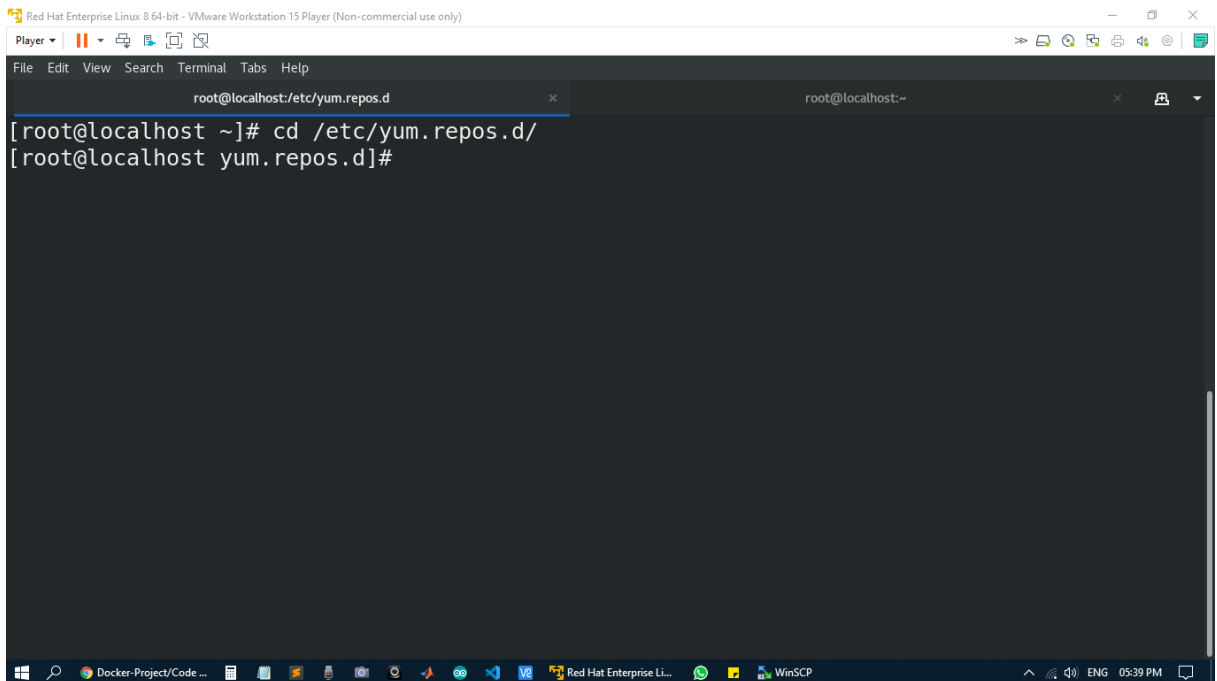


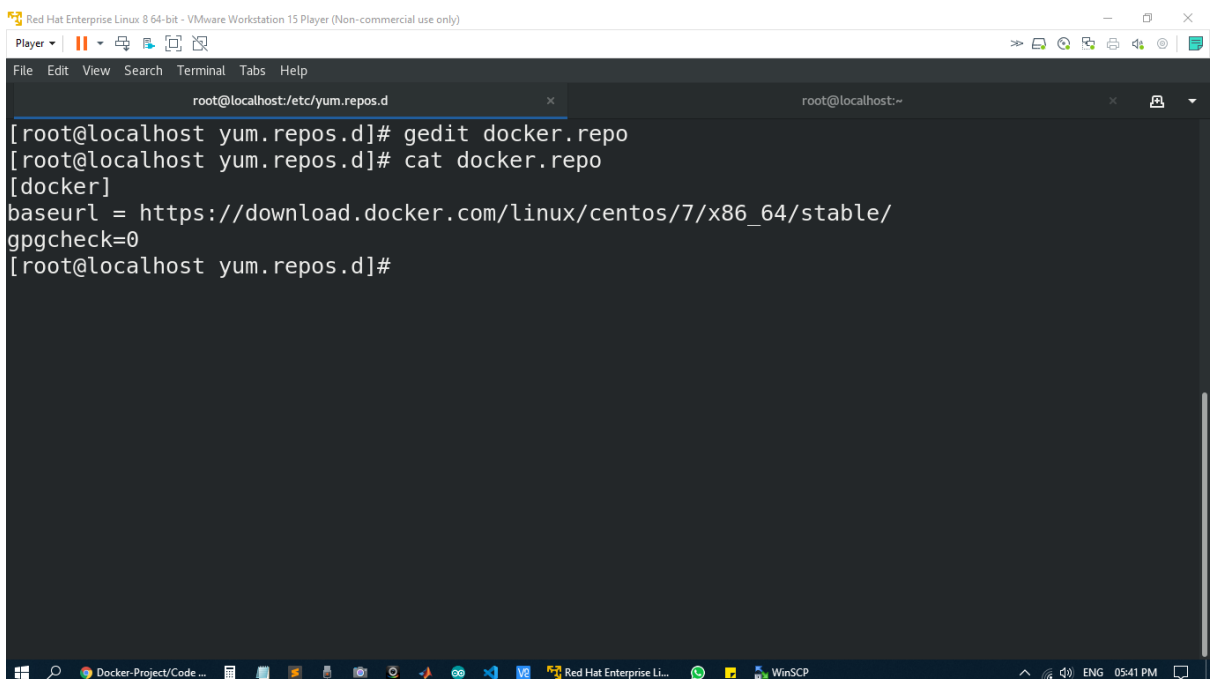
STEP BY STEP GUIDE TO CREATE YOUR CUSTOMIZED DOCKER IMAGE

1. Yum Configuration



A terminal window titled "Red Hat Enterprise Linux 8 64-bit - VMware Workstation 15 Player (Non-commercial use only)". The terminal shows the user navigating to the directory `/etc/yum.repos.d/`. The prompt is `root@localhost:~`. The user enters `cd /etc/yum.repos.d/` and the prompt changes to `root@localhost yum.repos.d]#`.

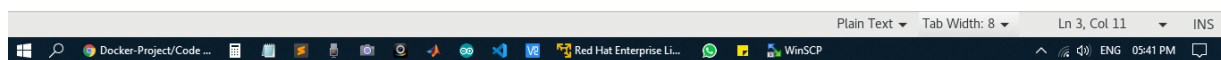
```
root@localhost:~# cd /etc/yum.repos.d/
root@localhost yum.repos.d]#
```



A terminal window titled "Red Hat Enterprise Linux 8 64-bit - VMware Workstation 15 Player (Non-commercial use only)". The terminal shows the user creating a file `docker.repo` in the `/etc/yum.repos.d/` directory using `gedit`. The user then displays the contents of the file using `cat`. The file contains the following text:

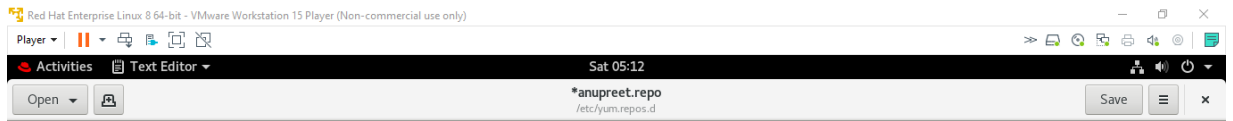
```
[root@localhost yum.repos.d]# gedit docker.repo
[root@localhost yum.repos.d]# cat docker.repo
[docker]
baseurl = https://download.docker.com/linux/centos/7/x86_64/stable/
gpgcheck=0
[root@localhost yum.repos.d]#
```

```
Red Hat Enterprise Linux 8 64-bit - VMware Workstation 15 Player (Non-commercial use only)
Player
Activities Text Editor
Sat 05:11
*docker.repo
/etc/yum.repos.d
Save
[docker]
baseurl = https://download.docker.com/linux/centos/7/x86_64/stable/
gpgcheck=0
```



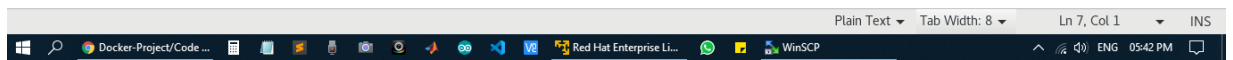
```
Red Hat Enterprise Linux 8 64-bit - VMware Workstation 15 Player (Non-commercial use only)
File Edit View Search Terminal Tabs Help
root@localhost:/etc/yum.repos.d
root@localhost:~
[root@localhost yum.repos.d]# gedit docker.repo
[root@localhost yum.repos.d]# cat docker.repo
[docker]
baseurl = https://download.docker.com/linux/centos/7/x86_64/stable/
gpgcheck=0
[root@localhost yum.repos.d]# gedit anupreet.repo
[root@localhost yum.repos.d]# cat anupreet.repo
[repo1]
baseurl = file:///run/media/root/RHEL-8-0-0-BaseOS-x86_64/AppStream
gpgcheck = 0

[repo2]
baseurl = file:///run/media/root/RHEL-8-0-0-BaseOS-x86_64/BaseOS
gpgcheck = 0
[root@localhost yum.repos.d]#
```



```
[repo1]
baseurl = file:///run/media/root/RHEL-8-0-0-Base0S-x86_64/AppStream
gpgcheck = 0

[repo2]
baseurl = file:///run/media/root/RHEL-8-0-0-Base0S-x86_64/Base0S
gpgcheck = 0
```



```
[root@localhost yum.repos.d]# gedit docker.repo
[root@localhost yum.repos.d]# cat docker.repo
[docker]
baseurl = https://download.docker.com/linux/centos/7/x86_64/stable/
gpgcheck=0
[root@localhost yum.repos.d]# gedit anupreet.repo
[root@localhost yum.repos.d]# cat anupreet.repo
[repo1]
baseurl = file:///run/media/root/RHEL-8-0-0-Base0S-x86_64/AppStream
gpgcheck = 0

[repo2]
baseurl = file:///run/media/root/RHEL-8-0-0-Base0S-x86_64/Base0S
gpgcheck = 0
[root@localhost yum.repos.d]# ls
anupreet.repo  docker.repo  redhat.repo
[root@localhost yum.repos.d]#
```

2. Net-tools installation

```
Red Hat Enterprise Linux 8 64-bit - VMware Workstation 15 Player (Non-commercial use only)
Player
File Edit View Search Terminal Tabs Help
@e66a0839cc50/ root@localhost:~
[root@e66a0839cc50 /]# yum install net-tools
Failed to set locale, defaulting to C.UTF-8
Last metadata expiration check: 0:24:06 ago on Sat May 9 11:41:20 2020.
Dependencies resolved.
=====
Package                Architecture Version                                Repository    Size
=====
Installing:
net-tools              x86_64    2.0-0.51.20160912git.el8             BaseOS        323 k
=====
Transaction Summary
=====
Install 1 Package

Total download size: 323 k
Installed size: 1.0 M
Is this ok [y/N]: y
Downloading Packages:
net-tools-2.0-0.51.20160912git.el8.x86_64.rpm          792 kB/s | 323 kB      00:00
-----
Total                                                    274 kB/s | 323 kB      00:01
```

```
Red Hat Enterprise Linux 8 64-bit - VMware Workstation 15 Player (Non-commercial use only)
Player
File Edit View Search Terminal Tabs Help
@e66a0839cc50/ root@localhost:~
Is this ok [y/N]: y
Downloading Packages:
net-tools-2.0-0.51.20160912git.el8.x86_64.rpm          792 kB/s | 323 kB      00:00
-----
Total                                                    274 kB/s | 323 kB      00:01
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing      :                                1/1
  Installing     : net-tools-2.0-0.51.20160912git.el8.x86_64 1/1
  Running scriptlet: net-tools-2.0-0.51.20160912git.el8.x86_64 1/1
  Verifying      : net-tools-2.0-0.51.20160912git.el8.x86_64 1/1

Installed:
net-tools-2.0-0.51.20160912git.el8.x86_64

Complete!
[root@e66a0839cc50 /]#
```

3. OPEN-JDK INSTALLATION

```
Red Hat Enterprise Linux 8 64-bit - VMware Workstation 15 Player (Non-commercial use only)
Player | @e66a0839cc50/ | root@localhost:~
File Edit View Search Terminal Tabs Help
Complete!
[root@e66a0839cc50 /]# yum list | grep openjdk
Failed to set locale, defaulting to C.UTF-8
java-1.8.0-openjdk.x86_64 1:1.8.0.252.b09-2.el8_1
AppStream
java-1.8.0-openjdk-accessibility.x86_64 1:1.8.0.252.b09-2.el8_1
AppStream
java-1.8.0-openjdk-demo.x86_64 1:1.8.0.252.b09-2.el8_1
AppStream
java-1.8.0-openjdk-devel.x86_64 1:1.8.0.252.b09-2.el8_1
AppStream
java-1.8.0-openjdk-headless.x86_64 1:1.8.0.252.b09-2.el8_1
AppStream
java-1.8.0-openjdk-javadoc.noarch 1:1.8.0.252.b09-2.el8_1
AppStream
java-1.8.0-openjdk-javadoc-zip.noarch 1:1.8.0.252.b09-2.el8_1
AppStream
java-1.8.0-openjdk-src.x86_64 1:1.8.0.252.b09-2.el8_1
AppStream
java-11-openjdk.x86_64 1:11.0.7.10-1.el8_1
AppStream
```

```
Red Hat Enterprise Linux 8 64-bit - VMware Workstation 15 Player (Non-commercial use only)
Player | @e66a0839cc50/ | root@localhost:~
File Edit View Search Terminal Tabs Help
java-11-openjdk-src.x86_64 1:11.0.7.10-1.el8_1
AppStream
[root@e66a0839cc50 /]# yum install java-11-openjdk.x86_64
Failed to set locale, defaulting to C.UTF-8
Last metadata expiration check: 0:25:56 ago on Sat May 9 11:41:20 2020.
Dependencies resolved.

=====
Package Arch Version Repository Size
=====
Installing:
java-11-openjdk x86_64 1:11.0.7.10-1.el8_1 AppStream 247 k
Installing dependencies:
copy-jdk-configs noarch 3.7-1.el8 AppStream 27 k
giflib x86_64 5.1.4-3.el8 AppStream 51 k
java-11-openjdk-headless x86_64 1:11.0.7.10-1.el8_1 AppStream 40 M
javapackages-filestsystem noarch 5.3.0-1.module_el8.0.0+11+5b8c10bd AppStream 30 k
libfontenc x86_64 1.1.3-8.el8 AppStream 37 k
lua x86_64 5.3.4-11.el8 AppStream 193 k
ttmkfdir x86_64 3.0.9-54.el8 AppStream 62 k
tzdata-java noarch 2019c-1.el8 AppStream 189 k
xorg-x11-font-utils x86_64 1:7.5-40.el8 AppStream 103 k
=====
```

```
Red Hat Enterprise Linux 8 64-bit - VMware Workstation 15 Player (Non-commercial use only)
Player | @e66a0839cc50/ | root@localhost:~
File Edit View Search Terminal Tabs Help
Installed:
java-11-openjdk-1:11.0.7.10-1.el8_1.x86_64
copy-jdk-configs-3.7-1.el8.noarch
giflib-5.1.4-3.el8.x86_64
java-11-openjdk-headless-1:11.0.7.10-1.el8_1.x86_64
javapackages-filestsystem-5.3.0-1.module_el8.0.0+11+5b8c10bd.noarch
libfontenc-1.1.3-8.el8.x86_64
lua-5.3.4-11.el8.x86_64
ttmkfdir-3.0.9-54.el8.x86_64
tzdata-java-2019c-1.el8.noarch
xorg-x11-font-utils-1:7.5-40.el8.x86_64
xorg-x11-fonts-Type1-7.5-19.el8.noarch
libpkgconf-1.4.2-1.el8.x86_64
lksctp-tools-1.0.18-3.el8.x86_64
pkgconf-1.4.2-1.el8.x86_64
pkgconf-m4-1.4.2-1.el8.noarch
pkgconf-pkg-config-1.4.2-1.el8.x86_64

Complete!
[root@e66a0839cc50 /]#
```

4. CONFIGURE APACHE WEB-SERVER

```
Red Hat Enterprise Linux 8 64-bit - VMware Workstation 15 Player (Non-commercial use only)
Player
File Edit View Search Terminal Help
[root@localhost ~]# systemctl start docker
[root@localhost ~]# docker images
REPOSITORY          TAG             IMAGE ID         CREATED          SIZE
ubuntu              latest          1d622ef86b13    2 weeks ago     73.9MB
centos              latest          470671670cac    3 months ago    237MB
[root@localhost ~]# docker pull anupreetdube/mycentos
Using default tag: latest
Error response from daemon: manifest for anupreetdube/mycentos:latest not found
[root@localhost ~]# docker run -it --name mycentos centos
docker: Error response from daemon: Conflict. The container name "/mycentos" is already in use by container "93a99a4fb213bb49af39829902cdb04432ff62f910dc473f3ce01c60cf732ea6". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
[root@localhost ~]# docker run -it --name centos-os centos
[root@e66a0839cc50 /]# yum install httpd
Failed to set locale, defaulting to C.UTF-8
CentOS-8 - AppStream                418 kB/s | 7.0 MB    00:17
CentOS-8 - Base                     1.3 MB/s | 2.2 MB    00:01
CentOS-8 - Extras                   7.9 kB/s | 5.9 kB    00:00
Dependencies resolved.
=====
Package                Arch      Version                                Repository Size
anupreetdube/mycen...  x86_64    1.0.0-1                                docker.io 1.0 MB
```

```
Red Hat Enterprise Linux 8 64-bit - VMware Workstation 15 Player (Non-commercial use only)
Player
File Edit View Search Terminal Help
Installed:
httpd-2.4.37-16.module_el8.1.0+256+ae790463.x86_64
apr-util-bdb-1.6.1-6.el8.x86_64
apr-util-openssl-1.6.1-6.el8.x86_64
apr-1.6.3-9.el8.x86_64
apr-util-1.6.1-6.el8.x86_64
centos-logos-httpd-80.5-2.el8.noarch
httpd-filesystem-2.4.37-16.module_el8.1.0+256+ae790463.noarch
httpd-tools-2.4.37-16.module_el8.1.0+256+ae790463.x86_64
mod_http2-1.11.3-3.module_el8.1.0+213+acce2796.x86_64
brotli-1.0.6-1.el8.x86_64
mailcap-2.1.48-3.el8.noarch

Complete!
[root@e66a0839cc50 /]# cd /var/www/html/
[root@e66a0839cc50 html]# ls
[root@e66a0839cc50 html]# cat > index.html
This is my first web page built on Apache web server!!
^C
[root@e66a0839cc50 html]#
```

```
Red Hat Enterprise Linux 8 64-bit - VMware Workstation 15 Player (Non-commercial use only)
Player
File Edit View Search Terminal Help
[root@e66a0839cc50 /]# cd /var/www/html/
[root@e66a0839cc50 html]# ls
[root@e66a0839cc50 html]# cat > index.html
This is my first web page built on Apache web server!!
^C
[root@e66a0839cc50 html]# cd ..
[root@e66a0839cc50 www]# cd ..
[root@e66a0839cc50 var]# cd ..
[root@e66a0839cc50 /]# cd ..
[root@e66a0839cc50 /]# gedit /root/.bashrc
bash: gedit: command not found
[root@e66a0839cc50 /]# docker stop centos-os
bash: docker: command not found
[root@e66a0839cc50 /]# exit
exit
[root@localhost ~]# gedit /root/.bashrc
[root@localhost ~]# gedit /root/.bashrc
[root@localhost ~]# docker start centos-os
centos-os
[root@localhost ~]# docker inspect centos-os
[
```

```
Red Hat Enterprise Linux 8 64-bit - VMware Workstation 15 Player (Non-commercial use only)
Player
File Edit View Search Terminal Help
"IPAMConfig": null,
"Links": null,
"Aliases": null,
"NetworkID": "d88a77e6aed7fe482b936ed80384f67996cedb04f43c58166d3bc9c1
e698d3e9",
"EndpointID": "384dbba93ed3732aa8d238d13153b3911248ce181a898fe8dd6db8c
1a2a90093",
"Gateway": "172.17.0.1",
"IPAddress": "172.17.0.2",
"IPPrefixLen": 16,
"IPv6Gateway": "",
"GlobalIPv6Address": "",
"GlobalIPv6PrefixLen": 0,
"MacAddress": "02:42:ac:11:00:02",
"DriverOpts": null
}
}
}
]
[root@localhost ~]#
```

```
Red Hat Enterprise Linux 8 64-bit - VMware Workstation 15 Player (Non-commercial use only)
Player
File Edit View Search Terminal Tabs Help
root@localhost:~
root@localhost:~
curl: (7) failed to connect to 172.17.0.2 port 80: connection refused
[root@localhost ~]# netstat -tnlp
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program name
tcp        0      0 192.168.122.1:53        0.0.0.0:*                LISTEN      2008/dnsmasq
tcp        0      0 0.0.0.0:22              0.0.0.0:*                LISTEN      1080/sshd
tcp        0      0 127.0.0.1:631           0.0.0.0:*                LISTEN      1073/cupsd
tcp        0      0 0.0.0.0:111             0.0.0.0:*                LISTEN      1/systemd
tcp6       0      0 :::22                   :::*                    LISTEN      1080/sshd
tcp6       0      0 :::1:631                :::*                    LISTEN      1073/cupsd
tcp6       0      0 :::111                  :::*                    LISTEN      1/systemd
tcp6       0      0 :::80                   :::*                    LISTEN      8607/httpd
```

5. CREATING IMAGE OF THE CONTAINER

```
Red Hat Enterprise Linux 8 64-bit - VMware Workstation 15 Player (Non-commercial use only)
Player
File Edit View Search Terminal Tabs Help

root@localhost:~
centos          latest          470671670cac    3 months ago    237MB
[root@localhost ~]# docker ps -a
CONTAINER ID    IMAGE           COMMAND          CREATED          STATUS
e66a0839cc50    centos          "/bin/bash"      36 minutes ago   Exited (0)
8 minutes ago
c5ba06210f71    centos:latest   "/bin/bash"      5 days ago       Exited (0)
5 days ago
e94ca7dbed6b    ubuntu:latest   "/bin/bash"      5 days ago       Exited (1)
5 days ago
93a99a4fb213    centos          "/bin/bash"      5 days ago       Exited (25
5) 5 days ago
mycentos
[root@localhost ~]# docker commit centos-os anupretdube/mycentos:v1
sha256:f912ba12b33b1e7279c702da5c07424dc8cccc7704d927e68892be375092452b
[root@localhost ~]# docker images
REPOSITORY      TAG           IMAGE ID        CREATED         SIZE
anupretdube/mycentos  v1           f912ba12b33b    11 seconds ago  972MB
ubuntu          latest        1d622ef86b13    2 weeks ago     73.9MB
centos          latest        470671670cac    3 months ago    237MB
[root@localhost ~]#
```


6. UPLOADING IMAGE ON HUB.DOCKER.COM

```
Red Hat Enterprise Linux 8 64-bit - VMware Workstation 15 Player (Non-commercial use only)
Player
File Edit View Search Terminal Tabs Help
root@localhost:~
[root@localhost ~]# docker login
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com to create one.
Username: anupretdube
Password:
WARNING! Your password will be stored unencrypted in /root/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded
[root@localhost ~]# docker push anupretdube/mycentos
The push refers to repository [docker.io/anupretdube/mycentos]
d7f80df806ce: Pushing 8.7MB/734.5MB
0683de282177: Mounted from library/centos
```

