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DevOps Foundations: Version Control and CI/CD with Jenkins

Course-End Project 2: SlackUp Jenkins

Objective

To create a Slack channel to receive Jenkins build notifications and use it to invoke Jenkins jobs remotely by configuring the slash commands in Slack

Real-time scenario:

You are a DevOps Engineer at La' Market that recently adopted a microservices-based architecture for its flagship web application. Different development teams manage the respective functionalities of the application. To improve the efficiency of deploying updates and manage releases, the company has decided to enable developers to trigger Jenkins jobs directly from their Slack channels once the build is completed and the team's channel is notified on Slack. You are tasked with implementing Slack integration in Jenkins to remotely invoke Jenkins jobs from a Slack channel, facilitating automated deployment processes and enabling real-time updates and team collaboration.

Tasks

The following tasks outline the process of integrating Slack with Jenkins and setting up a Slack channel to remotely trigger Jenkins jobs:

1. *Create a Slack channel to get Jenkins build notifications*
2. *Configure Slack integration with the Jenkins plugin*
3. *Configure the post-build step to invoke Slack notification*
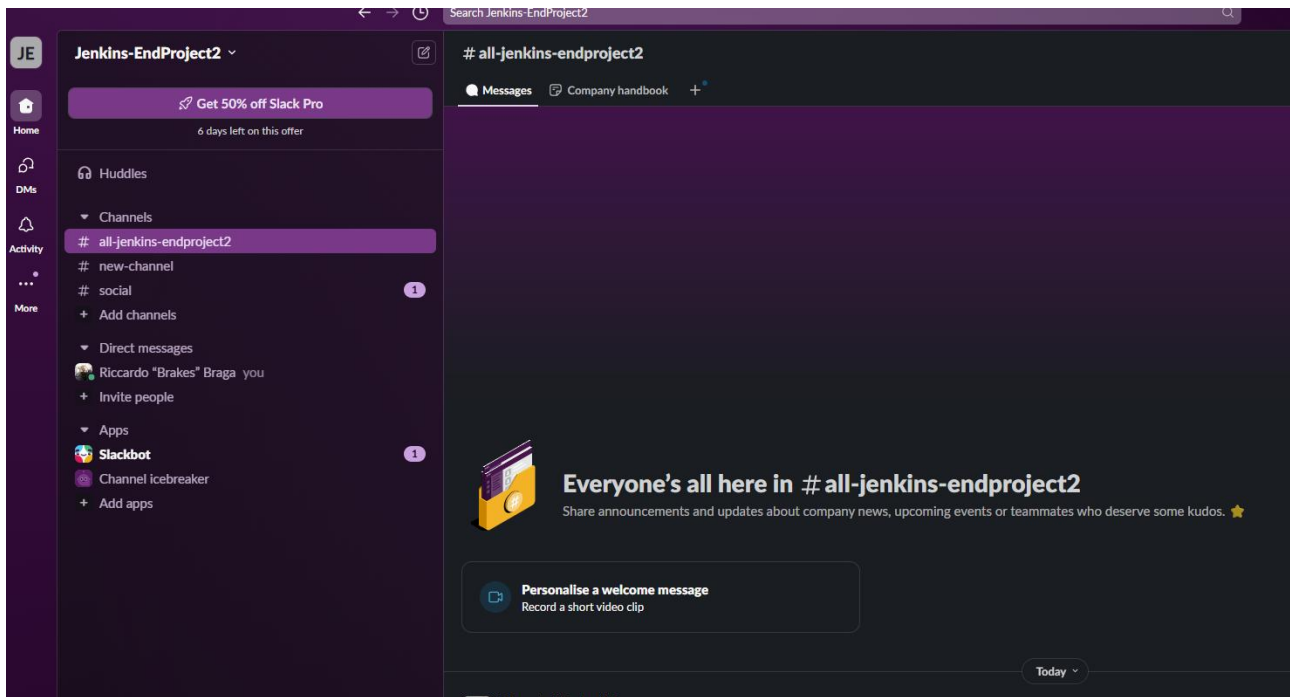4. *Configure the slash command in Slack to invoke the Jenkins job*

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Solution

Task 1: Create a Slack channel to get Jenkins build notifications

Created a dedicated workspace in Slack

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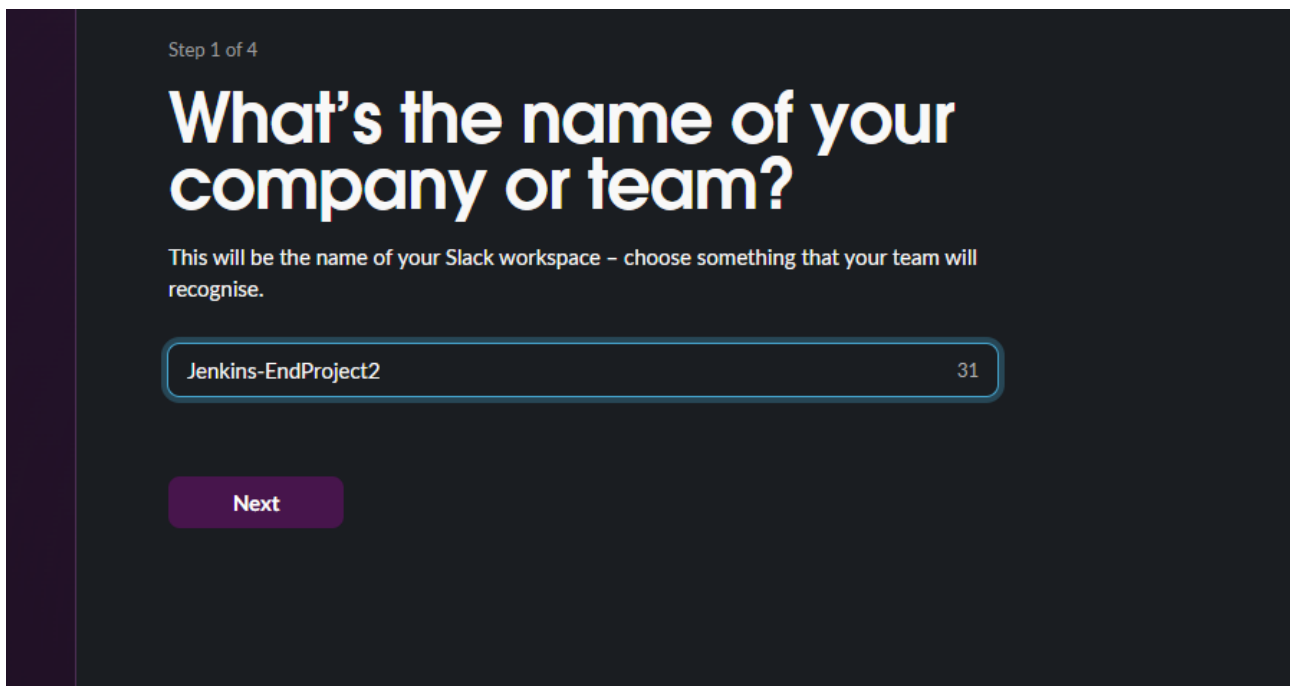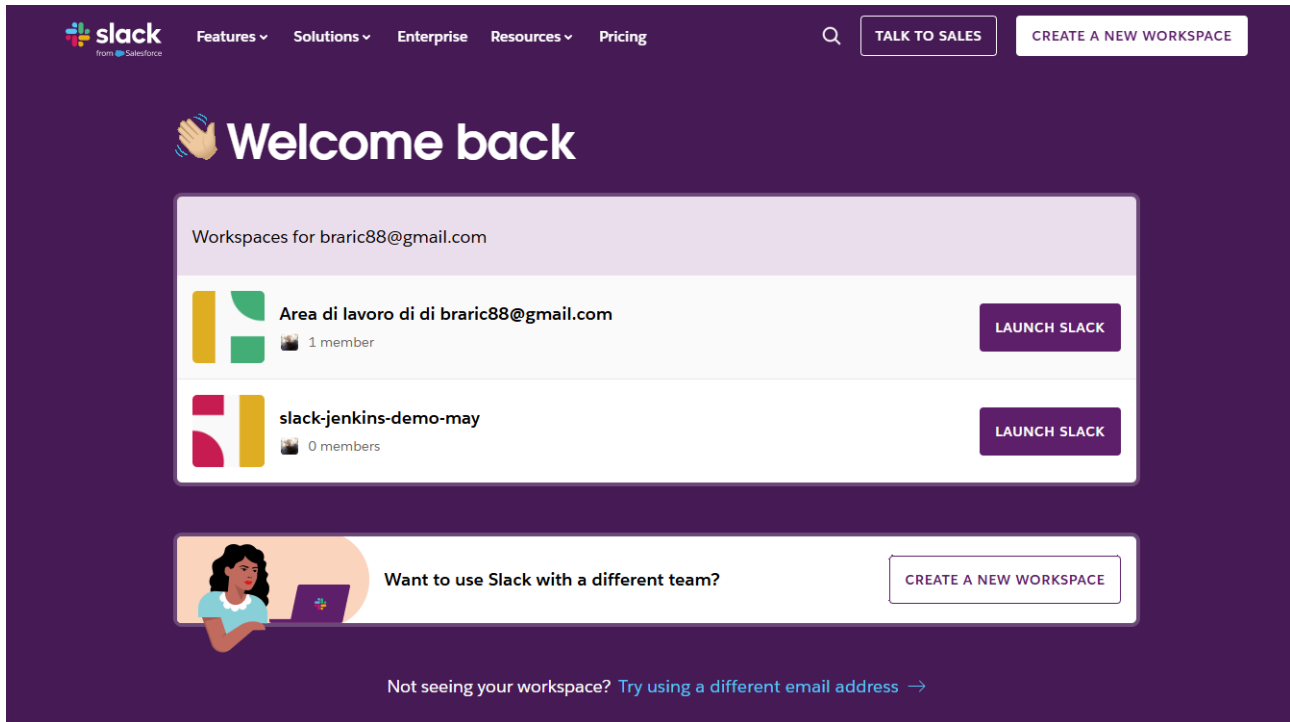
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Task 2: Configure Slack integration with the Jenkins plugin

Add Slack Notification Plugin in Jenkins

Add Jenkins CI in Slack

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Integration settings

Post to channel

Notifications that come in from Jenkins CI will be posted here.

`# all-jenkins-endproject2` ⌄

or create a new channel

Token

This token is used as the key to your Jenkins CI integration.

`PNO06Mmfx7uH3EmiiHQdC9Y0`

Regenerate

Descriptive label

Use this label to provide extra context in your list of integrations (optional).

`Optional description of this integration`

Customise name

Choose the username that this integration will post as.

`jenkins`

Customise icon

Change the icon that is used for messages from this integration.

Upload an image

Save settings

Jenkins Credentials Provider: Jenkins

Add Credentials

Domain

`Global credentials (unrestricted)` ⌄

Kind

`Secret text` ⌄

Scope ?

`Global (Jenkins, nodes, items, all child items, etc)` ⌄

Secret

`●●●●●●●●●●●●●●●●●●●●●●●●`

ID ?

`slack`

Description ?

`slack`

Cancel   **Add**

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Slack

Workspace ?

jenkins-endproject2

Credential ?

slack

+ Add ▾

Default channel / member id ?

all-jenkins-endproject2

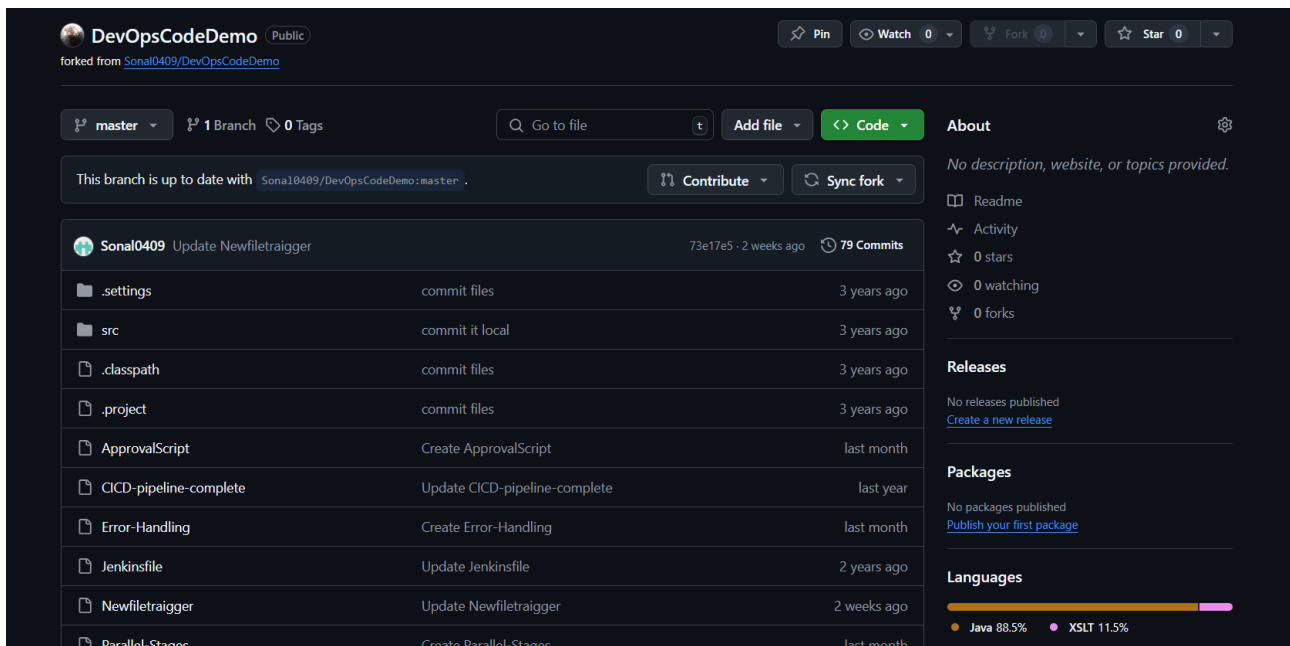☐ Custom slack app bot user ?

Advanced ⌄

Success   Test Connection

Slack

Workspace ?

jenkins-endproject2

Credential ?

slack

+ Add ▾

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Task 3: Configure the post-build step to invoke Slack notification

Fork of project DevOpsCodeDemo from https://github.com/Sonal0409/DevOpsCodeDemo.git

Add Maven Tool in Jenkins

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Enter an item name

Jenkins-EndProject2

» Required field

Freestyle project
Classic, general-purpose job type that checks out from up to one SCM, executes build steps serially, followed by post-build steps like archiving artifacts and sending email notifications.

Pipeline
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.

Multi-configuration project
Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.

Folder
Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a separate namespace, so you can have multiple things of the same name as long as they are in different folders.

Multibranch Pipeline
Creates a set of Pipeline projects according to detected branches in one SCM repository.

Organization Folder
OK   es a set of multibranch project subfolders by scanning for repositories.

Pipeline code for Jenkins-EndProject2:

```
pipeline{
  agent any

  tools {
    maven 'mymaven'
  }

  stages{
    stage('Checkout code'){
      steps{
        git 'https://github.com/brakes88/DevOpsCodeDemo'
      }
    }

    stage('Compile code'){
      steps{
        sh 'mvn compile'
      }
    }

    stage('Test code '){
      steps{
        sh 'mvn test'
      }
    }

    stage('Package code '){
      steps{
        sh 'mvn package'
      }
      post{
```

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```
        success{
          slackSend channel: 'all-jenkins-endproject2', message: '[EndProject2] Pipeline Job
Successfully Executed'
        }
        failure{
          slackSend channel: 'all-jenkins-endproject2', message: '[EndProject2] Pipeline Job Failed'
        }
      }
    }
  }
}
```

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Task 4: Configure the slash command in Slack to invoke the Jenkins job

URL that Slack will use when launching the /buildjob command:
http://3.110.228.112:8080/job/Jenkins-EndProject2/build?token=tokenEndProject2

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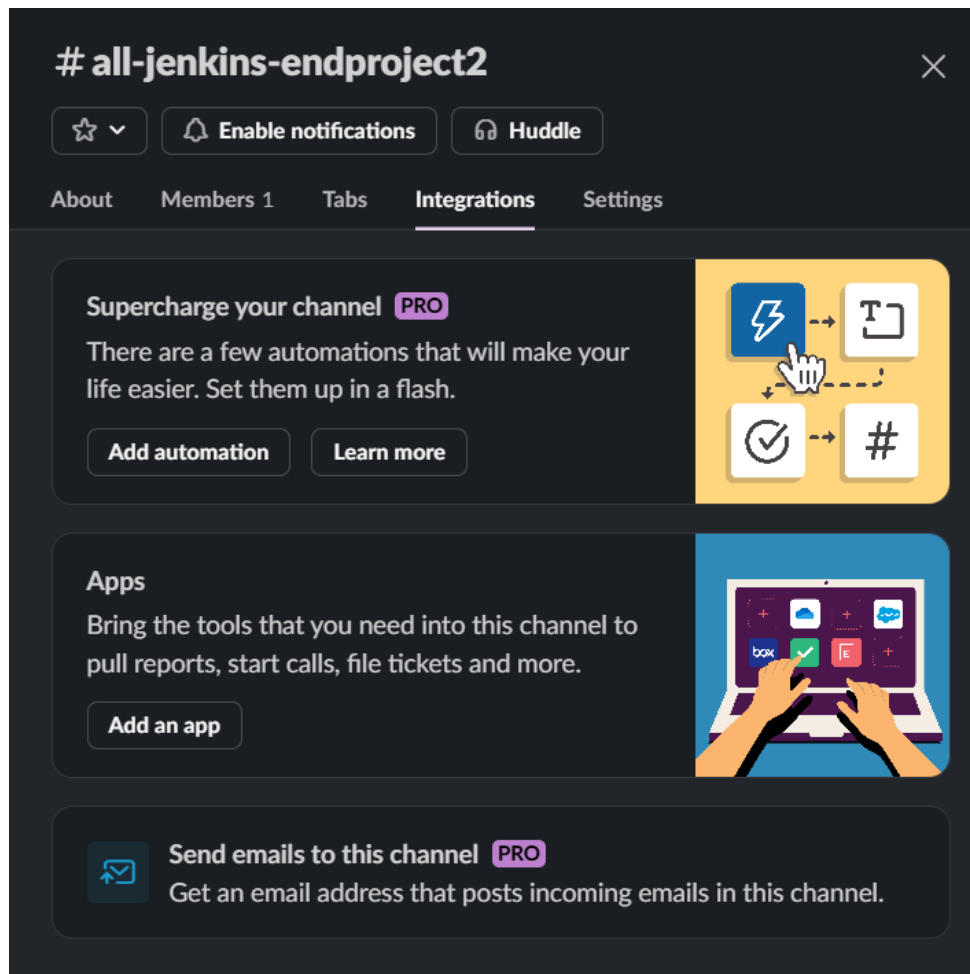
Adding Slash Commands for launching build via text

< Browse apps

Slash Commands

Description   Permissions   Security & compliance

Please note, this is a legacy custom integration - an outdated way for teams to integrate with Slack. These integrations lack newer features and they will be deprecated and possibly removed in the future. We do not recommend their use. Instead, we suggest that you check out their replacement: Slack apps.

Slash Commands allow you to listen for custom triggers in chat messages across all Slack channels. When a Slash Command is triggered, relevant data will be sent to an external URL in real-time.

For example, typing `/weather 94070` could send a message to an external URL that would look up the current weather forecast for San Francisco and post it back to Slack.

Add to Slack

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Slash Commands

Customized Slack commands for your workspace.

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Choose a command

/buildjob

Commands should be a single word (and can't be blank). Example: /deploy

Add Slash command integration

By creating a slash command, you agree to the Slack API terms of service.

Integration settings

Command

/buildjob

Commands should be a single word (and can't be blank). Example: /deploy

URL

http://3.110.228.112:8080/job/Jenkins-EndProject2/build?token=tokenEndProje

The URL to request when the slash command is run.

Method

GET

Should we do a POST or a GET to the above URLs?

Token

This token will be sent in the outgoing payload. You can use it to verify the request came from your Slack team.

Pla9G8jJebVv0kgNbjuz5GVZ

Regenerate

Customise name

Choose the username that this integration will post as.

slash-command

Customise icon

Change the icon that is used for messages from this integration.

Upload an image

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Result