# Lesson 09 Demo 02

# Integrating SCA Tools into Jenkins for Enhanced Vulnerability Detection

**Objective:** To automate SCA scans by integrating the Snyk plugin with Jenkins, enhancing the efficiency of vulnerability detection within Jenkins build jobs

**Tools required:** Jenkins, Snyk Plugin

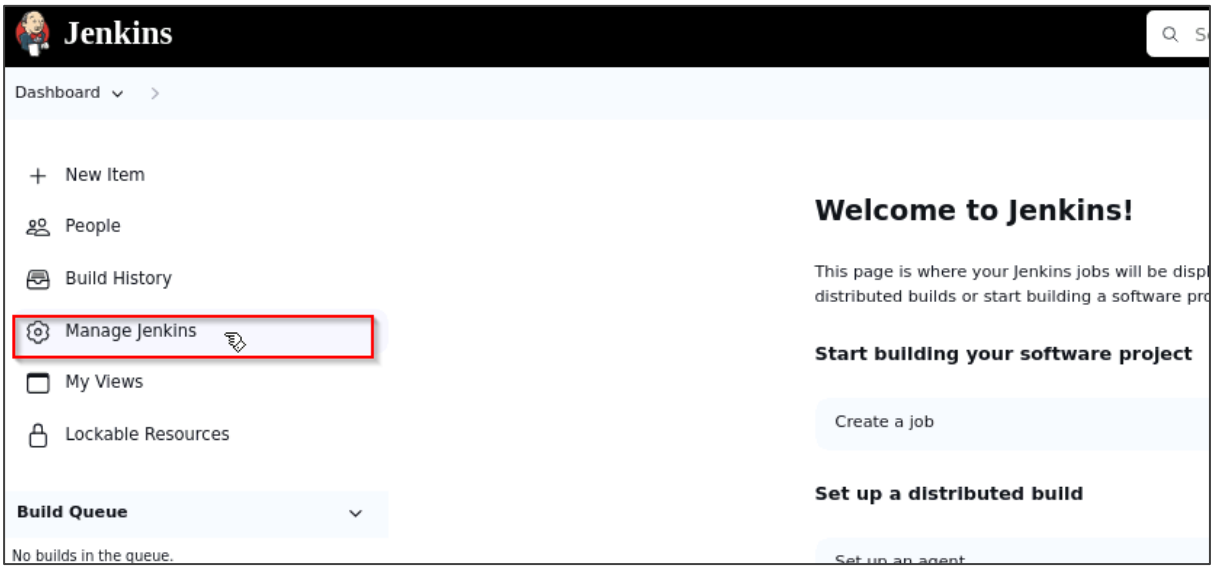
**Prerequisites:** Basic knowledge of Jenkins and Snyk

Steps to be followed:

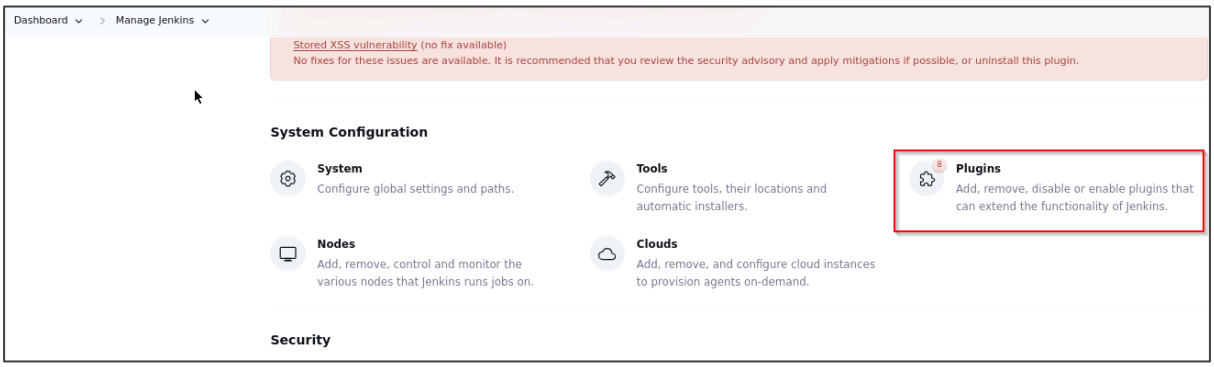
1. Install Snyk and Maven plugins in the Jenkins
2. Configure the Maven and Snyk installations
3. Create a new Jenkins pipeline job

## Step 1: Install Snyk and Maven plugins in the Jenkins

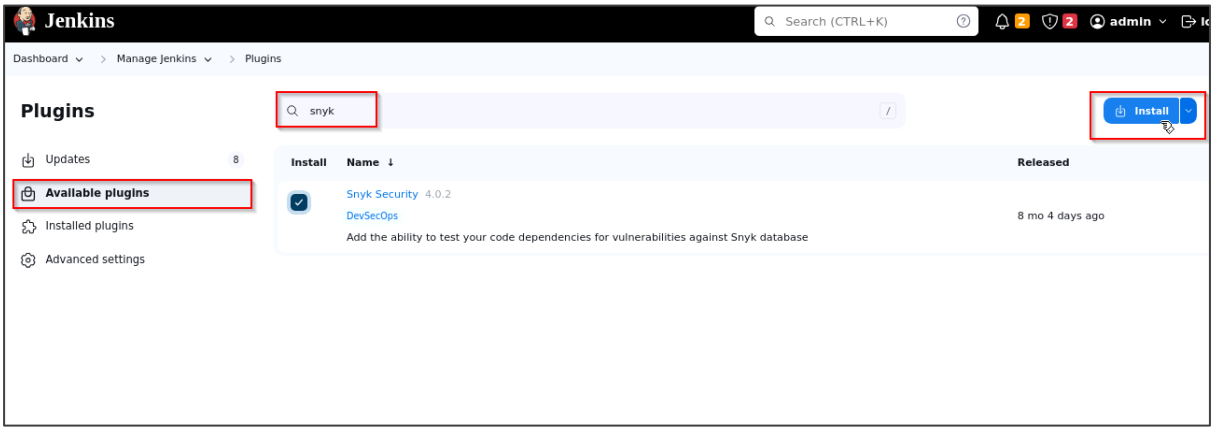
1.1 Log in to your Jenkins dashboard and click on **Manage Jenkins**

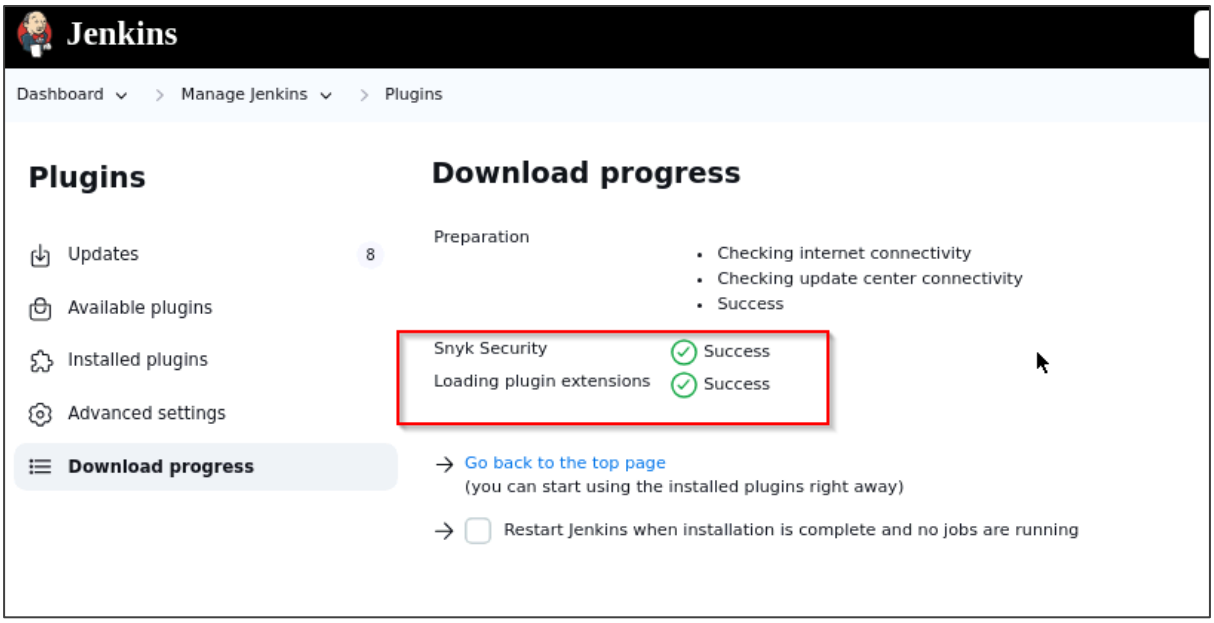


1.2 Navigate to **System Configuration** and click on **Plugins**



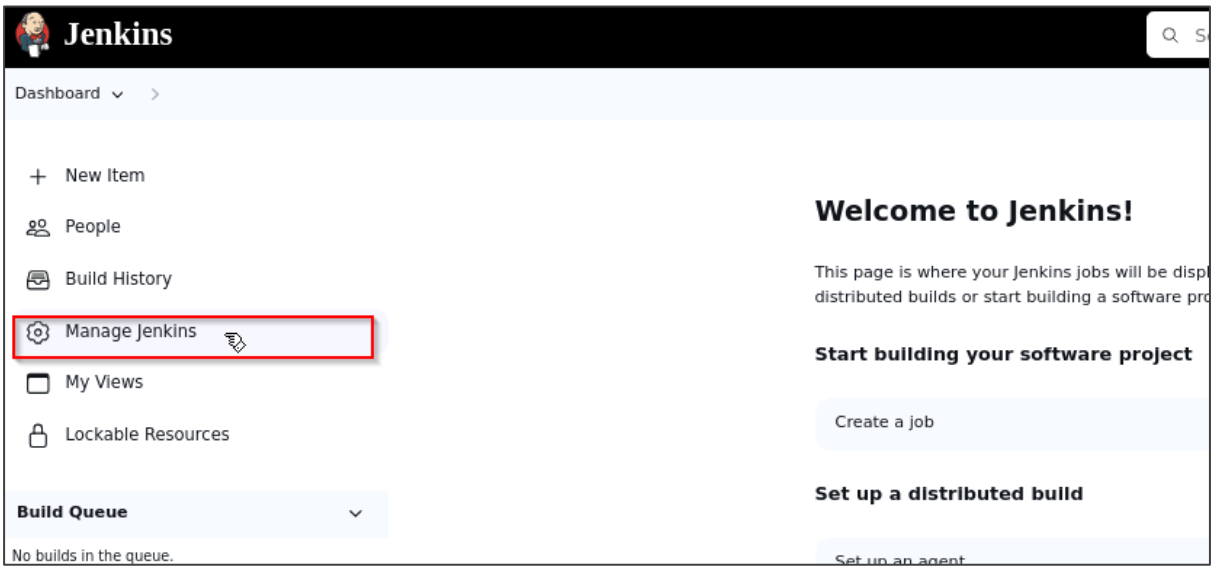

1.3 In the **Available Plugins** section, enter **snyk** in the search bar, select the **Snyk Security** plugin, and click **Install**



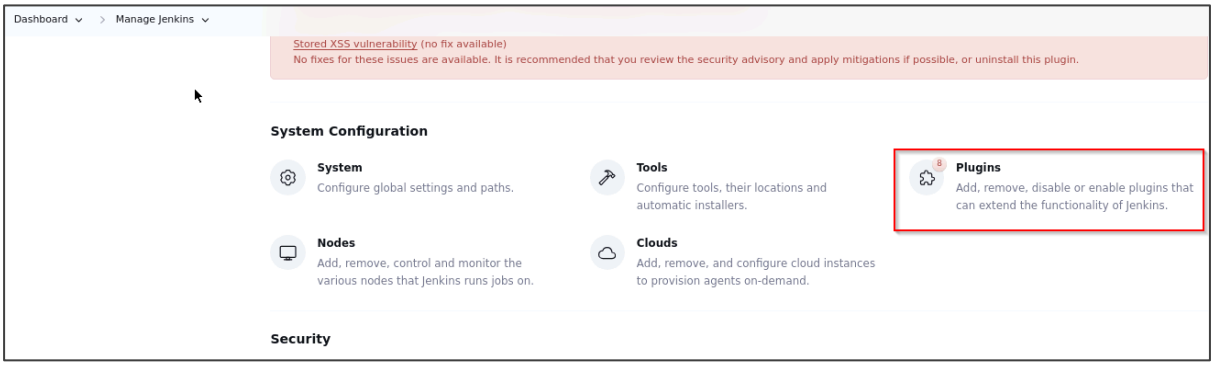




The **Snyk Security** plugin is successfully installed.

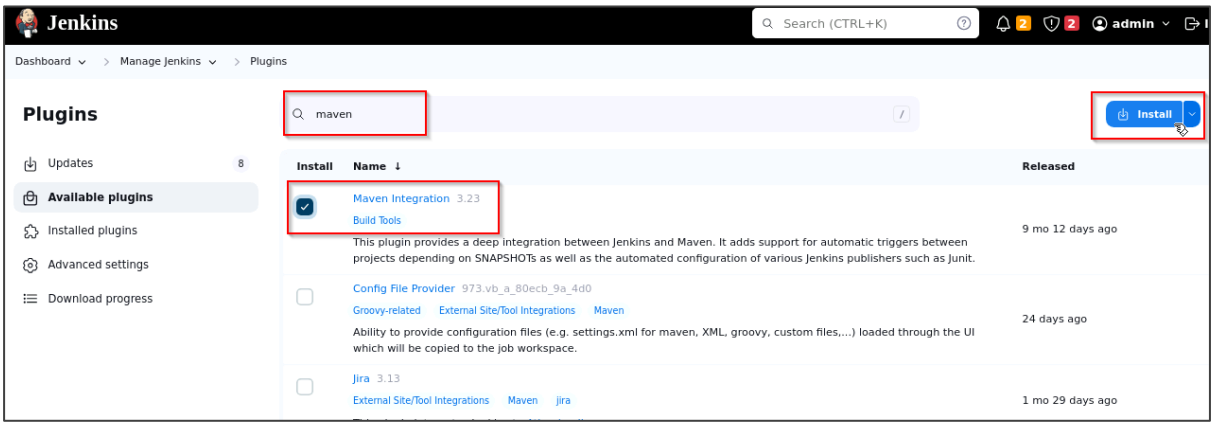
1.4 Go to **Manage Jenkins** in the Jenkins dashboard

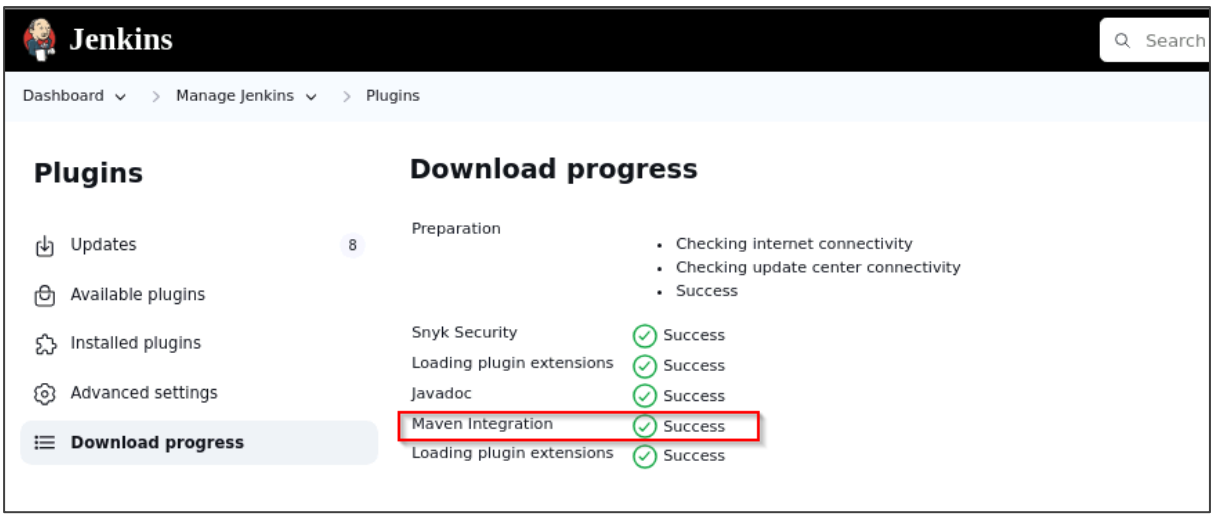



1.5 Navigate to **System Configuration** and click on **Plugins**




1.6 In the **Available Plugins** section, enter **maven** in the search bar, select the **Maven Integration** plugin, and click **Install**

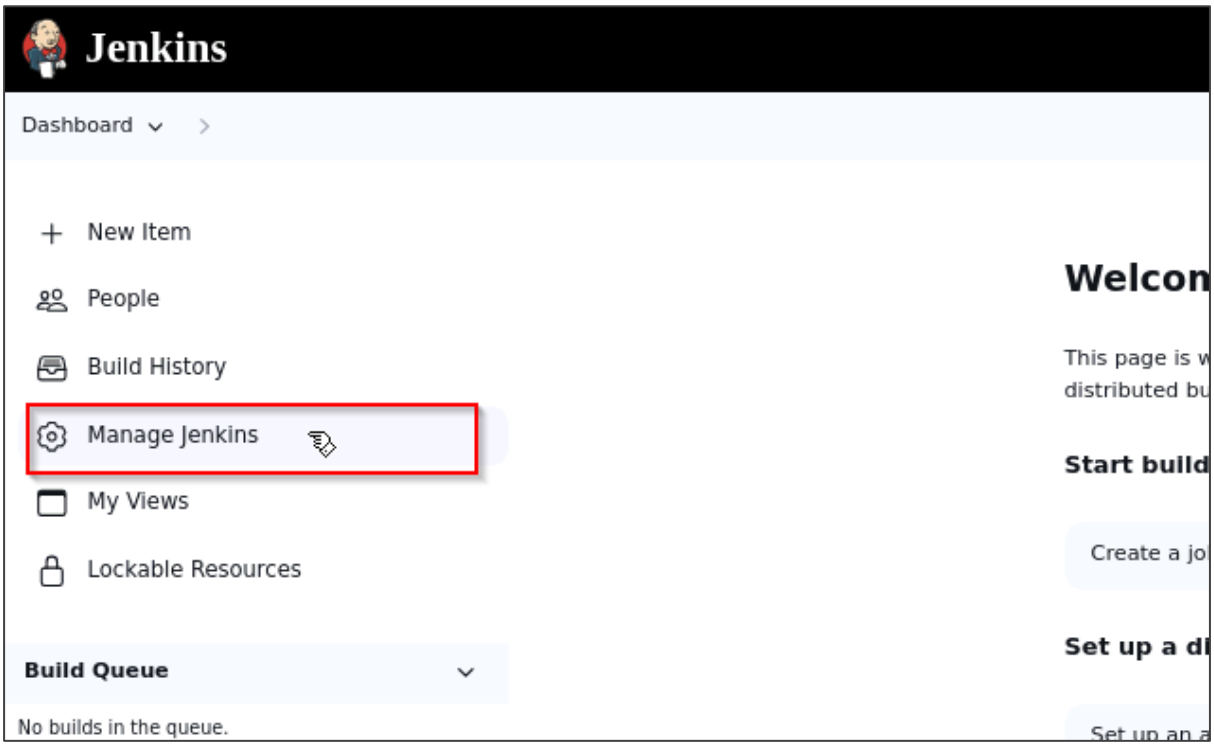




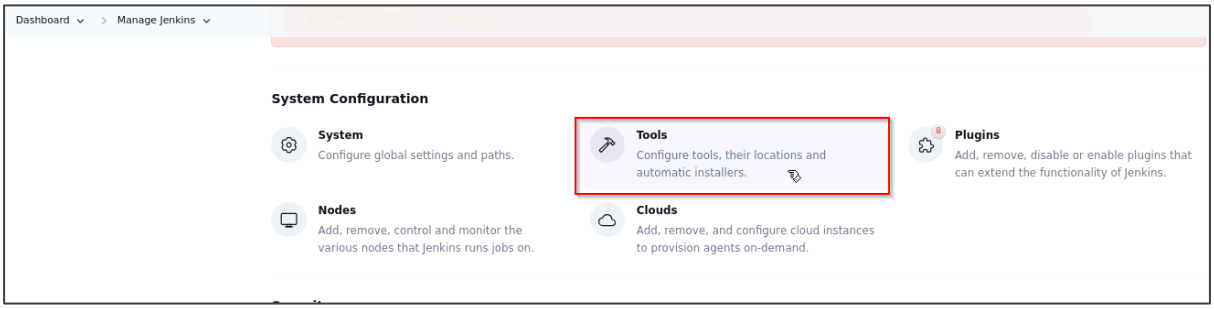

The **Maven Integration** plugin is successfully installed.

## Step 2: Configure the Maven and Snyk installations

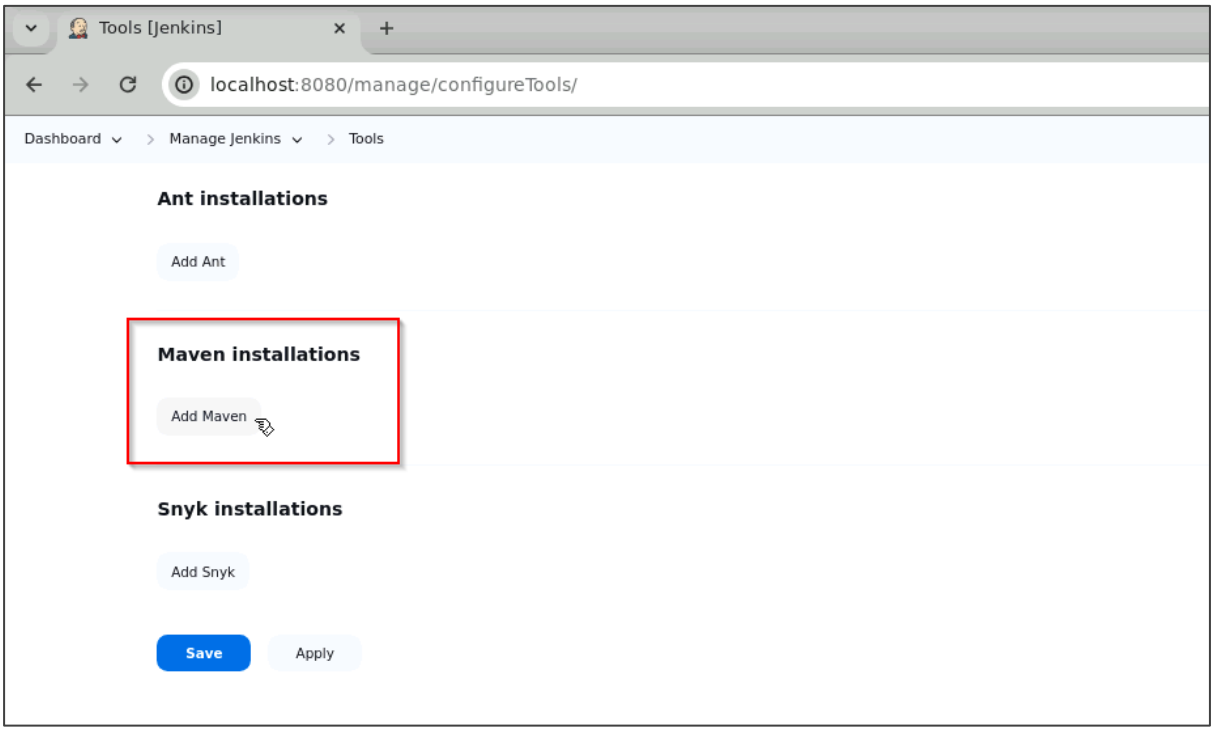
2.1 Go to the Jenkins dashboard and click on **Manage Jenkins**



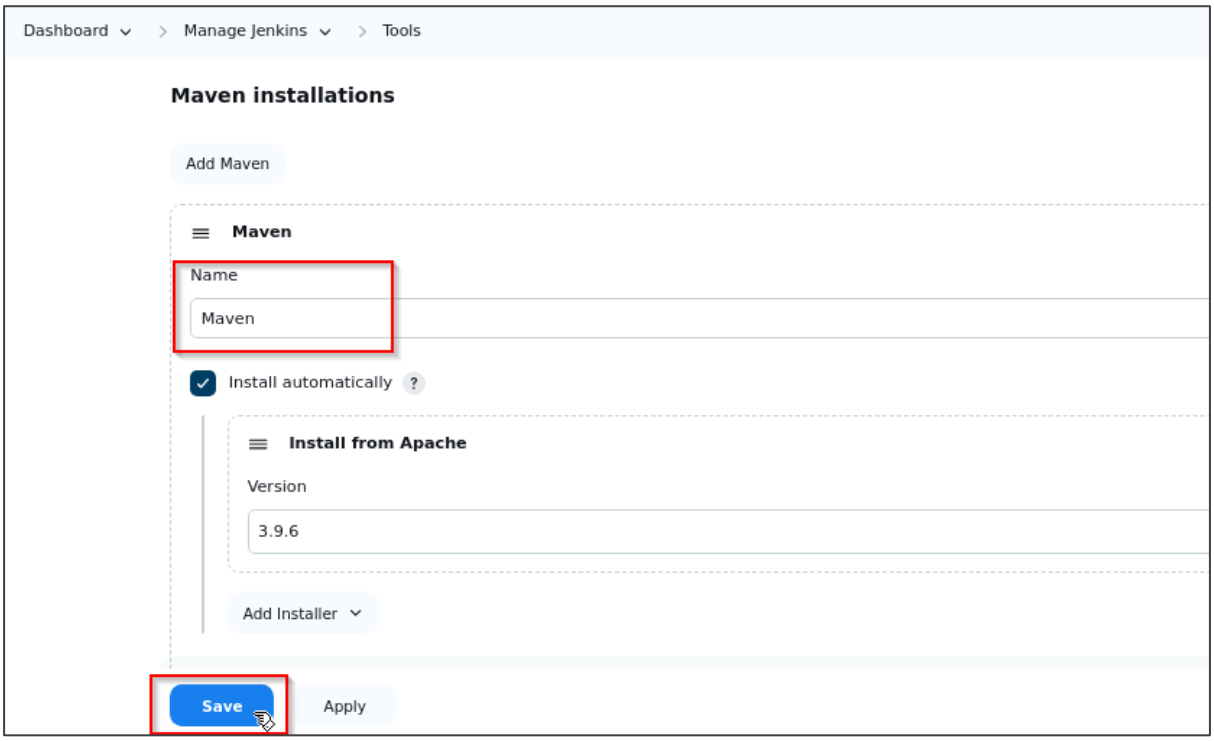
2.2 Navigate to **System Configuration** and click on **Tools**




2.3 Under **Maven Installations**, click on **Add Maven**

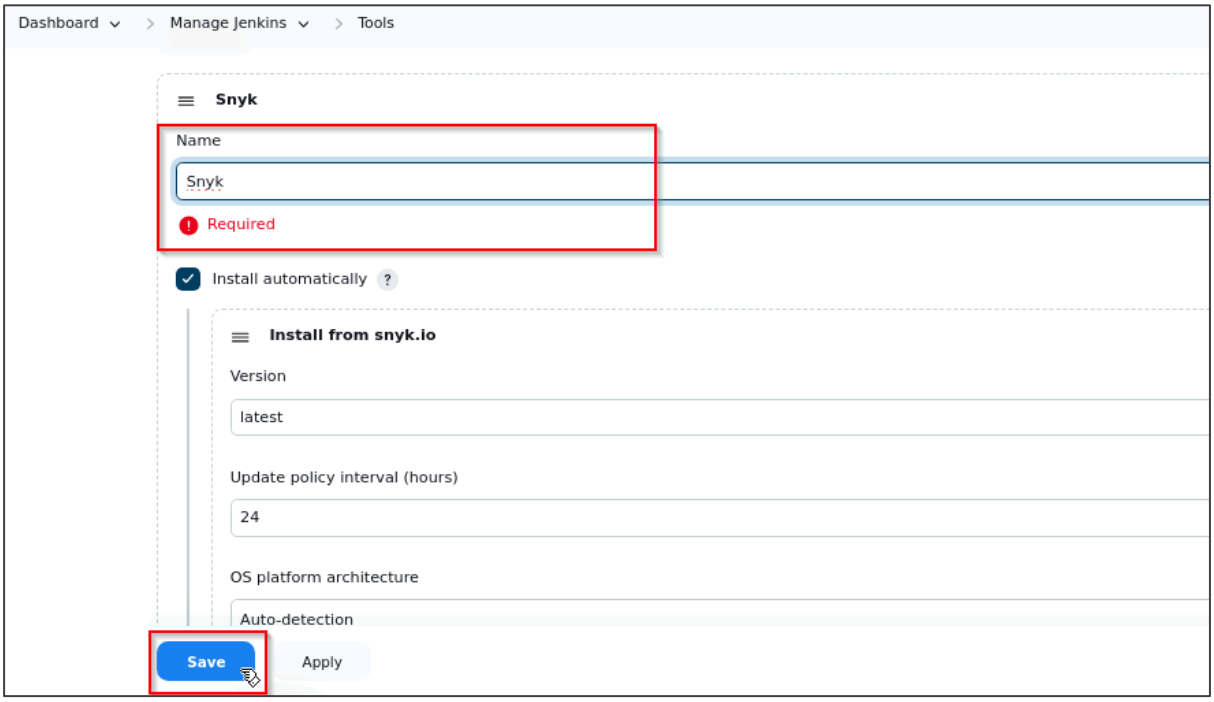


2.4 Type **Maven** in the **Name** field and then click on **Save**



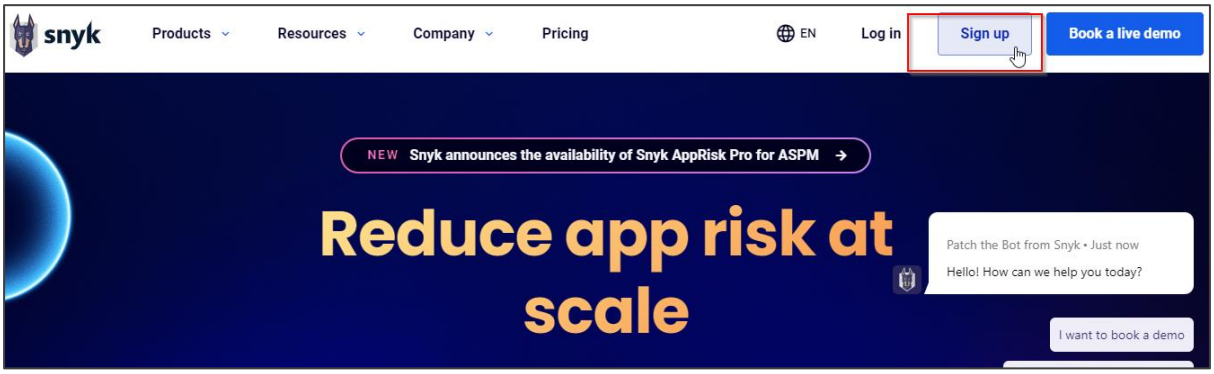

2.5 Under **Snyk Installations,** click on **Add Snyk**

2.6 Type **Snyk** in the **Name** field and then click on **Save**

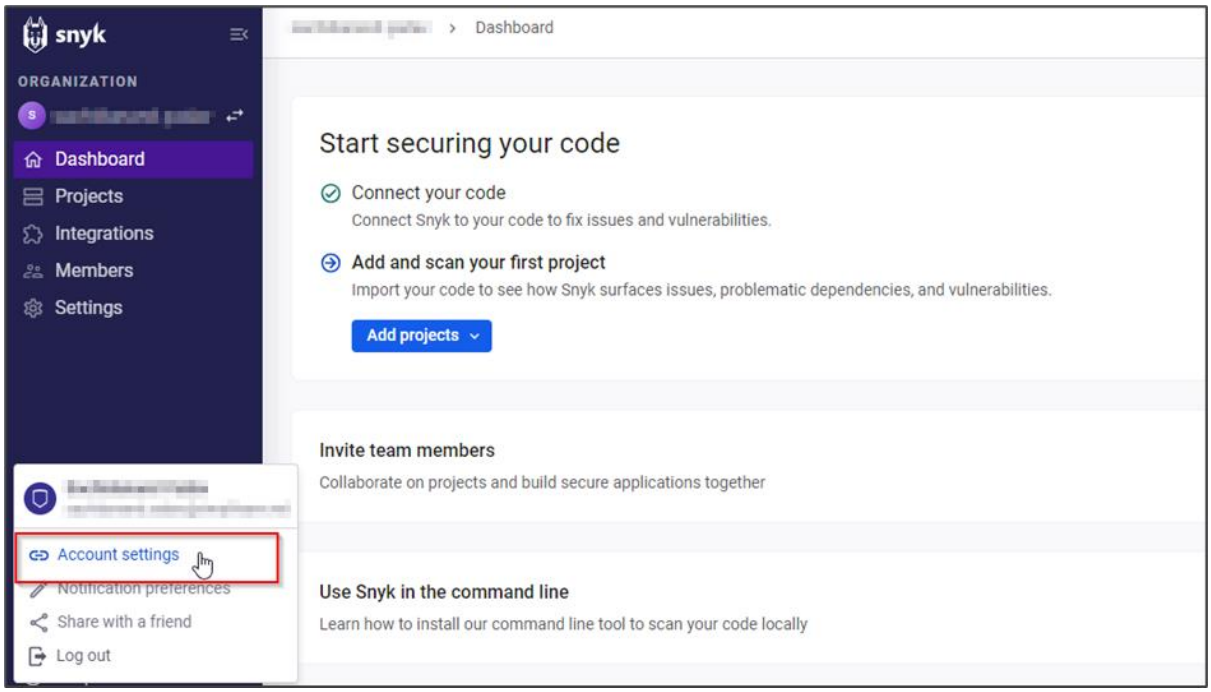



Now you need to get the API token from Snyk, so follow the below steps for getting the API token.

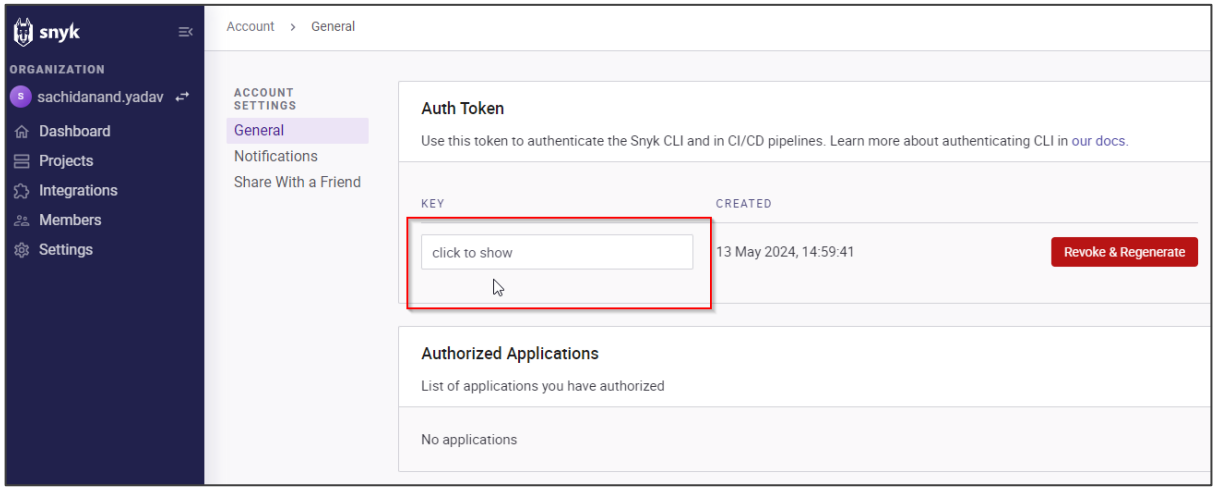
2.7 Visit **https://snyk.io/** and create a new Snyk account



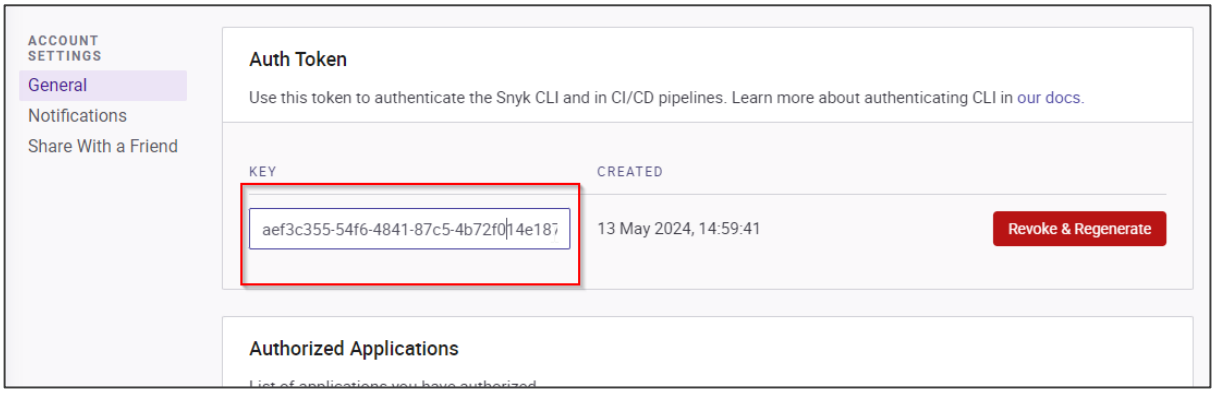
2.8 Click on the **Account settings** option



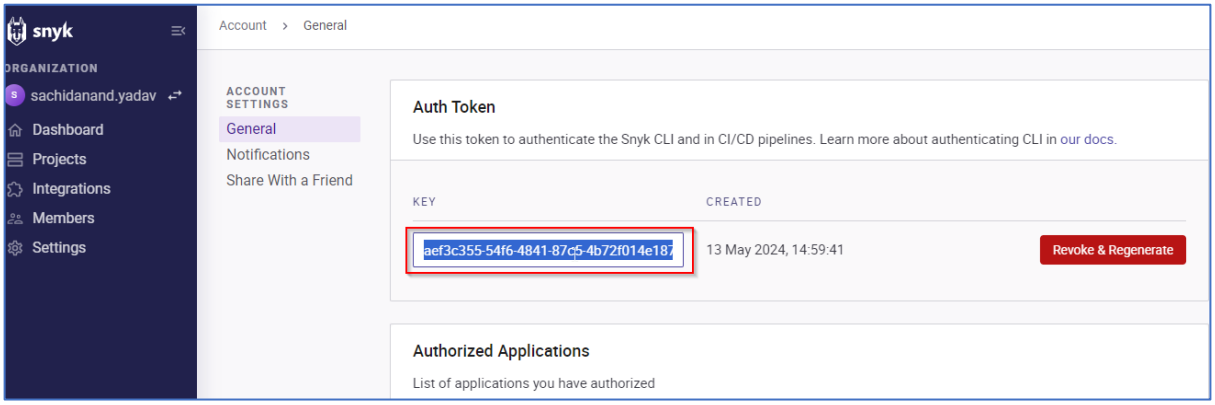

2.9 Under the **Auth Token** section, click the **click to show** button under the **KEY** field to reveal the hidden token key



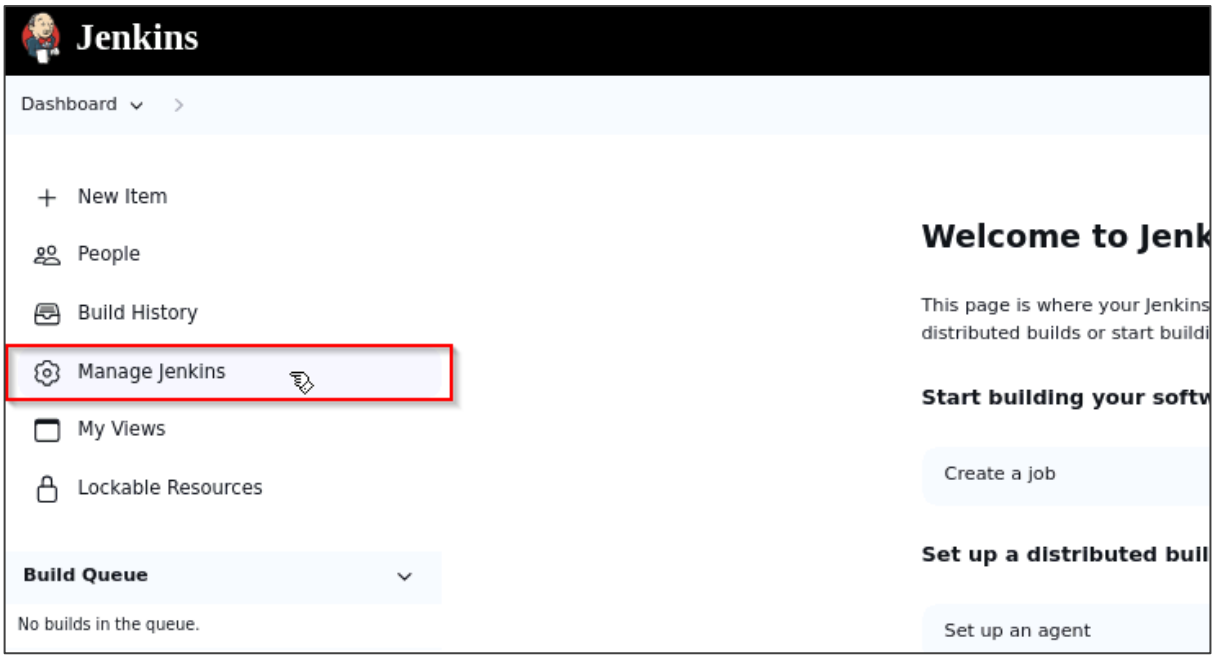
2.10 Under the **Auth Token** section, click the **Click to Show button** under the **KEY** field to reveal the hidden token key



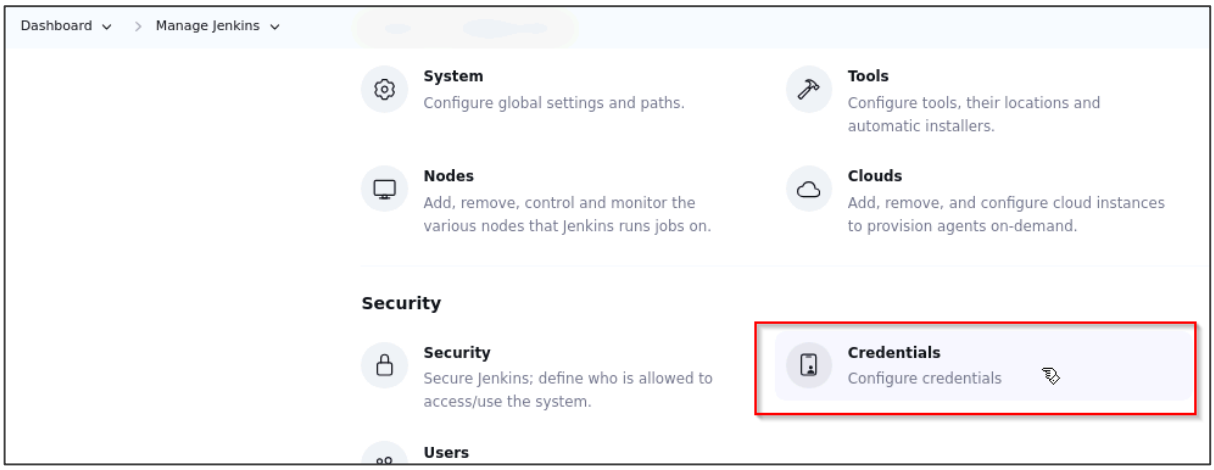

2.11 Copy the Snyk authentication token



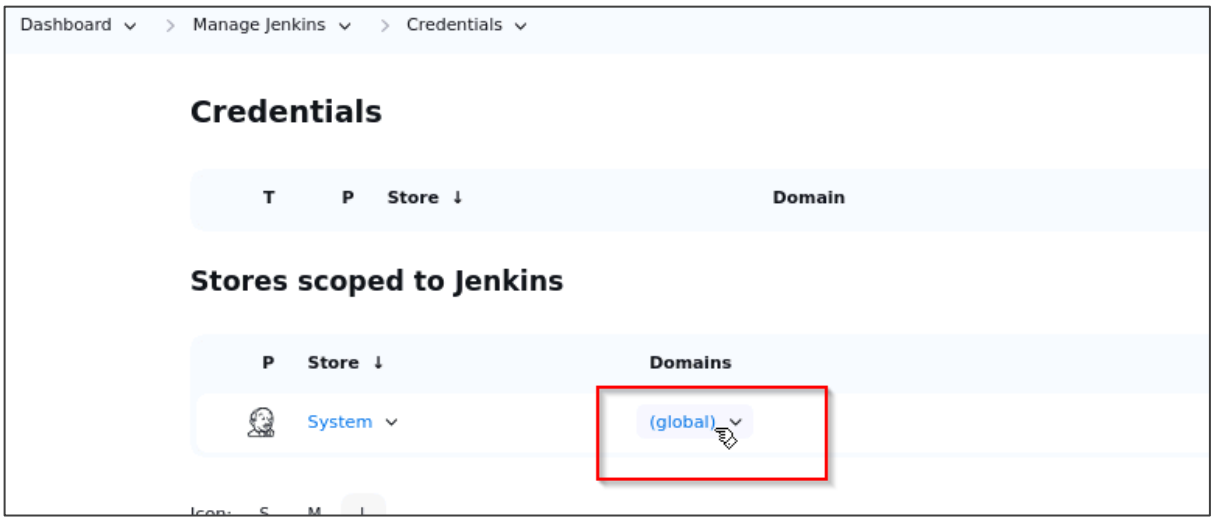

2.12 Navigate back to the Jenkins dashboard and click on **Manage Jenkins**



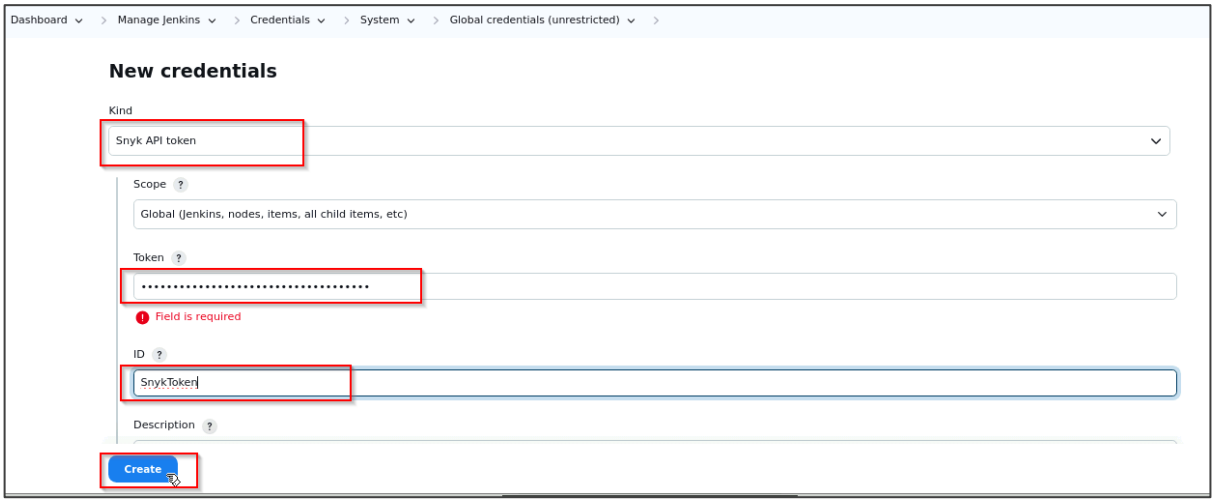
2.13 Select the **Credentials** option under **Manage Jenkins**




2.14 Click on the **global** option under the **Domains** column



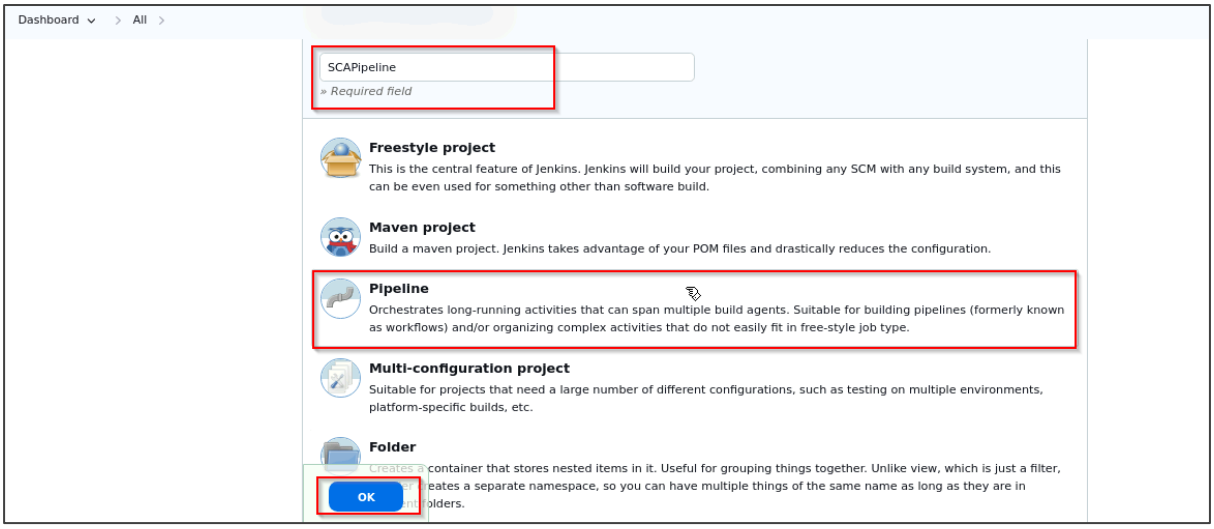

2.15 Select **Snyk API token** under the **Kind** field, paste the copied key from step 2.11 in the **Token** field, select ID as **SnykToken,** and click on **Create**



## Step 3: Create a new Jenkins pipeline job

3.1 Go to the Jenkins dashboard and click on **New Item**

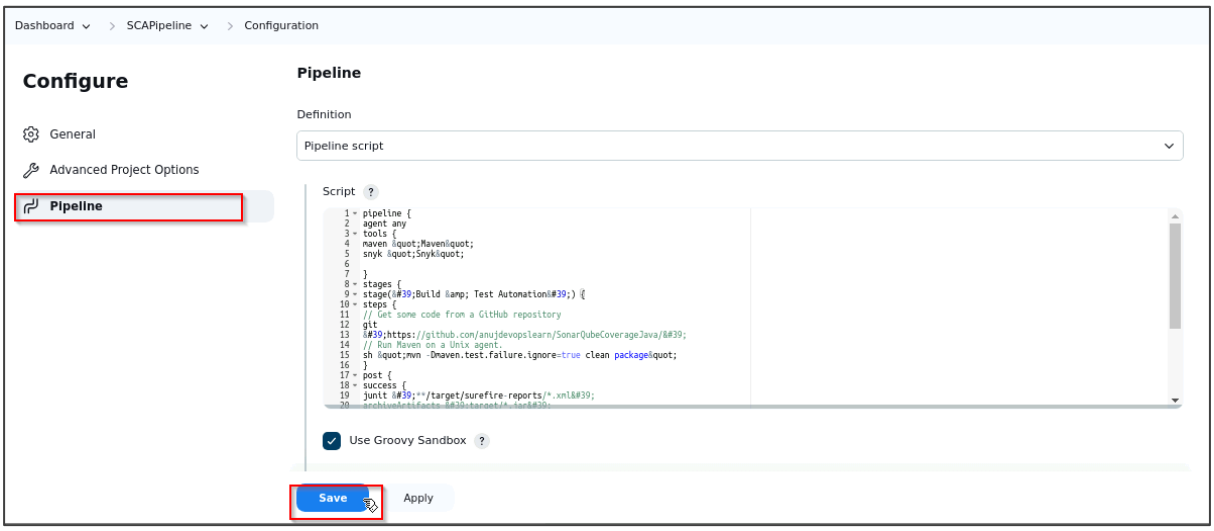

3.2 Enter the item name as **SCAPipeline**, select the type as **Pipeline,** and click on the **OK** button



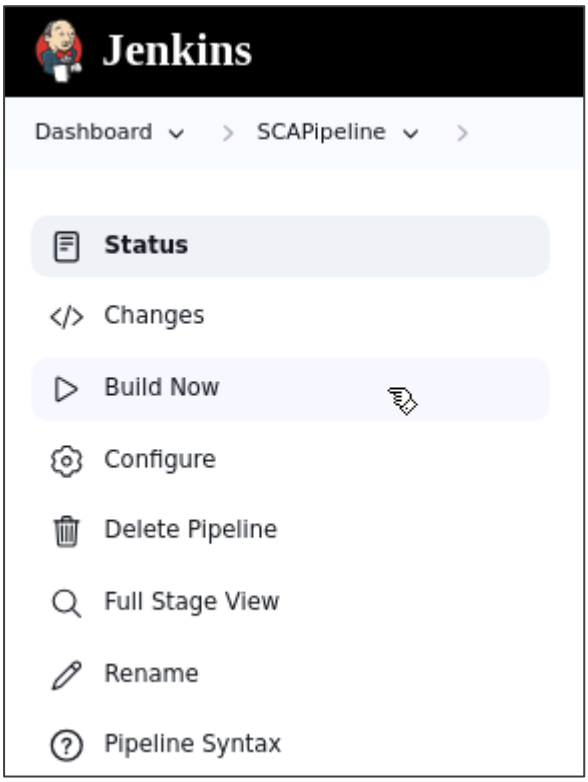

3.3 Enter the below code in the pipeline script and click on **Save**:

```
pipeline {
   agent any

   tools {
      maven "Maven"
                  snyk "Snyk"
   }

   stages {
      stage('Build & Test Automation') {
         steps {
```

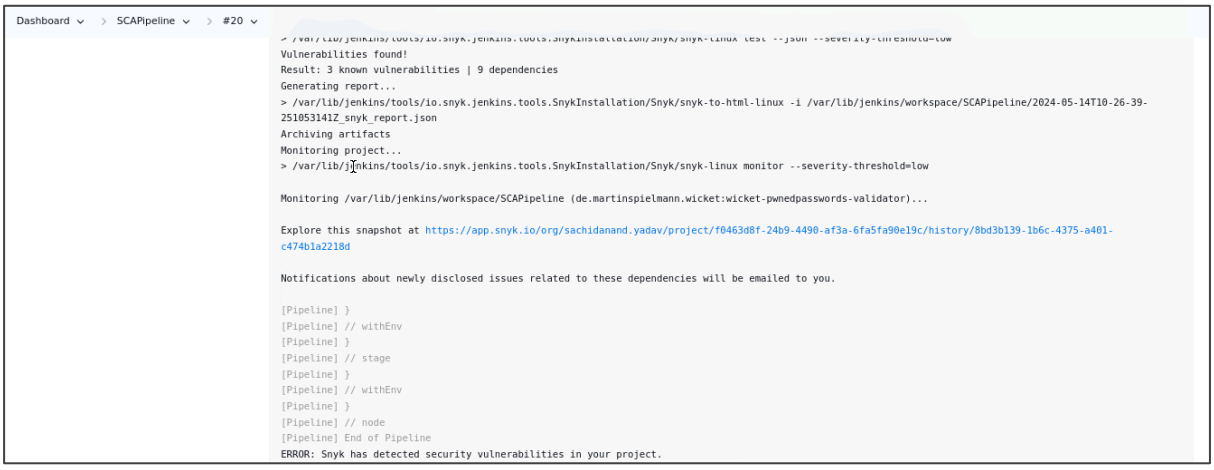
```
            // Get some code from a GitHub repository
            git 'https://github.com/anujdevopslearn/SonarQubeCoverageJava/'

            // Run Maven on a Unix agent.
            sh "mvn -Dmaven.test.failure.ignore=true clean package"
        }

        post {
            success {
                junit '**/target/surefire-reports/*.xml'
                archiveArtifacts 'target/*.jar'
            }
        }
    }
    stage('SCA Scan') {
        steps {
            snykSecurity snykInstallation: 'Snyk', snykTokenId: 'SnykToken'
        }
    }
  }
}
```



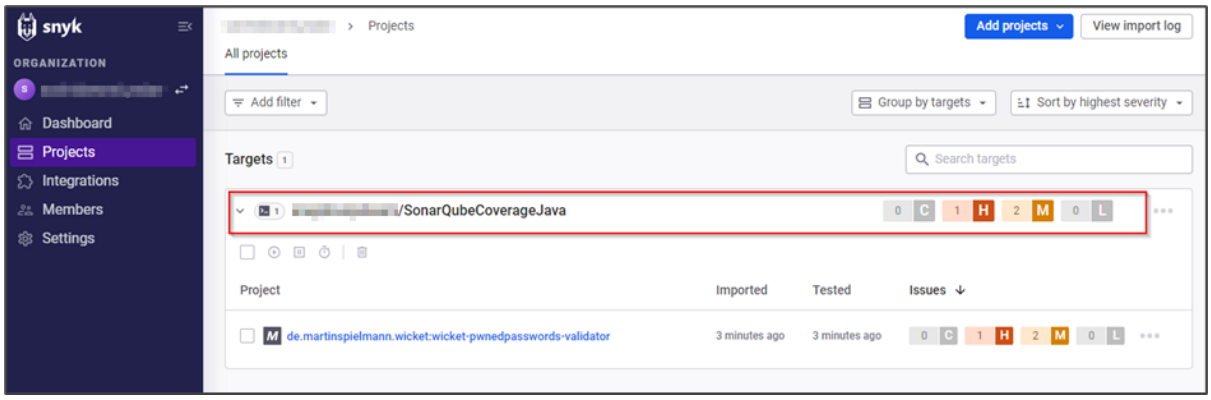
3.4 Click on the **Build Now** option to execute the job



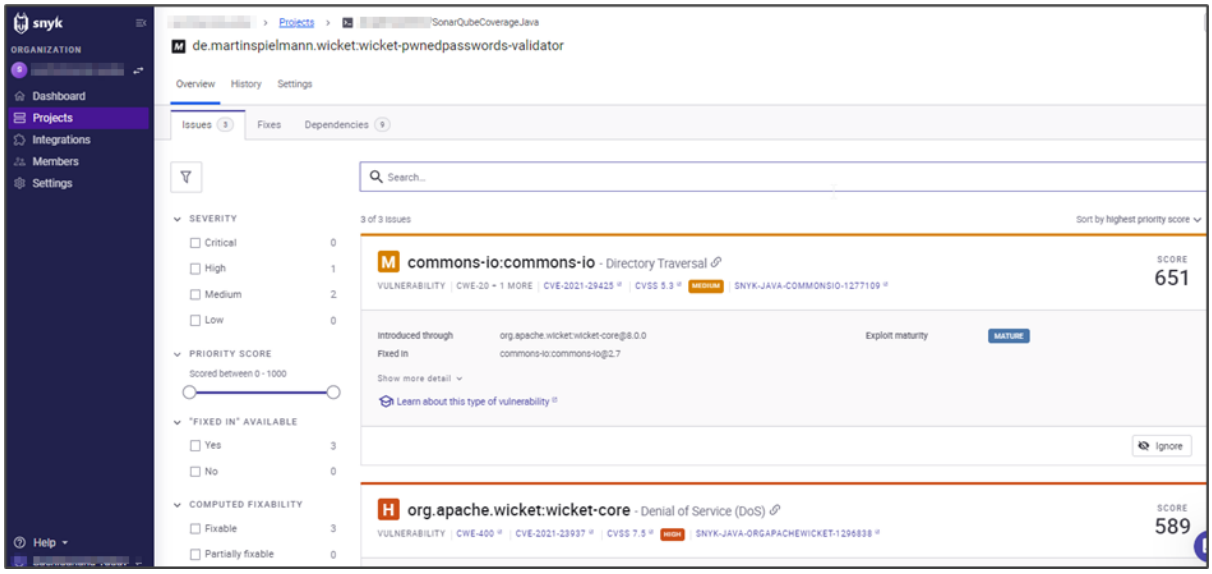

The output of the build will be as shown below:



3.5 Navigate to the Synk interface and click on the **Projects** tab




You can review code scan reports. In case of any vulnerabilities, it would be mentioned on the portal. You can validate the vulnerability report from Snyk to understand the security-related bugs.




By following these steps, you have effectively demonstrated how to automate SCA scans by integrating the Snyk plugin with Jenkins, enhancing the efficiency of vulnerability detection within Jenkins build jobs.