

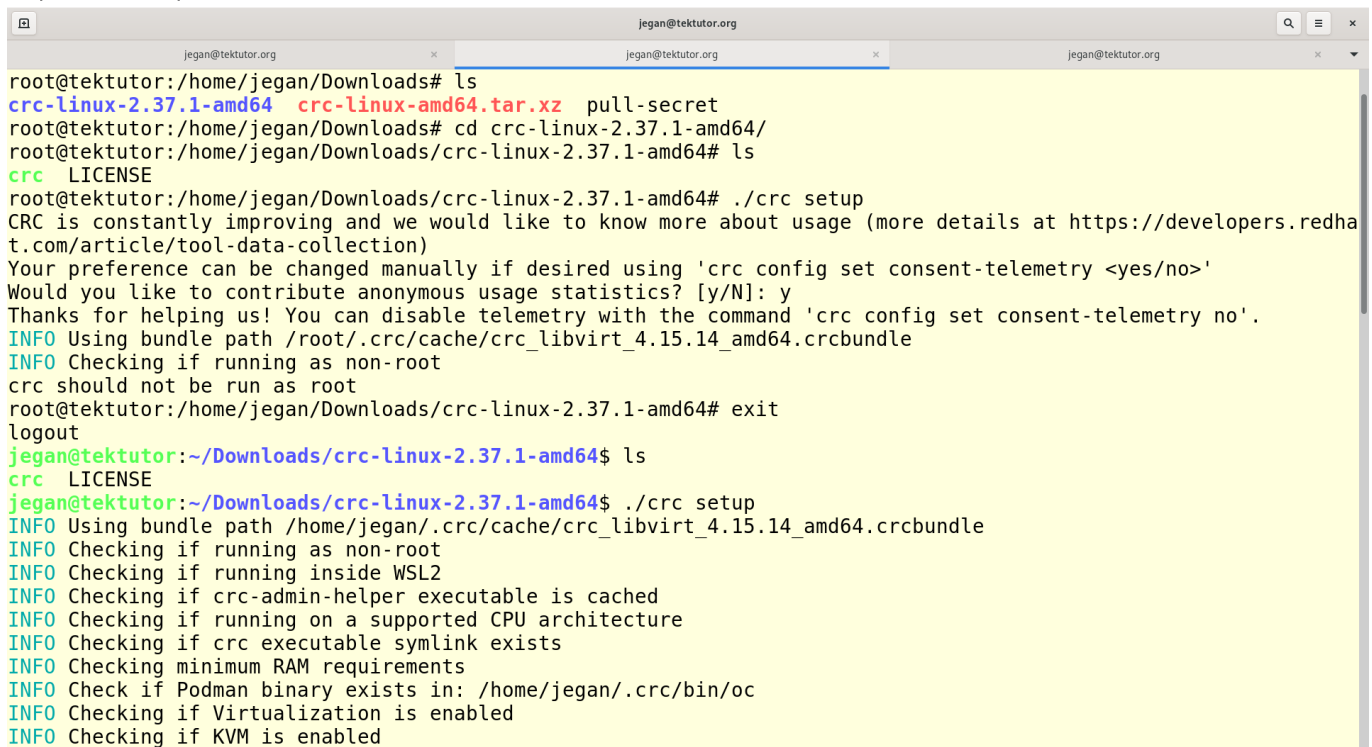
## Day 5

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Demo - Installing Openshift on your laptop/desktop for your personal learning ( Please don't try this in our lab setup )

- You need to create a free developer account in redhat developer portal
- Login and download Code Ready Container compressed file as per your OS ( Windows, Mac or Linux )
- Extract the compressed file
- Execute 'crc setup'
- Execute 'crc start'

Expected output



```
root@tektutor:/home/jegan/Downloads# ls
crc-linux-2.37.1-amd64  crc-linux-amd64.tar.xz  pull-secret
root@tektutor:/home/jegan/Downloads# cd crc-linux-2.37.1-amd64/
root@tektutor:/home/jegan/Downloads/crc-linux-2.37.1-amd64# ls
crc  LICENSE
root@tektutor:/home/jegan/Downloads/crc-linux-2.37.1-amd64# ./crc setup
CRC is constantly improving and we would like to know more about usage (more details at https://developers.redha
t.com/article/tool-data-collection)
Your preference can be changed manually if desired using 'crc config set consent-telemetry <yes/no>'
Would you like to contribute anonymous usage statistics? [y/N]: y
Thanks for helping us! You can disable telemetry with the command 'crc config set consent-telemetry no'.
INFO Using bundle path /root/.crc/cache/crc_libvirt_4.15.14_amd64.crcbundle
INFO Checking if running as non-root
crc should not be run as root
root@tektutor:/home/jegan/Downloads/crc-linux-2.37.1-amd64# exit
logout
jegan@tektutor:~/Downloads/crc-linux-2.37.1-amd64$ ls
crc  LICENSE
jegan@tektutor:~/Downloads/crc-linux-2.37.1-amd64$ ./crc setup
INFO Using bundle path /home/jegan/.crc/cache/crc_libvirt_4.15.14_amd64.crcbundle
INFO Checking if running as non-root
INFO Checking if running inside WSL2
INFO Checking if crc-admin-helper executable is cached
INFO Checking if running on a supported CPU architecture
INFO Checking if crc executable symlink exists
INFO Checking minimum RAM requirements
INFO Check if Podman binary exists in: /home/jegan/.crc/bin/oc
INFO Checking if Virtualization is enabled
INFO Checking if KVM is enabled
```

```
jegan@tektutor.org
jegan@tektutor.org x jegan@tektutor.org x jegan@tektutor.org
jegan@tektutor:~/Downloads/crc-linux-2.37.1-amd64$ su jegan
Password:
jegan@tektutor:~/Downloads/crc-linux-2.37.1-amd64$ ./crc setup
INFO Using bundle path /home/jegan/.crc/cache/crc_libvirt_4.15.14_amd64.crcbundle
INFO Checking if running as non-root
INFO Checking if running inside WSL2
INFO Checking if crc-admin-helper executable is cached
INFO Checking if running on a supported CPU architecture
INFO Checking if crc executable symlink exists
INFO Checking minimum RAM requirements
INFO Check if Podman binary exists in: /home/jegan/.crc/bin/oc
INFO Checking if Virtualization is enabled
INFO Checking if KVM is enabled
INFO Checking if libvirt is installed
INFO Checking if user is part of libvirt group
INFO Checking if active user/process is currently part of the libvirt group
INFO Checking if libvirt daemon is running
INFO Checking if a supported libvirt version is installed
INFO Checking if crc-driver-libvirt is installed
INFO Installing crc-driver-libvirt
INFO Checking crc daemon systemd service
INFO Setting up crc daemon systemd service
INFO Checking crc daemon systemd socket units
INFO Setting up crc daemon systemd socket units
INFO Checking if AppArmor is configured
INFO Updating AppArmor configuration
INFO Using root access: Updating AppArmor configuration
INFO Using root access: Changing permissions for /etc/apparmor.d/libvirt/TEMPLATE.qemu to 644
INFO Checking if systemd-networkd is running

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INFO Checking crc daemon systemd service
INFO Setting up crc daemon systemd service
INFO Checking crc daemon systemd socket units
INFO Setting up crc daemon systemd socket units
INFO Checking if AppArmor is configured
INFO Updating AppArmor configuration
INFO Using root access: Updating AppArmor configuration
INFO Using root access: Changing permissions for /etc/apparmor.d/libvirt/TEMPLATE.qemu to 644
INFO Checking if systemd-networkd is running
INFO Checking if NetworkManager is installed
INFO Checking if NetworkManager service is running
INFO Checking if dnsmasq configurations file exist for NetworkManager
INFO Checking if the systemd-resolved service is running
INFO Checking if /etc/NetworkManager/dispatcher.d/99-crc.sh exists
INFO Writing NetworkManager dispatcher file for crc
INFO Using root access: Writing NetworkManager configuration to /etc/NetworkManager/dispatcher.d/99-crc.sh
INFO Using root access: Changing permissions for /etc/NetworkManager/dispatcher.d/99-crc.sh to 755
INFO Using root access: Executing systemctl daemon-reload command
INFO Using root access: Executing systemctl reload NetworkManager
INFO Checking if libvirt 'crc' network is available
INFO Setting up libvirt 'crc' network
INFO Checking if libvirt 'crc' network is active
INFO Starting libvirt 'crc' network
INFO Checking if CRC bundle is extracted in '$HOME/.crc'
INFO Checking if /home/jegan/.crc/cache/crc_libvirt_4.15.14_amd64.crcbundle exists
INFO Getting bundle for the CRC executable
INFO Downloading bundle: /home/jegan/.crc/cache/crc_libvirt_4.15.14_amd64.crcbundle...
168.00 MiB / 4.69 GiB [---->]
3.94 GiB / 4.69 GiB [----->] 83.89% 777.07 KiB/s
```

## Info - Kubernetes/Openshift Operators

- Operator a package of many Custom Resources and Custom Controller
- Kubernetes allows us to extend the Kubernetes API by adding Custom Resource Definitions
- Using Custom Resource Definitions(CRDs), we can add new Resources to Kubernetes/Openshift
- In order to manage the Custom Resource, we also have to supply a Custom Controller
- In OpenShift/Kubernetes,
  - the Deployment Controller manages Deployment Resource
  - the ReplicaSet Controller manages ReplicaSet Resource

