Jenkins: CI/CD

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Jenkins

- An open source continuous integration tool written in Java. The project was forked from Hudson after a dispute with Oracle.
- Jenkins provides continuous integration services for software development.
- It is a server-based system running in a servlet container such as Apache Tomcat.
- An award-winning tool that monitors executions of repeated jobs, such as building a software project or jobs run by cron.

Jenkins with .NET

- Install MSBuild, MSTest, MSTestRunner, VSTestRunner, and Git plugin using Plugin manager.
- Jenkins has a Master/Slave architecture.
- You can add as many nodes as needed.
- Jenkins can be configured to run on the cloud like Azure, AWS etc.

```
> service jenkins restart
- Browse: http://localhost:8080/restart
```

Jenkins Login

Welcome to Jenkins!

admin

••••••••••••••••••••••••••••••••

Sign in

Keep me signed in

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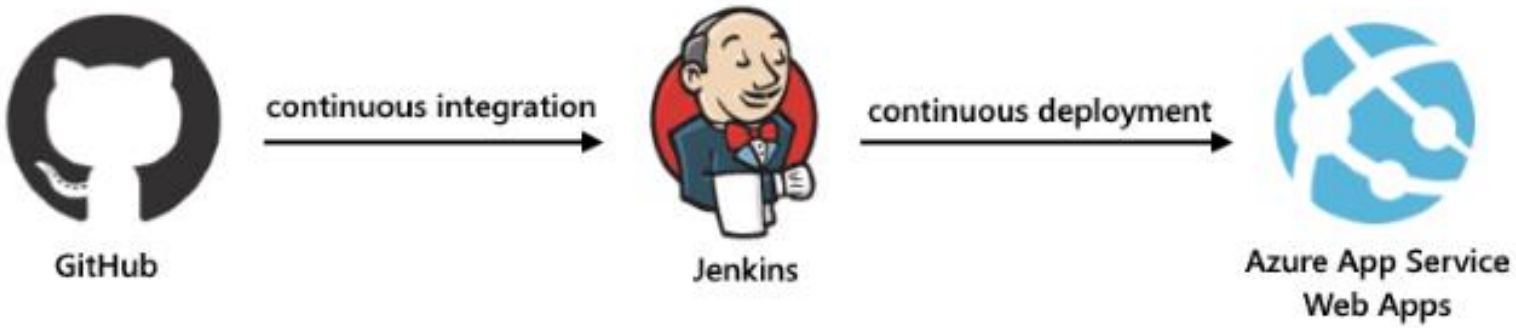
Jenkins Pipeline

```
pipeline {
 agent any
 environment {
  dotnet = 'C:\\Program Files\\dotnet\\dotnet.exe'
 }
 stages {
  stage('Checkout') {
   steps {
    git url: 'https://github.com/proshailendra/ASPNetCoreApp', branch: 'master'
   }
  }
  stage('Build') {
   steps {
    bat 'dotnet build ASPNETCoreApp.sln --configuration Release'
   }
  }
 }
}
```

Jenkins CI/CD with Azure Web App



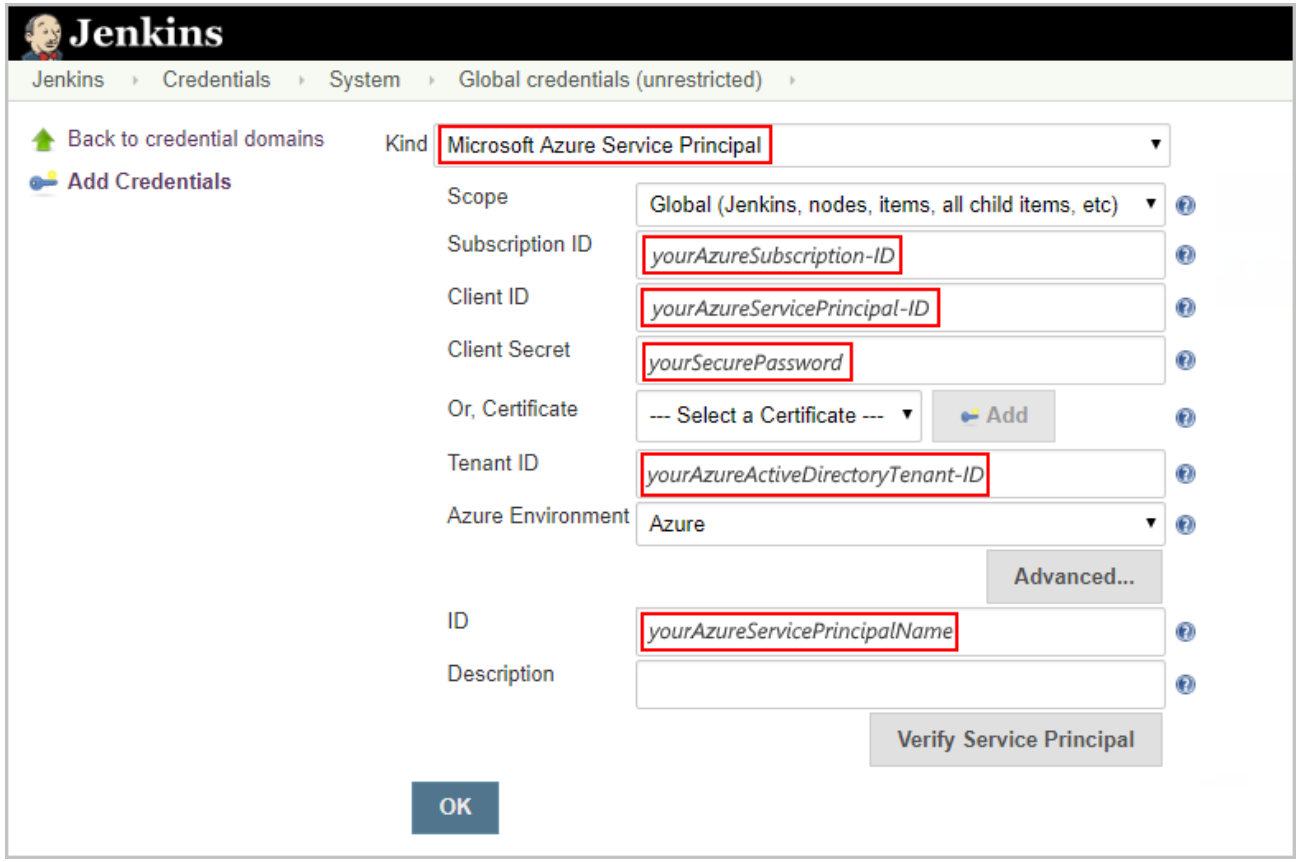
Jenkins CI/CD Plugins For Azure

- Azure Credentials
- Azure App Service
- Environment Injector
- Build Pipeline
- Jenkins Git client plugin

Setting Jenkins For Azure Deployment

> az ad sp create-for-rbac --name "webAppServicePrincipal"

```
{
  "appId": "37cfd6cb-3535-4904-972e-af33682676d2",
  "displayName": "webAppServicePrincipal",
  "name": "http://webAppServicePrincipal",
  "password": "25254d8f-7a51-4dc2-8a07-c2ebca78d111",
  "tenant": "d95c2423-fd55-4495-8a6f-0a9283991dca"
}
```



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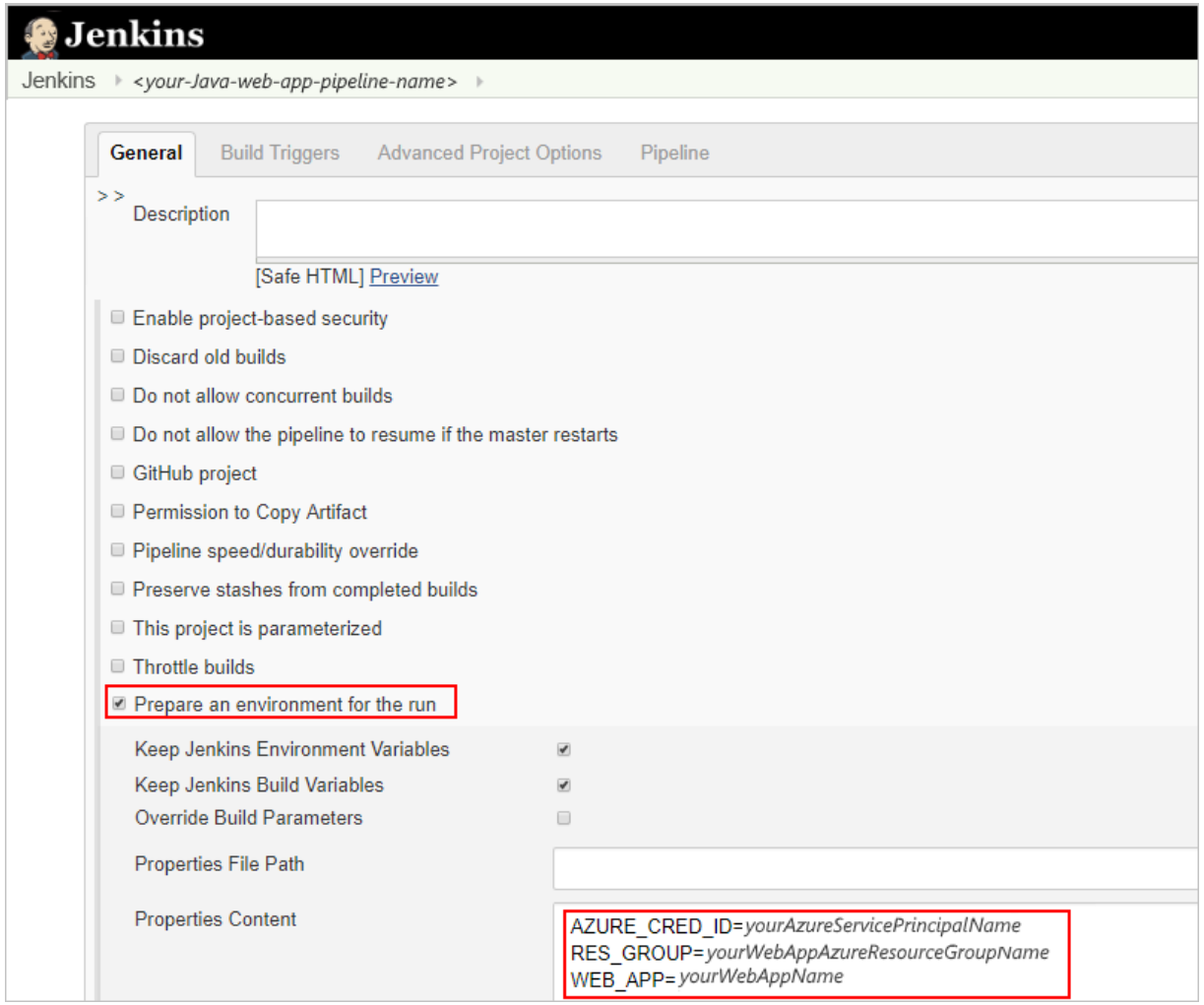
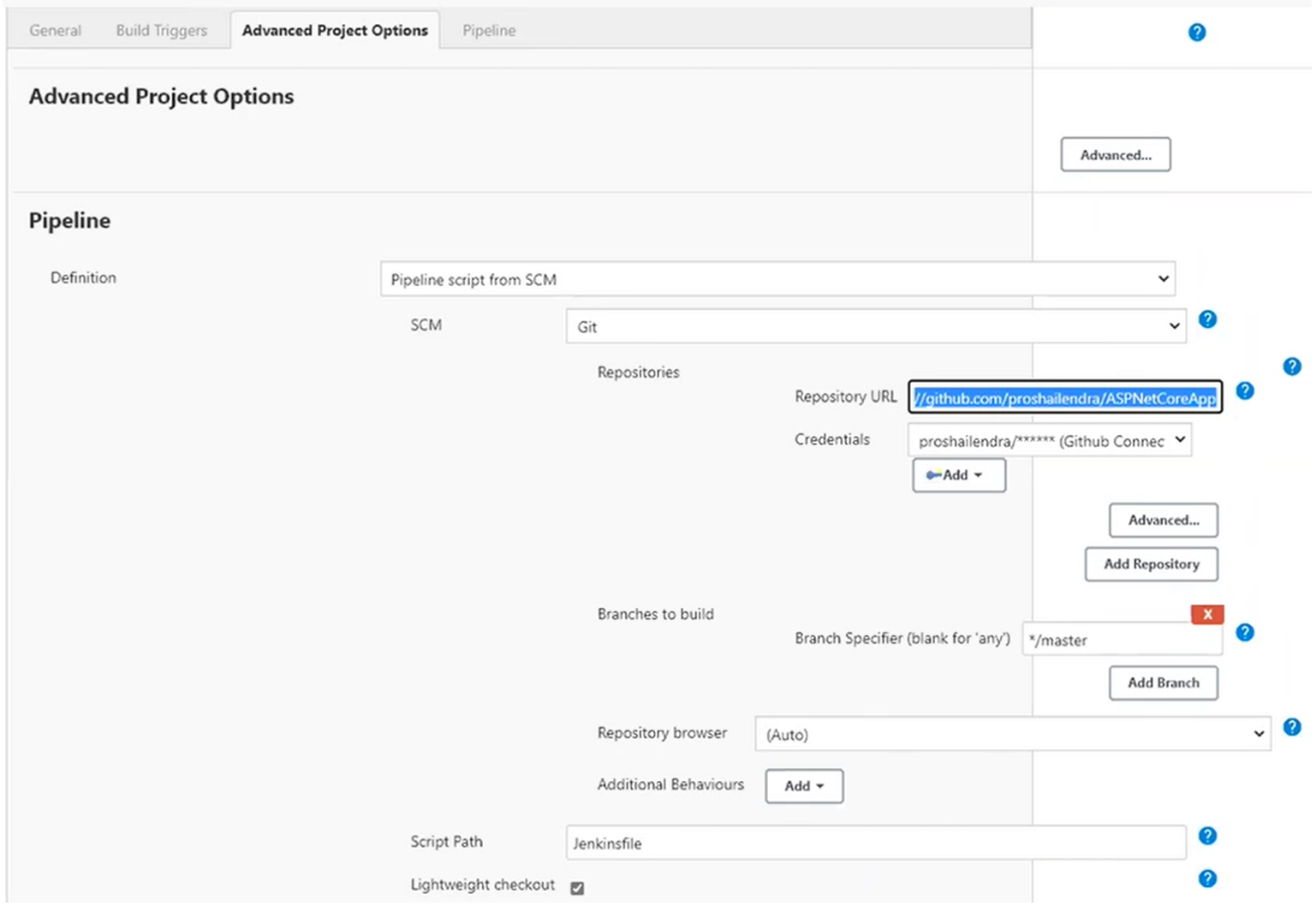
Defining Environment Variable

AZURE_CRED_ID=webAppServicePrincipal
RES_GROUP=TestDNTRG
WEB_APP=testdnt



Setting Source Control Manager (SCM)



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Octopus

- Octopus integrates nicely with build server like Jenkins, Teamcity and Azure DevOps
- Octopus makes it easy to handle configuration across environments.
- Octopus uses the same deployment packages across environments and makes it easy to track their progress across those environments.