Using Jenkins agents – On Premise

Generating an SSH key pair

1. In a terminal window run the command: # ssh-keygen -f ~/.ssh/jenkins_agent_key
2. Provide a passphrase to use with the key

   Just enter
3. Confirm the output looks something like this:

Generating public/private rsa key pair.

Will look very similar to this

```
-bash-4.2$ ssh-keygen -f ~/.ssh/jenkins_agent_key
Generating public/private rsa key pair.
Created directory '/var/lib/jenkins/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /var/lib/jenkins/.ssh/jenkins_agent_key.
Your public key has been saved in /var/lib/jenkins/.ssh/jenkins_agent_key.pub.
The key fingerprint is:
SHA256:UR9hc06enSLrELpox1MO6TT9Qx36pAPdKYEVxCjdzSc jenkins@ip-10-0-1-37.us-east-
2.compute.internal
The key's randomart image is:
+---[RSA 2048]----+
|        . *+O.o  |
|       . +o= E +.|
|        oo o.o*..|
|        +.o B +  |
|       *S= * =   |
|      = * * =    |
|     o * . * .   |
|    . . .   o    |
|                 |
+----[SHA256]-----+
```

4. cat .ssh/jenkins_agent_key (Private key)

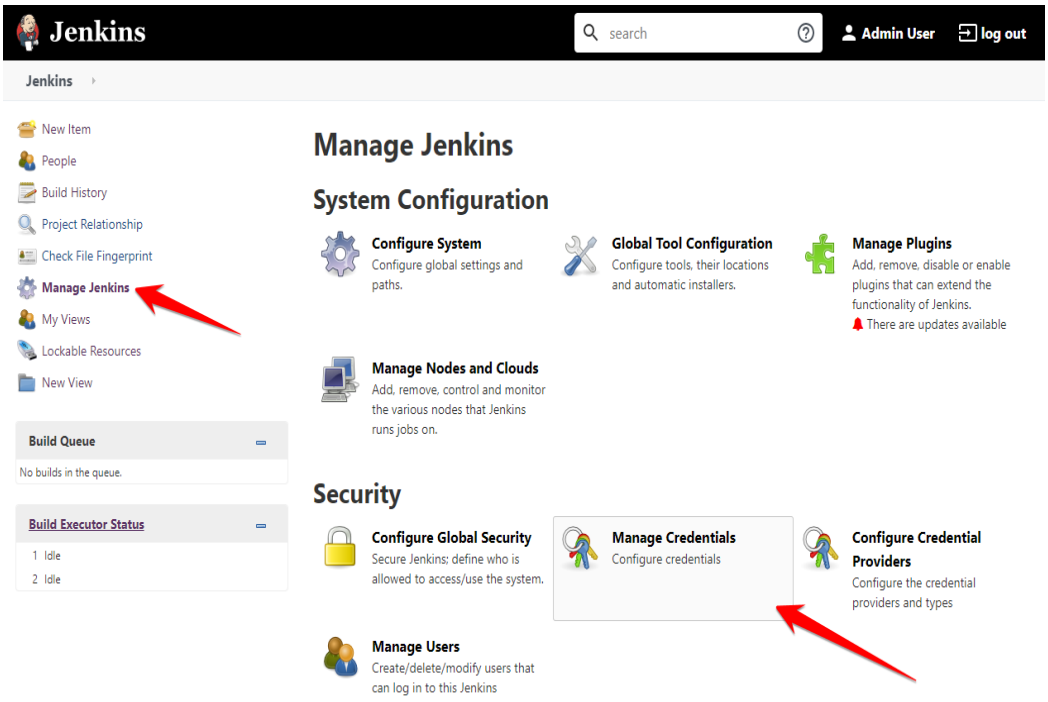
```
-bash-4.2$ cat .ssh/jenkins_agent_key
```

-----BEGIN RSA PRIVATE KEY-----

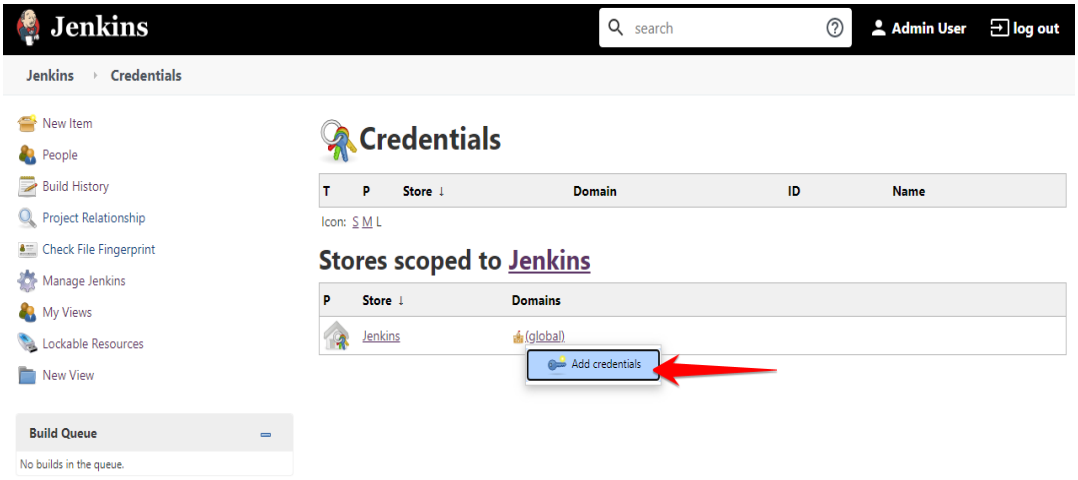
MIIEpAIBAAKCAQEA18OQ/jlqnFSCKQ471BtcyCbh229xJTnq5zZ2qWPehFUWQvQi
r5xA7M8P83NmXzdV8LCqYkjm1tfkBeiZ6O5FCbsIFHP6eR2hLfFYc2EzDZG/lBiA
jBHcFjbi470rNLDnHqGeUgzybsYGHjwFUuAE5QrTurEx8vvX8maF79RSHvzbwhyL
5Ev+X+6H/0zLOwIjUJAbwoBg25XumcTLHxMx3u8LHf9cxVNmOg9be8rdiW/oJSBR
0l2WmyJMfwPC3gmKIeEGU89TZHyEM8UfH4AEwAEWMokunpC8I6PmsoCaZ5/x0MHU
fqUyMBoMwHoRtkK91zfVgk0sirlkMILsCEfh8wIDAQABAoIBAESKkL3h2Xct9Wc7
aVAZHSFMEMWXolbUDkZC6/Elk6NwMDE2wuoMdieEI6oPx76JophiVs4AIKyxSnOC
D5qKTo4nxwpQSYo+Glyw5YtJnmE6IqTWH8ffSI4aA3ubNWV4qQL3Doc8K6t65qim
In7QQV3NUbNl5Nsum8waO4QTa78BuOXpaBUUOyv2YuQNyoS/cqEZylA1jdWF6xwa
l3jf/OJqGxKPf6OaQIJ1C3+1lbaCJYDeHwoRLLtbLgLrCE+RcCOzuNGKqmgiY/50
l3jf/OJqGxKPf6OaQIJ1C3+1lbaCJYDeHwoRLLtbLgLrCE+RcCOzuNGKqmgiY/50
McEYrPSHhApjIzFZ996RKjzDaGI3TsR47KE6EKWu0zLZgieMTnzlNnkyV3qeb3G6
8wej7eECgYEA+huWyMyZdfqVaSiYZG5kOj/rahLSLDhLWBzOICR5xqQFw6SMzGEO
tDCErYnDpfkyFR1RaoNTjdtmA7OXTTeunLfLsnpkZxkKWFIbmeTWxZ0sVxGB+8A/
PAVMNZeQ2mKPPfeFiI1g+gcafSy9t39clEC9mlogEkCvLWZUy0sEf1ECgYEA3NjZ
IdSwrEZK7qGTWptbjdfXQIWdrbuBkeBu65EEJ7SPbEgk3DkCv4eyUuSmC5Puoo7E
OBT127AueiB3J5jIcXoFbyHDmxEW589pdAwjaUxQQe16qumqf+DY94cmVQ64xU/v
4pvuzCOLjrhoSzMkmnqnfWSXSV9y939zI3ljJAMCgYEApKVa2u9Nqwv+Jc7ym1LM
qkf/6sFfGHsqpmO4EhLRE8JQhR2jDrxqGJbEERXa9T0aCipVuX+gloczHgaw+MVK
LqMT9nd59yDV3ZSX1PR/qnGwidTds+Q3/IQkSjdvxUQStiFnB6DCkXXxqyuz7MNs
J7CC4MSpzjpE1+dAtN+6ozECgYBP3+IQWVOYy0eYrTmVQLFJSPJiNLFFv5ZqQ0j6
zBU7oxNob2NdfwUebp6xWl8vus5JXuda/UG6tirpIsrVuG1ulVpXyldrwy+Mobib
LzSzhdVVMuX14NM4swLl66ySgOOVAYdaZ1lj3ctA0DNwV0v6zze6o2IQOIRlPWRQ
RTv1LwKBgQDOheAqPORM+qlsPU+s7wuf40H2LxphCwdEFTRL/9uOatnI/yrSuiS3
Ox9p/3DpVaVuSUvtQfn5MBtMXBqd8QbUtXg09JYAOFOiFsBgtcaNAbUG1WCTVXnc
Q4qiN5YekP39IkFW2qSfepHJAq2WSUDuE/UQwCEXzDt1P1pkYCLshA==
-----END RSA PRIVATE KEY-----

5.

1. Go to your Jenkins dashboard;
2. Go to Manage Jenkins option in main menu and click on credentials button;



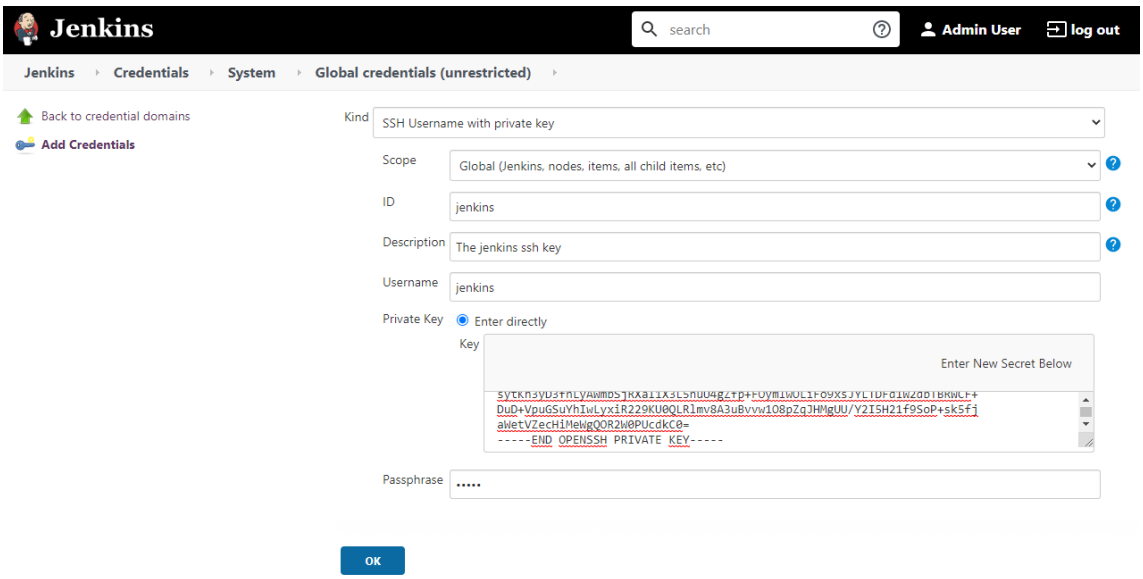
6. Select the drop option Add Credentials from the global item;



7. Fill the form:

- Kind: SSH Username with private key;
- id: jenkins
- description: The jenkins ssh key
- username: jenkins

- Private Key: select Enter directly and press the Add button to insert your **PRIVATE KEY** from ~/.ssh/jenkins_agent_key
- Passphrase: fill your passphrase used to generate the SSH key pair and then press OK



Creating your Docker agent

On Linux

Here we will use the docker-ssh-agent image to create the agent containers.

run the command to start your first agent:

```
# docker run -d --rm --name=agent1 -p 22:22 \
-e "JENKINS_AGENT_SSH_PUBKEY=[your-public-key]" \
jenkins/ssh-agent:alpine
```

- Remember to replace the tag [your-public-key] for your own SSH **public** key.
- Your public key in this example is: cat ~/.ssh/jenkins_agent_key.pub

2. Now run the following command to update the container environment:

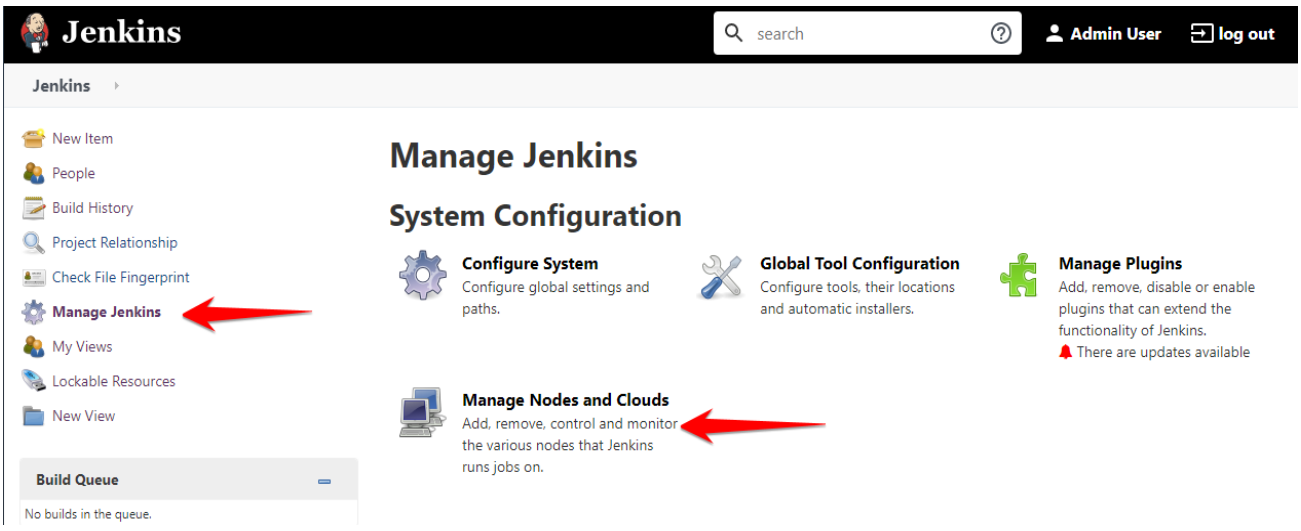
```
$ VARS1="HOME=|USER=|MAIL=|LC_ALL=|LS_COLORS=|LANG="

$ VARS2="HOSTNAME=|PWD=|TERM=|SHLVL=|LANGUAGE=|_="

$ VARS="${VARS1}|${VARS2}"

$ docker exec agent1 sh -c "env | egrep -v '^(${VARS})' >>
/etc/environment"
```

> The step 2 is necessary because the image is configured to reject changes to environment variables. when the issue #33 is fixed, we can ignore this step.

3. Now the container agent1 is running.
   Hint: the command docker ps can be used to check if the container is running as expected.

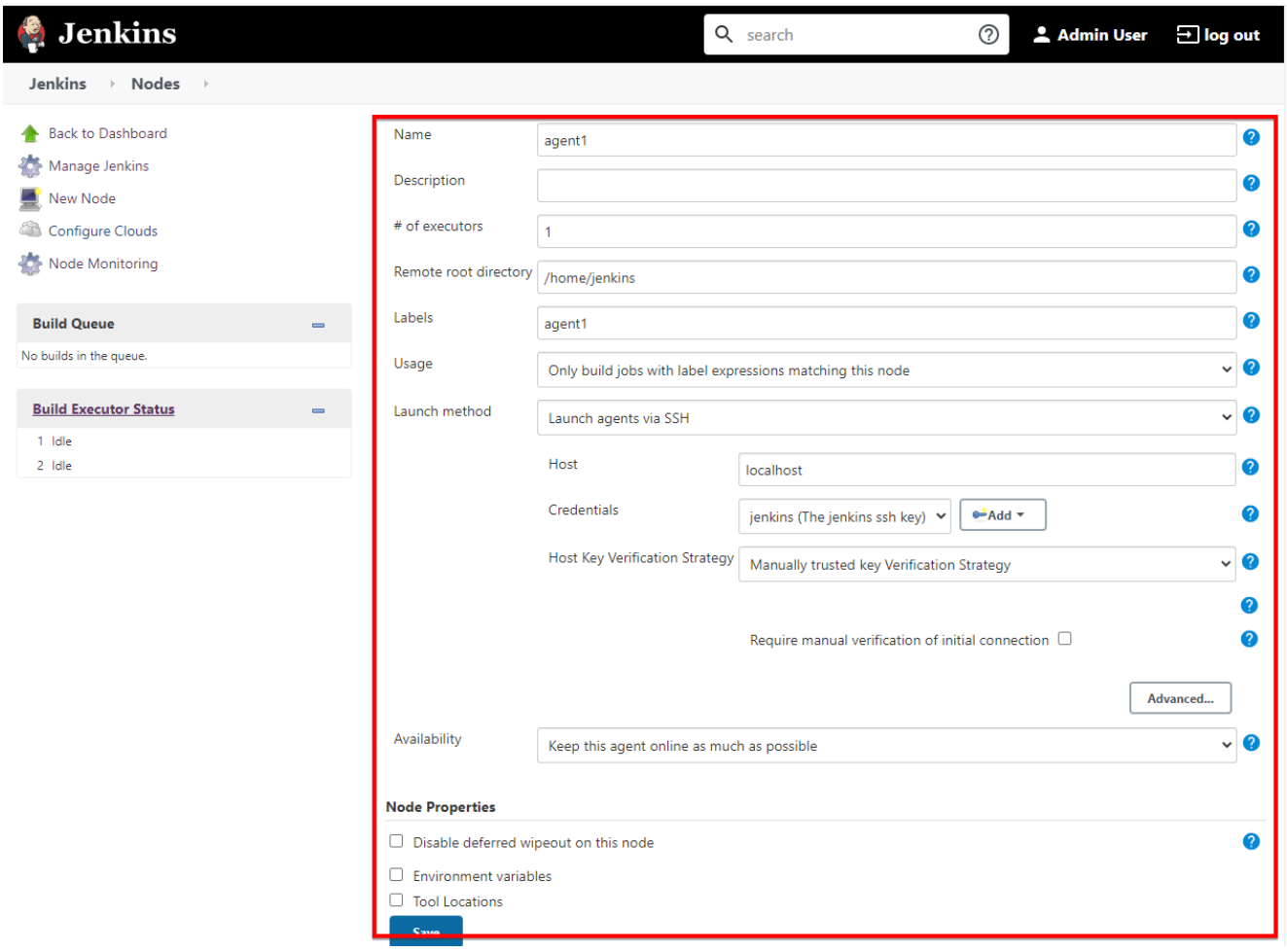
Setup up the agent1 on jenkins.

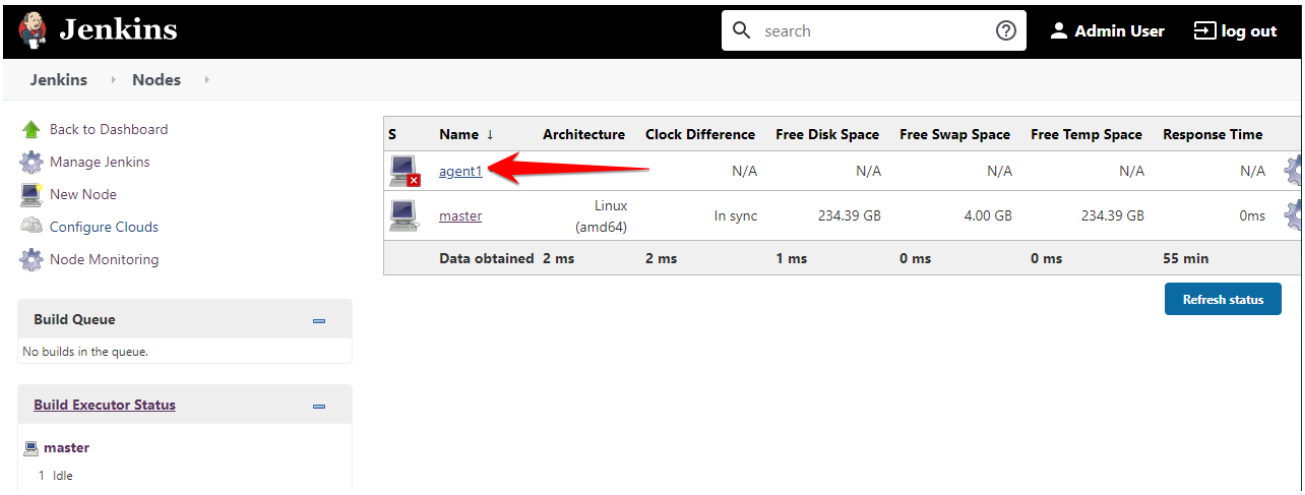
1. Go to your Jenkins dashboard;
2. Go to Manage Jenkins option in main menu;
3. Go to Manage Nodes and clouds item;



1. Go to `New Node` option in side menu;

2. Fill the Node/agent name and select the type; (e.g. Name: agent1, Type: Permanent Agent)
3. Now fill the fields:
    - root directory; (e.g.: /home/jenkins) – simply run pwd on your host
    - label; (e.g.: jenkins-agent1) – can be anything
    - usage; (e.g.: only build jobs with label expression…)
    - Launch method; (e.g.: Launch agents by SSH)
        - Host; (e.g.: localhost or your IP address) – put your local host ip address
        - Credentials; (e.g.: jenkins)
        - Host Key verification Strategy; (e.g.: Manually trusted key verification …)





Now press the button Launch agent and go to logs, then you should receive the message: Agent successfully connected and online on the last log line.

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