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Developing with a Local OpenShift Cluster

If the developer's workstation can run Docker and the OpenShift command-line interface, a cluster can be created without a virtual machine. The OpenShift client is available for Linux, MacOS, and Windows. The client can be downloaded from the Red Hat Customer Portal. Install the client following the directions for the relevant operating system. Run the **oc version** command to verify the installation.

The Docker daemon default configuration considers the local OpenShift cluster registry an insecure one because it uses a self-signed SSL certificate, and refuses to pull images from it.

To allow creating containers from images created using OpenShift Source-to-Image feature, the Docker configuration has to changed to allow using the OpenShift insecure registry. Edit the **/etc/sysconfig/docker** file and modify the **INSECURE_REGISTRY** parameter as follows:

```
INSECURE_REGISTRY='--insecure-registry 172.30.0.0/16'
```

It is acceptable to have more than one insecure registry defined. List each insecure registry on the same line. On Docker for Mac, this setting is made through the Docker for Mac preferences on the Daemon tab. After making this configuration change, restart the Docker daemon.

The cluster is started on the local machine using the **oc cluster up** command. For information on this command, run the **oc cluster up -h** command. It is often desirable to configure a persistent cluster. A persistent cluster is one in

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which the configuration and runtime data is preserved over a shutdown of the cluster. For a persistent cluster, the following command line options are recommended:

`--use-existing-config`
If a configuration already exists, it is reused. Otherwise, a new default configuration is created.

`--host-config-dir`
Specifies an absolute path for storing/retrieving the cluster configuration files. The default value is **`/var/lib/origin`**.

`--host-data-dir`
Specifies where the **`etcd`** (OpenShift cache) data will be written. If the **`--host-data-dir`** option is not specified, no data will be saved and the cluster state will not be preserved over a shutdown.

`--host-volumes-dir`
Specifies where Kubernetes volumes will be written. The default value is **`/var/lib/origin/openshift.local.volumes`**.

The version of OpenShift can be controlled by the **`--version`** option. An example version is **`v3.5.5.5`**. If the developer needs to retrieve the OpenShift container images from a location other than **`registry.access.redhat.com`**, the complete image can be specified using the **`--image`** option. The following is an example of using a custom image location:

```
$ oc cluster up --image='myreg:5000/openshift3/ose'
```

The complete suite of OpenShift containers will be pulled from the same registry as specified in this parameter.

To control the router default subdomain, use the **`--routing-suffix`** option. The host name for the web console can be set using the **`--public-hostname`** option.

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References

[Minishift Documentation](#)

[Red Hat Container Development Kit 3 Download](#)

[Using Red Hat Container Development Kit 3](#)