


Day 5 Task: Minikube, Kubernetes & Terraform





- *Practiced Minikube and Kubernetes deployment*
- *Worked with Terraform for infrastructure automation*

SSH-service output


[illegible]


Minikube pipeline console output


 **Jenkins**


   Deepak P  log out


Dashboard > Minikube > #3


 Status


 Changes


 **Console Output**


 Edit Build Information


 Timings


 Pipeline Overview


 Pipeline Console


 Thread Dump


 Pause/resume



 Replay

 Pipeline Steps

 Workspaces

 Previous Build

 **Console Output**

 Download  Copy View as plain text

```
started by user Deepak P
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/lib/jenkins/workspace/Minikube
[Pipeline] {
[Pipeline] stage
[Pipeline] { (scm)
[Pipeline] git
Selected Git installation does not exist. Using Default
The recommended git tool is: NONE
No credentials specified
> git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/Minikube/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/DeepakPrakasam/Jenkins-Devops.git # timeout=10
Fetching upstream changes from https://github.com/DeepakPrakasam/Jenkins-Devops.git
> git --version # timeout=10
> git --version 'git version 2.43.0'
> git fetch --tags --force --progress -- https://github.com/DeepakPrakasam/Jenkins-Devops.git +refs/heads/*:refs/remotes/origin/* #
timeout=10
> git rev-parse refs/remotes/origin/master^{commit} # timeout=10
Checking out Revision 3cd3d100cd03cd8d39044fc3e03ed63631f8fe1bc (refs/remotes/origin/master)
> git config core.sparsecheckout # timeout=10
> git checkout -f 3cd3d100cd03cd8d39044fc3e03ed63631f8fe1bc # timeout=10
```

Minikube stage view output

Dashboard > Minikube >

- Status
- Changes
- Build Now
- Configure
- Delete Pipeline
- Full Stage View
- Stages
- Rename
- Pipeline Syntax

Minikube

Add description

Stage View

	scm	build	build to images	push to hub	test
Average stage times: (full run time: ~45s)	3s	9s	1s	15s	1min 7s
#5 2224 No Changes	1s	9s	873ms	21s	
#4 2221 No Changes	2s	12s	2s	18s	1min 7s failed
#3 2114 No Changes	7s	9s	1s	38s	
#2 2112 No Changes	2s	13s	1s failed	179ms failed	
#1 2111 No Changes	6s failed	379ms failed	216ms failed	248ms failed	

Builds

Filter /

Today

- #5 4:54 PM ✓
- #4 4:51 PM ✗
- #3 3:44 PM ✓
- #2 3:42 PM ✗
- #1 3:41 PM ✗

Command prompt output


```

root@deepapd@Deepap: ~/kube
apiVersion: v1
clusters:
- cluster:
    certificate-authority-data: LS0L1S1CRlR1TjIBDRVUSUZZjQ0RUSRSH1S0K11S1UR1cVJENQ0d1Z0F1S1U1B1Z011CQ0RtE1na3Foa21HX0KvcFk0R0ZBREFFVTVMj0dVnRlMj01ERXkdwdG9XNDkxM1MwYVY1Tj01RyFRFRj01ETX0RPRE0T3X0p1E1sh1EVE0vTURI6E9QT8Rncd1Nk0v01URVnR0Q01VHQ1RQ0aE1Y1ldsfXidF7bZVZUVRDQ0FTSXdE1WKS29a5nh2Y0S1U0A1UCQ1FBRdGnVRBRENDQVfVQ2dR01B1TnMw1C2Fes5Y9n0a20b12vJhG1J1R908cxspTGVqYT71S1VZw0DVE11Nq3h1UG1J1N1T1KZE1T1Zf1E1T1Z1R1P1K1R1K1H1C1E1SS1UR1cVJENQ0d1Z0F1S1U1B1Z011CQ0RtE1na3Foa21HX0KvcFk0R0ZBREFFVTVMj0dVnRlMj01ERXkdwdG9XNDkxM1MwYVY1Tj01RyFRFRj01ETX0RPRE0T3X0p1E1sh1EVE0vTURI6E9QT8Rncd1Nk0v01URVnR0Q01VHQ1RQ0aE1Y1ldsfXidF7bZVZUVRDQ0FTSXdE1WKS29a5nh2Y0S1U0A1UCQ1FBRdGnVRBRENDQVfVQ2dR01B1TnMw1C2Fes5Y9n0a20b12vJhG1J1R908cxspTGVqYT71S1VZw0DVE11Nq3h1UG1J1N1T1KZE1T1Zf1E1T1Z1R1P1K1R1K1H1C1E1SS1UR1cVJENQ0d1Z0F1S1U1B1Z011CQ0RtE1na3Foa21HX0KvcFk0R0ZBREFFVTVMj0dVnRlMj01ERXkdwdG9XNDkxM1MwYVY1Tj01RyFRFRj01ETX0RPRE0T3X0p1E1sh1EVE0vTURI6E9QT8Rncd1Nk0v01URVnR0Q01VHQ1RQ0aE1Y1ldsfXidF7bZVZUVRDQ0FTSXdE1WKS29a5nh2Y0S1U0A1UCQ1FBRdGnVRBRENDQVfVQ2dR01B1TnMw1C2Fes5Y9n0a20b12vJhG1J1R908cxspTGVqYT71S1VZw0DVE11Nq3h1UG1J1N1T1KZE1T1Zf1E1T1Z1R1P1K1R1K1H1C1E1SS1UR1cVJENQ0d1Z0F1S1U1B1Z011CQ0RtE1na3Foa21HX0KvcFk0R0ZBREFFVTVMj0dVnRlMj01ERXkdwdG9XNDkxM1MwYVY1Tj01RyFRFRj01ETX0RPRE0T3X0p1E1sh1EVE0vTURI6E9QT8Rncd1Nk0v01URVnR0Q01VHQ1RQ0aE1Y1ldsfXidF7bZVZUVRDQ0FTSXdE1WKS29a5nh2Y0S1U0A1UCQ1FBRdGnVRBRENDQVfVQ2dR01B1TnMw1C2Fes5Y9n0a20b12vJhG1J1R908cxspTGVqYT71S1VZw0DVE11Nq3h1UG1J1N1T1KZE1T1Zf1E1T1Z1R1P1K1R1K1H1C1E1SS1UR1cVJENQ0d1Z0F1S1U1B1Z011CQ0RtE1na3Foa21HX0KvcFk0R0ZBREFFVTVMj0dVnRlMj01ERXkdwdG9XNDkxM1MwYVY1Tj01RyFRFRj01ETX0RPRE0T3X0p1E1sh1EVE0vTURI6E9QT8Rncd1Nk0v01URVnR0Q01VHQ1RQ0aE1Y1ldsfXidF7bZVZUVRDQ0FTSXdE1WKS29a5nh2Y0S1U0A1UCQ1FBRdGnVRBRENDQVfVQ2dR01B1TnMw1C2Fes5Y9n0a20b12vJhG1J1R908cxspTGVqYT71S1VZw0DVE11Nq3h1UG1J1N1T1KZE1T1Zf1E1T1Z1R1P1K1R1K1H1C1E1SS1UR1cVJENQ0d1Z0F1S1U1B1Z011CQ0RtE1na3Foa21HX0KvcFk0R0ZBREFFVTVMj0dVnRlMj01ERXkdwdG9XNDkxM1MwYVY1Tj01RyFRFRj01ETX0RPRE0T3X0p1E1sh1EVE0vTURI6E9QT8Rncd1Nk0v01URVnR0Q01VHQ1RQ0aE1Y1ldsfXidF7bZVZUVRDQ0FTSXdE1WKS29a5nh2Y0S1U0A1UCQ1FBRdGnVRBRENDQVfVQ2dR01B1TnMw1C2Fes5Y9n0a20b12vJhG1J1R908cxspTGVqYT71S1VZw0DVE11Nq3h1UG1J1N1T1KZE1T1Zf1E1T1Z1R1P1K1R1K1H1C1E1SS1UR1cVJENQ0d1Z0F1S1U1B1Z011CQ0RtE1na3Foa21HX0KvcFk0R0ZBREFFVTVMj0dVnRlMj01ERXkdwdG9XNDkxM1MwYVY1Tj01RyFRFRj01ETX0RPRE0T3X0p1E1sh1EVE0vTURI6E9QT8Rncd1Nk0v01URVnR0Q01VHQ1RQ0aE1Y1ldsfXidF7bZVZUVRDQ0FTSXdE1WKS29a5nh2Y0S1U0A1UCQ1FBRdGnVRBRENDQVfVQ2dR01B1TnMw1C2Fes5Y9n0a20b12vJhG1J1R908cxspTGVqYT71S1VZw0DVE11Nq3h1UG1J1N1T1KZE1T1Zf1E1T1Z1R1P1K1R1K1H1C1E1SS1UR1cVJENQ0d1Z0F1S1U1B1Z011CQ0RtE1na3Foa21HX0KvcFk0R0ZBREFFVTVMj0dVnRlMj01ERXkdwdG9XNDkxM1MwYVY1Tj01RyFRFRj01ETX0RPRE0T3X0p1E1sh1EVE0vTURI6E9QT8Rncd1Nk0v01URVnR0Q01VHQ1RQ0aE1Y1ldsfXidF7bZVZUVRDQ0FTSXdE1WKS29a5nh2Y0S1U0A1UCQ1FBRdGnVRBRENDQVfVQ2dR01B1TnMw1C2Fes5Y9n0a20b12vJhG1J1R908cxspTGVqYT71S1VZw0DVE11Nq3h1UG1J1N1T1KZE1T1Zf1E1T1Z1R1P1K1R1K1H1C1E1SS1UR1cVJENQ0d1Z0F1S1U1B1Z011CQ0RtE1na3Foa21HX0KvcFk0R0ZBREFFVTVMj0dVnRlMj01ERXkdwdG9XNDkxM1MwYVY1Tj01RyFRFRj01ETX0RPRE0T3X0p1E1sh1EVE0vTURI6E9QT8Rncd1Nk0v01URVnR0Q01VHQ1RQ0aE1Y1ldsfXidF7bZVZUVRDQ0FTSXdE1WKS29a5nh2Y0S1U0A1UCQ1FBRdGnVRBRENDQVfVQ2dR01B1TnMw1C2Fes5Y9n0a20b12vJhG1J1R908cxspTGVqYT71S1VZw0DVE11Nq3h1UG1J1N1T1KZE1T1Zf1E1T1Z1R1P1K1R1K1H1C1E1SS1UR1cVJENQ0d1Z0F1S1U1B1Z011CQ0RtE1na3Foa21HX0KvcFk0R0ZBREFFVTVMj0dVnRlMj01ERXkdwdG9XNDkxM1MwYVY1Tj01RyFRFRj01ETX0RPRE0T3X0p1E1sh1EVE0vTURI6E9QT8Rncd1Nk0v01URVnR0Q01VHQ1RQ0aE1Y1ldsfXidF7bZVZUVRDQ0FTSXdE1WKS29a5nh2Y0S1U0A1UCQ1FBRdGnVRBRENDQVfVQ2dR01B1TnMw1C2Fes5Y9n0a20b12vJhG1J1R908cxspTGVqYT71S1VZw0DVE11Nq3h1UG1J1N1T1KZE1T1Zf1E1T1Z1R1P1K1R1K1H1C1E1SS1UR1cVJENQ0d1Z0F1S1U1B1Z011CQ0RtE1na3Foa21HX0KvcFk0R0ZBREFFVTVMj0dVnRlMj01ERXkdwdG9XNDkxM1MwYVY1Tj01RyFRFRj01ETX0RPRE0T3X0p1E1sh1EVE0vTURI6E9QT8Rncd1Nk0v01URVnR0Q01VHQ1RQ0aE1Y1ldsfXidF7bZVZUVRDQ0FTSXdE1WKS29a5nh2Y0S1U0A1UCQ1FBRdGnVRBRENDQVfVQ2dR01B1TnMw1C2Fes5Y9n0a20b12vJhG1J1R908cxspTGVqYT71S1VZw0DVE11Nq3h1UG1J1N1T1KZE1T1Zf1E1T1Z1R1P1K1R1K1H1C1E1SS1UR1cVJENQ0d1Z0F1S1U1B1Z011CQ0RtE1na3Foa21HX0KvcFk0R0ZBREFFVTVMj0dVnRlMj01ERXkdwdG9XNDkxM1MwYVY1Tj01RyFRFRj01ETX0RPRE0T3X0p1E1sh1EVE0vTURI6E9QT8Rncd1Nk0v01URVnR0Q01VHQ1RQ0aE1Y1ldsfXidF7bZVZUVRDQ0FTSXdE1WKS29a5nh2Y0S1U0A1UCQ1FBRdGnVRBRENDQVfVQ2dR01B1TnMw1C2Fes5Y9n0a20b12vJhG1J1R908cxspTGVqYT71S1VZw0DVE11Nq3h1UG1J1N1T1KZE1T1Zf1E1T1Z1R1P1K1R1K1H1C1E1SS1UR1cVJENQ0d1Z0F1S1U1B1Z011CQ0RtE1na3Foa21HX0KvcFk0R0ZBREFFVTVMj0dVnRlMj01ERXkdwdG9XNDkxM1MwYVY1Tj01RyFRFRj01ETX0RPRE0T3X0p1E1sh1EVE0vTURI6E9QT8Rncd1Nk0v01URVnR0Q01VHQ1RQ0aE1Y1ldsfXidF7bZVZUVRDQ0FTSXdE1WKS29a5nh2Y0S1U0A1UCQ1FBRdGnVRBRENDQVfVQ2dR01B1TnMw1C2Fes5Y9n0a20b12vJhG1J1R908cxspTGVqYT71S1VZw0DVE11Nq3h1UG1J1N1T1KZE1T1Zf1E1T1Z1R1P1K1R1K1H1C1E1SS1UR1cVJENQ0d1Z0F1S1U1B1Z011CQ0RtE1na3Foa21HX0KvcFk0R0ZBREFFVTVMj0dVnRlMj01ERXkdwdG9XNDkxM1MwYVY1Tj01RyFRFRj01ETX0RPRE0T3X0p1E1sh1EVE0vTURI6E9QT8Rncd1Nk0v01
```

```
deepak@deepak:~$ cat /home/deepak/.minikube/ca.crt | base64 -w 0; echo
LS0tLS1CRUdJTSI3ODR3JUSUJzQ0R5UR50tLS0tCk13SURcakNDQWUzZDZ0F3SUJzB2RlCQVRB0tJna3Foa2lHOXcmQkRC0rZBREFWTVJm6dVRMURWUWFERXdwGfXNKAyTmMaVpVtKJNQjRYRFRJMU1ETKhPRE0
TXonME1sb1hEVE0hTURNaE56QTRNecaTmxvd0ZURVRNqkVHQTFVRQpBeE1LYlJdsdWkxZDFbZVZlVURVRUQ0RFTSXdEUVlKS29aSh2Y6S5BUUVC0lFBGdndRVBBERENDQVFRzQ2dnRUJBTmMwC1ZfEs5Yme9aZ88x
Nz3oV2NjWGl1R896ckxpTGVQY2Z1Y3Zm6dV0EL1Nqa3h1UGJjN2NVTkZETCZlZnFLeTl3RzMKRk1nCTMS1g3Wnd1WUSQcHNk1Lh3U1c2YXYzOEZdzVtMFNBODFEDfJ3x2M1dFFL1A4SHB01LsdTcYnHf
cggQ2EXiaKlHeFpGdGw0RDN3Mh6M3N1bX3a0x2WTVhcM1D0DHmNJoUWNUUEJaTKZSeTJME0rTmLA3dFNMH1CmFFRMVxdno3WDZPQWV1UpBeEdLcW1BeTzwaHRF0hd03o1RzhMMDg2WFF1Yt0a2JY
RfoeKhUcJgrTj1k1bmQK596V0Ud2FYx2c5FhJ3Ae1Vx5mJndW9hcKVRKkJdd253Z21mRTdJBMNBVLE3TDd1ck5VL0LSOFY2REpAUTlLnQq0XOT2Mak1CaGfEaGLDxV1UkwwQ0f3RUFBU50tUY4d0RnMURW
UjBQVFT1B3B0UBR2BtrTUIwR0E4VURKURVFXCK1CUUdDQ3NHQVFRKJ3TUNCZ2dyQmdFRKJRy0R8VEFQ0mdQvH0SjB2JhFQLRBERFRSC9QjBHQTFVZERlN0VcKqKjTcDE0S0JYXUkL0Ej1JVTFTXBhdzc
dG8Jn1tEQUSZZztcAcPep13MEJ3UUKQVFPQ0RFRUEwa2pRj1Lwb4a1LjZ2ME1tES2YTVZk1tODUURAR0E2Bef63Ru132U1c2ZzTVRvLpFmnmUuNF3hVYU00qhuw4dxScFvcl3Rw4hV0u8ZHTVW
dVB8RmpnaysrcERlChndd2QbVLobUuNzcVLO8yNDEYN0RHMmd3bmxhL1hNkH44d3g5b5bVYMTqVWgYNYtTAmR3Vmg1dFFxZ3NS5czg3UndhQ3Rocn3Q5WUScGyZ20RQ0U5nbKfJk08tmWnZW29wZ8x8Q1U3
QwpFUFVNaE9scEl1LBH0UpWpR0Xt1dERUMh0eVp8dJdyZ2U5a5cJuc1h0cGvXYi9tcbjFNZDdYm0lM0R8SngR1R80CkxKUCtCN2hJQ3hBVTKk1xkdFEdTQYQnRTTatizU11cn9qRNDdzHvQUYfHeN8aUJz
UkNzQkPbd0pV3o0TnYKvH0ZDA2dFUBRzV1Cxc9PQotLS0tLVUORCBDRVJUSUJzQ0R5UR50tLS0tCg==
deepak@deepak:~$ cd ~/.kube
deepak@deepak:~/.kube$ cat /home/deepak/.minikube/profiles/minikube/client.crt | base64 -w 0; echo
LS0tLS1CRUdJTSI3ODR3JUSUJzQ0R5UR50tLS0tCk13SURcakNDQWUzZDZ0F3SUJzB2RlCQVRB0tJna3Foa2lHOXcmQkRC0rZBREFWTVJm6dVRMURWUWFERXdwGfXNKAyTmMaVpVtKJNQjRYRFRJMU1ETKhPRE0
TXonME1sb1hEVE0hTURNaE56QTRNecaTmxvd0ZURVRNqkVHQTFVRQpBeE1LYlJdsdWkxZDFbZVZlVURVRUQ0RFTSXdEUVlKS29aSh2Y6S5BUUVC0lFBGdndRVBBERENDQVFRzQ2dnRUJBTmMwC1ZfEs5Yme9aZ88x
Nz3oV2NjWGl1R896ckxpTGVQY2Z1Y3Zm6dV0EL1Nqa3h1UGJjN2NVTkZETCZlZnFLeTl3RzMKRk1nCTMS1g3Wnd1WUSQcHNk1Lh3U1c2YXYzOEZdzVtMFNBODFEDfJ3x2M1dFFL1A4SHB01LsdTcYnHf
cggQ2EXiaKlHeFpGdGw0RDN3Mh6M3N1bX3a0x2WTVhcM1D0DHmNJoUWNUUEJaTKZSeTJME0rTmLA3dFNMH1CmFFRMVxdno3WDZPQWV1UpBeEdLcW1BeTzwaHRF0hd03o1RzhMMDg2WFF1Yt0a2JY
RfoeKhUcJgrTj1k1bmQK596V0Ud2FYx2c5FhJ3Ae1Vx5mJndW9hcKVRKkJdd253Z21mRTdJBMNBVLE3TDd1ck5VL0LSOFY2REpAUTlLnQq0XOT2Mak1CaGfEaGLDxV1UkwwQ0f3RUFBU50tUY4d0RnMURW
UjBQVFT1B3B0UBR2BtrTUIwR0E4VURKURVFXCK1CUUdDQ3NHQVFRKJ3TUNCZ2dyQmdFRKJRy0R8VEFQ0mdQvH0SjB2JhFQLRBERFRSC9QjBHQTFVZERlN0VcKqKjTcDE0S0JYXUkL0Ej1JVTFTXBhdzc
dG8Jn1tEQUSZZztcAcPep13MEJ3UUKQVFPQ0RFRUEwa2pRj1Lwb4a1LjZ2ME1tES2YTVZk1tODUURAR0E2Bef63Ru132U1c2ZzTVRvLpFmnmUuNF3hVYU00qhuw4dxScFvcl3Rw4hV0u8ZHTVW
dVB8RmpnaysrcERlChndd2QbVLobUuNzcVLO8yNDEYN0RHMmd3bmxhL1hNkH44d3g5b5bVYMTqVWgYNYtTAmR3Vmg1dFFxZ3NS5czg3UndhQ3Rocn3Q5WUScGyZ20RQ0U5nbKfJk08tmWnZW29wZ8x8Q1U3
QwpFUFVNaE9scEl1LBH0UpWpR0Xt1dERUMh0eVp8dJdyZ2U5a5cJuc1h0cGvXYi9tcbjFNZDdYm0lM0R8SngR1R80CkxKUCtCN2hJQ3hBVTKk1xkdFEdTQYQnRTTatizU11cn9qRNDdzHvQUYfHeN8aUJz
UkNzQkPbd0pV3o0TnYKvH0ZDA2dFUBRzV1Cxc9PQotLS0tLVUORCBDRVJUSUJzQ0R5UR50tLS0tCg==
deepak@deepak:~/.kube$ cat /home/deepak/.minikube/profiles/minikube/client.key | base64 -w 0; echo
LS0tLS1CRUdJTSI3ODR3JUSUJzQ0R5UR50tLS0tCk13SURcakNDQWUzZDZ0F3SUJzB2RlCQVRB0tJna3Foa2lHOXcmQkRC0rZBREFWTVJm6dVRMURWUWFERXdwGfXNKAyTmMaVpVtKJNQjRYRFRJMU1ETKhPRE0
TXonME1sb1hEVE0hTURNaE56QTRNecaTmxvd0ZURVRNqkVHQTFVRQpBeE1LYlJdsdWkxZDFbZVZlVURVRUQ0RFTSXdEUVlKS29aSh2Y6S5BUUVC0lFBGdndRVBBERENDQVFRzQ2dnRUJBTmMwC1ZfEs5Yme9aZ88x
Nz3oV2NjWGl1R896ckxpTGVQY2Z1Y3Zm6dV0EL1Nqa3h1UGJjN2NVTkZETCZlZnFLeTl3RzMKRk1nCTMS1g3Wnd1WUSQcHNk1Lh3U1c2YXYzOEZdzVtMFNBODFEDfJ3x2M1dFFL1A4SHB01LsdTcYnHf
cggQ2EXiaKlHeFpGdGw0RDN3Mh6M3N1bX3a0x2WTVhcM1D0DHmNJoUWNUUEJaTKZSeTJME0rTmLA3dFNMH1CmFFRMVxdno3WDZPQWV1UpBeEdLcW1BeTzwaHRF0hd03o1RzhMMDg2WFF1Yt0a2JY
RfoeKhUcJgrTj1k1bmQK596V0Ud2FYx2c5FhJ3Ae1Vx5mJndW9hcKVRKkJdd253Z21mRTdJBMNBVLE3TDd1ck5VL0LSOFY2REpAUTlLnQq0XOT2Mak1CaGfEaGLDxV1UkwwQ0f3RUFBU50tUY4d0RnMURW
UjBQVFT1B3B0UBR2BtrTUIwR0E4VURKURVFXCK1CUUdDQ3NHQVFRKJ3TUNCZ2dyQmdFRKJRy0R8VEFQ0mdQvH0SjB2JhFQLRBERFRSC9QjBHQTFVZERlN0VcKqKjTcDE0S0JYXUkL0Ej1JVTFTXBhdzc
dG8Jn1tEQUSZZztcAcPep13MEJ3UUKQVFPQ0RFRUEwa2pRj1Lwb4a1LjZ2ME1tES2YTVZk1tODUURAR0E2Bef63Ru132U1c2ZzTVRvLpFmnmUuNF3hVYU00qhuw4dxScFvcl3Rw4hV0u8ZHTVW
dVB8RmpnaysrcERlChndd2QbVLobUuNzcVLO8yNDEYN0RHMmd3bmxhL1hNkH44d3g5b5bVYMTqVWgYNYtTAmR3Vmg1dFFxZ3NS5czg3UndhQ3Rocn3Q5WUScGyZ20RQ0U5nbKfJk08tmWnZW29wZ8x8Q1U3
QwpFUFVNaE9scEl1LBH0UpWpR0Xt1dERUMh0eVp8dJdyZ2U5a5cJuc1h0cGvXYi9tcbjFNZDdYm0lM0R8SngR1R80CkxKUCtCN2hJQ3hBVTKk1xkdFEdTQYQnRTTatizU11cn9qRNDdzHvQUYfHeN8aUJz
UkNzQkPbd0pV3o0TnYKvH0ZDA2dFUBRzV1Cxc9PQotLS0tLVUORCBDRVJUSUJzQ0R5UR50tLS0tCg==
deepak@deepak:~/.kube$ |
```

```
U0pPS21Q0zJncnFYDY2Zj10b0hWNU01TnpYRkk0NHh2QkLkdFwU10UdG5dkhsVD160MMKMGHMMKxjVhZxaW04TWhKNTVXVndvOTRwZURGMHNU0d5eL10TFBZaT3XnkNmZ2o1T3h1Mz1p1Mx5jhQ0S5
Ywo5d2FanzZbEtEaEM1W5FdlJEanVMDuXtY3RwcEoydjBmdkt00dRRU9zQ1ViB0VzKzNteHbq5SYzNz10G0GV1CLlyaxM2UJj1kddIWMZBTmZOSXNaOTRUMsyaeU0wd2dV0Z2R3g2WUX6V0E9eUj12vPpG
Lz1kWKX1NY2dkKzVDUMUKaGc1t1JLaHrTZnQZTJoZ3R4M2wwL2LqMnLYRFBUMY4Rk4wdGoydTRKREpNS25ka0E9PQotLS0tLVUORCBDRVJUSUJzQ0R5UR50tLS0tCg==
deepak@deepak:~/.kube$ cat /home/deepak/.minikube/profiles/minikube/client.key | base64 -w 0; echo
LS0tLS1CRUdJTSI3ODR3JUSUJzQ0R5UR50tLS0tCk13SURcakNDQWUzZDZ0F3SUJzB2RlCQVRB0tJna3Foa2lHOXcmQkRC0rZBREFWTVJm6dVRMURWUWFERXdwGfXNKAyTmMaVpVtKJNQjRYRFRJMU1ETKhPRE0
TXonME1sb1hEVE0hTURNaE56QTRNecaTmxvd0ZURVRNqkVHQTFVRQpBeE1LYlJdsdWkxZDFbZVZlVURVRUQ0RFTSXdEUVlKS29aSh2Y6S5BUUVC0lFBGdndRVBBERENDQVFRzQ2dnRUJBTmMwC1ZfEs5Yme9aZ88x
Nz3oV2NjWGl1R896ckxpTGVQY2Z1Y3Zm6dV0EL1Nqa3h1UGJjN2NVTkZETCZlZnFLeTl3RzMKRk1nCTMS1g3Wnd1WUSQcHNk1Lh3U1c2YXYzOEZdzVtMFNBODFEDfJ3x2M1dFFL1A4SHB01LsdTcYnHf
cggQ2EXiaKlHeFpGdGw0RDN3Mh6M3N1bX3a0x2WTVhcM1D0DHmNJoUWNUUEJaTKZSeTJME0rTmLA3dFNMH1CmFFRMVxdno3WDZPQWV1UpBeEdLcW1BeTzwaHRF0hd03o1RzhMMDg2WFF1Yt0a2JY
RfoeKhUcJgrTj1k1bmQK596V0Ud2FYx2c5FhJ3Ae1Vx5mJndW9hcKVRKkJdd253Z21mRTdJBMNBVLE3TDd1ck5VL0LSOFY2REpAUTlLnQq0XOT2Mak1CaGfEaGLDxV1UkwwQ0f3RUFBU50tUY4d0RnMURW
UjBQVFT1B3B0UBR2BtrTUIwR0E4VURKURVFXCK1CUUdDQ3NHQVFRKJ3TUNCZ2dyQmdFRKJRy0R8VEFQ0mdQvH0SjB2JhFQLRBERFRSC9QjBHQTFVZERlN0VcKqKjTcDE0S0JYXUkL0Ej1JVTFTXBhdzc
dG8Jn1tEQUSZZztcAcPep13MEJ3UUKQVFPQ0RFRUEwa2pRj1Lwb4a1LjZ2ME1tES2YTVZk1tODUURAR0E2Bef63Ru132U1c2ZzTVRvLpFmnmUuNF3hVYU00qhuw4dxScFvcl3Rw4hV0u8ZHTVW
dVB8RmpnaysrcERlChndd2QbVLobUuNzcVLO8yNDEYN0RHMmd3bmxhL1hNkH44d3g5b5bVYMTqVWgYNYtTAmR3Vmg1dFFxZ3NS5czg3UndhQ3Rocn3Q5WUScGyZ20RQ0U5nbKfJk08tmWnZW29wZ8x8Q1U3
QwpFUFVNaE9scEl1LBH0UpWpR0Xt1dERUMh0eVp8dJdyZ2U5a5cJuc1h0cGvXYi9tcbjFNZDdYm0lM0R8SngR1R80CkxKUCtCN2hJQ3hBVTKk1xkdFEdTQYQnRTTatizU11cn9qRNDdzHvQUYfHeN8aUJz
UkNzQkPbd0pV3o0TnYKvH0ZDA2dFUBRzV1Cxc9PQotLS0tLVUORCBDRVJUSUJzQ0R5UR50tLS0tCg==
deepak@deepak:~/.kube$ kubectl get pods
NAME          READY   STATUS    RESTARTS   AGE
my-deploy-5c87bc9cf7-z1hk4  1/2     CrashLoopBackOff   31 (3m2s ago)  9h
deepak@deepak:~/.kube$
```


Terraform Cheatsheet



the essential
Terraform
Cheatsheet
by justin o'connor

general commands

get the terraform version
terraform version

download and update root modules
terraform get -update=true

open up a terraform interactive terminal
terraform console

create a dot diagram of terraform dependencies
terraform graph | dot -Tpng > graph.png

format terraform code to HCL standards
terraform fmt

validate terraform code syntax
terraform validate

enable tab auto-completion in the terminal
terraform -install-autocomplete

show information about provider requirements
terraform providers

login and logout of terraform cloud
terraform login and terraform logout

workspaces

list the available workspaces
terraform workspace list

create a new workspace
terraform workspace new development

select an existing workspace
terraform workspace select default

initialize terraform

initialize terraform in the current working directory
terraform init

skip plugin installation
terraform init -get-plugins=false

force plugin installation from a directory
terraform init -plugin-dir=PATH

upgrade modules and plugins at initialization
terraform init -upgrade

update backend configuration
terraform init -migrate-state -force-copy

skip backend configuration
terraform init -backend=false

use a local backend configuration
terraform init -backend-config=FILE

change state lock timeout (default is zero seconds)
terraform init -lock-timeout=120s

plan terraform

produce a plan with diff between code and state
terraform plan

output a plan file for reference during apply
terraform plan -out current.tfplan

output a plan to show effect of terraform destroy
terraform plan -destroy

target a specific resource for deployment
terraform plan -target=ADDRESS

note that the -target option is also available for the terraform apply and terraform destroy commands.

outputs

list available outputs
terraform output

output a specific value
terraform output NAME

apply terraform

apply the current state of terraform code
terraform apply

specify a previously generated plan to apply
terraform apply current.tfplan

enable auto-approval or automation
terraform apply -auto-approve

destroy terraform

destroy resources managed by terraform state
terraform destroy

enable auto-approval or automation
terraform destroy -auto-approve

manage terraform state

list all resources in terraform state
terraform state list

show details about a specific resource
terraform state show ADDRESS

track an existing resource in state under new name
terraform state mv SOURCE DESTINATION

import a manually created resource into state
terraform state import ADDRESS ID

pull state and save to a local file
terraform state pull > terraform.tfstate

push state to a remote location
terraform state push PATH

replace a resource provider
terraform state replace-provider A B

taint a resource to force redeployment on apply
terraform taint ADDRESS

untaint a previously tainted resource
terraform untaint ADDRESS

Version 1 <https://justinoconnor.codes>

Jenkins and System Management Commands:

1. Grant Jenkins Sudo Permissions (without password):

- jenkins ALL=(ALL) NOPASSWD: ALL

2. Restarting Services:

- sudo systemctl restart ssh.service
- sudo systemctl restart sshd.service

3. Install and Manage OpenSSH:

- sudo apt update
- sudo apt install openssh-server
- sudo systemctl status ssh

4. File Permissions and Access:

- `sudo chmod 666 /var/run/docker.sock`

5. Minikube Certificate Base64 Encoding:

- `cat /home/david/.minikube/ca.crt | base64 -w 0; echo`

6. Service URL Access via Minikube:

`minikube service my-service --url | xargs curl`

Jenkins Pipeline (CI/CD):

1. SCM (Source Code Management):

- Get the branch from Git:
 - `git branch: ' '`

2. Build Phases (using Maven):

- Clean:
 - `mvn clean`
- Validate:
 - `mvn validate`
- Compile:
 - `mvn compile`
- Run Tests:
 - `mvn test`
- Package:
 - `mvn package`

3. Docker Operations:

- Build Docker image:
 - `docker build -t`
- Push image to Docker Hub:
 - `docker push <image_name>`

4. Deploy to Kubernetes (Minikube):

- Apply Kubernetes deployment YAML:
 - `kubectl apply -f deployment.yml --validate=false`
- Test deployed service:
 - `minikube service my-service --url | xargs curl`

Terraform Code:

1. Terraform AWS Provider Configuration:

```
terraform {  
  required_providers {  
    aws = {  
      source = "hashicorp/aws"  
      version = "5.92.0"  
    }  
  }  
}
```



```
provider "aws" {  
  region = "us-east-1"  
}
```

2. AWS Resources Configuration:

- **VPC:**

```
resource "aws_vpc" "myvpc" {  
  cidr_block = "10.0.0.0/16"  
  tags = {  
    Name = "demovpc"  
  }  
}
```

- **Subnet:**

```
resource "aws_subnet" "pubsub" {  
  vpc_id = aws_vpc.myvpc.id  
  cidr_block = "10.0.1.0/24"  
  availability_zone = "us-east-1a"  
  tags = { Name = "sn1" }  
}
```

- **Internet Gateway:**

```
resource "aws_internet_gateway" "tfigw" {
  vpc_id = aws_vpc.myvpc.id
  tags = { Name = "tfigw" }
}
```

- **Route Table and Association:**

```
resource "aws_route_table" "tfpubrt" {
  vpc_id = aws_vpc.myvpc.id
  route {
    cidr_block = "0.0.0.0/0"
    gateway_id = aws_internet_gateway.tfigw.id
  }
  tags = { Name = "tfpublicroute" }
}

resource "aws_route_table_association" "pubsn1" {
  subnet_id = aws_subnet.pubsub.id
  route_table_id = aws_route_table.tfpubrt.id
}
```

- **Security Group:**

```
resource "aws_security_group" "allow_tfsg" {
  name = "allow_tfsg"
  description = "Allow TLS inbound traffic"
  vpc_id = aws_vpc.myvpc.id
  ingress {
    description = "HTTPS"
    from_port = 443
    to_port = 443
    protocol = "tcp"
    cidr_blocks = ["0.0.0.0/0"]
  }
  ingress {
    description = "HTTP"
    from_port = 80
    to_port = 80
    protocol = "tcp"
    cidr_blocks = ["0.0.0.0/0"]
  }
  ingress {
```

```

    description = "SSH"
    from_port = 22
    to_port = 22
    protocol = "tcp"
    cidr_blocks = ["0.0.0.0/0"]
  }
  egress {
    from_port = 0
    to_port = 0
    protocol = "-1"
    cidr_blocks = ["0.0.0.0/0"]
  }
  tags = { Name = "TfsecurityGroup" }
}

```

- **EC2 Instance:**

```

resource "aws_instance" "pub_ins" {
  ami = "ami-0fc5d935ebf8bc3bc"
  instance_type = "t2.micro"
  subnet_id = aws_subnet.pubsub.id
  vpc_security_group_ids =
[aws_security_group.allow_tfsg.id]
  key_name = "David"
  associate_public_ip_address = true
}

```

3. **Commands:**

- **Terraform initialization:**
 - `terraform init`
- **Validate configuration:**
 - `terraform validate`
- **Plan the changes:**
 - `terraform plan`
- **Apply the changes:**
 - `terraform validate`
- **Destroy the infrastructure:**
 - `terraform destroy`

Jenkins Pipeline Script and Breakdown:

```
    pipeline {
    agent any

    stages {
        // SCM Stage: Checkout the code from the Git repository
        stage('scm') {
            steps {
                git url: 'https://github.com/DeepakPrakasam/Jenkins-Devops.git'
            }
        }

        // Build Stage: Maven build steps
        stage('build') {
            steps {
                sh "mvn clean"
                sh "mvn install"
            }
        }

        // Docker Image Build Stage
        stage('build to images') {
            steps {
                script {
                    sh 'docker build -t deepakp2003/simpleapplication .'
                }
            }
        }
    }
}
```

```

    }

    // Push Docker Image to Docker Hub
    stage('push to hub') {
        steps {
            script {
                withDockerRegistry(credentialsId: 'Deepak_Docker_Cred', url:
'https://index.docker.io/v1/') {
                    sh 'docker push deepakp2003/simpleapplication'
                }
            }
        }
    }

    // Test/Deploy Stage (Uncommented)
    stage('test') {
        steps {
            withKubeConfig(caCertificate: "", clusterName: "", contextName: "",
credentialsId: 'minikube', namespace: "", restrictKubeConfigAccess: false,
serverUrl: 'https://192.168.39.226:8443') {
                sh 'kubectl apply -f deployment.yml --validate=false'
            }
        }
    }
}

```

Breakdown of the pipeline:

1. SCM Stage:

- *It pulls the source code from the GitHub repository.*

2. Build Stage:

- *Runs mvn clean to clean up any existing builds.*
- *Then it runs mvn install to build and install the dependencies.*

3. Build Docker Image Stage:

- *Uses Docker to build an image for the application and tags it as deepakp2003/simpleapplication.*

4. Push Docker Image to Docker Hub:

- *Logs in to Docker Hub using the credentials stored in Jenkins (Deepak_Docker_Cred).*
- *Pushes the image deepakp2003/simpleapplication to Docker Hub.*

5. Test Stage:

- *Deploys the application to a Kubernetes cluster using kubectl apply and the deployment.yml file.*
- *This stage assumes you're using Minikube or a Kubernetes cluster and have the minikube credentials set up in Jenkins.*