


Task 26

- 📌 GUI container on the Docker
- ⚙️ Launch a container on docker in GUI mode
- ⚙️ Run any GUI software on the container.

Using RHEL-8 VM


Step1:

Check the ip of vm using ifconfig.

 root@ansible_controller:~

```
[root@ansible_controller ~]# ifconfig enp0s8
enp0s8: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.99.130 netmask 255.255.255.0 broadcast 192.168.99.255
    inet6 fe80::1072:608d:1ff2:482e prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:82:e3:49 txqueuelen 1000 (Ethernet)
    RX packets 1421 bytes 145662 (142.2 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 556 bytes 100658 (98.2 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```


Step2: Launching the docker container using centos.

 @cd43a0feb0d5:/

```
[root@ansible_controller ~]# docker run -it --name Webos centos
[root@cd43a0feb0d5 /]# cal
      March 2021
Su Mo Tu We Th Fr Sa
           1  2  3  4  5  6
 7  8  9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30 31

[root@cd43a0feb0d5 /]# date
Wed Mar 10 06:22:52 UTC 2021
[root@cd43a0feb0d5 /]#
```

- Check firefox or any GUI software is installed or not.

 @cd43a0feb0d5:/

```
[root@cd43a0feb0d5 /]# firefox
bash: firefox: command not found
[root@cd43a0feb0d5 /]# rpm -q firefox
package firefox is not installed
[root@cd43a0feb0d5 /]# rpm -q gedit
package gedit is not installed
[root@cd43a0feb0d5 /]# rpm -q python36
package python36 is not installed
[root@cd43a0feb0d5 /]#
```

- Install firefox and any other GUI software using yum.

```
@cd43a0feb0d5/
[root@cd43a0feb0d5 /]# yum install firefox python36 gedit -y
Failed to set locale, defaulting to C.UTF-8
CentOS-8 - AppStream
CentOS-8 - Base
CentOS-8 - Extras
Dependencies resolved.
381 kB/s | 6.3 MB   00:16
1.4 MB/s | 2.3 MB   00:01
14 kB/s | 9.2 kB    00:00
```

Package	Architecture	Version	Repository	Size
Installing:				
firefox	x86_64	78.8.0-1.el8_3	AppStream	102 M
gedit	x86_64	2:3.28.1-3.el8	AppStream	2.5 M
python36	x86_64	3.6.8-2.module_el8.3.0+562+e162826a	AppStream	19 k
Upgrading:				
libcom_err	x86_64	1.45.6-1.el8	BaseOS	49 k
platform-python-setuptools	noarch	39.2.0-6.el8	BaseOS	632 k
Installing dependencies:				
adwaita-cursor-theme	noarch	3.28.0-2.el8	AppStream	647 k
adwaita-icon-theme	noarch	3.28.0-2.el8	AppStream	11 M
alsa-lib	x86_64	1.2.3.2-1.el8	AppStream	469 k
aspell	x86_64	12:0.60.6-1-21.el8	AppStream	675 k
at-spi2-atk	x86_64	2.26.2-1.el8	AppStream	89 k
at-spi2-core	x86_64	2.28.0-1.el8	AppStream	169 k
atk	x86_64	2.28.1-1.el8	AppStream	272 k
avahi-glib	x86_64	0.7-19.el8	BaseOS	15 k
avahi-libs	x86_64	0.7-19.el8	BaseOS	62 k
cairo	x86_64	1.15.12-3.el8	AppStream	721 k
cairo-gobject	x86_64	1.15.12-3.el8	AppStream	33 k
centos-indexhtml	noarch	8.0-0.el8	BaseOS	246 k
colord-libs	x86_64	1.4.2-1.el8	AppStream	236 k
cups-libs	x86_64	1:2.2.6-38.el8	BaseOS	433 k
dbus-glib	x86_64	0.110-2.el8	BaseOS	127 k
dejavu-fonts-common	noarch	2.35-6.el8	BaseOS	74 k
desktop-file-utils	x86_64	0.23-8.el8	AppStream	80 k
dosfstools	x86_64	4.1-6.el8	BaseOS	122 k
e2fsprogs	x86_64	1.45.6-1.el8	BaseOS	1.0 M
e2fsprogs-libs	x86_64	1.45.6-1.el8	BaseOS	233 k
emacs-filesystem	noarch	1:26.1-5.el8	BaseOS	69 k
enchant2	x86_64	2.2.3-2.el8	AppStream	62 k
fontconfig	x86_64	2.13.1-3.el8	BaseOS	275 k
fontpackages-filesystem	noarch	1.44-22.el8	BaseOS	16 k
freetype	x86_64	2.9.1-4.el8_3.1	BaseOS	394 k
fribidi	x86_64	1.0.4-8.el8	AppStream	89 k
fuse-libs	x86_64	2.9.7-12.el8	BaseOS	102 k
gcr	x86_64	3.28.0-1.el8	AppStream	692 k

@cd43a0feb0d5:/

```
[root@cd43a0feb0d5 /]# rpm -q firefox
firefox-78.8.0-1.el8_3.x86_64
[root@cd43a0feb0d5 /]# rpm -q python36
python36-3.6.8-2.module_el8.3.0+562+e162826a.x86_64
[root@cd43a0feb0d5 /]# rpm -q gedit
gedit-3.28.1-3.el8.x86_64
[root@cd43a0feb0d5 /]#
```

Successfully installed the packages.

Step3: Lets open firefox

@cd43a0feb0d5:/

```
[root@cd43a0feb0d5 /]# firefox
Failed to open connection to "session" message bus: Unable to autolaunch a dbus-daemon without a $DISPLAY for X11
Running without ally support!

(firefox:258): Gtk-WARNING **: 06:39:43.205: Locale not supported by C library.
    Using the fallback 'C' locale.
Error: no DISPLAY environment variable specified
[root@cd43a0feb0d5 /]#
```

- No display variable specified.

Step4: Lets open gedit.

@cd43a0feb0d5:/

```
[root@cd43a0feb0d5 /]# gedit

(gedit:276): Gtk-WARNING **: 06:41:55.941: Locale not supported by C library.
    Using the fallback 'C' locale.
Unable to init server: Could not connect: Connection refused

(gedit:276): Gtk-WARNING **: 06:41:55.973: cannot open display:
[root@cd43a0feb0d5 /]#
```

- Can't open display.
- Warning can be solved by installing **yum install gcc-c++**
- If you face any dbus issue use :
 dbus-uuidgen > /var/lib/dbus/machine-id

To solve this issue, we need a tool which display graphical linux program.

What is Xming?

Xming is an open-source X-Windows terminal emulator (X Server) that runs on Microsoft Windows computers. Xming allows the Windows machines to display a graphical linux program which is basically running on a remote Linux server. Above the basic installation steps, this article demonstrates how to secure an X-Window session using Xming with PuTTY SSH Client.

Download Xming software at:

<https://sourceforge.net/projects/xming/>

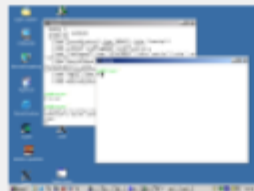
step5: Download and install Xming

Select display settings

Choose how Xming displays programs.



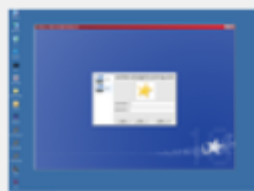
☒ Multiple windows



☐ Fullscreen



☐ One window



☐ One window without titlebar



Display number

5


< Back


Next >

Cancel


Help

- Here you can give any display number.

 Session type



Select how to start Xming
Choose session type and whether a client is started immediately.



☒ Start no client
This will just start Xming. You will be able to start local clients later.

☐ Start a program
This will start a local or remote program which will connect to Xming. You will be able to start local clients later too. Remote programs are started using PuTTY/SSH.

☐ Open session via XDMCP
This will start a remote XDMCP session. Starting local clients later is limited. This option is not available with the "Multiple windows" mode.


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Next >

Cancel


Help

- Enable No Access Control

 Additional parameters



Specify parameter settings
Enter clipboard, remote font server, and all other parameters.



☒ Clipboard
Start the integrated clipboard manager

☒ No Access Control
Disable Server Access Control

Remote font server (if any)

Additional parameters for Xming

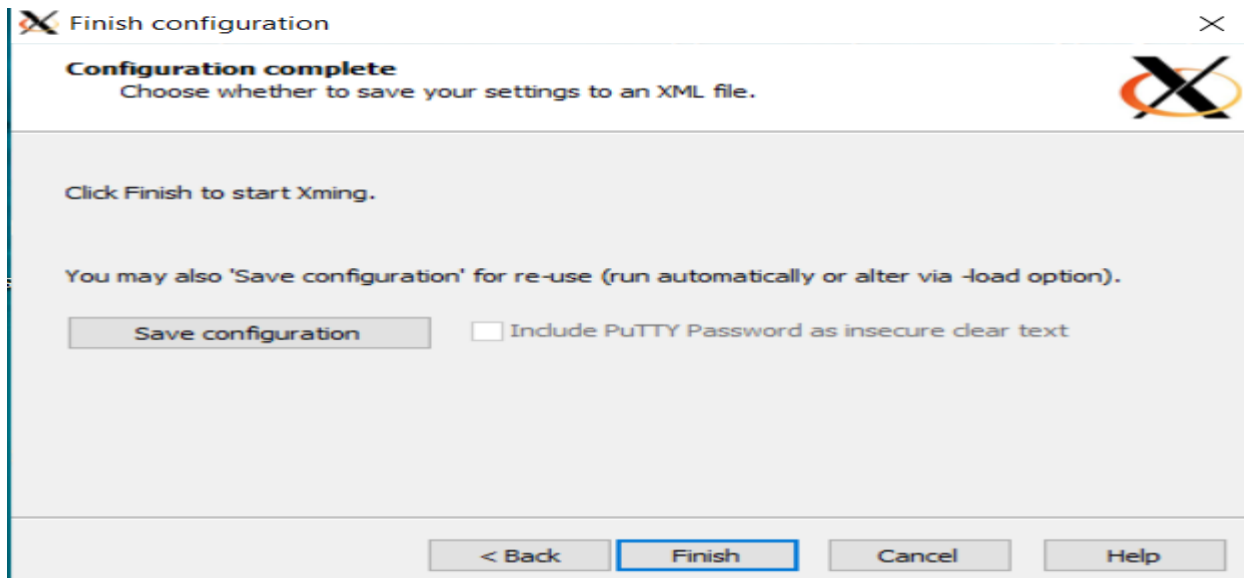
Additional parameters for PuTTY or SSH

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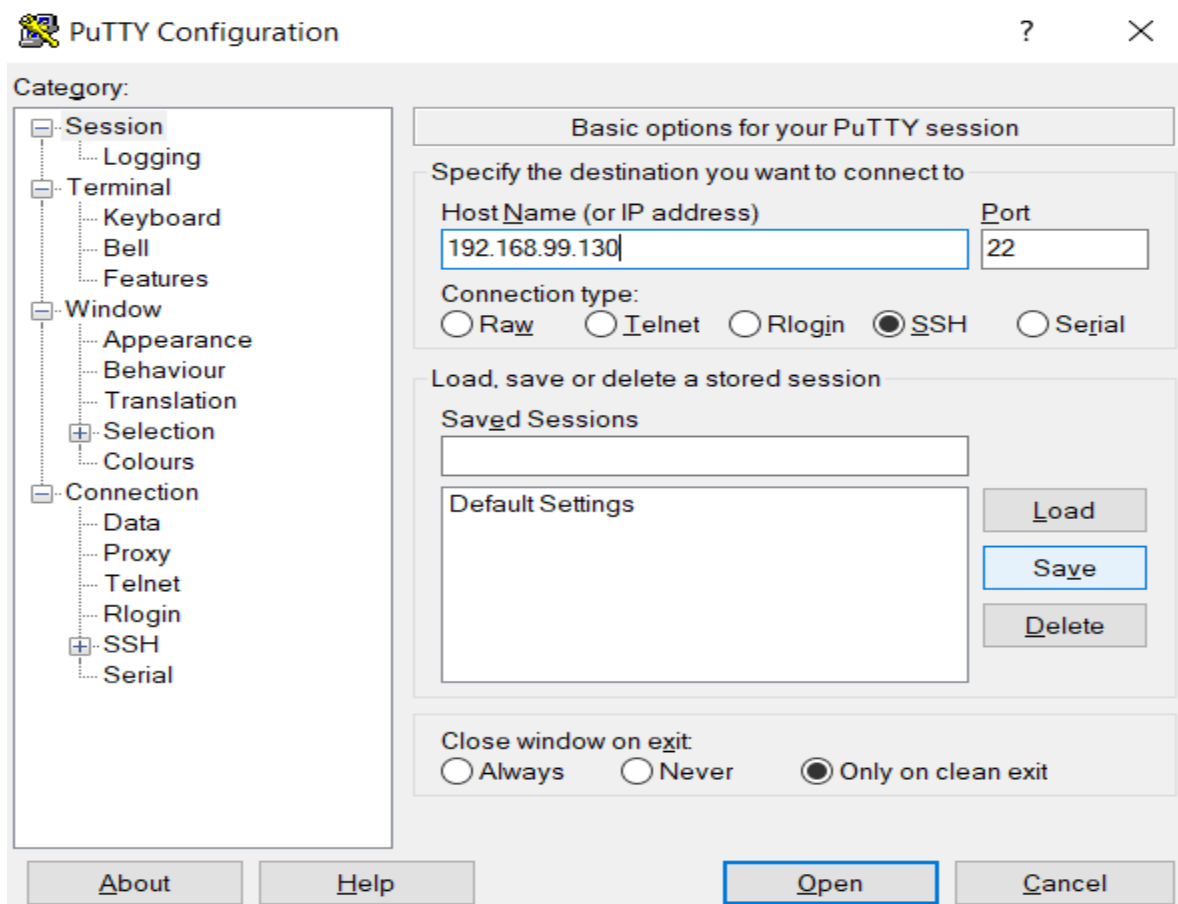
Next >

Cancel

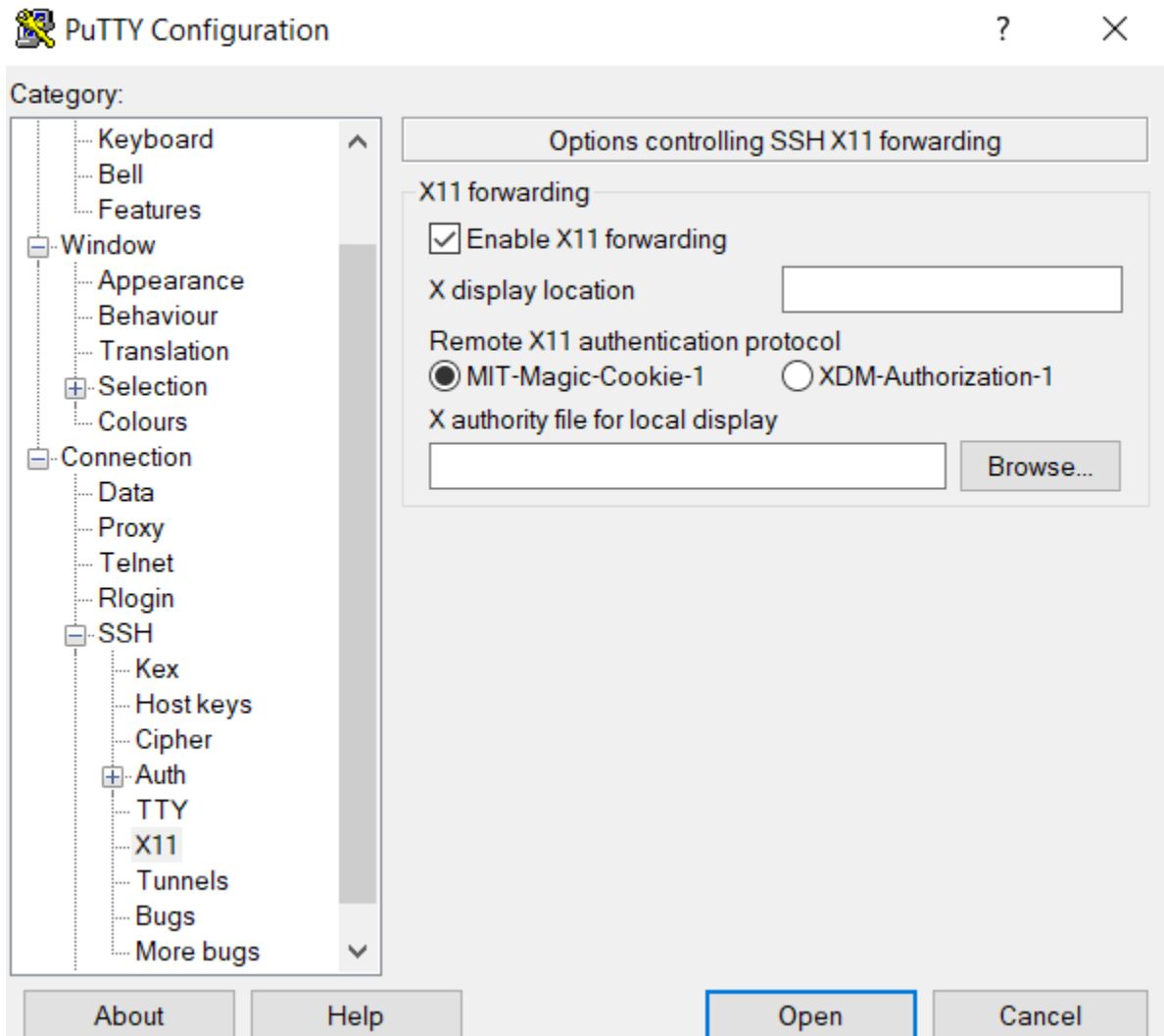
Help



Step6: Connect to VM using Putty.



- Enable X11 forwarding



- Login to VM

```
root@ansible_controller:~  
login as: root  
root@192.168.99.130's password:  
Activate the web console with: systemctl enable --now cockpit.socket  
  
Last login: Wed Mar 10 01:30:09 2021 from 192.168.99.1  
[root@ansible_controller ~]#
```

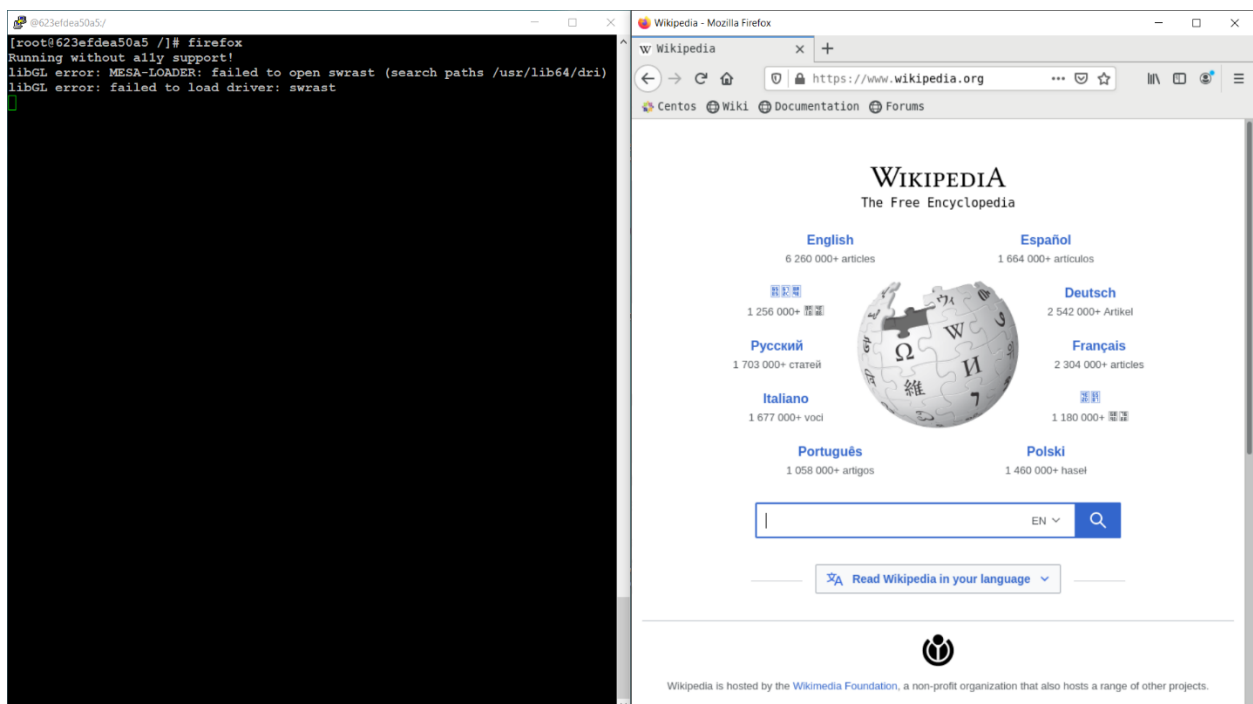

Step7: connect to docker container and export Export the display variable.

export DISPLAY=<Windows_Ip>:<Display_Number>

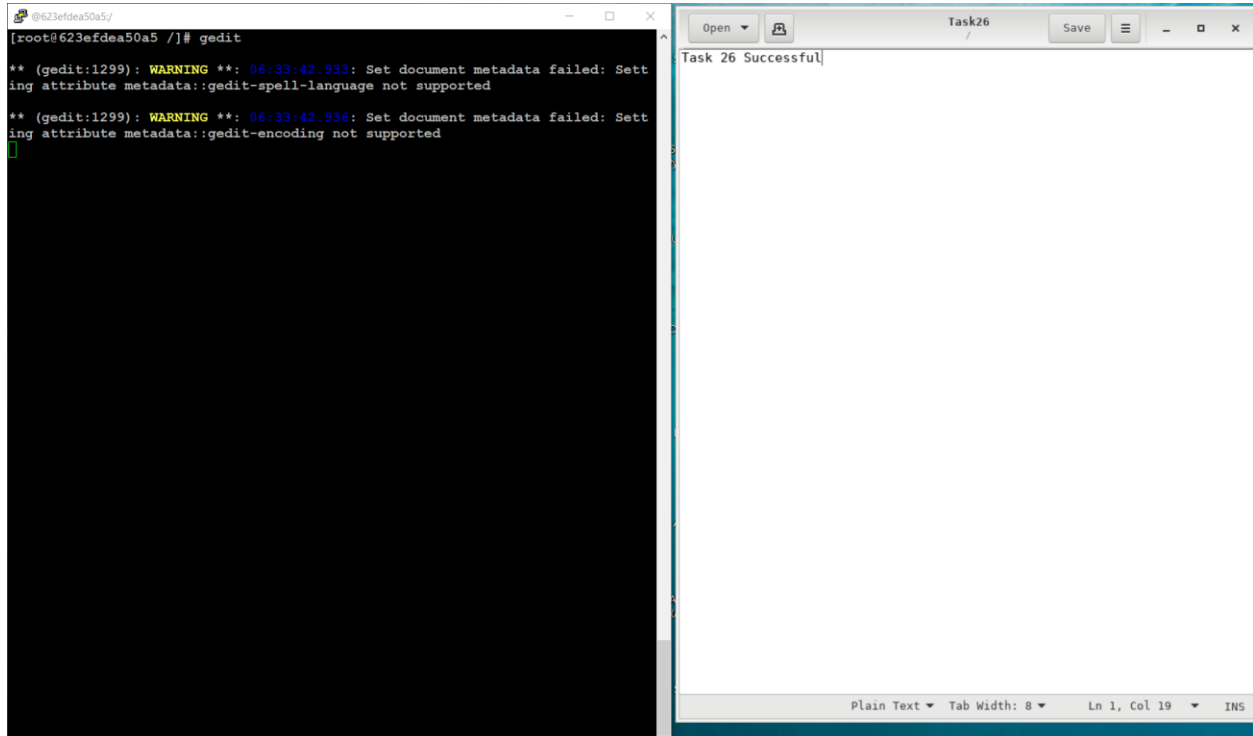
```
@623efdea50a5:/  
[root@623efdea50a5 /]# export DISPLAY=10.112.109.60:5.0  
[root@623efdea50a5 /]# echo $DISPLAY  
10.112.109.60:5.0  
[root@623efdea50a5 /]#
```

Step8: Install some of the Dependency files

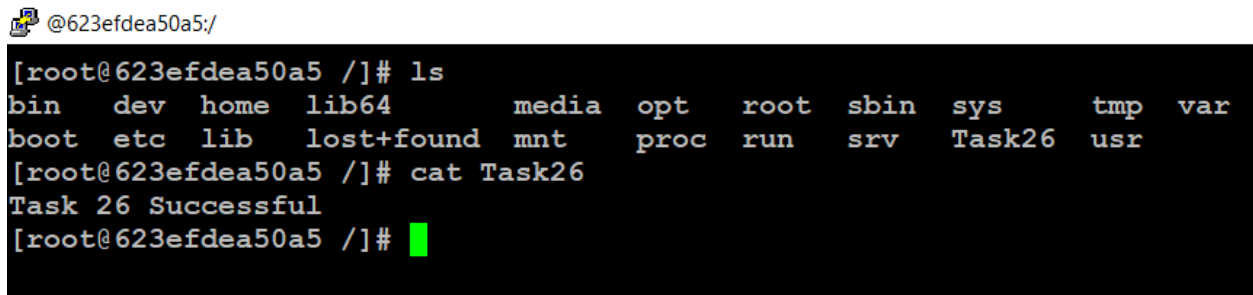
```
@623efdea50a5:/  
[root@623efdea50a5 /]# dnf install mesa-libGLU-devel  
Last metadata expiration check: 0:13:19 ago on Sun 14 Mar 2021 06:08:11 AM UTC.  
Package mesa-libGLU-devel-9.0.0-15.el8.x86_64 is already installed.  
Dependencies resolved.  
Nothing to do.  
Complete!  
[root@623efdea50a5 /]#
```



Step9: Lets try to use gedit.



The image shows two windows from a Docker container. The left window is a terminal with the prompt `[root@623efdea50a5 /]#`. It shows the command `gedit` being executed, followed by two warning messages: `** (gedit:1299): WARNING **: 06:33:42.933: Set document metadata failed: Setting attribute metadata::gedit-spell-language not supported` and `** (gedit:1299): WARNING **: 06:33:42.936: Set document metadata failed: Setting attribute metadata::gedit-encoding not supported`. The right window is a gedit editor titled "Task26" showing the text "Task 26 Successful". The status bar at the bottom of the gedit window indicates "Plain Text", "Tab Width: 8", "Ln 1, Col 19", and "INS".



The image shows a terminal window with the prompt `[root@623efdea50a5 /]#`. It shows the command `ls` being executed, followed by the output: `bin dev home lib64 media opt root sbin sys tmp var boot etc lib lost+found mnt proc run srv Task26 usr`. Then, the command `cat Task26` is executed, followed by the output: `Task 26 Successful`. The prompt is now `[root@623efdea50a5 /]#`.

Thank you

GitHub Link: https://github.com/Anuddeeph/Docker_GUI.git