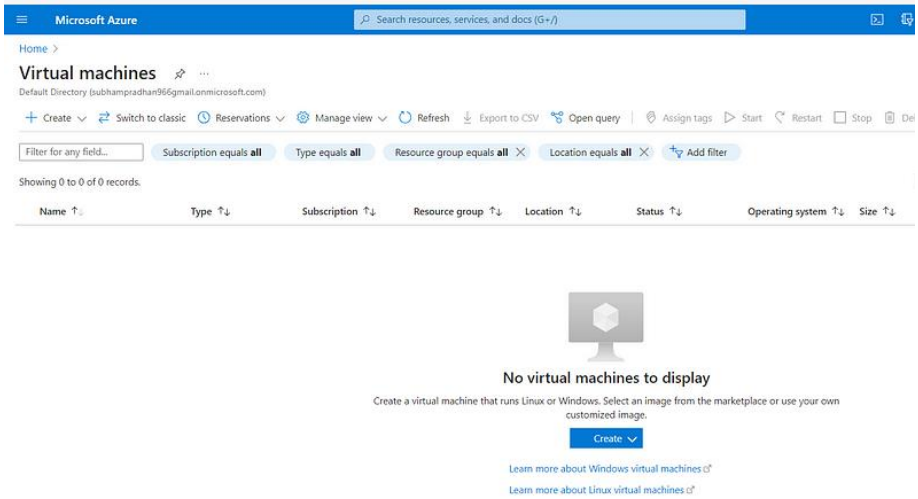
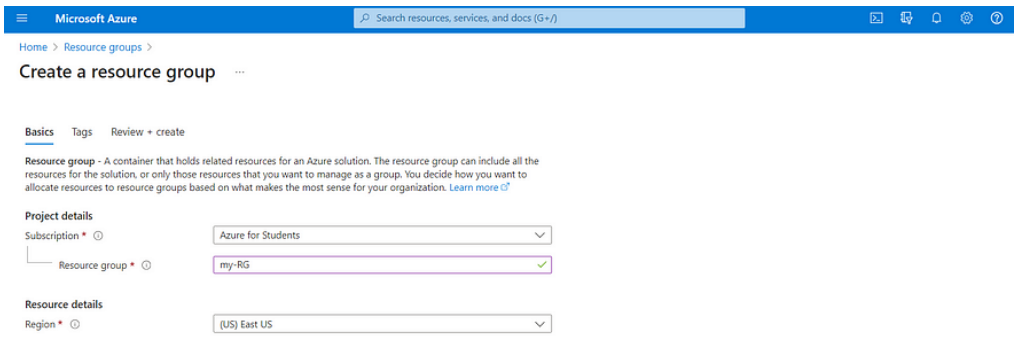
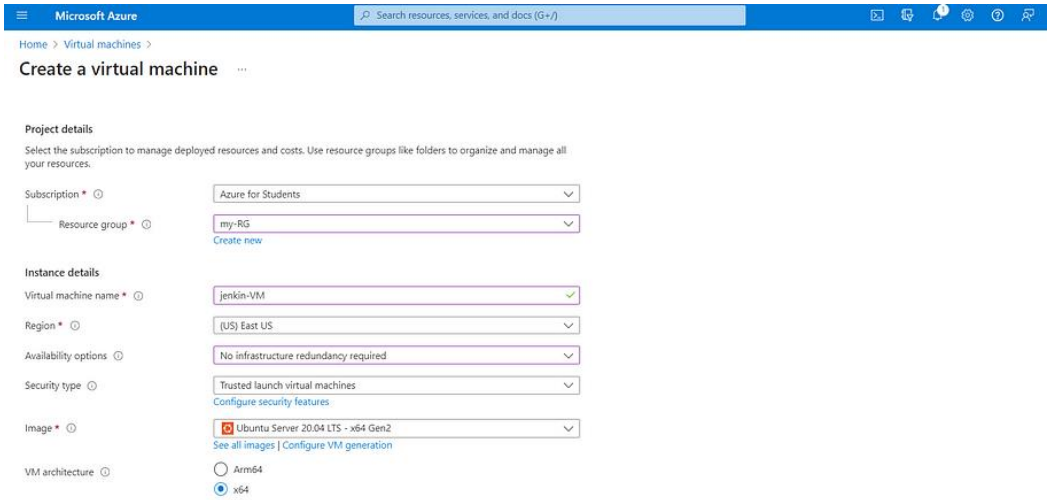
Install and configure Jenkins on Azure Linux VM

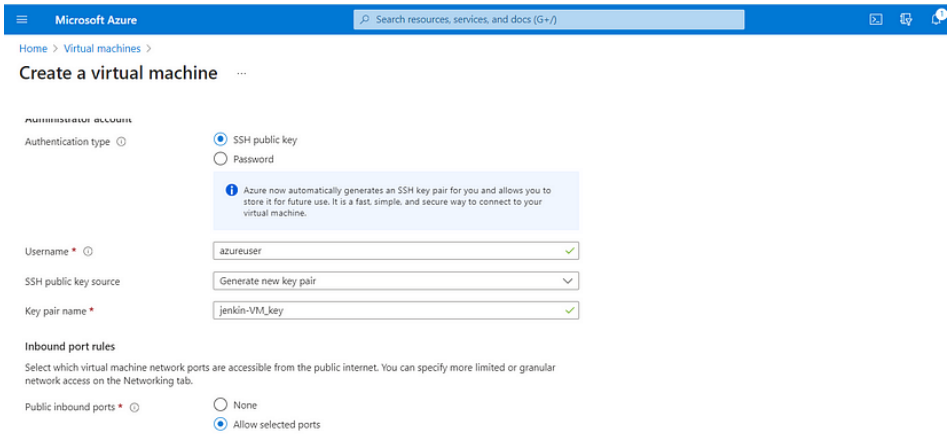
Step 1: To launch a virtual machine (VM) instance on Microsoft Azure, follow these steps:

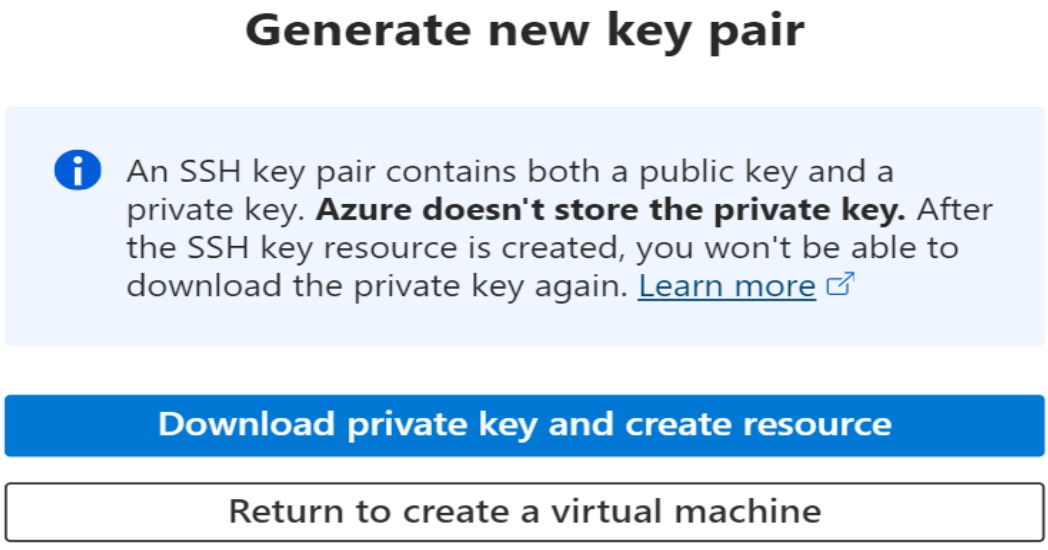
1. Sign in to the Azure portal: Go to https://portal.azure.com and sign in with your Azure account.
2. Create a new virtual machine:
3. In the Azure portal's left-hand menu, click on "Create a resource".
4. In the search box, type "Virtual Machine" and press Enter.
5. Select "Virtual machine" from the search results.






Microsoft Azure
Search resources, services, and docs (G+/)
Home > Virtual machines >
Create a virtual machine
Project details
Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.
Subscription *
Azure for Students
Resource group *
my-RG
Create new
Instance details
Virtual machine name *
jenkin-VM
Region *
(US) East US
Availability options
No infrastructure redundancy required
Security type
Trusted launch virtual machines
Configure security features
Image *
Ubuntu Server 20.04 LTS - x64 Gen2
See all images | Configure VM generation
VM architecture
Arm64
x64


Microsoft Azure
Search resources, services, and docs (G+/)
Home > Virtual machines >
Create a virtual machine
Authentication type
SSH public key
Password
Azure now automatically generates an SSH key pair for you and allows you to store it for future use. It is a fast, simple, and secure way to connect to your virtual machine.
Username *
azureuser
SSH public key source
Generate new key pair
Key pair name *
jenkin-VM_key
Inbound port rules
Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.
Public inbound ports *
None
Allow selected ports


Generate new key pair
An SSH key pair contains both a public key and a private key. Azure doesn't store the private key. After the SSH key resource is created, you won't be able to download the private key again. Learn more
Download private key and create resource
Return to create a virtual machine

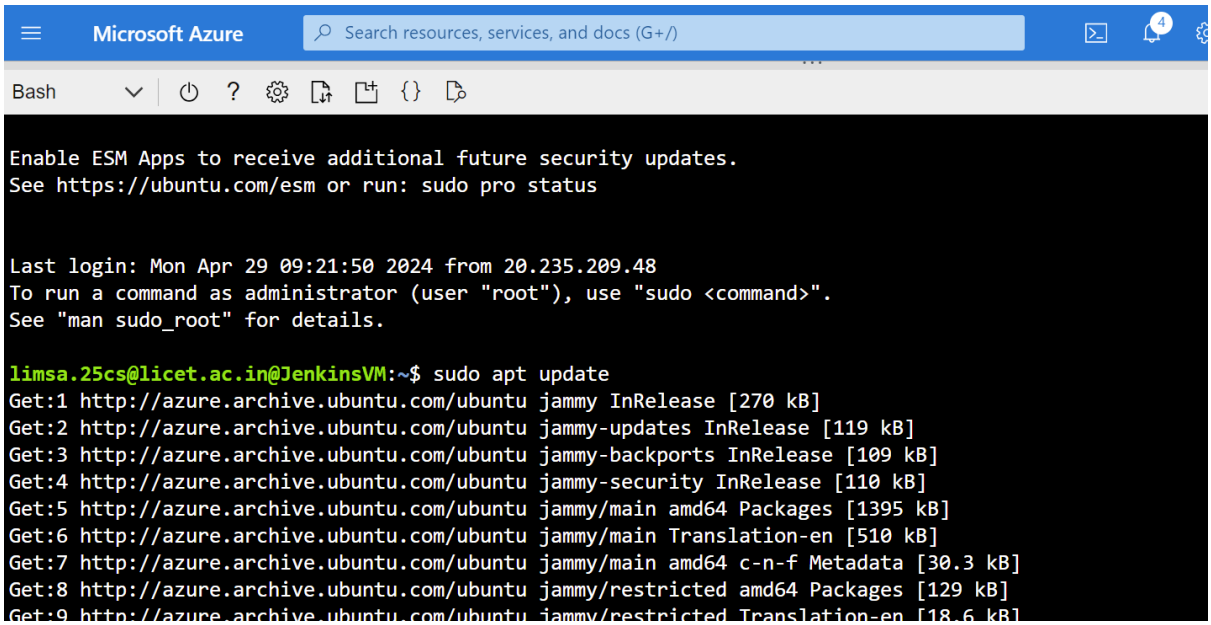
Step 2: Connect to the VM using SSH using Azure CLI and Install Jenkins.

Pre-Requisites: Java (JDK)

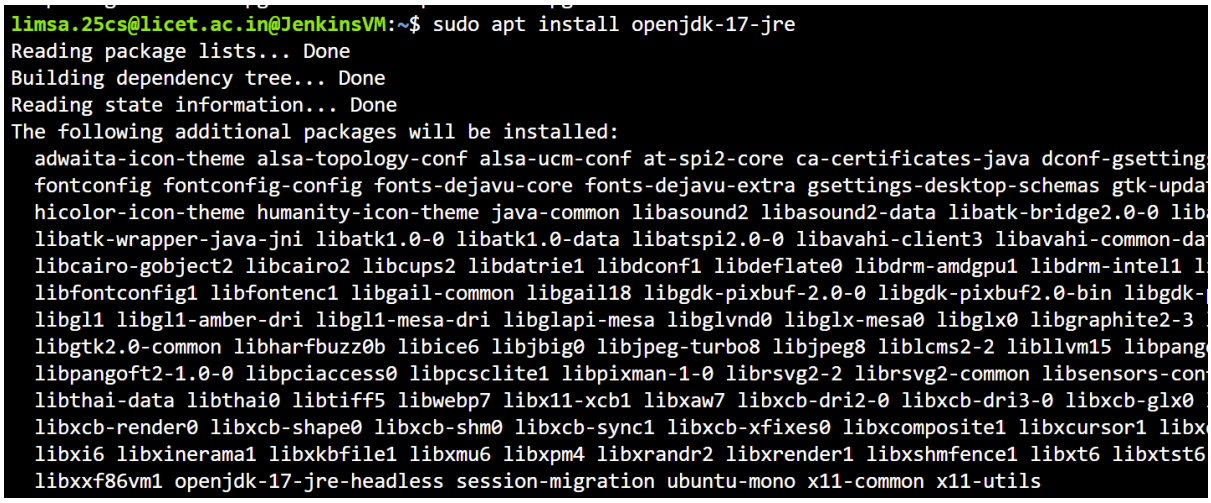
Run the below commands to install Java and Jenkins

Install Java

```
sudo apt update
```




```
sudo apt install openjdk-17-jre
```



```
limsa.25cs@licet.ac.in@JenkinsVM:~$ java -version
openjdk version "17.0.10" 2024-01-16
OpenJDK Runtime Environment (build 17.0.10+7-Ubuntu-122.04.1)
OpenJDK 64-Bit Server VM (build 17.0.10+7-Ubuntu-122.04.1, mixed mode, sharing)
```

Install Jenkins

```
curl -fsSL https://pkg.jenkins.io/debian/jenkins.io-2023.key | sudo tee \
  /usr/share/keyrings/jenkins-keyring.asc > /dev/null
```

```
echo deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] \
  https://pkg.jenkins.io/debian binary/ | sudo tee \
  /etc/apt/sources.list.d/jenkins.list > /dev/null
```

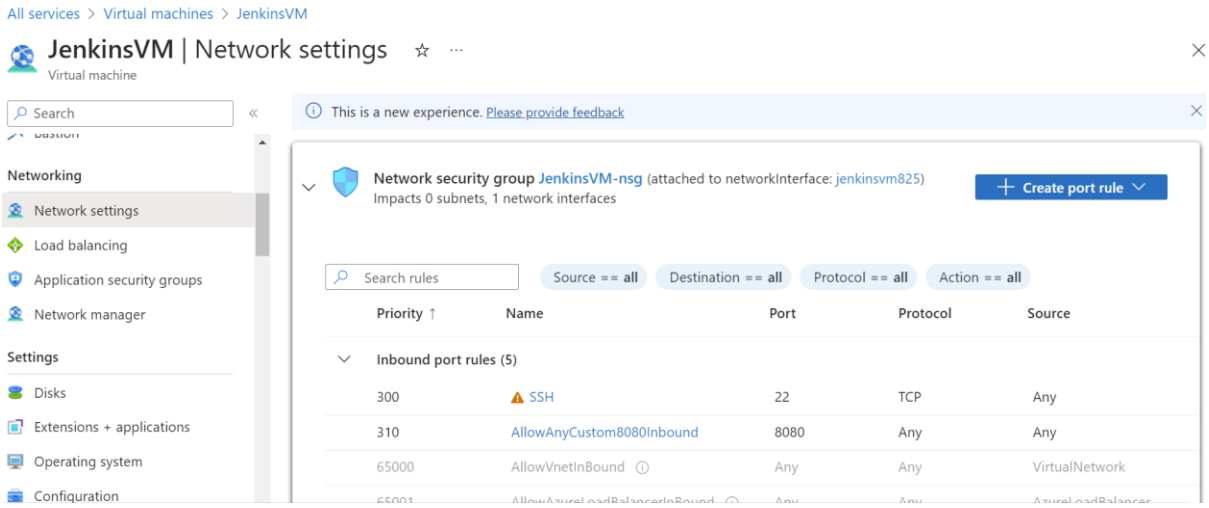
```
limsa.25cs@licet.ac.in@JenkinsVM:~$ curl -fsSL https://pkg.jenkins.io/debian/jenkins.io-2023.key | sudo tee   /usr/share/keyri
ins-keyring.asc > /dev/null
limsa.25cs@licet.ac.in@JenkinsVM:~$ echo deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc]   https://pkg.jenkins.io/debi
y/ | sudo tee   /etc/apt/sources.list.d/jenkins.list > /dev/null
limsa.25cs@licet.ac.in@JenkinsVM:~$ sudo apt-get update
Hit:1 http://azure.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://azure.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://azure.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://azure.archive.ubuntu.com/ubuntu jammy-security InRelease
Ign:5 https://pkg.jenkins.io/debian binary/ InRelease
Get:6 https://pkg.jenkins.io/debian binary/ Release [2044 B]
Get:7 https://pkg.jenkins.io/debian binary/ Release.gpg [833 B]
Get:8 https://pkg.jenkins.io/debian binary/ Packages [61.5 kB]
Terminal container button
Get:9 https://packages.microsoft.com/repos/microsoft-ubuntu-jammy-prod jammy InRelease [3632 B]
Fetched 68.0 kB in 1s (71.4 kB/s)
Reading package lists... Done
```

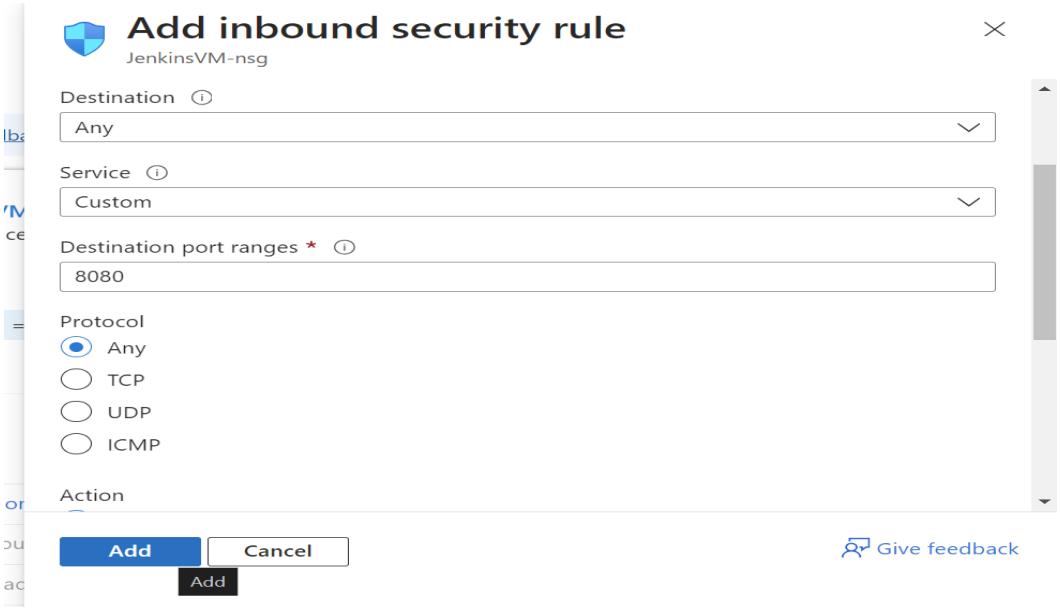
```
sudo apt-get update
sudo apt-get install Jenkins
```

```
limsa.25cs@licet.ac.in@JenkinsVM:~$ sudo apt-get install jenkins
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  net-tools
The following NEW packages will be installed:
  jenkins net-tools
0 upgraded, 2 newly installed, 0 to remove and 37 not upgraded.
Need to get 91.5 MB of archives.
After this operation, 94.2 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://azure.archive.ubuntu.com/ubuntu jammy/main amd64 net-tools amd64 1.60+git20181103.0eebece-1ubuntu5 [204 kB]
Get:2 https://pkg.jenkins.io/debian binary/ jenkins 2.455 [91.3 MB]
Fetched 91.5 MB in 8s (11.9 MB/s)
Selecting previously unselected package net-tools.
(Reading database ... 77655 files and directories currently installed.)
Preparing to unpack .../net-tools_1.60+git20181103.0eebece-1ubuntu5_amd64.deb ...
Unpacking net-tools (1.60+git20181103.0eebece-1ubuntu5) ...
Selecting previously unselected package jenkins.
Terminal container button
Preparing to unpack .../archives/jenkins_2.455_all.deb ...
Unpacking jenkins (2.455) ...
```

By default, Jenkins will not be accessible to the external world due to the inbound traffic restriction by Azure. Open port 8080 in the inbound traffic rules as show below.

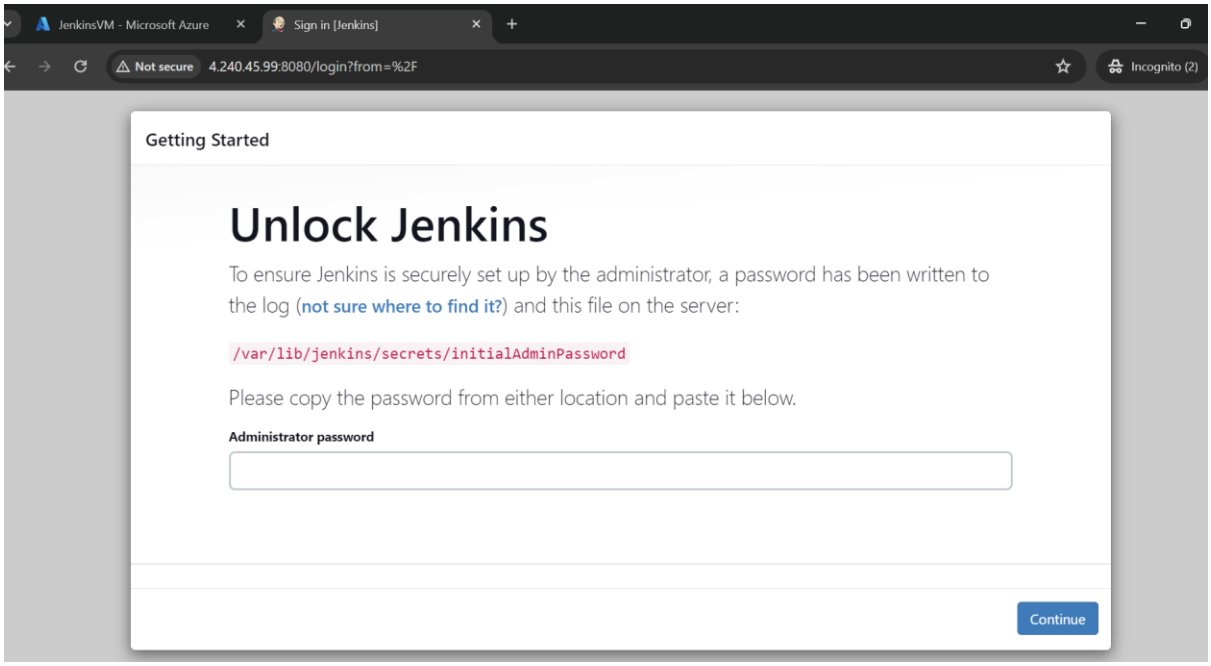
- Add inbound security rule
- Add inbound traffic rules as shown in the image (you can just allow 8080 as well, in my case, I allowed `All traffic`).

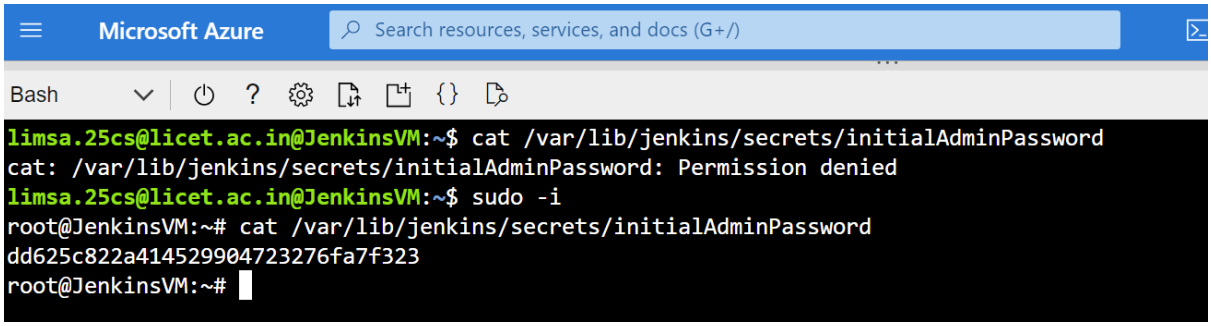




Step 3: Login to Jenkins using the below URL and configure Jenkins

http:/VM-public-ip/:8080 [You can get the VM-public-ip-address from your Azure console page]





Getting Started

Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log (not sure where to find it?) and this file on the server:

`/var/lib/jenkins/secrets/initialAdminPassword`

Please copy the password from either location and paste it below.

Administrator password

Continue

Getting Started

Customize Jenkins

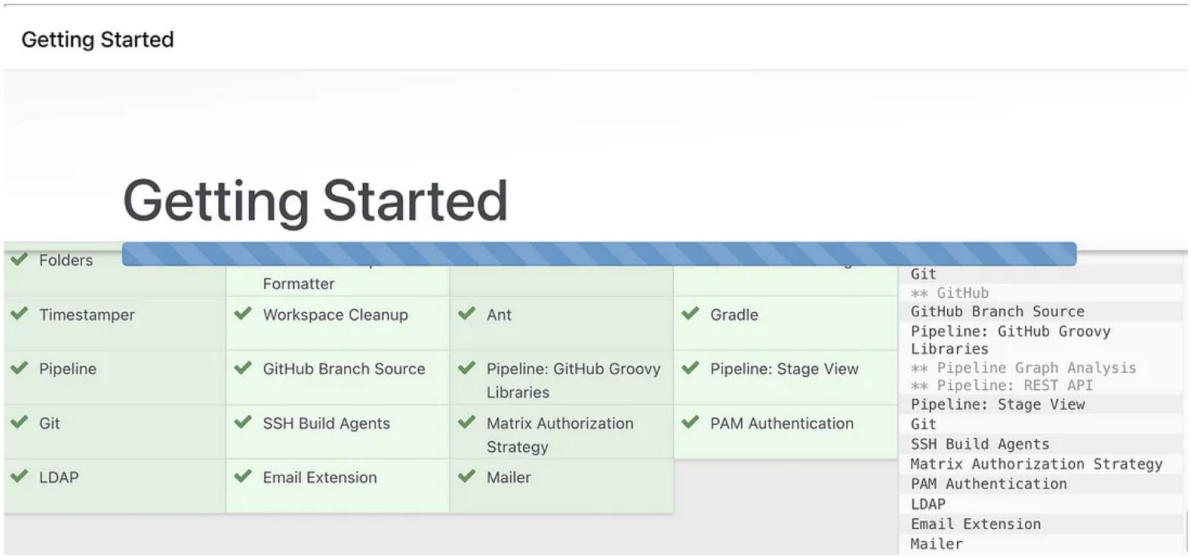
Plugins extend Jenkins with additional features to support many different needs.

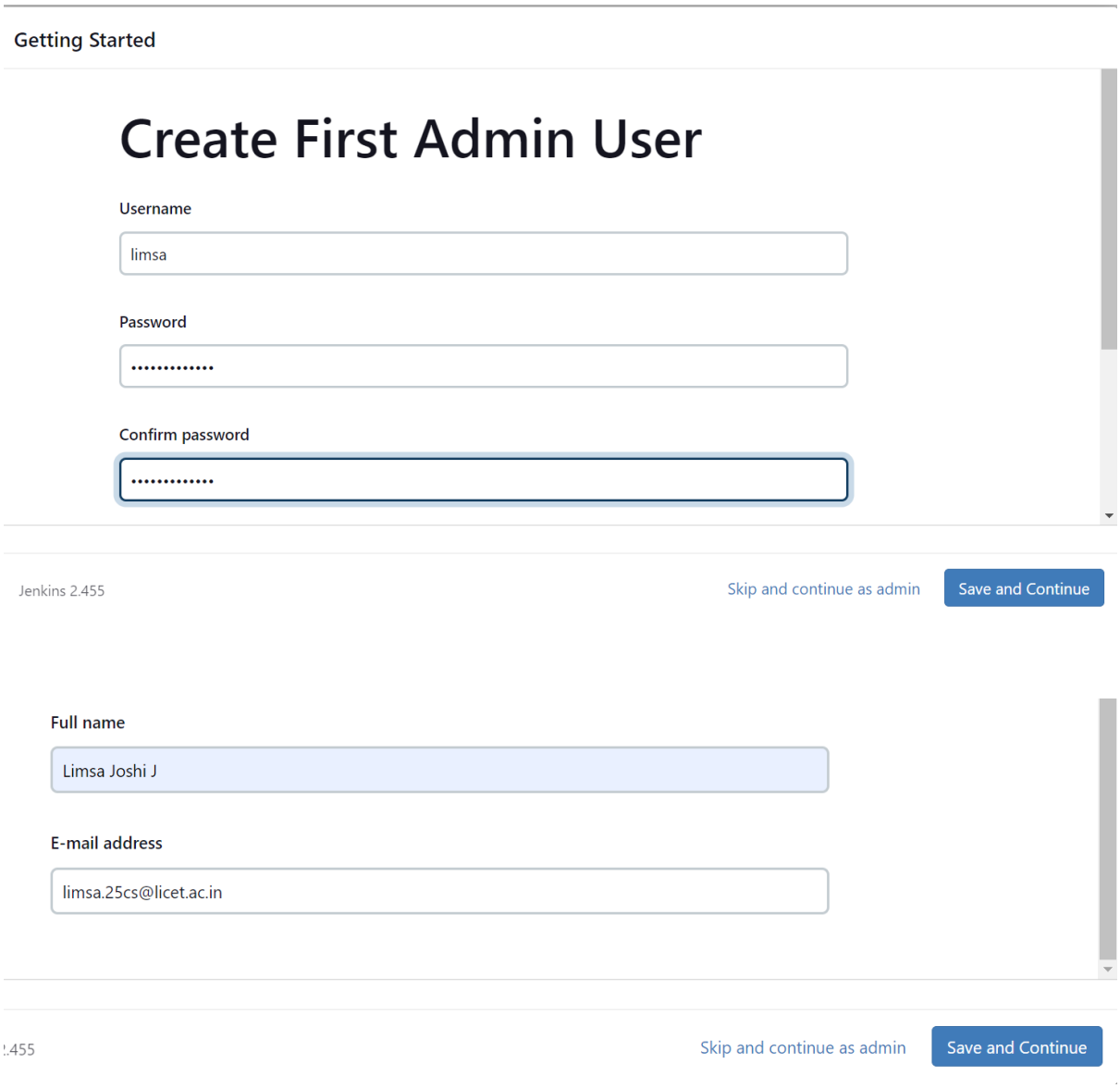
Install suggested plugins

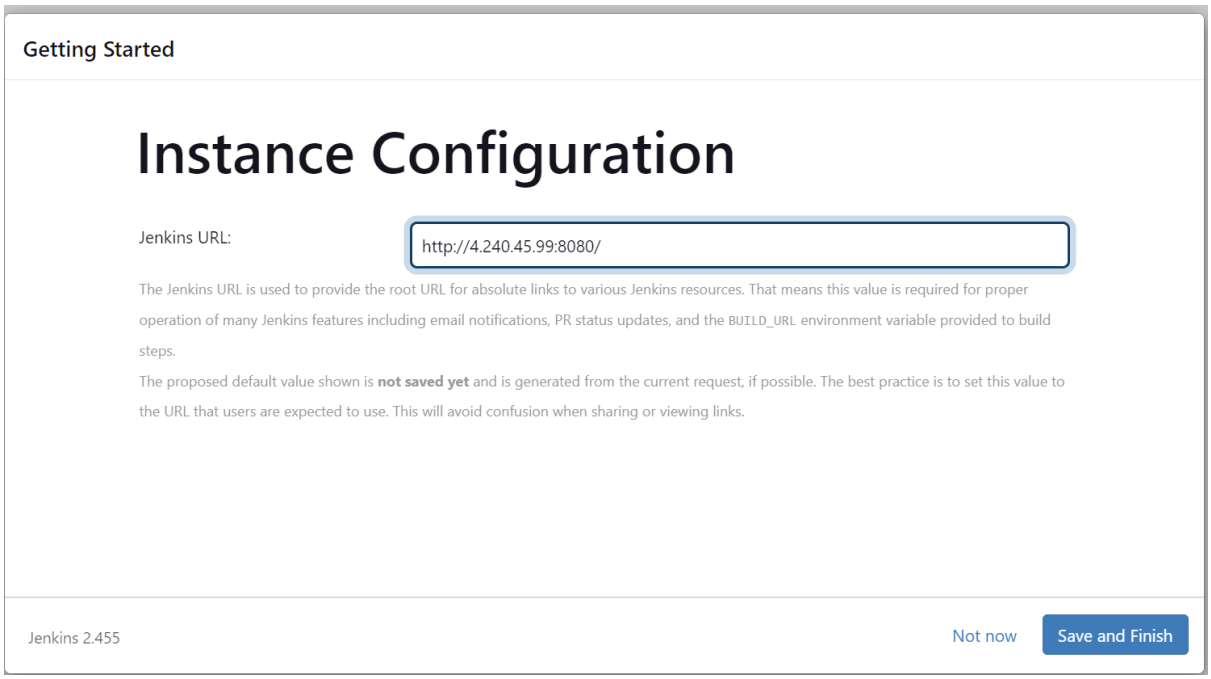
Install plugins the Jenkins community finds most useful.

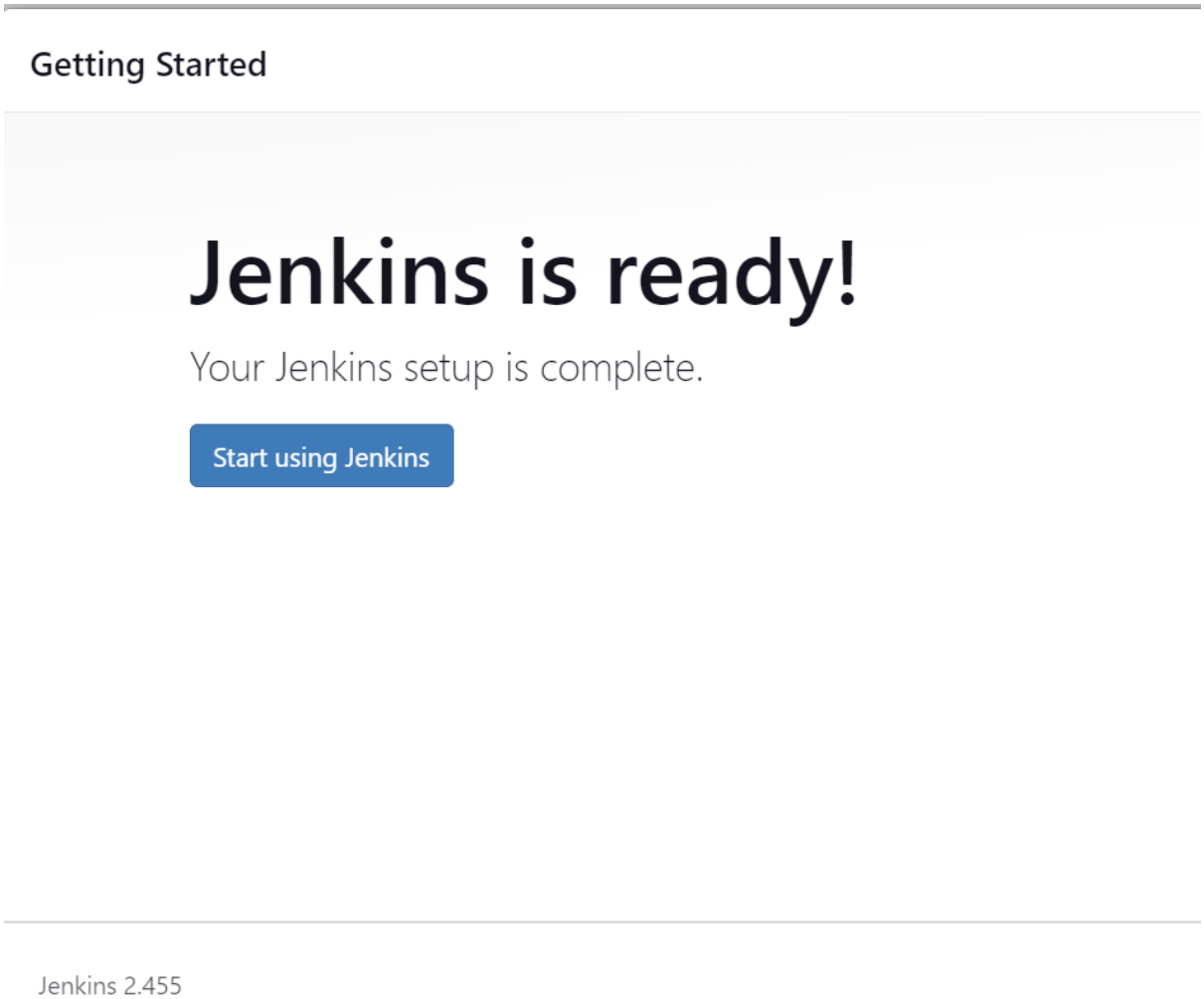
Select plugins to install

Select and install plugins most suitable for your needs.


Getting Started
Getting Started
Folders
Formatter
Timestamper
Workspace Cleanup
Ant
Gradle
Pipeline
GitHub Branch Source
Pipeline: GitHub Groovy Libraries
Pipeline: Stage View
Git
SSH Build Agents
Matrix Authorization Strategy
PAM Authentication
LDAP
Email Extension
Mailer
Git
** GitHub
GitHub Branch Source
Pipeline: GitHub Groovy Libraries
** Pipeline Graph Analysis
** Pipeline: REST API
Pipeline: Stage View
Git
SSH Build Agents
Matrix Authorization Strategy
PAM Authentication
LDAP
Email Extension
Mailer


Getting Started
Create First Admin User
Username
limsa
Password
Confirm password
Jenkins 2.455
Skip and continue as admin
Save and Continue
Full name
Limsa Joshi J
E-mail address
limsa.25cs@licet.ac.in
.455
Skip and continue as admin
Save and Continue


Getting Started
Instance Configuration
Jenkins URL:
http://4.240.45.99:8080/
The Jenkins URL is used to provide the root URL for absolute links to various Jenkins resources. That means this value is required for proper operation of many Jenkins features including email notifications, PR status updates, and the BUILD_URL environment variable provided to build steps.
The proposed default value shown is not saved yet and is generated from the current request, if possible. The best practice is to set this value to the URL that users are expected to use. This will avoid confusion when sharing or viewing links.
Jenkins 2.455
Not now
Save and Finish


Getting Started
Jenkins is ready!
Your Jenkins setup is complete.
Start using Jenkins
Jenkins 2.455