

# **LAPORAN PRAKTIKUM VIRTUALISASI KOMPUTER**

## **EKSPLORASI INSTALASI DAN KONFIGURASI oVirt PADA SISTEM OPERASI LINUX**



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**DIII TEKNOLOGI KOMPUTER**

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FAKULTAS VOKASI**

## Judul Praktikum

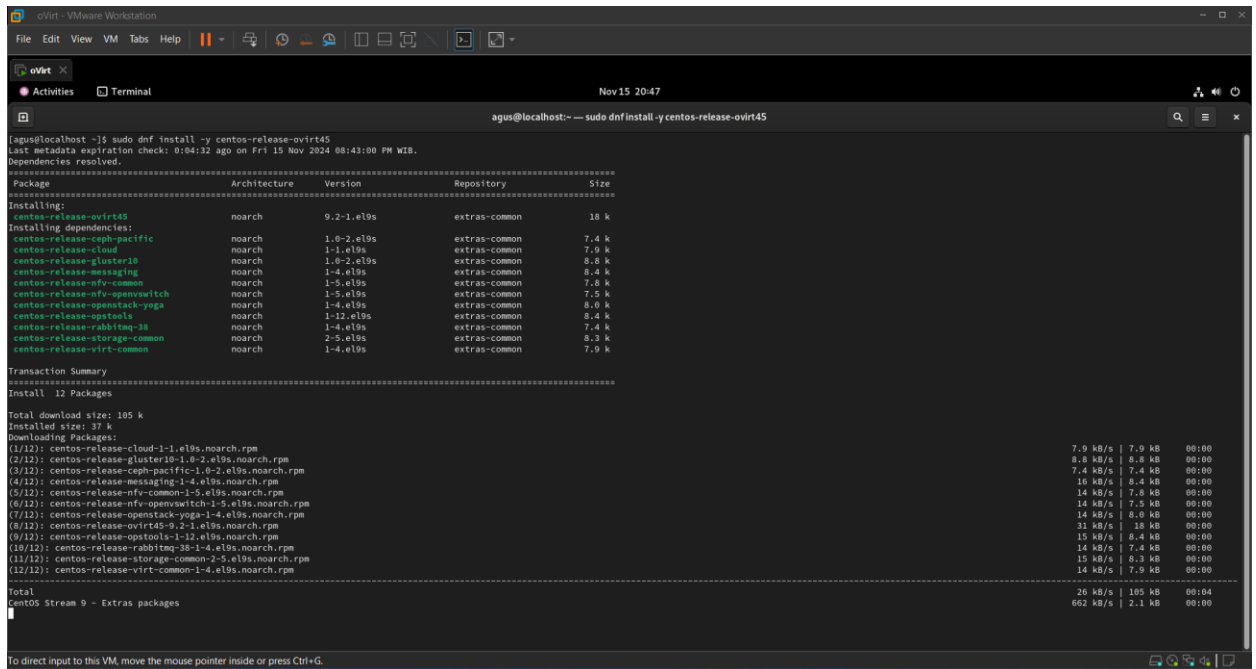
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<b>Minggu/Sesi</b>	:	XII/2-3
<b>Kode Mata Kuliah</b>	:	4332103
<b>Nama Mata Kuliah</b>	:	VIRTUALISASI KOMPUTER
<b>Setoran</b>	:	Jawaban dalam bentuk <i>softcopy</i>
<b>Batas Waktu Setoran</b>	:	18 November 2024 jam 21:30
<b>Tujuan</b>	:	1. Mahasiswa mampu menginstal dan mengkonfigurasi oVirt pada sistem operasi Linux

## Petunjuk

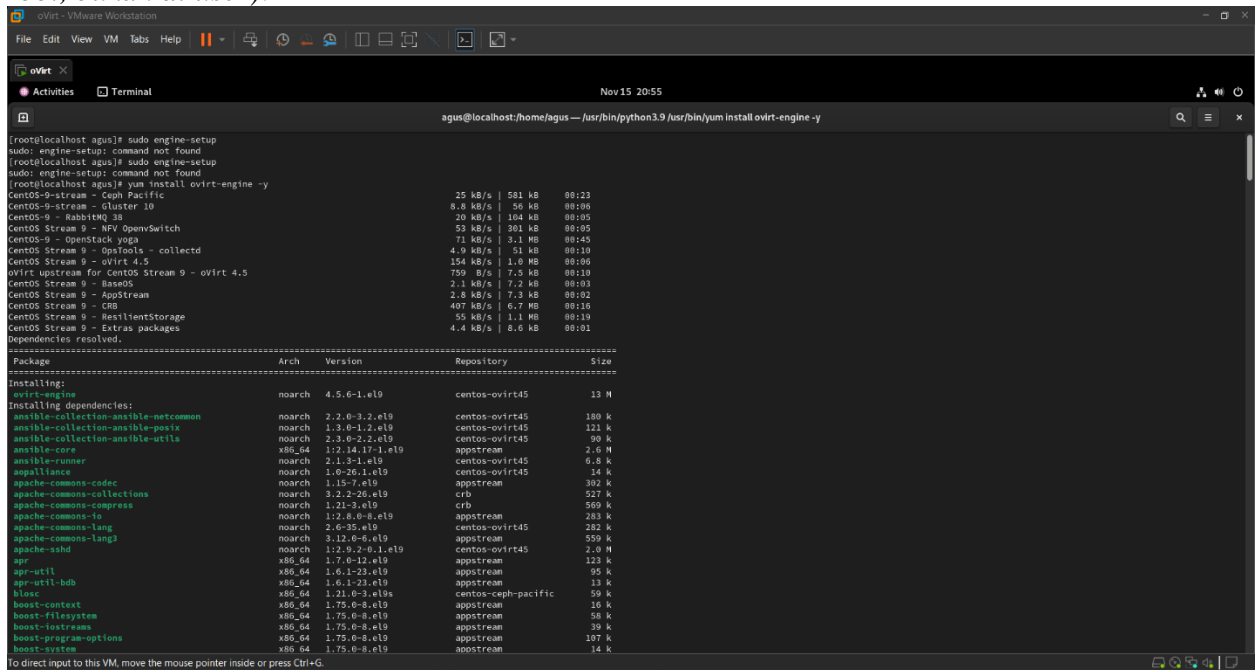
# INSTALASI oVIRT

1. Kita akan melakukan Penginstalan oVirt di CentOS 9 dengan menggunakan perintah **sudo dnf install -u centos-release-ovirt45**



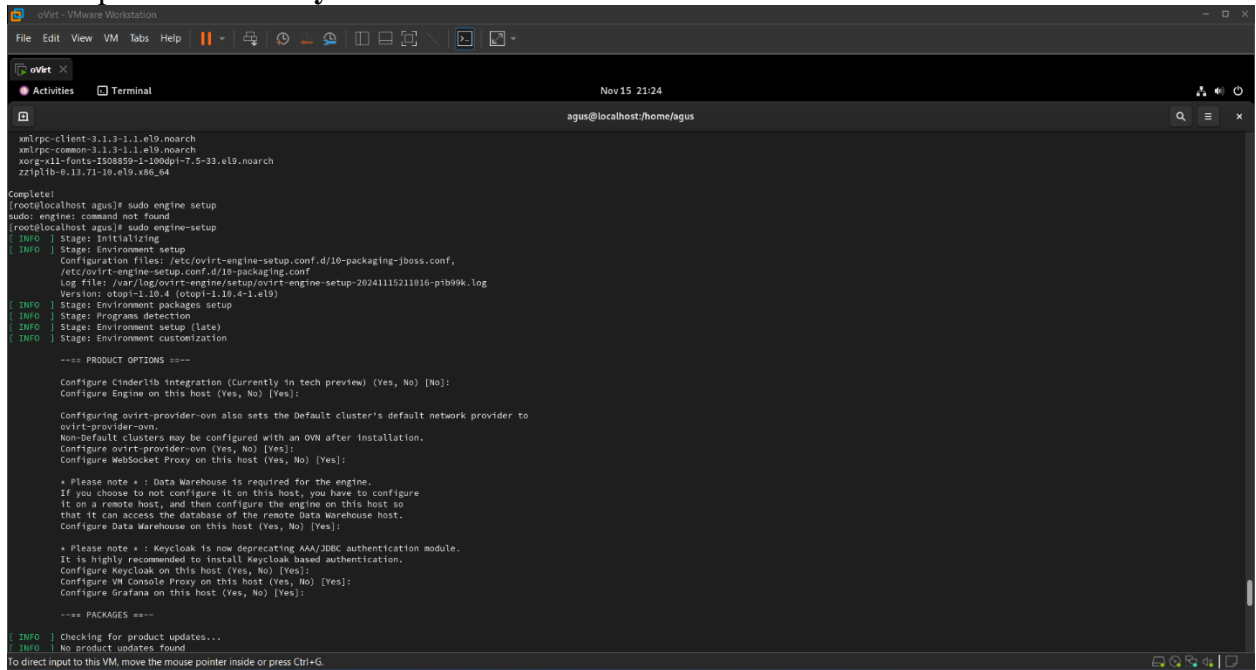
```
[agus@localhost ~]$ sudo dnf install -y centos-release-ovirt45
Last metadata expiration check: 0:04:32 ago on Fri 15 Nov 2024 08:43:00 PM WIB.
Dependencies resolved.
=====
Package                               Architecture Version      Repository      Size
=====
Installing:
centos-release-ovirt45                noarch      9.2-1.el9s     extras-common    18 k
Installing dependencies:
centos-release-ceph-pacific           noarch      1.0-2.el9s     extras-common    7.4 k
centos-release-cloud                  noarch      1-1.el9s       extras-common    7.9 k
centos-release-gluster10              noarch      1.0-2.el9s     extras-common    8.8 k
centos-release-messaging              noarch      1-4.el9s       extras-common    8.4 k
centos-release-nfv-common              noarch      1-5.el9s       extras-common    7.8 k
centos-release-nfv-openswitch         noarch      1-5.el9s       extras-common    7.2 k
centos-release-opentstack-yaga        noarch      1-4.el9s       extras-common    8.0 k
centos-release-opstools               noarch      1-12.el9s      extras-common    8.4 k
centos-release-rabbitmq-38            noarch      1-4.el9s       extras-common    7.4 k
centos-release-storage-common         noarch      2-5.el9s       extras-common    8.3 k
centos-release-virt-common            noarch      1-4.el9s       extras-common    7.9 k
=====
Transaction Summary
=====
Install 12 Packages
Total download size: 105 k
Installed size: 37 k
Downloading Packages:
(1/12): centos-release-cloud-1-1.el9s.noarch.rpm              7.9 kB/s | 7.9 kB  00:00
(2/12): centos-release-gluster10-1.0-2.el9s.noarch.rpm        8.8 kB/s | 8.8 kB  00:00
(3/12): centos-release-ceph-pacific-1.0-2.el9s.noarch.rpm     7.4 kB/s | 7.4 kB  00:00
(4/12): centos-release-messaging-1-4.el9s.noarch.rpm          16 kB/s | 8.4 kB  00:00
(5/12): centos-release-nfv-common-1-5.el9s.noarch.rpm          14 kB/s | 7.8 kB  00:00
(6/12): centos-release-nfv-openswitch-1-5.el9s.noarch.rpm     14 kB/s | 7.2 kB  00:00
(7/12): centos-release-opentstack-yaga-1-4.el9s.noarch.rpm     14 kB/s | 8.0 kB  00:00
(8/12): centos-release-ovirt45-9.2-1.el9s.noarch.rpm           31 kB/s | 18 kB  00:00
(9/12): centos-release-opstools-1-12.el9s.noarch.rpm           15 kB/s | 8.4 kB  00:00
(10/12): centos-release-rabbitmq-38-1-4.el9s.noarch.rpm        14 kB/s | 7.4 kB  00:00
(11/12): centos-release-storage-common-2-5.el9s.noarch.rpm     15 kB/s | 8.3 kB  00:00
(12/12): centos-release-virt-common-1-4.el9s.noarch.rpm        14 kB/s | 7.9 kB  00:00
Total
-----
CentOS Stream 9 - Extras packages
-----
26 kB/s | 105 kB  00:04
662 kB/s | 2.1 kB  00:00
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
```

2. Setelah selesai menginstall nya, kita akan menginstall engine oVirt nya dengan menggunakan **yum install ovirt-engine -y** (Pastikan untuk menginstall nya dilakukan di root, bukan di user).



```
[root@localhost agus]# sudo engine-setup
sudo: engine-setup: command not found
[root@localhost agus]# sudo engine-setup
sudo: engine-setup: command not found
[root@localhost agus]# yum install ovirt-engine -y
CentOS-9-stream - Ceph Pacific                25 kB/s | 581 kB  00:23
CentOS-9-stream - Cluster 10                  8.8 kB/s | 56 kB  00:06
CentOS-9 - RabbitMQ 38                         20 kB/s | 104 kB  00:05
CentOS Stream 9 - NVF OpenSwitch               53 kB/s | 301 kB  00:05
CentOS-9 - OpenStack yoga                      71 kB/s | 3.1 MB  00:45
CentOS Stream 9 - Opstools - collected         4.9 kB/s | 51 kB  00:10
CentOS Stream 9 - oVirt 4.5                    154 kB/s | 1.0 MB  00:06
oVirt upstream for CentOS Stream 9 - ovirt 4.5 759 B/s | 7.5 kB  00:10
CentOS Stream 9 - IaaSOS                       2.1 kB/s | 7.2 kB  00:03
CentOS Stream 9 - AppStream                    2.8 kB/s | 7.3 kB  00:02
CentOS Stream 9 - CRB                          407 kB/s | 6.7 MB  00:16
CentOS Stream 9 - ResilientStorage             95 kB/s | 1.1 MB  00:10
CentOS Stream 9 - Extras packages              4.4 kB/s | 8.6 kB  00:01
Dependencies resolved.
=====
Package                               Arch      Version      Repository      Size
=====
Installing:
ovirt-engine                           noarch    4.5.6-1.el9  centos-ovirt45  13 M
Installing dependencies:
ansible-collection-ansible-netcommon     noarch    2.2.0-1.2.el9 centos-ovirt45  180 k
ansible-collection-ansible-parti         noarch    2.3.0-2.2.el9 centos-ovirt45  90 k
ansible-core                             x86_64    12.14.17-1.el9 appstream       2.6 M
ansible-runner                           noarch    2.11.9-1.el9  centos-ovirt45  6.8 k
appliance                                noarch    1.0-26.1.el9  centos-ovirt45  14 k
apache-commons-codec                     noarch    1.15-7.el9    appstream       392 k
apache-commons-collections               noarch    3.2.2-26.el9  crb             969 k
apache-commons-compress                  noarch    1.21-3.el9    crb             590 k
apache-commons-io                        noarch    12.8.0-8.el9  appstream       283 k
apache-commons-lang                      noarch    2.6.35.el9    centos-ovirt45  282 k
apache-commons-lang2                     noarch    3.12.0-6.el9  appstream       559 k
apache-sshd                             noarch    12.9.2-0.1.el9 centos-ovirt45  2.0 M
apr                                       x86_64    1.7.0-12.el9  appstream       123 k
apr-util                                x86_64    1.6.1-23.el9  appstream       95 k
apr-util-bdb                             x86_64    1.6.1-23.el9  appstream       13 k
blisc                                     x86_64    1.21.0-3.el9s centos-ceph-pacific 59 k
boost-context                           x86_64    1.75.0-8.el9  appstream       16 k
boost-filesystem                        x86_64    1.75.0-8.el9  appstream       50 k
boost-iostreams                         x86_64    1.75.0-8.el9  appstream       39 k
boost-program-options                   x86_64    1.75.0-8.el9  appstream       107 k
boost-system                             x86_64    1.75.0-8.el9  appstream       14 k
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
```

3. Kemudian, kita menjalankan instruksi dari oVirt yang mana untuk menjalankan instruksinya kita menekan **Enter** untuk melanjutkannya pada bagian **Product Options**. Karna itu adalah pilihan **Defaultnya**.



```
oVirt - VMware Workstation
File Edit View VM Tabs Help
oVirt
Activities Terminal
Nov 15 21:24
agus@localhost:/home/agus

xmrpc-client-3.1.3-1.1.el9.noarch
xmrpc-common-3.1.3-1.1.el9.noarch
xorg-x11-fonts-ISO8859-1-100dpi-7.5-33.el9.noarch
zzip1b-6.13.71-10.el9.x86_64

Complete!
[root@localhost agus]# sudo engine-setup
sudo: engine: command not found
[root@localhost agus]# sudo engine-setup
[ INFO ] Stage: Initializing
[ INFO ] Stage: Environment setup
Configuration files: /etc/ovirt-engine-setup.conf.d/10-packaging-jboss.conf,
/etc/ovirt-engine-setup.conf.d/10-packaging.conf
Log file: /var/log/ovirt-engine/setup/ovirt-engine-setup-20241115211816-p1b99k.log
Version: otop-1.10.4 (otop-1.10.4-1.el9)
[ INFO ] Stage: Environment packages setup
[ INFO ] Stage: Programs detection
[ INFO ] Stage: Environment setup (Late)
[ INFO ] Stage: Environment customization

=== PRODUCT OPTIONS ===

Configure Cinderlib integration (Currently in tech preview) (Yes, No) [No]:
Configure Engine on this host (Yes, No) [Yes]:

Configuring ovirt-provider-ovn also sets the Default cluster's default network provider to
ovirt-provider-ovn.
Non-Default clusters may be configured with an OVN after Installation.
Configure ovirt-provider-ovn (Yes, No) [Yes]:
Configure WebSocket Proxy on this host (Yes, No) [Yes]:

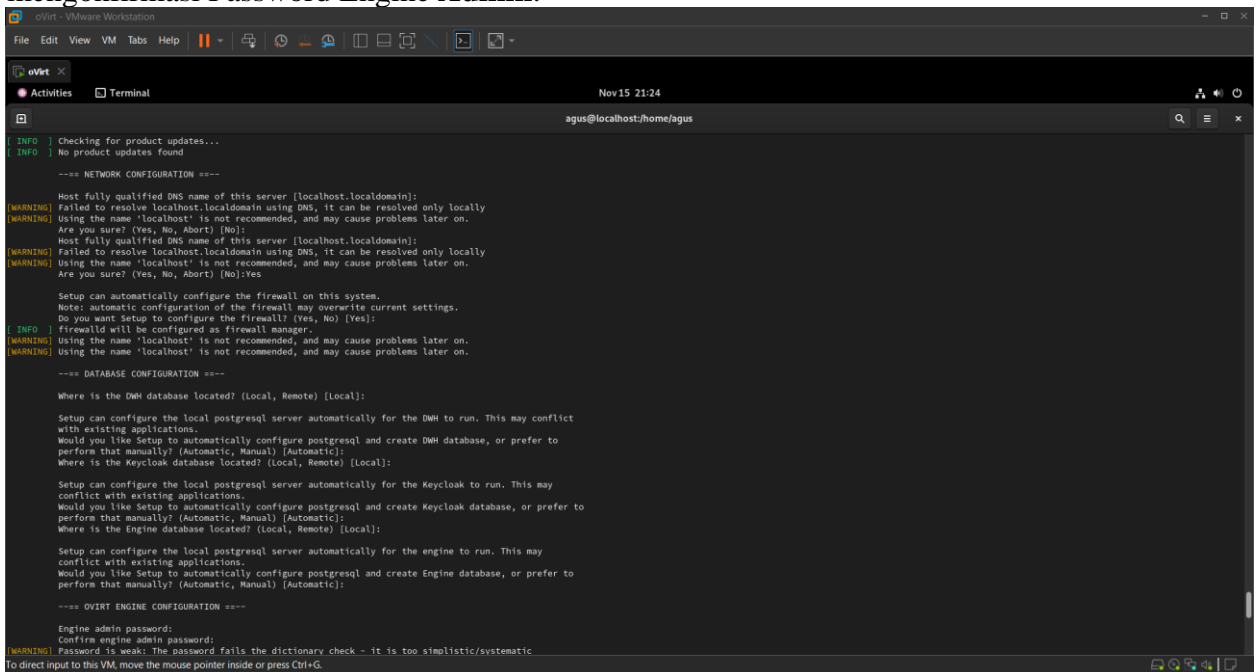
* Please note * : Data Warehouse is required for the engine.
If you choose to not configure it on this host, you have to configure
it on a remote host, and then configure the engine on this host so
that it can access the database of the remote Data Warehouse host.
Configure Data Warehouse on this host (Yes, No) [Yes]:

* Please note * : Keycloak is now deprecating AAA/JDBC authentication module.
It is highly recommended to install Keycloak based authentication.
Configure Keycloak on this host (Yes, No) [Yes]:
Configure VM console Proxy on this host (Yes, No) [Yes]:
Configure Grafana on this host (Yes, No) [Yes]:

=== PACKAGES ===
[ INFO ] Checking for product updates...
[ INFO ] No product updates found

To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
```

4. Kemudian di bagian **Network Configuration** pada bagian **localhost.localdomain**, kita mengetik **Yes** kemudian tekan **Enter**. Dan dibagian **Database Configuration**, kita melakukannya dengan menekan **Enter** karna itu adalah pilihan **Defaultnya**. Dan di bagian **oVirt Engine Configuratuon**, kita memasukkan password untuk Engine Admin dan mengonfirmasi Password Engine Admin.



```
oVirt - VMware Workstation
File Edit View VM Tabs Help
oVirt
Activities Terminal
Nov 15 21:24
agus@localhost:/home/agus

[ INFO ] Checking for product updates...
[ INFO ] No product updates found

=== NETWORK CONFIGURATION ===

Host fully qualified DNS name of this server [localhost.localdomain]:
[WARNING] Failed to resolve localhost.localdomain using DNS, it can be resolved only locally
Using the name 'localhost' is not recommended, and may cause problems later on.
Are you sure? (Yes, No, Abort) [No]:
Host fully qualified DNS name of this server [localhost.localdomain]:
[WARNING] Failed to resolve localhost.localdomain using DNS, it can be resolved only locally
Using the name 'localhost' is not recommended, and may cause problems later on.
Are you sure? (Yes, No, Abort) [No]:Yes

Setup can automatically configure the firewall on this system.
Note: automatic configuration of the firewall may overwrite current settings.
Do you want Setup to configure the firewall? (Yes, No) [Yes]:
[ INFO ] Firewall will be configured as firewall manager.
[WARNING] Using the name 'localhost' is not recommended, and may cause problems later on.
[WARNING] Using the name 'localhost' is not recommended, and may cause problems later on.

=== DATABASE CONFIGURATION ===

Where is the DWH database located? (Local, Remote) [Local]:

Setup can configure the local postgresql server automatically for the DWH to run. This may conflict
with existing applications.
Would you like Setup to automatically configure postgresql and create DWH database, or prefer to
perform that manually? (Automatic, Manual) [Automatic]:
Where is the Keycloak database located? (Local, Remote) [Local]:

Setup can configure the local postgresql server automatically for the Keycloak to run. This may
conflict with existing applications.
Would you like Setup to automatically configure postgresql and create Keycloak database, or prefer to
perform that manually? (Automatic, Manual) [Automatic]:
Where is the Engine database located? (Local, Remote) [Local]:

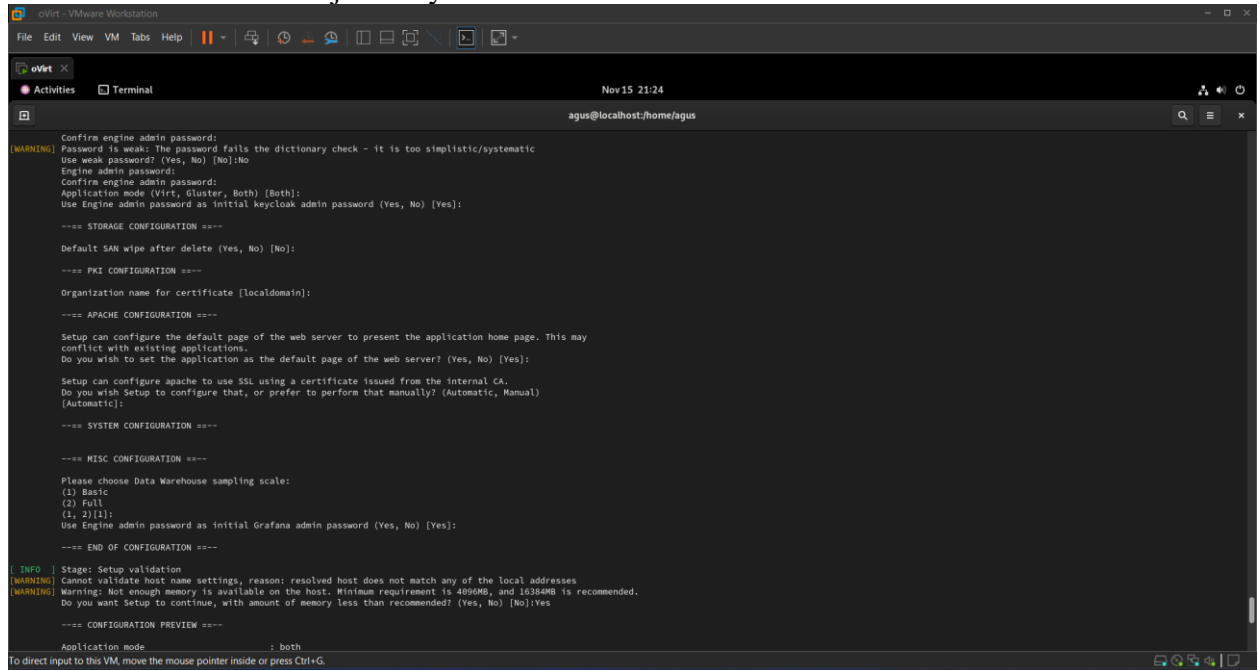
Setup can configure the local postgresql server automatically for the engine to run. This may
conflict with existing applications.
Would you like Setup to automatically configure postgresql and create Engine database, or prefer to
perform that manually? (Automatic, Manual) [Automatic]:

=== OVIRT ENGINE CONFIGURATION ===

Engine admin password:
Configure engine admin password:
[WARNING] Password is weak: The password fails the dictionary check - it is too simplistic/systematic

To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
```

5. Kemudian setelah mengisi password **Engine Admin**, kita melanjutkannya dengan menekan **Enter**. Setelah itu, di bagian **Storage Configuration**, **PKI Configuration**, **APACHE Configuration**, **System Configure**, **Misc Configuration**, kita melakukannya dengan menekan Enter. Karna itu adalah pilihan **Defaultnya**. Apabila ada peringatan karna Memori RAM yang kurang dari 4 GB, kita bisa melakukannya dengan mengetik **Yes** dan tekan **Enter** untuk melanjutkannya.



```
Confirm engine admin password:
Password is weak: The password fails the dictionary check - it is too simplistic/systematic
Use weak password? (Yes, No) [No]:No
Engine admin password:
Confirm engine admin password:
Application mode (Virt, Gluster, Both) [Both]:
Use Engine admin password as initial keycloak admin password (Yes, No) [Yes]:

---== STORAGE CONFIGURATION ===--
Default SAN wipe after delete (Yes, No) [No]:

---== PKI CONFIGURATION ===--
Organization name for certificate [localdomain]:

---== APACHE CONFIGURATION ===--
Setup can configure the default page of the web server to present the application home page. This may
conflict with existing applications.
Do you wish to set the application as the default page of the web server? (Yes, No) [Yes]:

Setup can configure apache to use SSL using a certificate issued from the internal CA.
Do you wish Setup to configure that, or prefer to perform that manually? (Automatic, Manual)
[Automatic]:

---== SYSTEM CONFIGURATION ===--

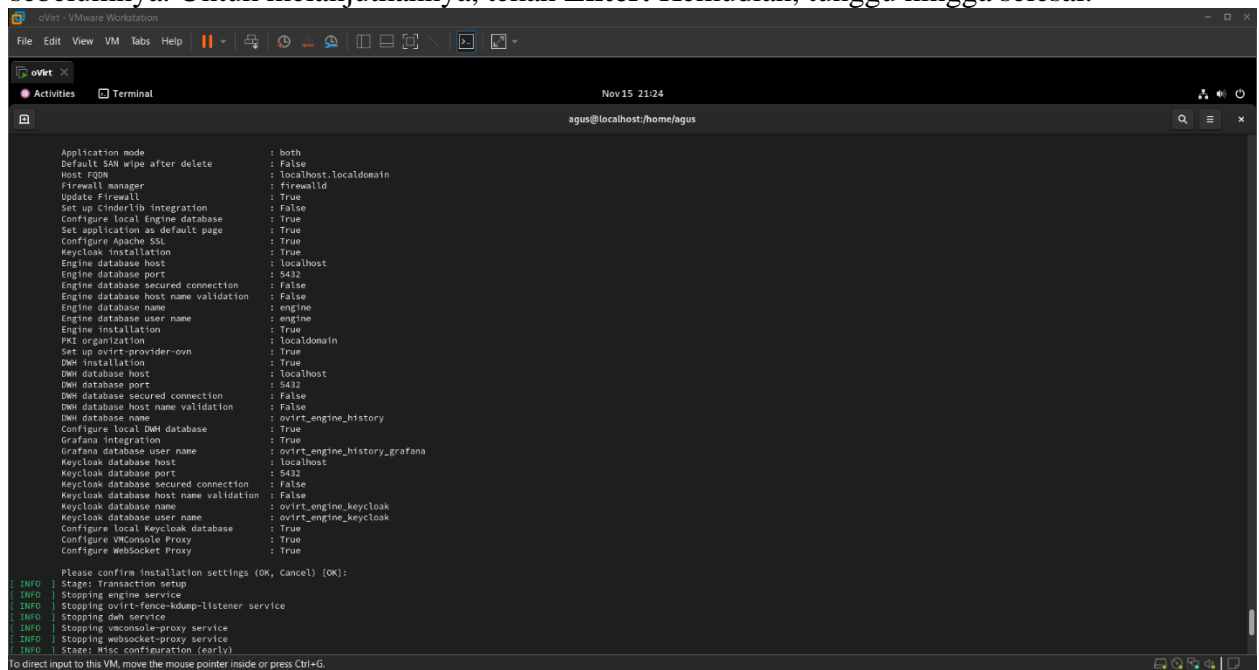
---== MISC CONFIGURATION ===--
Please choose Data Warehouse sampling scale:
(1) Basic
(2) Full
(1, 2)[1]:
Use Engine admin password as initial Grafana admin password (Yes, No) [Yes]:

---== END OF CONFIGURATION ===--

[ INFO ] Stage: Setup validation
[WARNING] Cannot validate host name settings, reason: resolved host does not match any of the local addresses
[WARNING] Warning: Not enough memory is available on the host. Minimum requirement is 4096MB, and 16384MB is recommended.
Do you want Setup to continue, with amount of memory less than recommended? (Yes, No) [No]:Yes

---== CONFIGURATION PREVIEW ---==
Application mode : both
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
```

6. Setelah selesai bagian instruksi, terdapat tampilan list pada oVirt yang sudah kita lakukan sebelumnya. Untuk melanjutkannya, tekan **Enter**. Kemudian, tunggu hingga selesai.

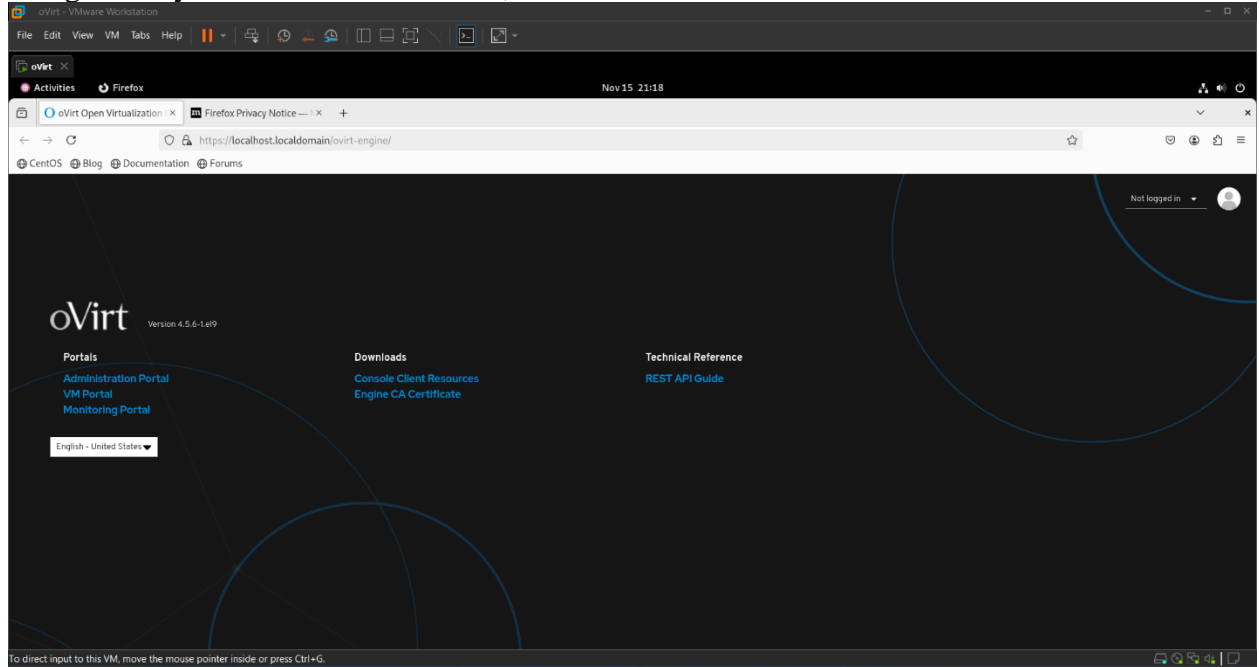


```
Application mode : both
Default SAN wipe after delete : False
Host IDNM : localhost,localdomain
Firewall manager : Firewallld
Update Firewall : True
Set up Cinderlib integration : False
Configure local Engine database : True
Set application as default page : True
Configure Apache SSL : True
Keycloak installation : True
Engine database host : localhost
Engine database port : 5432
Engine database secured connection : False
Engine database host name validation : False
Engine database name : engine
Engine database user name : engine
Engine installation : True
PKI organization : localdomain
Set up ovirt-provider-ovn : True
DWH installation : True
DWH database host : localhost
DWH database port : 5432
DWH database secured connection : False
DWH database host name validation : False
DWH database name : ovirt_engine_history
Configure local DWH database : True
Grafana integration : True
Grafana database user name : ovirt_engine_history_grafana
Keycloak database host : localhost
Keycloak database port : 5432
Keycloak database secured connection : False
Keycloak database host name validation : False
Keycloak database name : ovirt_engine_keycloak
Keycloak database user name : ovirt_engine_keycloak
Configure local Keycloak database : True
Configure VMConsole Proxy : True
Configure WebSocket Proxy : True

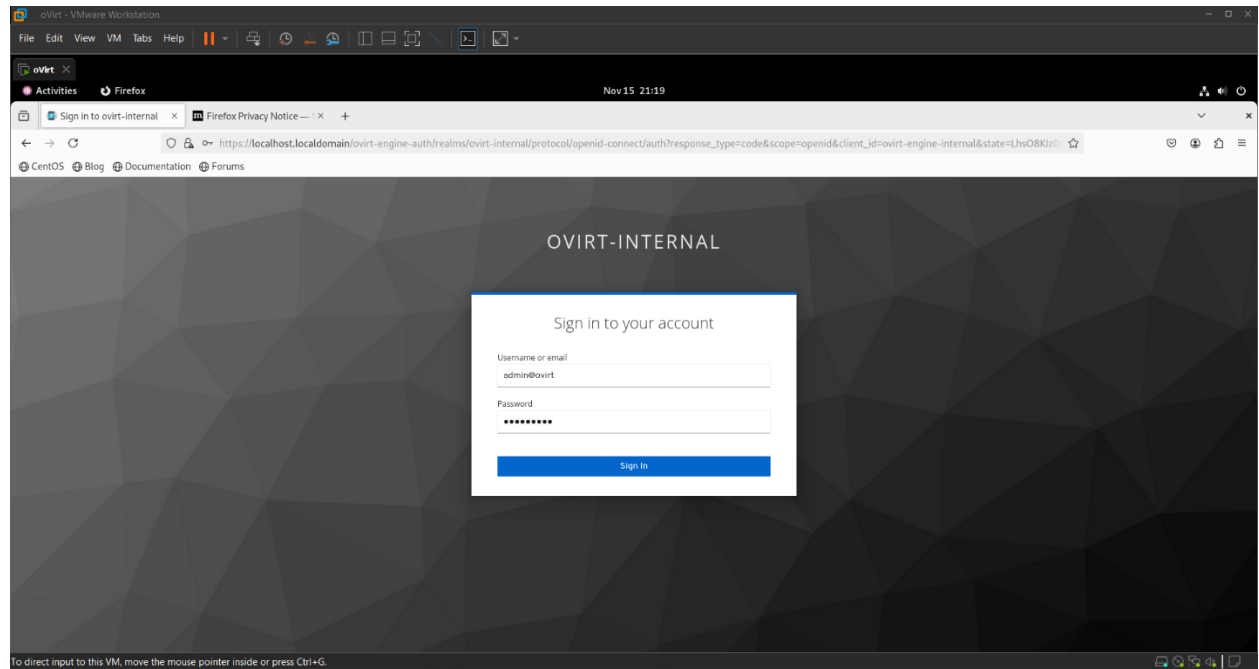
Please confirm installation settings (OK, Cancel) [OK]:

[ INFO ] Stage: Transaction setup
[ INFO ] Stopping engine service
[ INFO ] Stopping ovirt-fence-ldm-listener service
[ INFO ] Stopping dwh service
[ INFO ] Stopping vmconsole-proxy service
[ INFO ] Stopping websocket-proxy service
[ INFO ] Stage: Misc configuration (early)
To direct input to this VM, move the mouse pointer inside or press Ctrl+G.
```

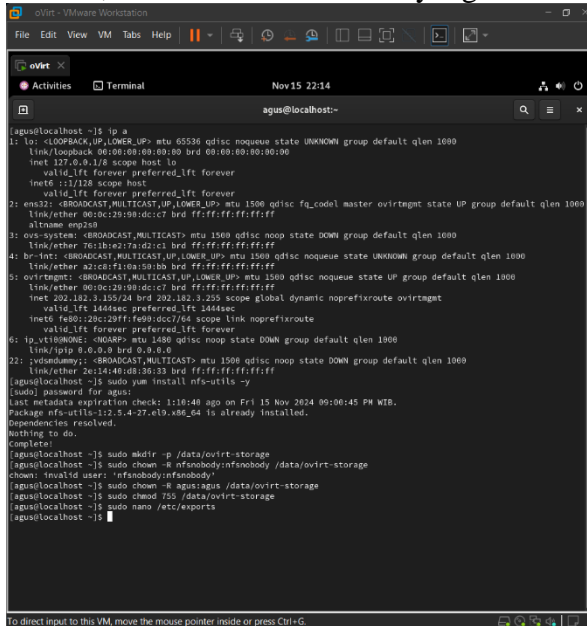
7. Kemudian, kita mengakses web oVirt dengan menggunakan URL yang ada di terminal dan mengakses nya di Browser. Kemudian, klik **Administration Portal**.



8. Lalu, login menggunakan Akun yang ada di terminal dan password yang sudah kita buat di terminal.



9. Untuk membuat data center, kita menginstall NFS-Server dan membuat direktori di /data/ovirt-storage dan memberikan akses pada file tersebut dengan menggunakan **chown**, **chmod**, dan membuat direktori yang kita buat di /etc/exports.

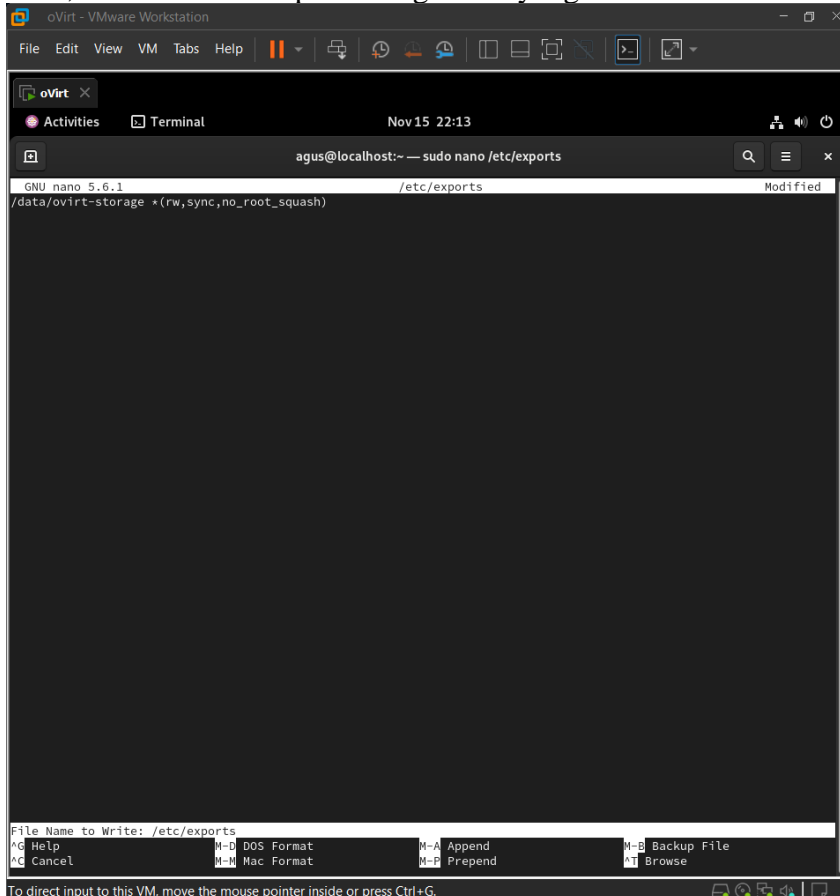


```
agus@localhost:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: ens32: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel master ovirttagmt state UP group default qlen 1000
    link/ether 06:0c:29:58:dcc7:bd ff:ff:ff:ff:ff:ff
    altname vsp259
3: vsw-system: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN group default qlen 1000
    link/ether 82:c8:f1:0a:10:bb brd ff:ff:ff:ff:ff:ff
4: br-int: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default qlen 1000
    link/ether 06:0c:29:58:dcc7:bd ff:ff:ff:ff:ff:ff
5: ovirttagmt: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default qlen 1000
    link/ether 06:0c:29:58:dcc7:bd ff:ff:ff:ff:ff:ff
    inet 202.182.3.155/24 brd 202.182.3.255 scope global dynamic noprefixroute ovirttagmt
        valid_lft 1445sec preferred_lft 1444sec
    inet6 fe80::20c:120ff:fe99:dcc7/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
6: ip.virtmon0: <NOARP> mtu 1500 qdisc noop state DOWN group default qlen 1000
    link/pip 0.0.0.0 brd 0.0.0.0
22: vdsomdmy: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN group default qlen 1000
    link/ether 2a:15:4d:01:30:33 brd ff:ff:ff:ff:ff:ff

[agus@localhost ~]$ sudo yum install nfs-utils -y
[sudo] password for agus:
Last metadata expiration check: 1:10:48 ago on Fri 15 Nov 2024 09:06:45 PM WIB.
Package nfs-utils-1:2.5.4-27.el9.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!

[agus@localhost ~]$ sudo mkdir -p /data/ovirt-storage
[agus@localhost ~]$ sudo chown -R nfsnobody:nfsnobody /data/ovirt-storage
chown: invalid user: 'nfsnobody:nfsnobody'
[agus@localhost ~]$ sudo chown -R agusiaga /data/ovirt-storage
[agus@localhost ~]$ sudo chmod 755 /data/ovirt-storage
[agus@localhost ~]$ sudo nano /etc/exports
[agus@localhost ~]$
```

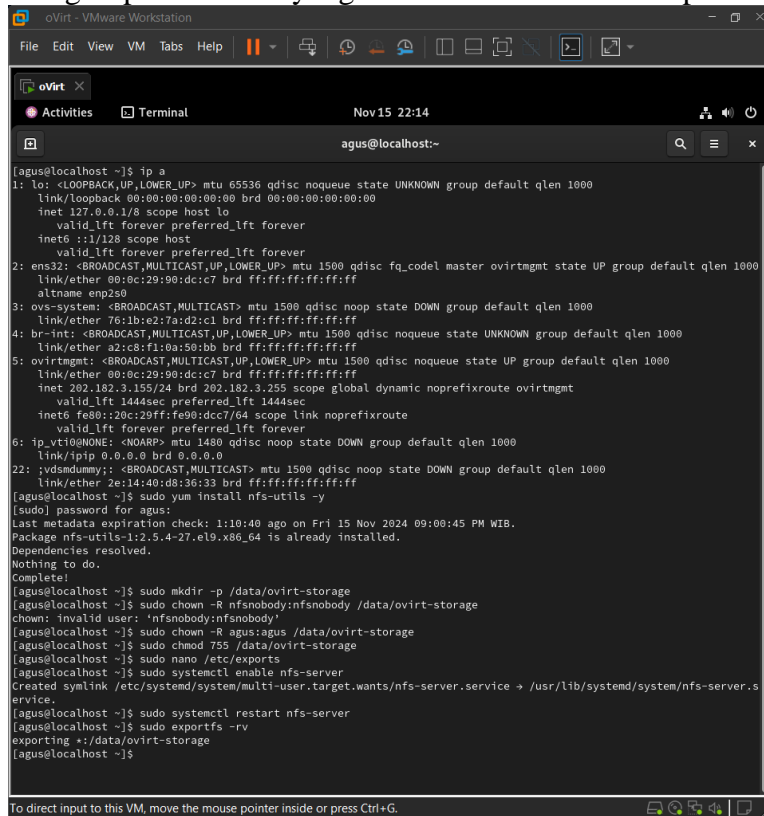
10. Lalu, kita isi di /etc/exports dengan file yang sudah kita buat direktorinya



```
GNU nano 5.6.1 /etc/exports
/data/ovirt-storage *(rw,sync,no_root_squash)

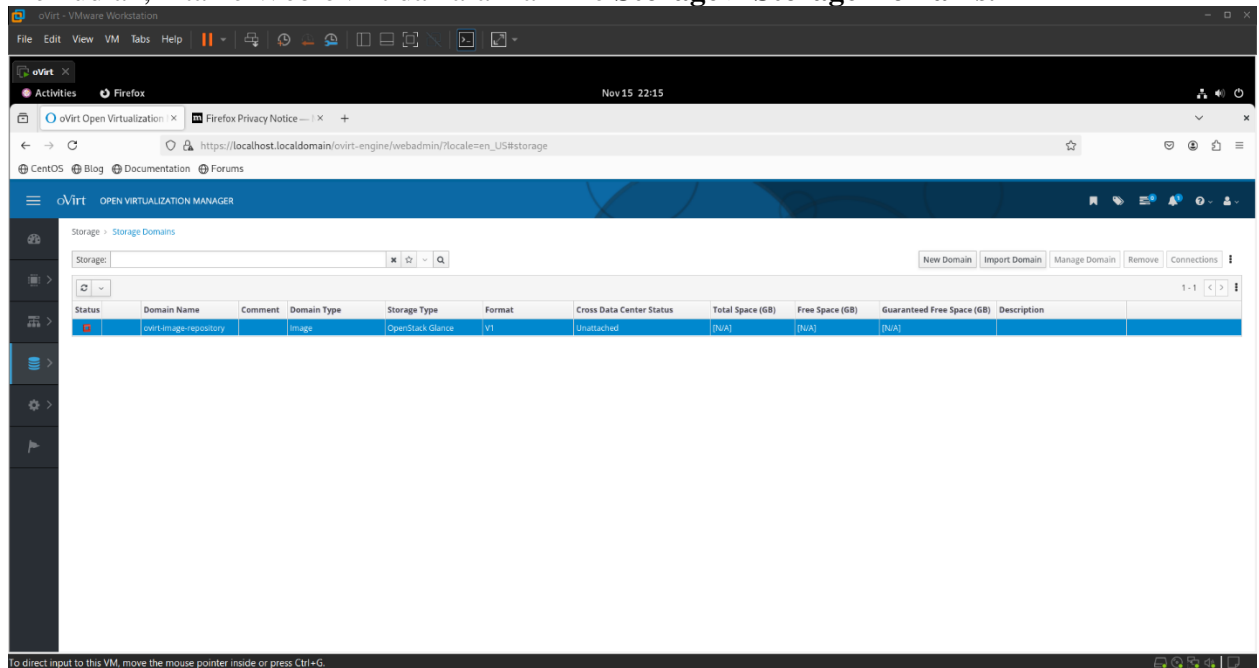
File Name to Write: /etc/exports
^G Help      ^M-D DOS Format  ^M-A Append     ^M-B Backup File
^C Cancel    ^M-N Mac Format  ^M-P Prepend    ^M-T Browse
```

11. Kemudian, kita nyalakan NFS-Server dan merestart NFS-Server Server nya dan mengeksport direktori yang sudah kita buat di /etc/exports.



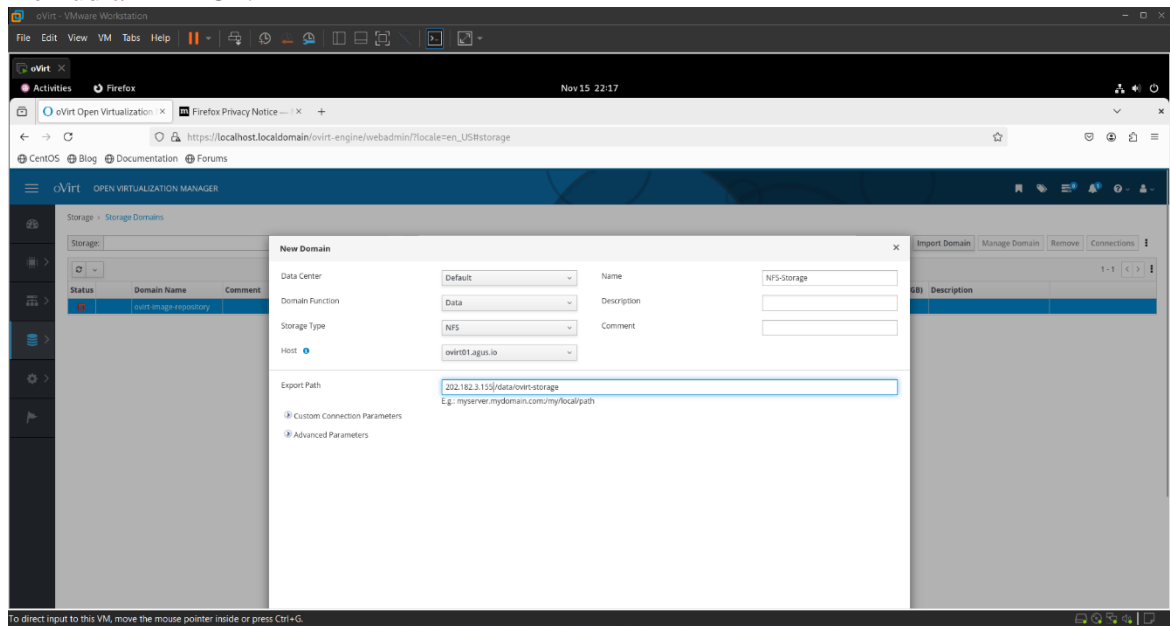
```
[agus@localhost ~]$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: ens32: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel master ovirtmgmt state UP group default qlen 1000
    link/ether 00:0c:29:90:dc:c7 brd ff:ff:ff:ff:ff:ff
    altname enp250
3: ovs-system: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN group default qlen 1000
    link/ether 76:1b:e2:7a:d2:c1 brd ff:ff:ff:ff:ff:ff
4: br-int: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UNKNOWN group default qlen 1000
    link/ether a2:c8:f1:0a:50:bb brd ff:ff:ff:ff:ff:ff
5: ovirtmgmt: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default qlen 1000
    link/ether 00:0c:29:90:dc:c7 brd ff:ff:ff:ff:ff:ff
    inet 202.182.3.155/24 brd 202.182.3.255 scope global dynamic noprefixroute ovirtmgmt
        valid_lft 1444sec preferred_lft 1444sec
    inet6 fe80::20c:29ff:fe90:dcc7/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
6: ip_vti0NONE: <NOARP> mtu 1480 qdisc noop state DOWN group default qlen 1000
    link/pip 0:0.0.0 brd 0:0.0.0
22: vdsmdummy: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN group default qlen 1000
    link/ether 2e:14:40:d8:36:33 brd ff:ff:ff:ff:ff:ff
[agus@localhost ~]$ sudo yum install nfs-utils -y
[sudo] password for agus:
Last metadata expiration check: 1:10:40 ago on Fri 15 Nov 2024 09:00:45 PM WIB.
Package nfs-utils-1:2.5.4-27.el9.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[agus@localhost ~]$ sudo mkdir -p /data/ovirt-storage
[agus@localhost ~]$ sudo chown -R nfsnobody:nfsnobody /data/ovirt-storage
[agus@localhost ~]$ sudo chown -R agus:agus /data/ovirt-storage
[agus@localhost ~]$ sudo chmod 755 /data/ovirt-storage
[agus@localhost ~]$ sudo nano /etc/exports
[agus@localhost ~]$ sudo systemctl enable nfs-server
Created symlink /etc/systemd/system/multi-user.target.wants/nfs-server.service → /usr/lib/systemd/system/nfs-server.service.
[agus@localhost ~]$ sudo systemctl restart nfs-server
[agus@localhost ~]$ sudo exportfs -rv
exporting *: /data/ovirt-storage
[agus@localhost ~]$
```

12. Kemudian, kita ke Web oVirt dan arahkann ke **Storage > Storage Domains**.

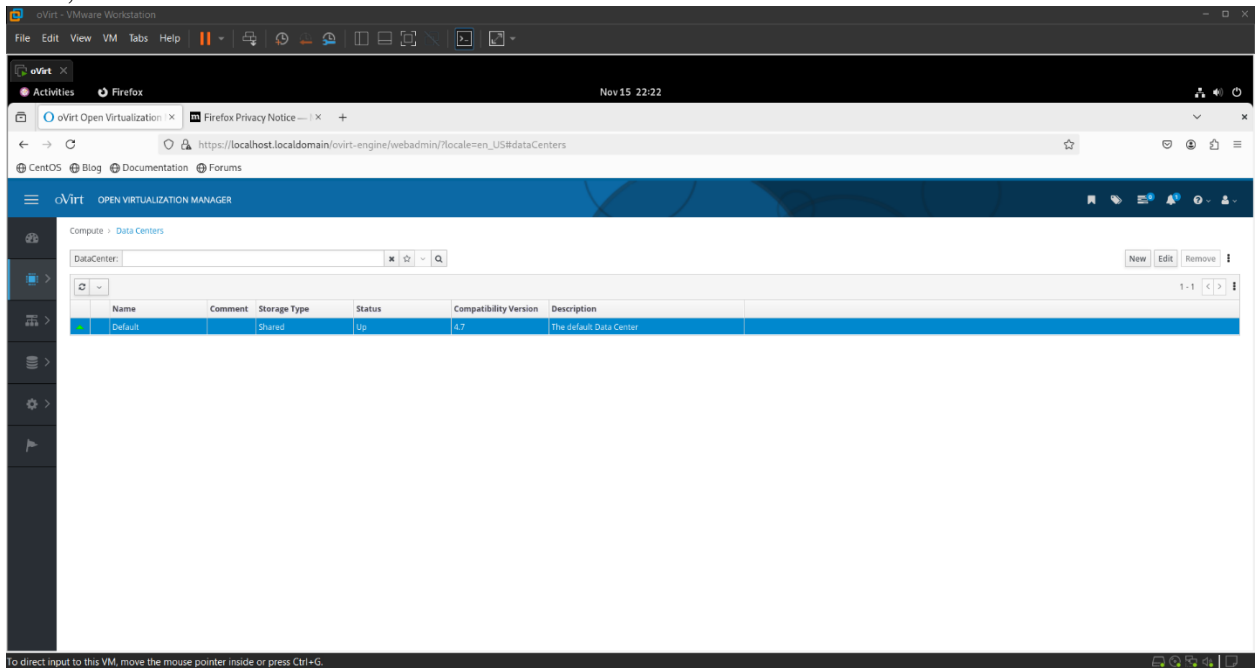




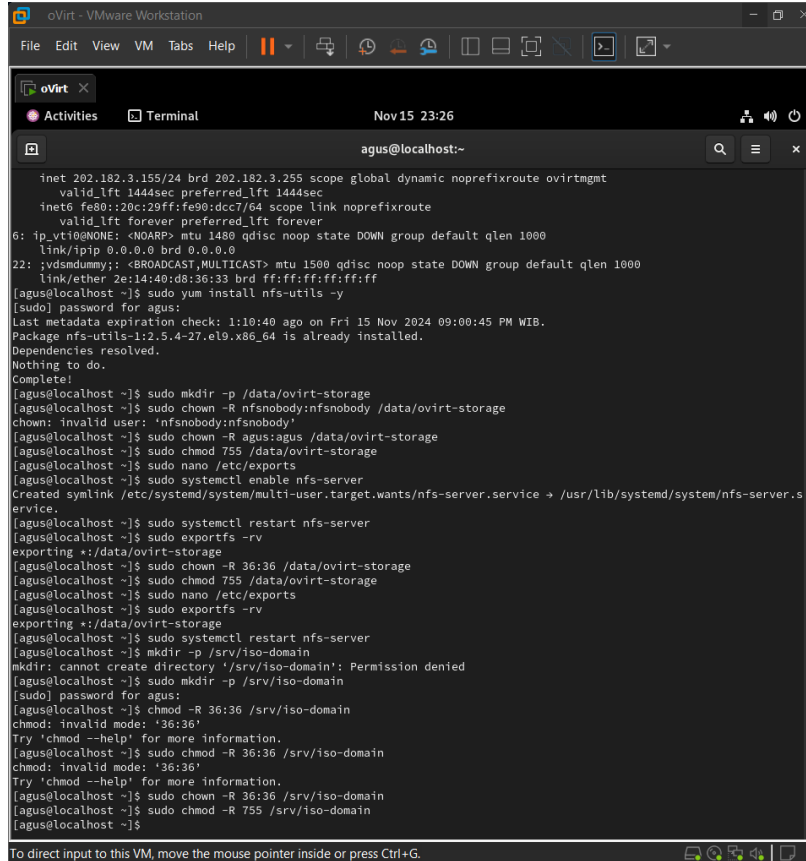
13. Lalu, isikan Nama, Storage Type, Domain Function dan Export Path yang sudah kita buat di terminal sebelumnya. IP yang di Export Path adalah IP yang ada pada CentOS 9. Kemudian klik Ok.



14. Lalu, lihat di Data Center bahwa sudah di **Initialized**.

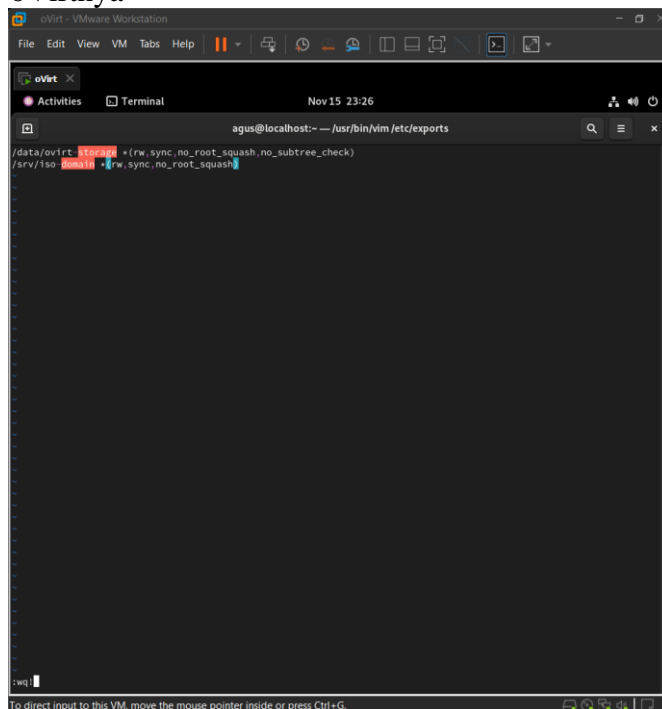


15. Kemudian, untuk ISO Imagenya kita buat file nya dengan path /srv/iso-domain dan memberikan akses ke file tersebut.



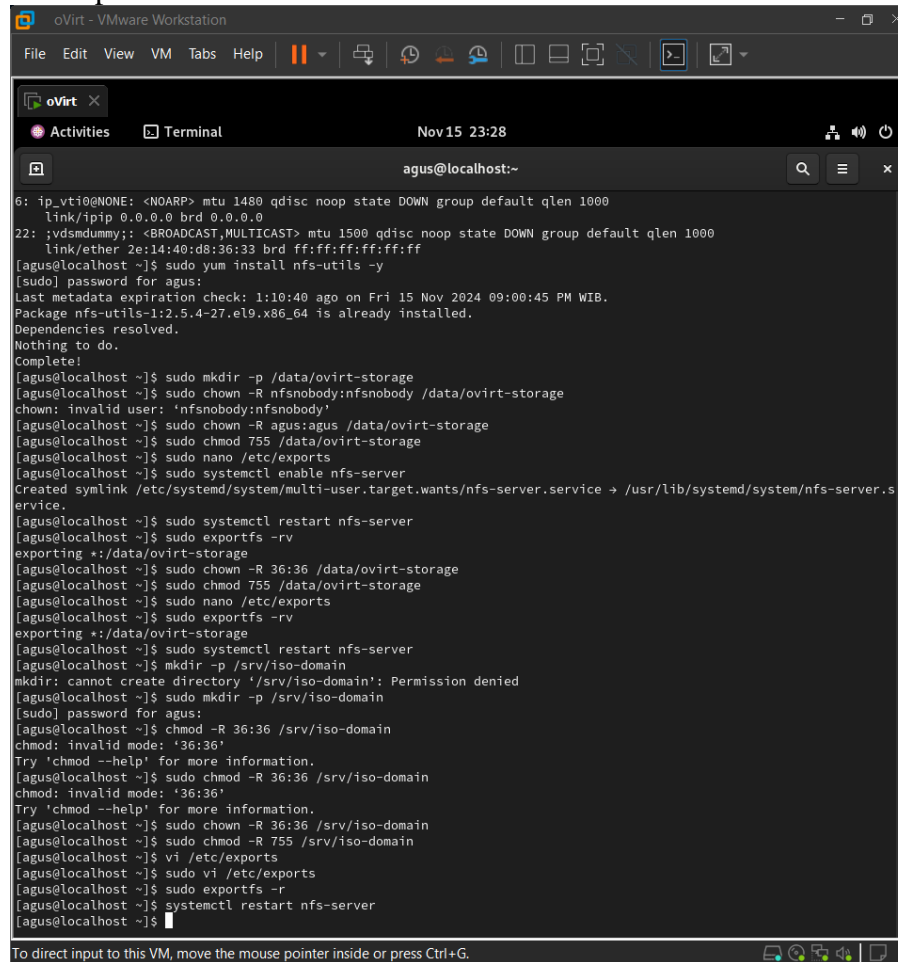
```
inet 202.182.3.155/24 brd 202.182.3.255 scope global dynamic noprefixroute ovirtmgmt
    valid_lft 1444sec preferred_lft 1444sec
inet6 fe80::20c:29ff:fe90:dcc7/64 scope link noprefixroute
    valid_lft forever preferred_lft forever
6: ip_vti0@NONE: <NOARP> mtu 1480 qdisc noop state DOWN group default qlen 1000
    link/ipip 0.0.0.0 brd 0.0.0.0
22: ydsdumy:: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN group default qlen 1000
    link/ether 2e:14:40:d8:36:33 brd ff:ff:ff:ff:ff:ff
[agus@localhost ~]$ sudo yum install nfs-utils -y
[sudo] password for agus:
Last metadata expiration check: 1:10:40 ago on Fri 15 Nov 2024 09:00:45 PM WIB.
Package nfs-utils-1:2.5.4-27.el9.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[agus@localhost ~]$ sudo mkdir -p /data/ovirt-storage
[agus@localhost ~]$ sudo chown -R nfsnobody:nfsnobody /data/ovirt-storage
chown: invalid user: 'nfsnobody:nfsnobody'
[agus@localhost ~]$ sudo chown -R agus:agus /data/ovirt-storage
[agus@localhost ~]$ sudo chmod 755 /data/ovirt-storage
[agus@localhost ~]$ sudo nano /etc/exports
[agus@localhost ~]$ sudo systemctl enable nfs-server
Created symlink /etc/systemd/system/multi-user.target.wants/nfs-server.service → /usr/lib/systemd/system/nfs-server.service.
[agus@localhost ~]$ sudo systemctl restart nfs-server
[agus@localhost ~]$ sudo exportfs -rv
exporting *:data/ovirt-storage
[agus@localhost ~]$ sudo chown -R 36:36 /data/ovirt-storage
[agus@localhost ~]$ sudo chmod 755 /data/ovirt-storage
[agus@localhost ~]$ sudo nano /etc/exports
[agus@localhost ~]$ sudo exportfs -rv
exporting *:data/ovirt-storage
[agus@localhost ~]$ sudo systemctl restart nfs-server
[agus@localhost ~]$ mkdir -p /srv/iso-domain
mkdir: cannot create directory '/srv/iso-domain': Permission denied
[agus@localhost ~]$ sudo mkdir -p /srv/iso-domain
[sudo] password for agus:
[agus@localhost ~]$ chmod -R 36:36 /srv/iso-domain
chmod: invalid mode: '36:36'
Try 'chmod --help' for more information.
[agus@localhost ~]$ sudo chmod -R 36:36 /srv/iso-domain
chmod: invalid mode: '36:36'
Try 'chmod --help' for more information.
[agus@localhost ~]$ sudo chown -R 36:36 /srv/iso-domain
[agus@localhost ~]$ sudo chmod -R 755 /srv/iso-domain
[agus@localhost ~]$
```

16. Lalu, kita tambahkan di /etc/exports dari directory yang kita buat agar bisa diakses di oVirnya



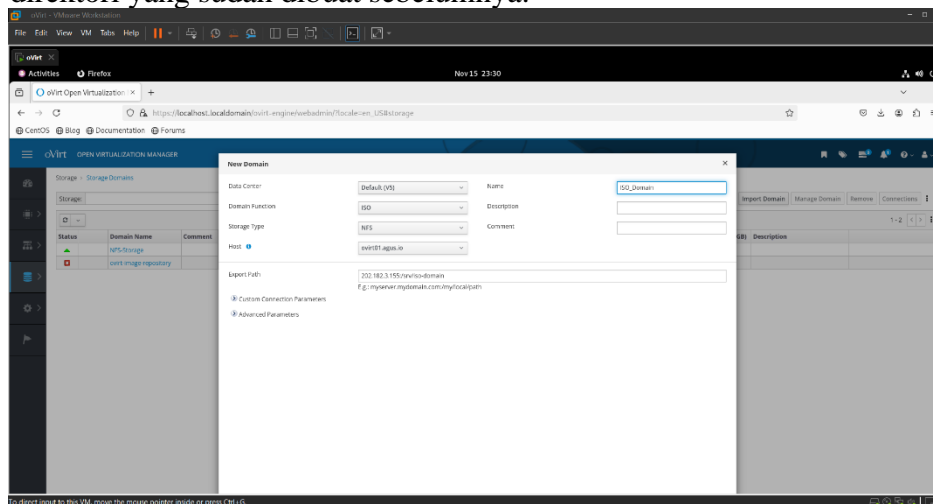
```
/data/ovirt-storage(rw,sync,no_root_squash,no_subtree_check)
/srv/iso-domain(rw,sync,no_root_squash)
```

17. Kemudian, kita restart NFS-Server nya untuk menjalankan yang sudah kita input di /etc/exports.

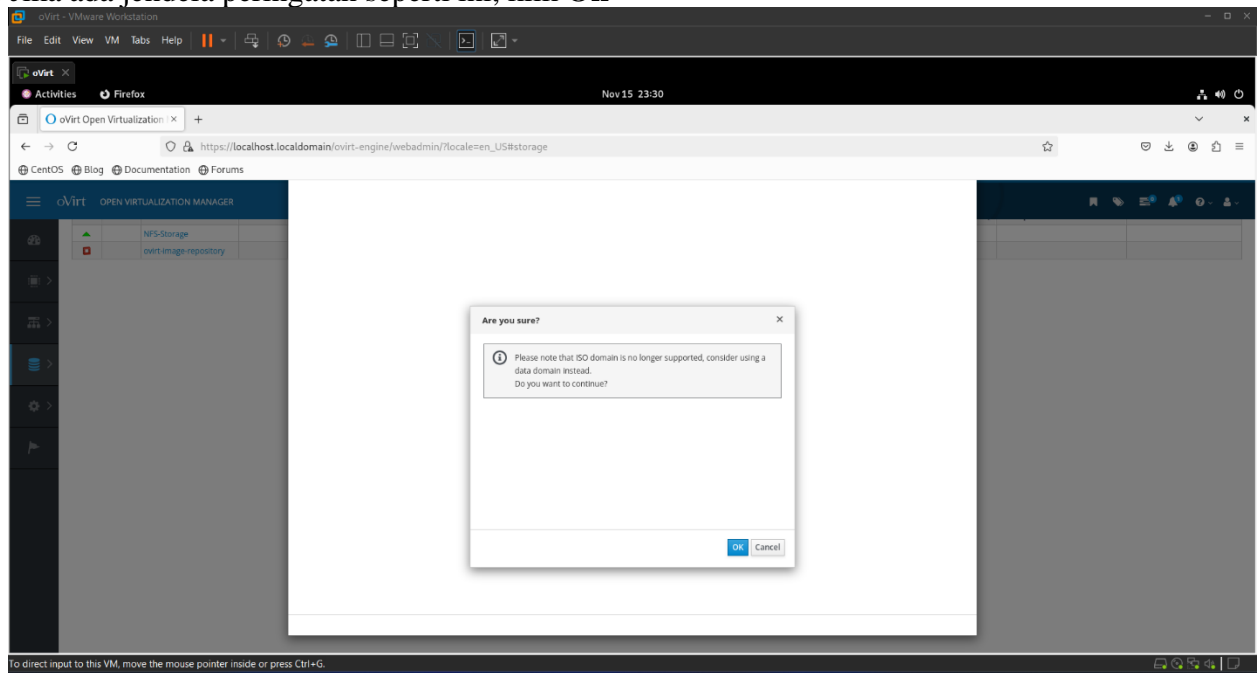


```
6: ip_vti@NONE: <NOARP> mtu 1480 qdisc noop state DOWN group default qlen 1000
    link/ipip 0.0.0.0 brd 0.0.0.0
22: vdsmdummy:: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN group default qlen 1000
    link/ether 2e:14:40:d8:36:33 brd ff:ff:ff:ff:ff:ff
[agus@localhost ~]$ sudo yum install nfs-utils -y
[sudo] password for agus:
Last metadata expiration check: 1:10:40 ago on Fri 15 Nov 2024 09:00:45 PM WIB.
Package nfs-utils-1:2.5.4-27.el9.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[agus@localhost ~]$ sudo mkdir -p /data/ovirt-storage
[agus@localhost ~]$ sudo chown -R nfsnobody:nfsnobody /data/ovirt-storage
chown: invalid user: 'nfsnobody:nfsnobody'
[agus@localhost ~]$ sudo chown -R agus:agus /data/ovirt-storage
[agus@localhost ~]$ sudo chmod 755 /data/ovirt-storage
[agus@localhost ~]$ sudo nano /etc/exports
[agus@localhost ~]$ sudo systemctl enable nfs-server
Created symlink /etc/systemd/system/multi-user.target.wants/nfs-server.service → /usr/lib/systemd/system/nfs-server.service.
[agus@localhost ~]$ sudo systemctl restart nfs-server
[agus@localhost ~]$ sudo exportfs -rv
exporting *:data/ovirt-storage
[agus@localhost ~]$ sudo chown -R 36:36 /data/ovirt-storage
[agus@localhost ~]$ sudo chmod 755 /data/ovirt-storage
[agus@localhost ~]$ sudo nano /etc/exports
[agus@localhost ~]$ sudo exportfs -rv
exporting *:data/ovirt-storage
[agus@localhost ~]$ sudo systemctl restart nfs-server
[agus@localhost ~]$ mkdir -p /srv/iso-domain
mkdir: cannot create directory '/srv/iso-domain': Permission denied
[agus@localhost ~]$ sudo mkdir -p /srv/iso-domain
[sudo] password for agus:
[agus@localhost ~]$ chmod -R 36:36 /srv/iso-domain
chmod: invalid mode: '36:36'
Try 'chmod --help' for more information.
[agus@localhost ~]$ sudo chmod -R 36:36 /srv/iso-domain
chmod: invalid mode: '36:36'
Try 'chmod --help' for more information.
[agus@localhost ~]$ sudo chown -R 36:36 /srv/iso-domain
[agus@localhost ~]$ sudo chmod -R 755 /srv/iso-domain
[agus@localhost ~]$ vi /etc/exports
[agus@localhost ~]$ sudo vi /etc/exports
[agus@localhost ~]$ sudo exportfs -r
[agus@localhost ~]$ systemctl restart nfs-server
[agus@localhost ~]$
```

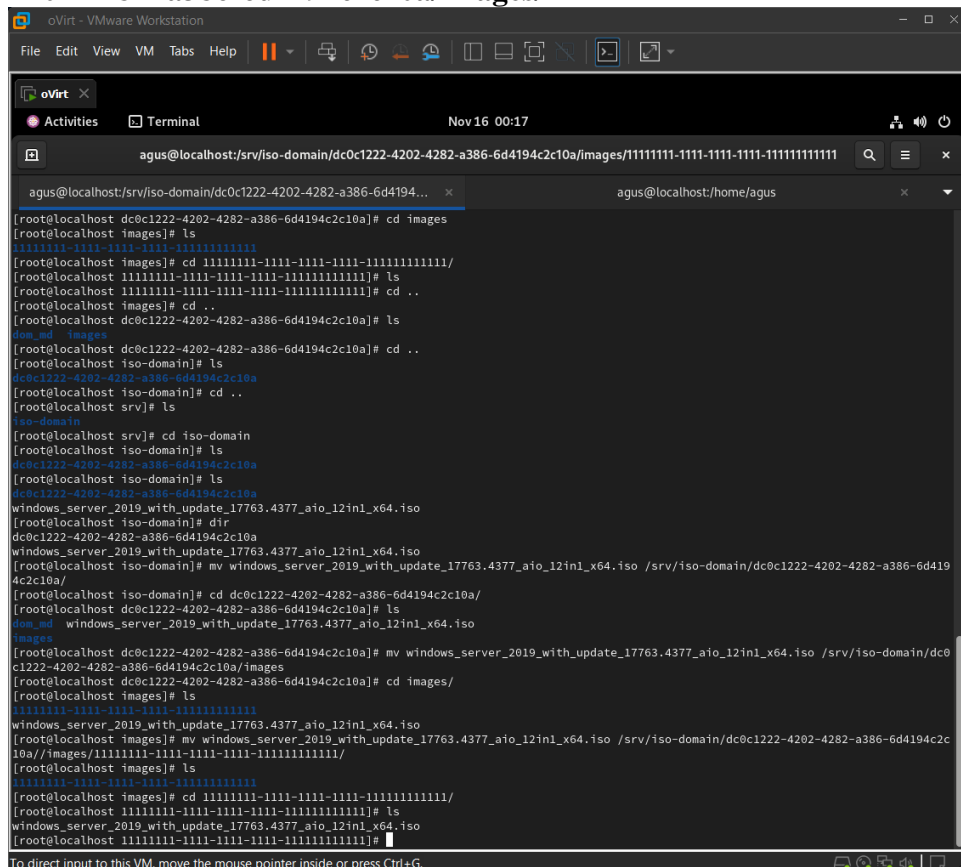
18. Kemudian, di web nya kita membuat Domain Baru di Storage > Storage Domains Dengan mengisikan Nama, Domain Function, Storage Type, dan Export Path nya. Pastikan di Export Path nya menggunakan IP yang ada pada CentOS 9 dan tempat direktori yang sudah dibuat sebelumnya.



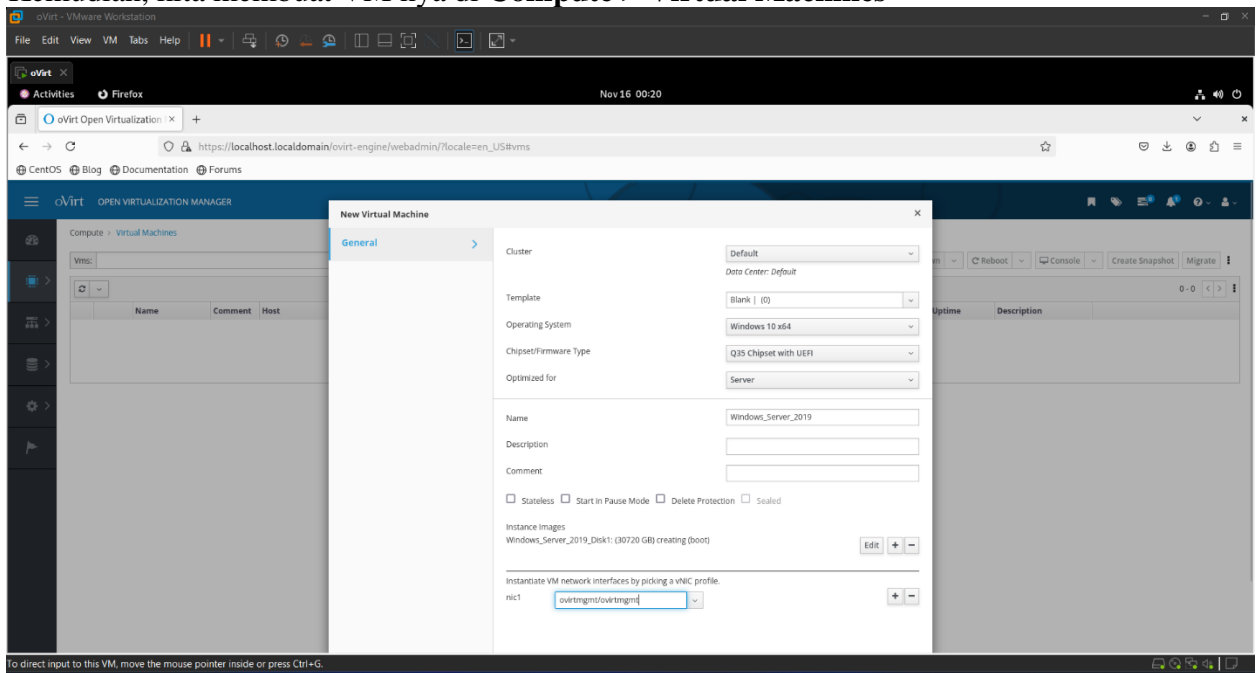
19. Jika ada jendela peringatan seperti ini, klik **Ok**



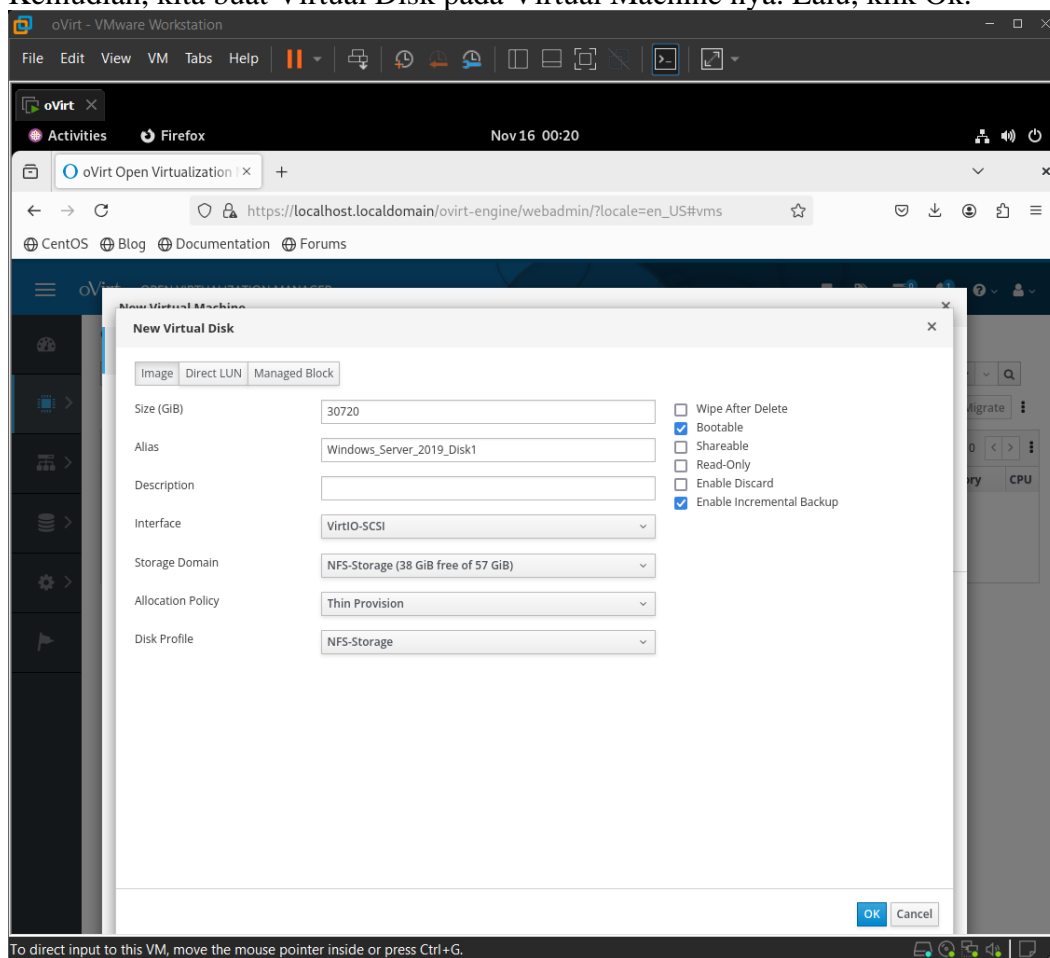
20. Kemudian, kita akan mencoba menginstall sebuah Operating System (OS) dengan menggunakan file ISO yang sudah kita download. Disini, saya menginstall Windows Server 2019. Dan pindahkan File ISO tersebut ke direktori `/srv/iso-domain/dc0c1222-4202-4282=a386-6d4194c2c10a/images/11111111-1111-1111-1111-111111111111`.



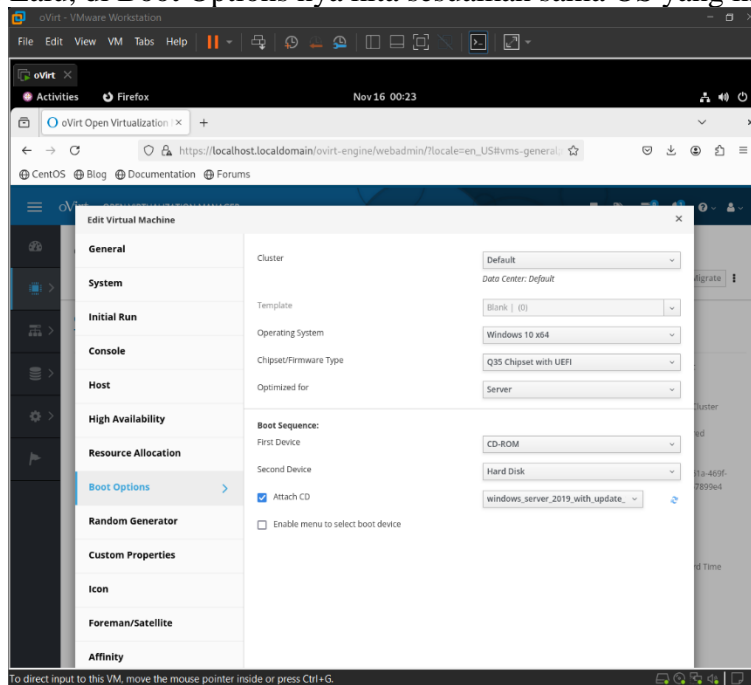
21. Kemudian, kita membuat VM nya di **Compute > Virtual Machines**



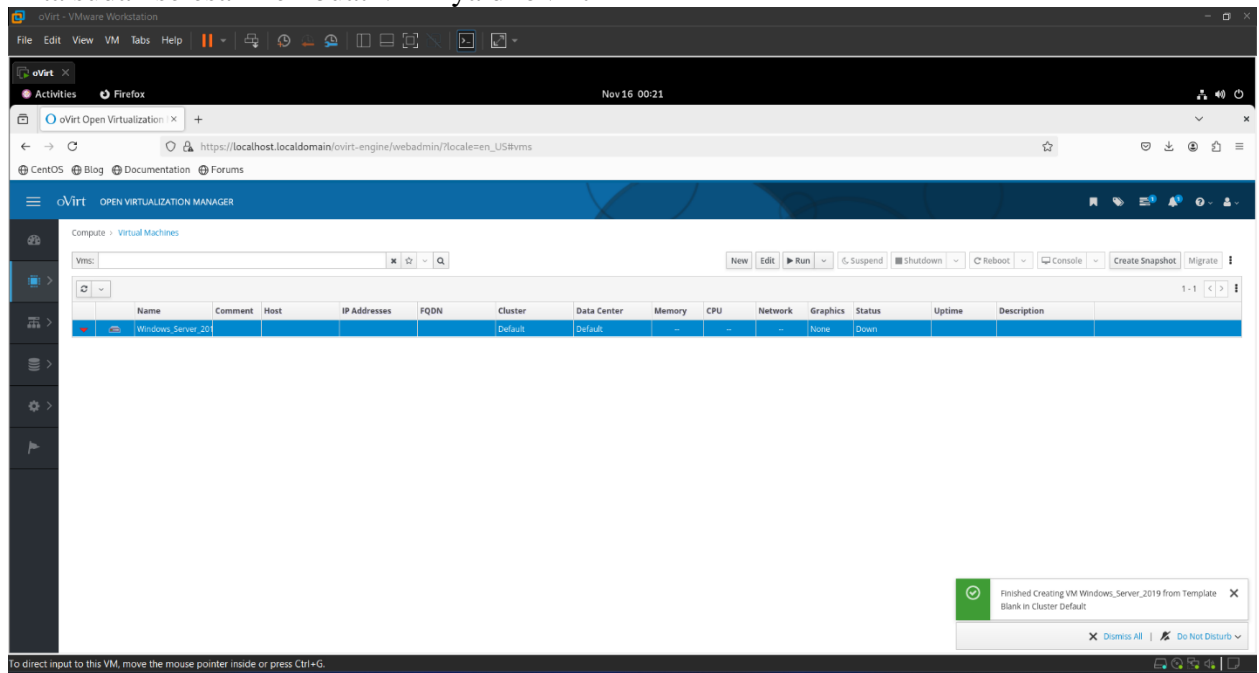
22. Kemudian, kita buat Virtual Disk pada Virtual Machine nya. Lalu, klik Ok.



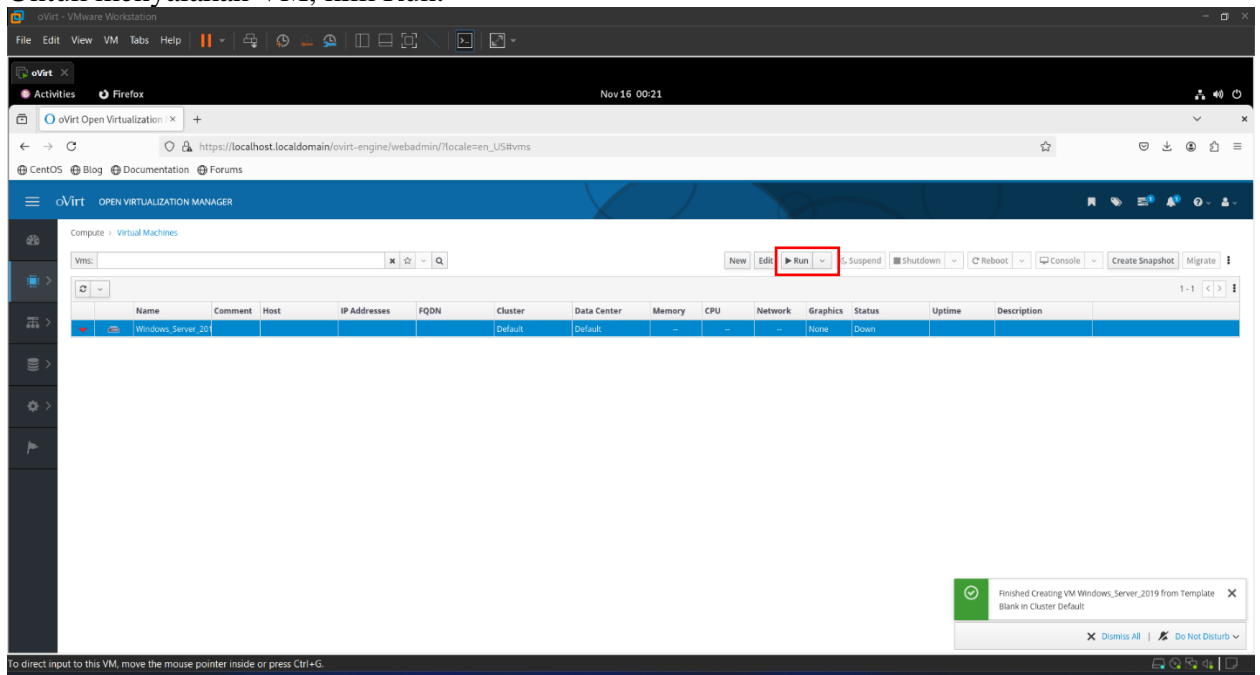
23. Lalu, di Boot Options nya kita sesuaikan sama OS yang ingin kita Install. Klik OK.



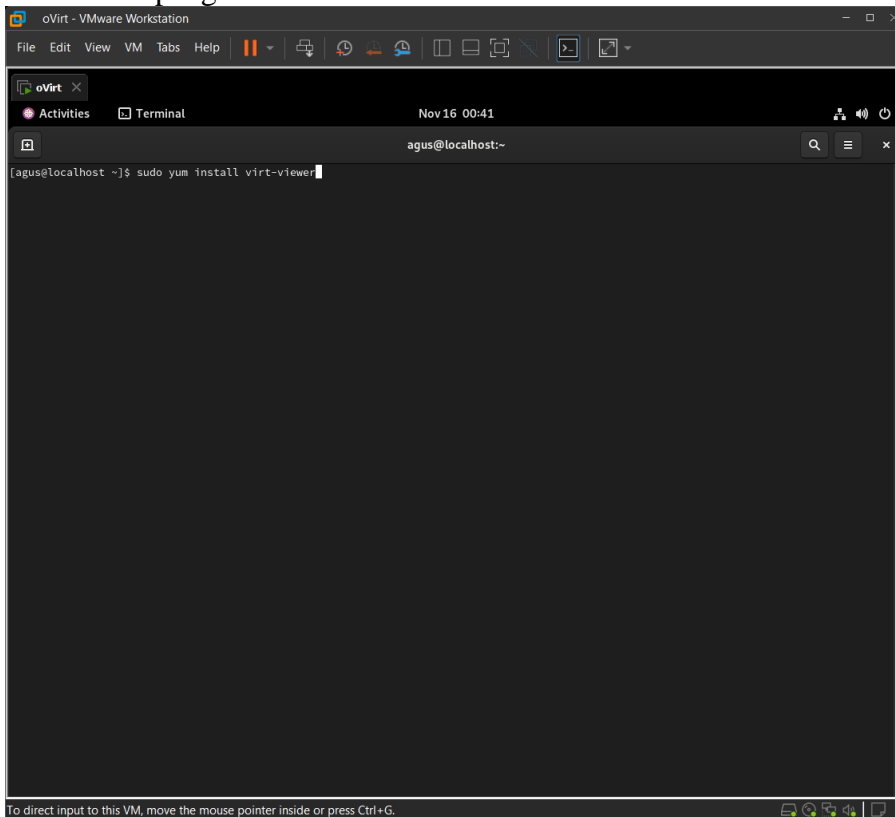
24. Kita sudah selesai membuat VM nya di oVirt



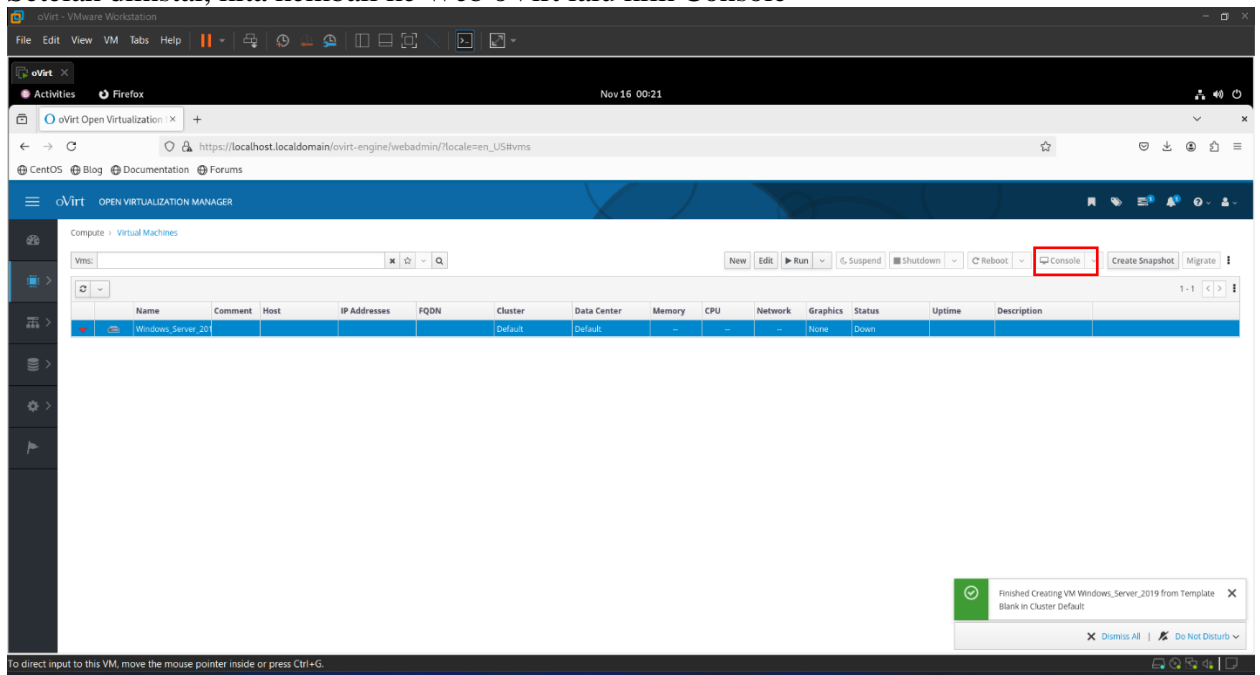
25. Untuk menyalakan VM, klik Run.



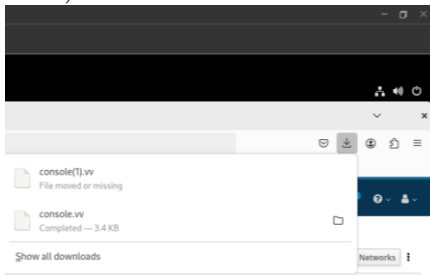
26. Untuk menampilkan GUI, kita perlu menginstall viewer untuk virtual. Disini kita melakukan penginstallan virt-viewer dari terminal.



27. Setelah diinstal, kita kembali ke Web oVirt lalu klik Console



28. Lalu, kita melihat bahwa ada console yang sudah diunduh



29. Kemudian, klik file tersebut. Maka akan menampilkan GUI dari OS tersebut.

