Setting up a Nexus Proxy

Nexus along with Gerrit and Jenkins is at the heart of our continous integration. As we are using some of the advanced features of Nexus the edition in use by The Linux Foundation for ONAP is the Professional edition. That does not, however, mean that you can't setup your own local Nexus proxy to help speed up your own builds or the builds for developers on your local network if you're wanting to do this inside your corporate network. If you're just setting up a proxy the OSS edition of Nexus will be all you really need. If you happen to have a license for the professional edition, the details listed here will still be applicable.

To setup a simple proxy to handle your ONAP builds first install and start Nexus. See the Sonatype documentation on how to actually install and setup Nexus.

Now that you've got your system up and running and have hopefully logged into it for the first time it's time to get the repositories configured. The rest of this documentation will be using the assumption that this is a dedicated proxy for ONAP. If you are adding repositories to an existing Nexus system to support building ONAP please talk with your local administrator about adding just what is needed from the following information.

The cleanest way to do all of this is to first open the repositories tab and and then remove all existing repositories. We'll be adding a couple back in but it's cleaner if everything matches.

Now that you've cleared out the repositories we'll start adding in all the repositories that are needed for cleanly building ONAP. All repositories added will be added as Proxy Repositories

Let's start with the Maven Central repostory.

Select 'Add...' -> 'Proxy Repository'

You will need to fill in the following information:

Repository ID: central
Repository Name: central
Remote Storage Location: https://secure.central.sonatype.com/maven2/

Select the 'Save' button as all the rest of the options will be left at their defaults.

Now that we've done one repository here is the information for all the repositories for which you can just take the defaults with the appropriate variables set.

Welcome	Repositories	⊠				

Refresh · Add... ▾ · Delete · Trash... ▾ · User Managed Repositories ▾

Repository ▲	Type	Health Check	IQ Policy Violations	Format	Policy	Repository Status	Repository Path
Public Repositories	group	ANALYZE		maven2			https://nexus.onap.org/content/groups/public
Staging Repositories	group	ANALYZE		maven2			https://nexus.onap.org/content/groups/staging
3rd party	hosted	ANALYZE		maven2	Release	In Service	https://nexus.onap.org/content/repositories/thirdparty
Apache Public	proxy	ANALYZE		maven2	Release	In Service	https://nexus.onap.org/content/repositories/apache-public
Apache Snapshots	proxy	ANALYZE		maven2	Snapshot	In Service	https://nexus.onap.org/content/repositories/apache-snapshots
Central	proxy	ANALYZE		maven2	Release	In Service	https://nexus.onap.org/content/repositories/central
Central M1 shadow	virtual	ANALYZE		maven1	Release	In Service	https://nexus.onap.org/content/shadows/central-m1
eclipse	proxy	ANALYZE		maven2	Release	In Service	https://nexus.onap.org/content/repositories/eclipse
Elasticsearch Releases	proxy	ANALYZE		maven2	Release	In Service	https://nexus.onap.org/content/repositories/elasticsearch-releases
fdio	proxy	ANALYZE		maven2	Release	In Service	https://nexus.onap.org/content/repositories/fdio
hosted_installers	hosted	ANALYZE		maven2	Release	In Service	https://nexus.onap.org/content/repositories/hosted_installers
jitpack.io	proxy	ANALYZE		maven2	Release	In Service	https://nexus.onap.org/content/repositories/jitpack.io
logs	hosted	ANALYZE		site		In Service	https://nexus.onap.org/content/sites/logs
Node	proxy	ANALYZE		maven2	Release	In Service	https://nexus.onap.org/content/repositories/node
npm	proxy	ANALYZE		npm		In Service	https://nexus.onap.org/content/repositories/npm
npm	hosted	ANALYZE		npm		In Service	https://nexus.onap.org/content/repositories/npm-hosted
odl-third-party	proxy	ANALYZE		maven2	Release	In Service	https://nexus.onap.org/content/repositories/odl-third-party
opendaylight	proxy	ANALYZE		maven2	Release	In Service	https://nexus.onap.org/content/repositories/opendaylight
raw	hosted	ANALYZE		site		In Service	https://nexus.onap.org/content/sites/raw
raw-release	hosted	ANALYZE		site		In Service	https://nexus.onap.org/content/sites/raw-release
Releases	hosted	ANALYZE		maven2	Release	In Service	https://nexus.onap.org/content/repositories/releases
restlet	proxy	ANALYZE		maven2	Release	In Service	https://nexus.onap.org/content/repositories/restlet
servicemix	proxy	ANALYZE		maven2	Release	In Service	https://nexus.onap.org/content/repositories/servicemix
sevntu	proxy	ANALYZE		maven2	Release	In Service	https://nexus.onap.org/content/repositories/sevntu
site	hosted	ANALYZE		site		In Service	https://nexus.onap.org/content/sites/site
Snapshots	hosted	ANALYZE		maven2	Snapshot	In Service	https://nexus.onap.org/content/repositories/snapshots
virtuos	proxy	ANALYZE		maven2	Release	In Service	https://nexus.onap.org/content/repositories/virtuos

Repository ID: SnapshotsThere is one more repository that you will want to mirror. This one needs a few extra variables set in the configuration.

Repository Name: Snapshots
Repository Policy: Snapshot
Remote Storage Location: https://nexus.onap.org/content/repositories/snapshots/ **Not Found Cache TTL:** 1 (**NOTE:** We have a few proxies on the same network as the master Nexus one so having a short negative TTL doesn't hurt much here. You can try adjusting this to higher values to help improve any negative caching misses)
Metadata Max Age: 5

Now that you've configured all of the repository proxies it's time to update the **Public Repositories** meta group.

Select the **Public Repositories** group from the repository list and if it is not currently on the **Configuration** tab switch to it.

You will want to press the |< button to move all of the **Available Repositories** into the **Ordered Group Repositories** box. After you have done that select **Snapshot** from the list and press the > button to move that back to the **Available Repsositories** section and press **Save**
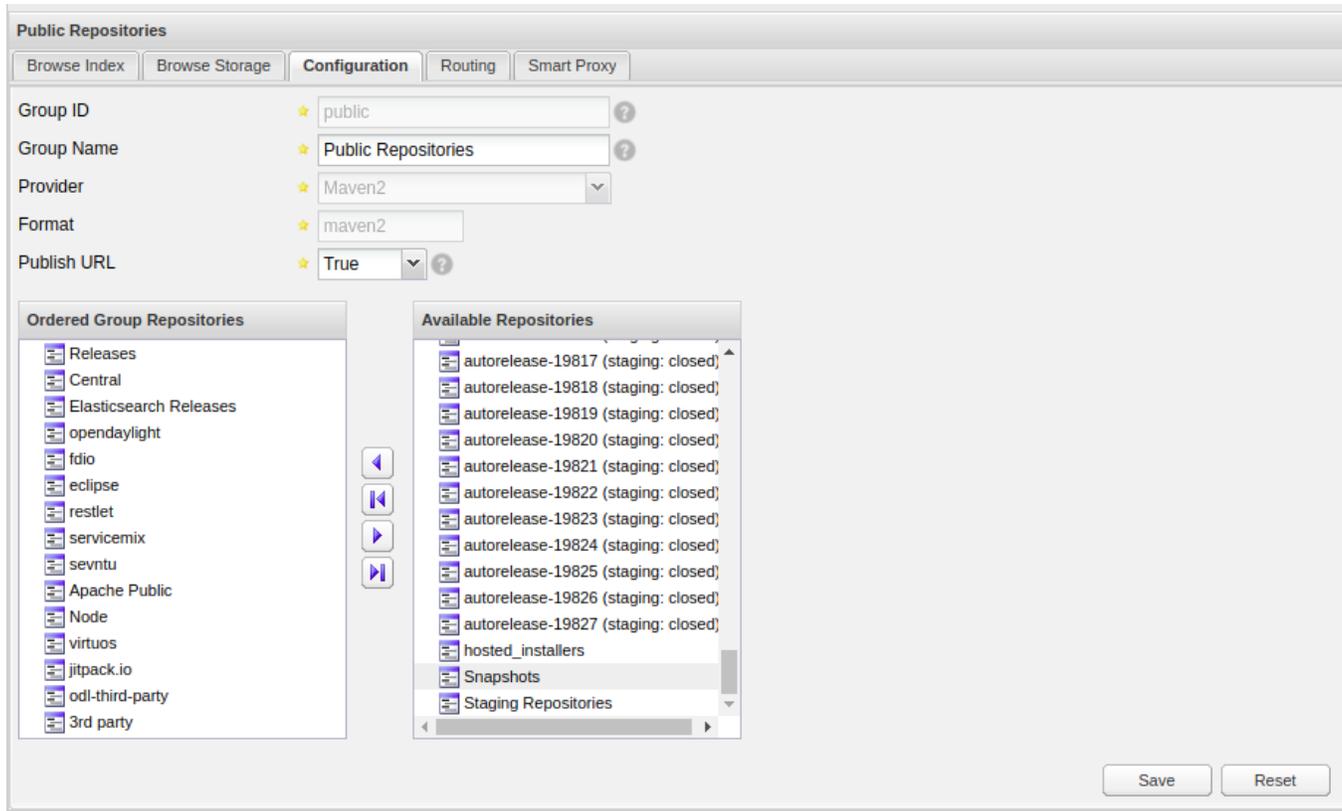
The final step in utilizing this local proxy is modifying your personal (or build system's) .m2/settings.xml file to see it as a mirror. The following basic settings.xml file should be modified and placed in the proper place to make this work for your environment

```
<settings>
  <mirrors>
    <mirror>
      <id>onap-release-mirror</id>
      <name>Local Nexus mirror for onap builds</name>
      <url>http://[YOUR_SYSTEM_FQDN][:PORT_IF_NEEDED][/BASE_URI_FRAGMENT]/content/groups/public/</url>
      <mirrorOf>*,!onap-snapshot,!onap.snapshot</mirrorOf>
    </mirror>
    <mirror>
      <id>onap-snapshot-mirror</id>
      <name>Local Nexus mirror for onap snapshots</name>
      <url>http://[YOUR_SYSTEM_FQDN][:PORT_IF_NEEDED][/BASE_URI_FRAGMENT]/content/repositories/onap.snapshot</url>
      <mirrorOf>onap-snapshot,onap.snapshot</mirrorOf>
    </mirror>
  </mirrors>
</settings>
```

A couple of example URLs are as follows:

http://nexus.example.com:8080/nexus/content/groups/public

http://nexus.example.com/content/groups/public

The difference is in the port and base URI fragment but that should help get you started.