



Shri Vile Parle Kelavani Mandal's
DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING
(Autonomous College Affiliated to the University of Mumbai)
NAAC Accredited with "A" Grade (CGPA : 3.18)



**DEPARTMENT OF
INFORMATION TECHNOLOGY**

COURSE CODE: DJS22ITHN1L1

DATE: 06-03-2025

COURSE NAME: DevOps Laboratory

CLASS: TY

NAME: Anish Sharma

ROLL: I011

DIV: IT1-1

EXPERIMENT NO. 3

CO/LO: Apply DevOps principles to meet software development requirements.

AIM / OBJECTIVE: To install Jenkins and perform Java and Python Programs.

THEORY:

Installing Jenkins and Running Java & Python Programs

1. Install Jenkins

- **Prerequisite:** Install Java (JDK).
 - Windows/Linux/macOS: Install OpenJDK (sudo apt install openjdk-11-jdk for Ubuntu).
- **Install Jenkins:**
 - Windows: Download from [Jenkins official site](https://jenkins.io/).

2. Running Java & Python Programs in Jenkins

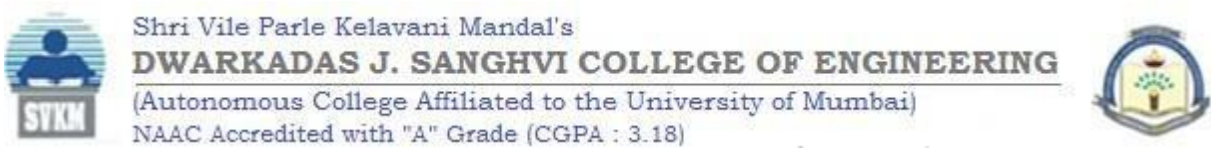
- **For Java:** Add a Jenkins job with javac Program.java && java Program
- **For Python:** Use python3 script.py in Jenkins job configuration.

Jenkins automates execution, making CI/CD easier.

OUTPUT:

The screenshot displays the Jenkins Dashboard. On the left, there is a sidebar with navigation links: 'New Item', 'Build History', 'Manage Jenkins', and 'My Views'. The main area shows a table of build history with columns: 'S' (Status), 'W' (Workspace), 'Name', 'Last Success', 'Last Failure', and 'Last Duration'. The table lists three builds: 'devops_assg' (Success, 13 days, #8, 2 min 43 sec), 'sample' (Success, 13 days, #1, 0.2 sec), and 'Test' (Success, 27 days, #1, 8.3 sec). Below the table, there is a 'Build Queue' section showing 'No builds in the queue.' and a 'Build Executor Status' section showing '0/2'.

S	W	Name	Last Success	Last Failure	Last Duration
✓	📁	devops_assg	13 days #8	13 days #7	2 min 43 sec
✓	📁	sample	13 days #1	N/A	0.2 sec
✓	📁	Test	27 days #1	N/A	8.3 sec



Dashboard > Manage Jenkins > Plugins

Plugins

Updates

Available plugins

Installed plugins

Advanced settings

Search installed plugins

Name	Enabled
Ant 511.v0a_a_1a_334f41b_ Adds Apache Ant support to Jenkins Report an issue with this plugin	<div><div></div></div>
Apache HttpComponents Client 4.x API Plugin 4.5.14-269.vfa_2321039a_83 Bundles Apache HttpComponents Client 4.x and allows it to be used by Jenkins plugins. Report an issue with this plugin	<div><div></div></div>
ASM API Plugin 9.7.1-97.v4ccb44130d97 This plugin provides the ASM APIs (v9.7.1) for other plugins. Report an issue with this plugin	<div><div></div></div>
Bootstrap 5 API 5.3.3-1 Provides Bootstrap 5 for Jenkins Plugins. Bootstrap is (according to their self-perception) the world's most popular front-end component library to build responsive, mobile-first projects on the web. Report an issue with this plugin	<div><div></div></div>

Dashboard > All > Build History

+ New Item

Build History

Manage Jenkins

My Views

Build Queue

No builds in the queue.

Build Executor Status

0/2

Build History of Jenkins

S	Build	Time Since	Status
<div></div>	devops_assg #8	13 days	back to normal
<div></div>	devops_assg #7	13 days	broken for a long time
<div></div>	sample #1	13 days	stable
<div></div>	devops_assg #6	13 days	broken for a long time
<div></div>	devops_assg #5	13 days	broken for a long time
<div></div>	devops_assg #4	13 days	broken for a long time
<div></div>	devops_assg #3	13 days	broken for a long time
<div></div>	devops_assg #2	13 days	broken for a long time
<div></div>	devops_assg #1	13 days	broken since this build
<div></div>	Test #1	27 days	stable

Dashboard > Manage Jenkins > Plugins

Plugins

Updates

Available plugins

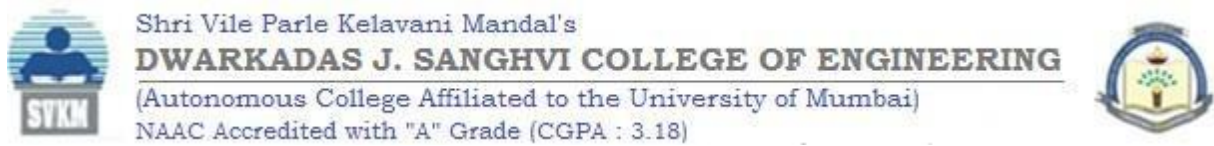
Installed plugins

Advanced settings

Search plugin updates

Update

Name	Released	Installed
<div><div></div></div> <div>Ant 513.vde9e7b_a_0da_0f Build Tools Adds Apache Ant support to Jenkins</div> <div>11 days ago</div> <div>511.v0a_a_1a_334f41b_</div>		
<div><div></div></div> <div>Bootstrap 5 API 5.3.3-2 Library plugins (for use by other plugins) Provides Bootstrap 5 for Jenkins Plugins. Bootstrap is (according to their self-perception) the world's most popular front-end component library to build responsive, mobile-first projects on the web.</div> <div>16 days ago</div> <div>5.3.3-1</div>		
<div><div></div></div> <div>Build Timeout 1.36 Build Wrappers This plugin allows you to automatically terminate a build if it's taking too long.</div> <div>15 days ago</div> <div>1.35</div>		
<div><div></div></div> <div>Caffeine API 3.2.0-161.v691ef9352cee1</div> <div></div> <div></div>		



Dashboard > Manage Jenkins > Plugins

Plugins

Search available plugins

Install

Updates

Available plugins

Installed plugins

Advanced settings

Install	Name	Released
<input type="checkbox"/>	JavaMail API 1.6.2-11 Library plugins (for use by other plugins) This plugin provides the JavaMail API for other plugins.	11 days ago
<input type="checkbox"/>	Command Agent Launcher 118.v72741845c17a_ Agent Management Allows agents to be launched using a specified command.	1 mo 12 days ago
<input type="checkbox"/>	Oracle Java SE Development Kit Installer 83.v417146707a_3d Allows the Oracle Java SE Development Kit (JDK) to be installed via download from Oracle's website.	1 mo 13 days ago
<input type="checkbox"/>	Pipeline: REST API 2.37 User Interface Provides a REST API to access pipeline and pipeline run data.	20 days ago

CONCLUSION:

Jenkins is a powerful automation tool that simplifies Continuous Integration and Deployment (CI/CD). By installing Jenkins and configuring it to run Java and Python programs, developers can automate builds, testing, and execution efficiently. This enhances productivity, reduces manual effort, and ensures consistency in software development workflows.