

# Intermediate GitLab Tutorial: GitLab CI/CD

This Intermediate GitLab tutorial teaches GitLab CI/CD, a powerful feature for automating software development processes. Learn to build, test, and deploy applications efficiently by mastering CI/CD workflows. Gain hands-on experience with container images, AWS integration, GitLab Pages, and Microsoft Azure. Perfect for developers looking to optimize their workflows and boost productivity.

[CBT Nuggets course material](#) →

## WEEK 1

### Understanding CI/CD Automation Solutions

151 min.

Intro to CI/CD Automation Concepts	10
General Structure of CI/CD Pipelines	9
Understanding Package Registries with CI/CD Platforms	7
Storing Secrets for CI/CD Platform Consumption	10
Importance of CI/CD Platform Performance Metrics	11

### Intro to GitLab CI/CD Service

Overview	1
Intro to GitLab CI/CD Service	8
Understanding GitLab Runner Systems	9
Install GitLab Runner on Linux VM	11
Create a Basic GitLab Pipeline	9
Specify GitLab Pipeline Job Dependencies	8
Target GitLab Pipelines to Runners with Tags	6

### Intro to GitLab Pages

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Intro to GitLab Pages Service	11
Create GitLab Repository with Static Page	8
Add GitLab CICD Pipeline Config File	7
Deploy Self-Hosted GitLab CICD Runner	11
Add CSS Stylesheet and Extra Pages	12

## WEEK 2

### Build Container Images with GitLab CI/CD

154 min.

Overview	1
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Intro to Building Linux Container Images with GitLab	10
Deploy GitLab Runner with Privileged Docker Executor	10
Create GitLab CI/CD Pipeline and Explore Variables	10
Adding the GitLab Service Container with Docker Engine	8
Write Dockerfile and Test Container Image Build	11

### Deploy AWS Cloud Resources from GitLab CI/CD Pipelines

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Create the GitLab Project and CloudFormation Template	8
Create GitLab CI/CD Pipeline Definition	9
Call AWS CloudFormation Create Stack API with CLI	7
Add AWS IAM Credentials to GitLab Project	9
Update Existing AWS CloudFormation Stacks from GitLab CI/CD	8

### Integrate GitLab CI/CD with Microsoft Azure

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Create the GitLab CI/CD Pipeline File	7
Implement the Azure PowerShell Deployment Script	7
Configure Authentication for Microsoft Azure Subscription	9
Grant Azure Service Principal Role Assignment	7
Develop and Deploy Azure Resource Manager Templates	11

## WEEK 3

### Building More Complex GitLab CI/CD Pipelines 108 min.

Overview	1
Overview of More GitLab CI/CD Pipeline Features	10
Add Multi-line Scripts to GitLab CI/CD Pipelines	9
Specify Linux Container Images for GitLab CI/CD Jobs	8
Call External Script Files from GitLab CI/CD Pipelines	6
Call PowerShell Scripts from GitLab CI/CD with Container Image	9
Define Global and Job Variables in GitLab CI/CD Pipelines	8

### Using Artifacts and Services in GitLab CI/CD Pipelines

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Declare Artifact Upload for GitLab CI/CD Job	11
Consume Artifacts from GitLab CI/CD Job	10
Intro to Service Containers for GitLab Pipelines	8
Create Global Service Container for GitLab CI/CD Pipeline	8
Deploy Job-Specific Service Container in GitLab CI/CD	8