

# Jenkins Plugins

Jenkins plugins are the backbone of Jenkins' extensibility.

They allow Jenkins to integrate with countless tools – from source code management (Git, GitHub) to CI/CD, cloud platforms, testing, and security tools.

With plugins, Jenkins transforms from a simple automation server into a complete DevOps orchestration platform.

## 1. What Are Jenkins Plugins?

A Jenkins plugin is an add-on that extends the functionality of Jenkins.

Plugins can:

- Add new build steps, post-build actions, or triggers.
- Integrate external tools (GitHub, Docker, SonarQube, AWS, etc.).
- Provide UI enhancements, reporting dashboards, or security options.

Example:

Without plugins → Jenkins can only run basic shell commands.

With plugins → Jenkins can build Maven projects, scan Docker images, trigger AWS deployments, and publish reports.



# JENKINS

## 2. Managing Plugins in Jenkins

### Accessing Plugin Manager

Screenshot of the Jenkins Manage Jenkins interface:

The URL is [15.207.71.82:8080/manage/](http://15.207.71.82:8080/manage/)

**System Configuration**

- System**: Configure global settings and paths.
- Nodes**: Add, remove, control and monitor the various nodes that Jenkins runs jobs on.
- Tools**: Configure tools, their locations and automatic installers.
- Clouds**: Add, remove, and configure cloud instances to provision agents on-demand.
- Plugins**: Add, remove, disable or enable plugins that can extend the functionality of Jenkins.
- Appearance**: Configure the look and feel of Jenkins.

**Security**

- Security**: Secure Jenkins; define who is allowed to access/use the system.
- Credentials**: Configure credentials.
- Users**: Create/delete/modify users that can log in to this Jenkins.
- Credential Providers**: Configure the credential providers and types.

**Updates - Plugins - Jenkins**

The URL is [15.207.71.82:8080/manage/pluginManager/](http://15.207.71.82:8080/manage/pluginManager/)

**Plugins**

**Updates** (17)

Name	Released	Installed	Health
Ant 520.vd082ecfb_16a_9	17 days ago	518.v8d8dc7945eca_	98
GitHub Branch Source 191.vc09e01781005	7 days 15 hr ago	1871.v50ffb_786515e	100
JSON Path API 2.10.0-202.v9c161e476	1 day 21 hr ago	2.9.0-190.veefca_05d5477	100
JUnit 1369.v15da_00283f06	16 days ago	1363.v2ea_b_461a_1480	97
Metrics 4.2.37-469.vb_6db_69b_ce753	16 days ago	4.2.37-487.v7d6048d8733c	100
Pipeline: Declarative 2.2277.v00573e73ddf1	8 days 21 hr ago	2.2273.v643f36ed9e94	98
Pipeline: Declarative Extension Points API 2.2277.v00573e73ddf1	8 days 21 hr ago	2.2273.v643f36ed9e94	98



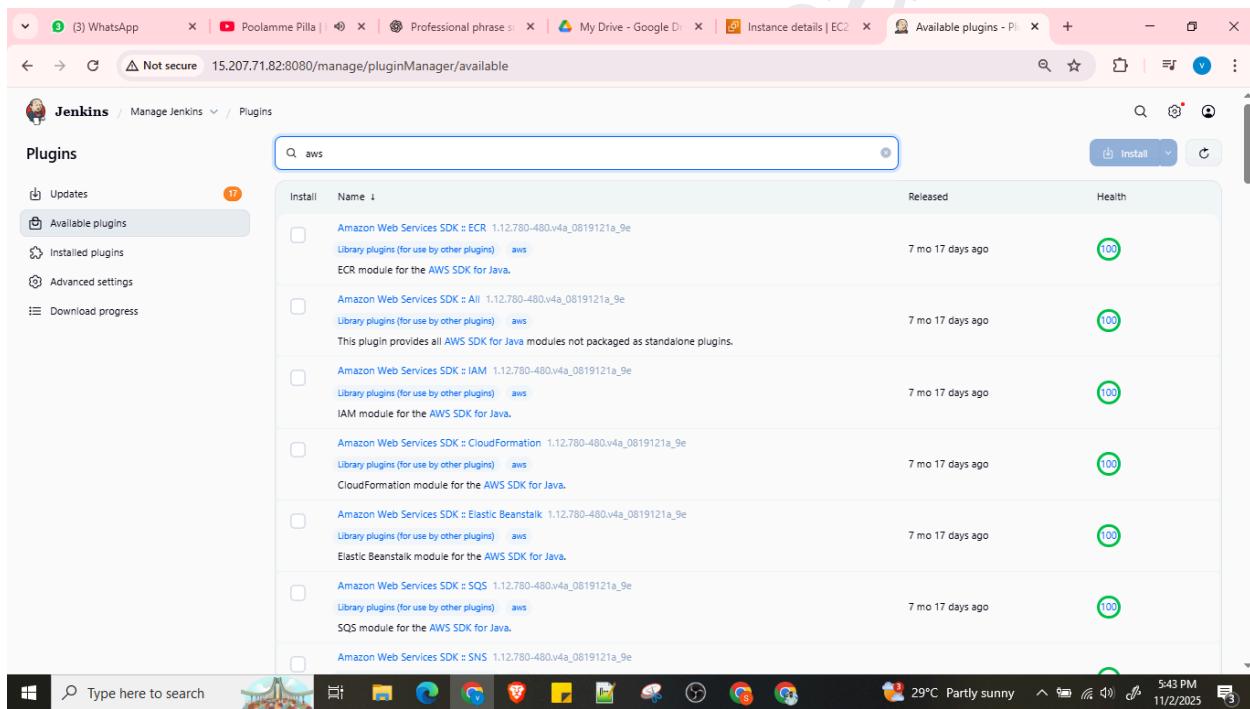
# JENKINS

Navigate to:

Dashboard → Manage Jenkins → Plugins → Available / Installed / Updates / Advanced

Jenkins Plugin Manager has four tabs:

Tab	Description
Updates	Shows available updates for installed plugins
Available	Lists all new plugins you can install
Installed	Displays currently installed plugins
Advanced	Allows manual upload of .hpi or .jpi plugin files



The screenshot shows a browser window with multiple tabs open at the top. The active tab is 'Available plugins - Jenkins' with the URL '15.207.71.82:8080/manage/pluginManager/available'. The main content area is titled 'Plugins' and shows a search bar with 'aws' typed in. Below the search bar is a table with columns: 'Install', 'Name', 'Released', and 'Health'. There are eight rows in the table, each representing an AWS plugin: 'Amazon Web Services SDK :: ECR', 'Amazon Web Services SDK :: All', 'Amazon Web Services SDK :: IAM', 'Amazon Web Services SDK :: CloudFormation', 'Amazon Web Services SDK :: Elastic Beanstalk', 'Amazon Web Services SDK :: SQS', and 'Amazon Web Services SDK :: SNS'. Each row includes a checkbox for installation, the plugin name, its release date (7 months ago), and a green '100' health indicator.



# JENKINS

Screenshot of the Jenkins plugin manager showing search results for "azure".

**Plugins**

Search bar: Q azure

Install	Name	Released	Health
<input type="checkbox"/>	Azure SDK API 254.v895ca_4461c94	20 days ago	<span style="color: green;">100</span>
<input type="checkbox"/>	Azure Credentials 404.vd0fb_33a_8a_14e	3 days 19 hr ago	<span style="color: green;">95</span>
<input type="checkbox"/>	Microsoft Entra ID (previously Azure AD) 619.v53317a_30e630	26 days ago	<span style="color: green;">94</span>
<input type="checkbox"/>	Azure Commons 1.1.3	4 yr 6 mo ago	<span style="color: orange;">51</span>
<input type="checkbox"/>	Azure Key Vault 327.v9f37dc30312a_	23 days ago	<span style="color: green;">95</span>

This plugin is deprecated. In general, this means that it is either obsolete, no longer being developed, or may no longer work. [Learn more](#).

Bottom navigation: Available plugins (highlighted), Updates, Installed plugins, Advanced settings, Download progress.

Screenshot of the Jenkins plugin manager showing search results for "docker".

**Plugins**

Search bar: Q docker

Install	Name	Released	Health
<input type="checkbox"/>	Docker 1274.vc0203fd2e74	7 mo 29 days ago	<span style="color: green;">95</span>
<input type="checkbox"/>	Docker Commons 457.v0f52a_94f11a_3	5 mo 6 days ago	<span style="color: green;">97</span>
<input type="checkbox"/>	Docker Pipeline 634.vedc7242b_eda_7	19 days ago	<span style="color: green;">94</span>
<input type="checkbox"/>	Docker API 3.6.0-129.vf6f5db_c0f589	1 mo 0 days ago	<span style="color: green;">100</span>
<input type="checkbox"/>	docker-build-step 2.12	1 yr 5 mo ago	<span style="color: orange;">62</span>

Warning: This plugin version may not be safe to use. Please review the following security notices:

- CSRF vulnerability and missing permission check

Bottom navigation: Available plugins (highlighted), Updates, Installed plugins, Advanced settings, Download progress.

## Most Used Jenkins Plugins (NOT Installed by Default)

### 1. AWS Credentials Plugin

Used to add AWS Access Key & Secret Key securely.

### 2. Azure Credentials Plugin

Used to add Azure Service Principal credentials.

### 3. Docker Pipeline Plugin

Enables Docker build and push inside Jenkinsfile.

### 4. Docker Plugin

Allows Jenkins to communicate with Docker Engine.

### 5. Kubernetes Plugin

Used to spin up Jenkins agents dynamically in Kubernetes clusters.

### 6. SonarQube Scanner Plugin

Required for code quality & security analysis using SonarQube.

### 7. JFrog Artifactory Plugin

Used for pushing & pulling artifacts from Artifactory.

### 8. Slack Notification Plugin

Sends build notifications to Slack channels.



## JENKINS

### **9. Email Extension Plugin (Email-ext)**

Provides advanced email templates and custom notification triggers.

### **10. Role-Based Authorization Strategy Plugin**

Allows RBAC (role-based access control) in Jenkins.

### **11. Workspace Cleanup Plugin**

Cleans build workspace before or after runs.

### **12. SSH Agent Plugin**

Used for SSH key-based access to servers or Git repositories.

### **13. Build Timeout Plugin**

Automatically aborts jobs that exceed a time limit.

### **14. OWASP Dependency-Check Plugin**

Performs security scanning for vulnerable dependencies.

### **15. Pipeline: AWS Steps**

Adds advanced AWS steps like S3 upload, EC2 operations, etc.

### **16. Pipeline: GitHub Notifications**

Allows GitHub commit status updates from Jenkins.

### **17. Terraform Plugin**

Helps run Terraform init/plan/apply inside pipelines.