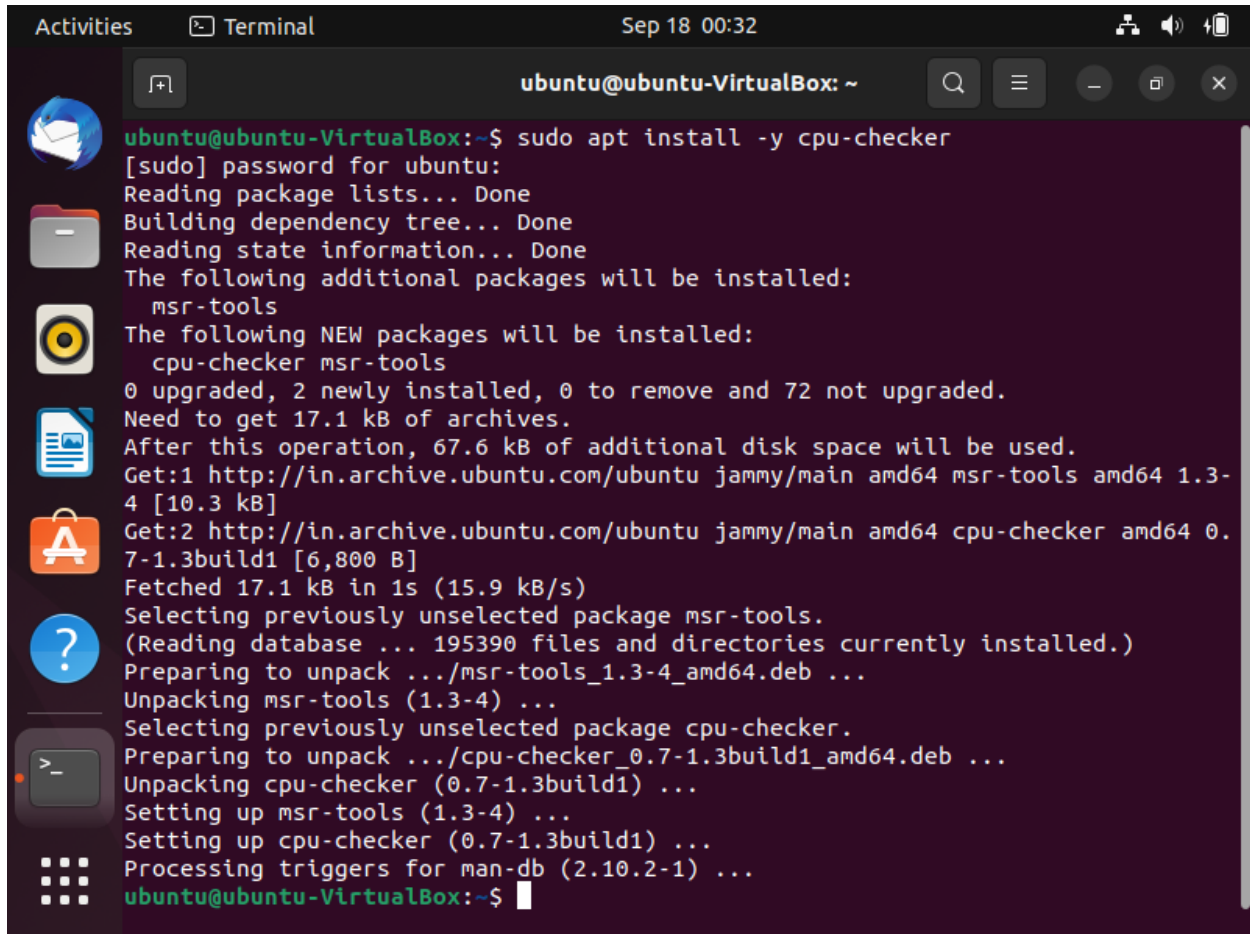
Step2: `sudo egrep -c "vmx|svm" /proc/cpuinfo`: this command tells whether virtualisation is working or not.



```
ubuntu@ubuntu-VirtualBox: ~  
ubuntu@ubuntu-VirtualBox:~$ sudo egrep -c "vmx|svm" /proc/cpuinfo  
[sudo] password for ubuntu:  
1  
ubuntu@ubuntu-VirtualBox:~$
```

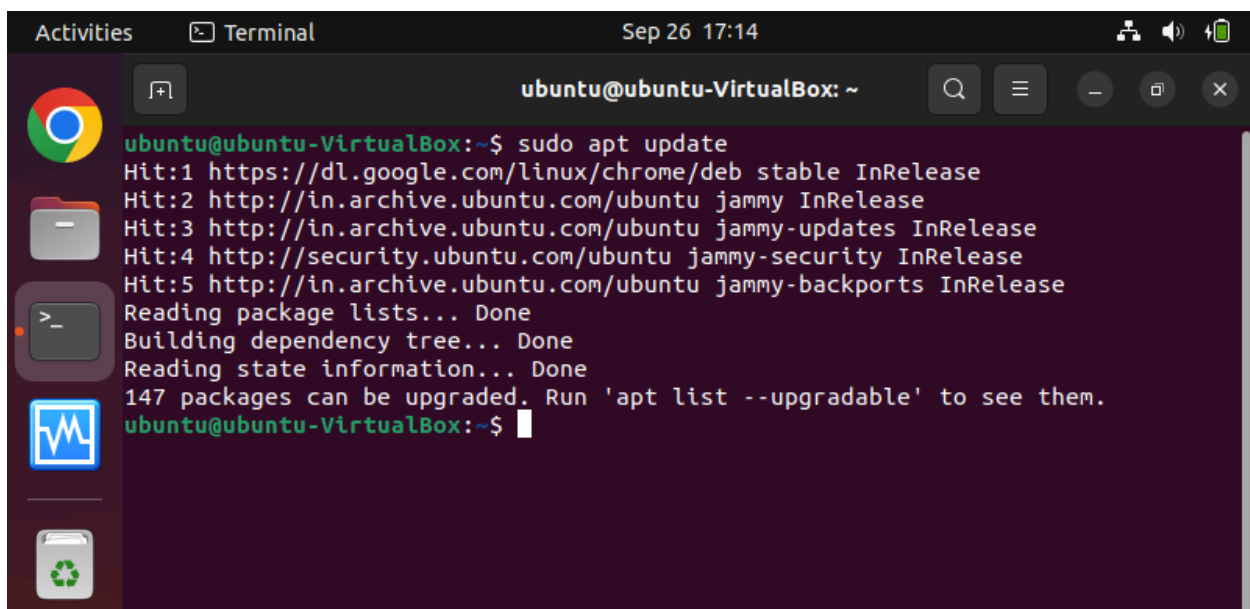
Lab 4: Ubuntu Commands And Installing QEMU

Step3: `sudo apt install -y cpu-checker`: this is used whether our hardware supports KVM.

A terminal window titled 'ubuntu@ubuntu-VirtualBox: ~' showing the command 'sudo apt install -y cpu-checker'. The output shows the installation of 'cpu-checker' and 'msr-tools'. It lists the packages to be installed, the disk space requirements, and the progress of the installation. The terminal output is as follows:

```
ubuntu@ubuntu-VirtualBox:~$ sudo apt install -y cpu-checker
[sudo] password for ubuntu:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  msr-tools
The following NEW packages will be installed:
  cpu-checker msr-tools
0 upgraded, 2 newly installed, 0 to remove and 72 not upgraded.
Need to get 17.1 kB of archives.
After this operation, 67.6 kB of additional disk space will be used.
Get:1 http://in.archive.ubuntu.com/ubuntu jammy/main amd64 msr-tools amd64 1.3-4 [10.3 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu jammy/main amd64 cpu-checker amd64 0.7-1.3build1 [6,800 B]
Fetched 17.1 kB in 1s (15.9 kB/s)
Selecting previously unselected package msr-tools.
(Reading database ... 195390 files and directories currently installed.)
Preparing to unpack .../msr-tools_1.3-4_amd64.deb ...
Unpacking msr-tools (1.3-4) ...
Selecting previously unselected package cpu-checker.
Preparing to unpack .../cpu-checker_0.7-1.3build1_amd64.deb ...
Unpacking cpu-checker (0.7-1.3build1) ...
Setting up msr-tools (1.3-4) ...
Setting up cpu-checker (0.7-1.3build1) ...
Processing triggers for man-db (2.10.2-1) ...
ubuntu@ubuntu-VirtualBox:~$
```

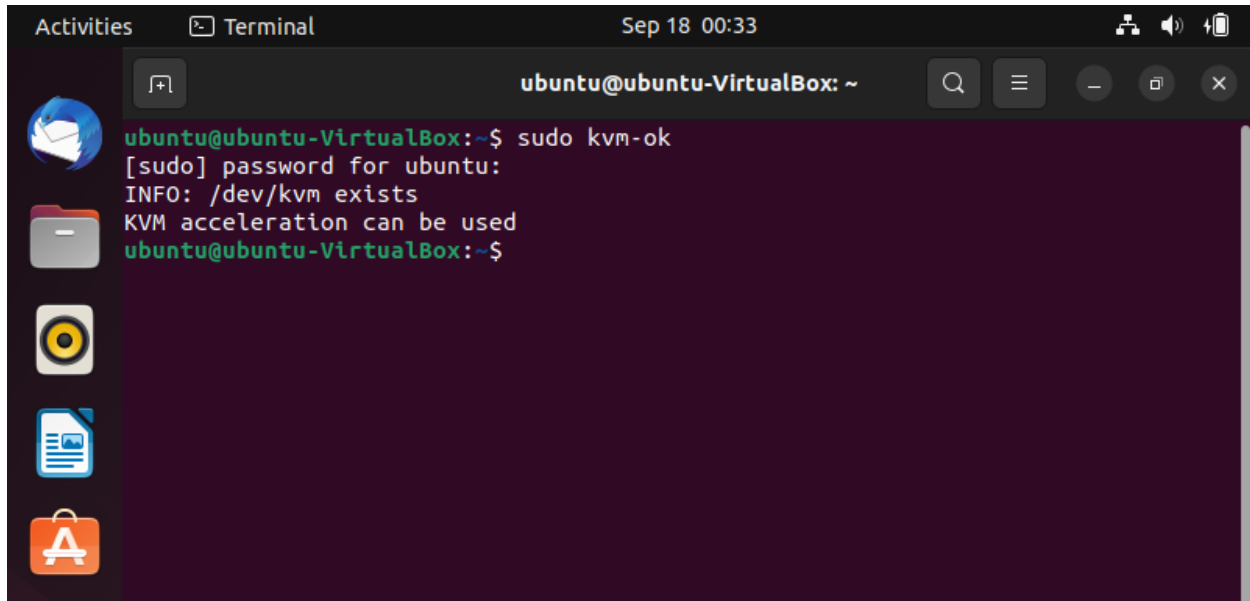
Step4: `sudo apt update`: This command updates our all packages up to date.

A terminal window titled 'ubuntu@ubuntu-VirtualBox: ~' showing the command 'sudo apt update'. The output shows the update of package lists from various sources. The terminal output is as follows:

```
ubuntu@ubuntu-VirtualBox:~$ sudo apt update
Hit:1 https://dl.google.com/linux/chrome/deb stable InRelease
Hit:2 http://in.archive.ubuntu.com/ubuntu jammy InRelease
Hit:3 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease
Hit:5 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
147 packages can be upgraded. Run 'apt list --upgradable' to see them.
ubuntu@ubuntu-VirtualBox:~$
```

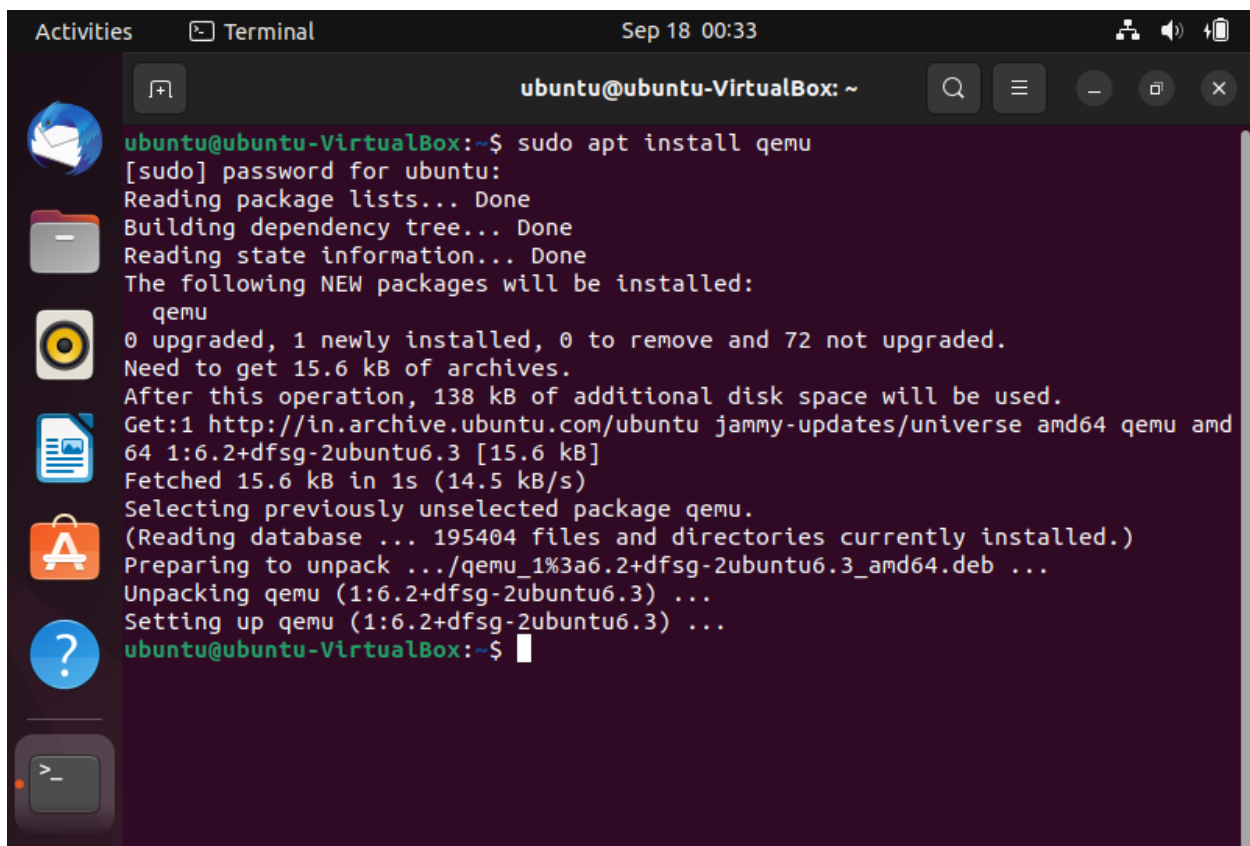
Lab 4: Ubuntu Commands And Installing QEMU

Step5: `sudo kvm-ok`: this command tell that we can use KVM.

A terminal window titled 'Terminal' with a timestamp of 'Sep 18 00:33'. The prompt is 'ubuntu@ubuntu-VirtualBox: ~'. The command 'sudo kvm-ok' has been entered. The output shows the password prompt, followed by 'INFO: /dev/kvm exists', 'KVM acceleration can be used', and the prompt returns to 'ubuntu@ubuntu-VirtualBox:~\$'.

```
ubuntu@ubuntu-VirtualBox:~$ sudo kvm-ok
[sudo] password for ubuntu:
INFO: /dev/kvm exists
KVM acceleration can be used
ubuntu@ubuntu-VirtualBox:~$
```

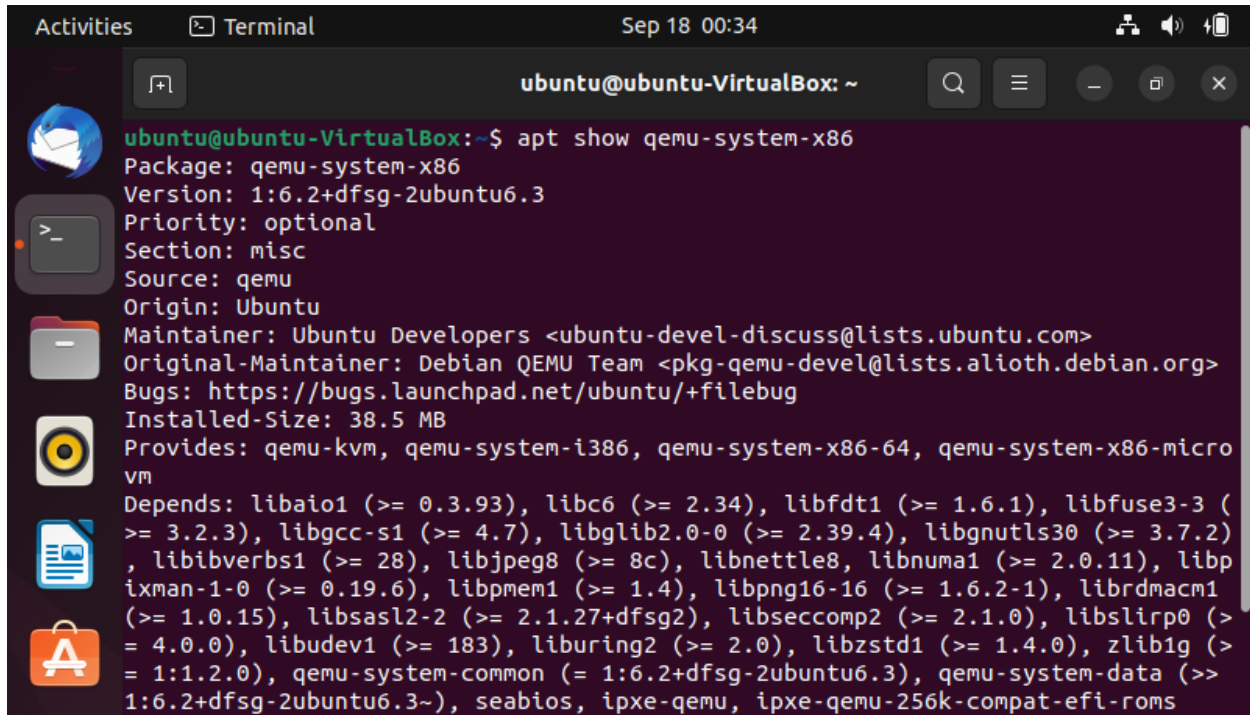
Step6: `sudo apt install qemu`: this command is used to install qemu.

A terminal window titled 'Terminal' with a timestamp of 'Sep 18 00:33'. The prompt is 'ubuntu@ubuntu-VirtualBox: ~'. The command 'sudo apt install qemu' has been entered. The output shows the password prompt, followed by package list reading, dependency tree building, and state information reading. It then lists the new packages to be installed (qemu), shows the disk space requirements (15.6 kB), and the source of the package (http://in.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 qemu amd64 1:6.2+dfsg-2ubuntu6.3 [15.6 kB]). It then shows the package being fetched, selected, and unpacked, and finally sets up qemu. The prompt returns to 'ubuntu@ubuntu-VirtualBox:~\$'.

```
ubuntu@ubuntu-VirtualBox:~$ sudo apt install qemu
[sudo] password for ubuntu:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
  qemu
0 upgraded, 1 newly installed, 0 to remove and 72 not upgraded.
Need to get 15.6 kB of archives.
After this operation, 138 kB of additional disk space will be used.
Get:1 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 qemu amd
64 1:6.2+dfsg-2ubuntu6.3 [15.6 kB]
Fetched 15.6 kB in 1s (14.5 kB/s)
Selecting previously unselected package qemu.
(Reading database ... 195404 files and directories currently installed.)
Preparing to unpack .../qemu_1%3a6.2+dfsg-2ubuntu6.3_amd64.deb ...
Unpacking qemu (1:6.2+dfsg-2ubuntu6.3) ...
Setting up qemu (1:6.2+dfsg-2ubuntu6.3) ...
ubuntu@ubuntu-VirtualBox:~$
```

Lab 4: Ubuntu Commands And Installing QEMU

Step7: apt show qemu-system-x86: this command is used to check the version of qemu.



```
Activities  Terminal  Sep 18 00:34
ubuntu@ubuntu-VirtualBox: ~
ubuntu@ubuntu-VirtualBox:~$ apt show qemu-system-x86
Package: qemu-system-x86
Version: 1:6.2+dfsg-2ubuntu6.3
Priority: optional
Section: misc
Source: qemu
Origin: Ubuntu
Maintainer: Ubuntu Developers <ubuntu-devel-discuss@lists.ubuntu.com>
Original-Maintainer: Debian QEMU Team <pkg-qemu-devel@lists.alioth.debian.org>
Bugs: https://bugs.launchpad.net/ubuntu/+filebug
Installed-Size: 38.5 MB
Provides: qemu-kvm, qemu-system-i386, qemu-system-x86-64, qemu-system-x86-microvm
Depends: libaio1 (>= 0.3.93), libc6 (>= 2.34), libfdt1 (>= 1.6.1), libfuse3-3 (>= 3.2.3), libgcc-s1 (>= 4.7), libglib2.0-0 (>= 2.39.4), libgnutls30 (>= 3.7.2), libibverbs1 (>= 28), libjpeg8 (>= 8c), libnettle8, libnuma1 (>= 2.0.11), libpixman-1-0 (>= 0.19.6), libpmem1 (>= 1.4), libpng16-16 (>= 1.6.2-1), librdmacm1 (>= 1.0.15), libsasl2-2 (>= 2.1.27+dfsg2), libseccomp2 (>= 2.1.0), libslirp0 (>= 4.0.0), libudev1 (>= 183), liburing2 (>= 2.0), libzstd1 (>= 1.4.0), zlib1g (>= 1:1.2.0), qemu-system-common (= 1:6.2+dfsg-2ubuntu6.3), qemu-system-data (>= 1:6.2+dfsg-2ubuntu6.3~), seabios, ipxe-qemu, ipxe-qemu-256k-compatible-efi-roms
```