

Open Source MANO

OSM CI/CD Pipeline Mark Beierl (Canonical)

Lifecycle of a Patch

- Proposed via Gerrit
- Verified by Jenkins
- Reviewed by peers
- Approved (+2) by MDL
- Merged by MDL
- Daily full suite verification
- Publication to Docker Hub
 - Generally available to anyone for installation

Proposing a Patch

- Make change locally
- Test locally
 - `tox -e cover`
 - Might include flake8 and other static code analysis
- Ensure License is present in any new file
- Start a review
 - `git review`
- CI/CI Pipeline starts verification

bravof Uploaded patch set 1.

jenkins
Patch Set 1:

Build Started https://osm.etsi.org/jenkins/job/NBI-stage_1/1453/

Pre-Merge Pipeline

- Jenkins Stages:

- Stage 1

- Prepares the environment, triggers stage_2 job for the branch

- Stage 2

- Creates a docker container from the Module's Dockerfile
- Runs "devops/stage_test.sh" to execute tests
- Runs "devops/stage_build.sh" to create a Debian Package
- Uploads package to Artifactory
- Triggers a common stage 3 that all modules share

```
Scheduling project: NBI-stage_2 » master  
Starting building: NBI-stage_2 » master #1255
```

```
+ docker build -t osm/nbi-master .  
Sending build context to Docker daemon 251.8MB
```

```
+ devops-stages/stage-test.sh  
cover develop-inst-nodeps: /opt/jenkins/workspace/NBI-stage_2_master-OMDVUSVHW2GFSIQNRAYVKCLTZ4PNDIBWW3Z5NAWWK436AJHNT70Q  
  
+ devops-stages/stage-build.sh  
dpkg-source --before-build osm-nbi-9.0.0.post9+gbb276e0.dirty  
fakeroot debian/rules clean
```

Browse it in Artifactory under https://artifactory-osm.etsi.org/artifactory/webapp/builds/NBI-stage_2%20::%20master/1255

Pre-Merge Stage 3

- Stage 3
 - Pulls latest published version of all other modules from Artifactory
 - Pulls stage 2 version of changed file from Artifactory
 - Builds docker containers for all modules using devops/docker/<MODULE>/dockerfile
 - Publishes all docker containers to internal GitLab repository
 - Spawns a new VM
 - Runs installer in new VM, using the docker images that were just built
 - Verifies installation and all services start correctly

```
Connected to osm-master-6710[172.21.248.150:22] (SSH-2.0-OpenSSH_7.6p1 Ubuntu-4ubuntu0.3)
Started command osm-master-6710#146:
./install_osm.sh -y -u
http://172.21.1.6:36816 -k pubkey.asc
-R release -r unstable -d
****.****@osm.etsi.org:5050/devops/cicd/ -p
http://172.21.1.1:5000 -t osm-master-6710
```

Pre-Merge Stage 3

- On completion of all stages, Jenkins votes Verified: +1 in Gerrit

```
jenkins
Patch Set 2: Verified+1

Build Successful

https://osm.etsi.org/jenkins/job/NBI-stage\_1/1463/ : SUCCESS
```

Approval to Merge

- Only MDLs may vote Code Review: +2
- Requirements to Merge:
 - Code Review: +2
 - Verified: +1
- Comments may be left by anyone
 - Improvements
 - Changes
 - Suggestions

Code-Review +1 guzman
+2 garciadeblas
+1 beierlm
Verified +1 jenkins

```
82     def test_with_relations(  
83         self,  
84     ) -> NoReturn:  
85         "Test with relations (internal)"  
86         self.harness.update_config({"keystone_enabled": True})
```

garciadav

Mar 08 ▾

remove. Not needed if the default config in line 52 already sets this to true

Don't Take It Personally

- A code review: -1 does not mean you failed
- It simply indicates that the code needs improvement
- This is a conversation, not a grade

Post Merge Pipeline

- On Submit, stage 1 and stage 2 repeat
- Stage 2 is slightly different
 - Software in Artifactory is published where other jobs know to find the latest “good” version of that module
- Note:
 - The software modification exists in Artifactory only at this point
 - No one will be able to update to this version unless they build their own docker images

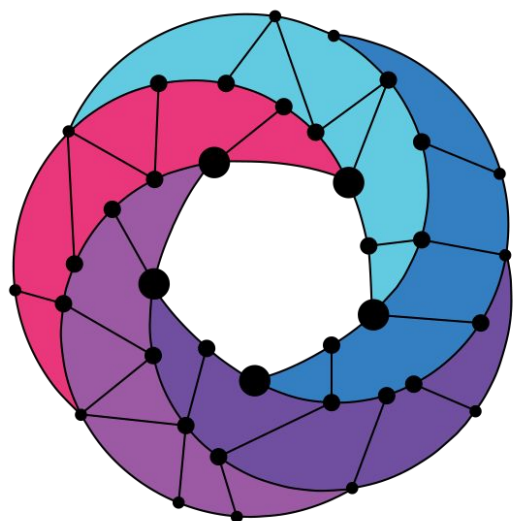
The Daily Job

- Runs on schedule
- Performs a stage 3
 - Only from last known good published version in Artifactory
 - No pre-merge code is used
 - Performs installation in new VM
- Robot Test Suite
 - Runs a full sanity suite to check functionality (~288 tests)
- Publishes images to Docker Hub
 - On completion, will push to docker hub
 - Anyone can install this software now



Robot Test Summary:

	Total	Failed	Passed	Pass %
Critical tests	288	8	280	97.2
All tests	288	8	280	97.2



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