

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

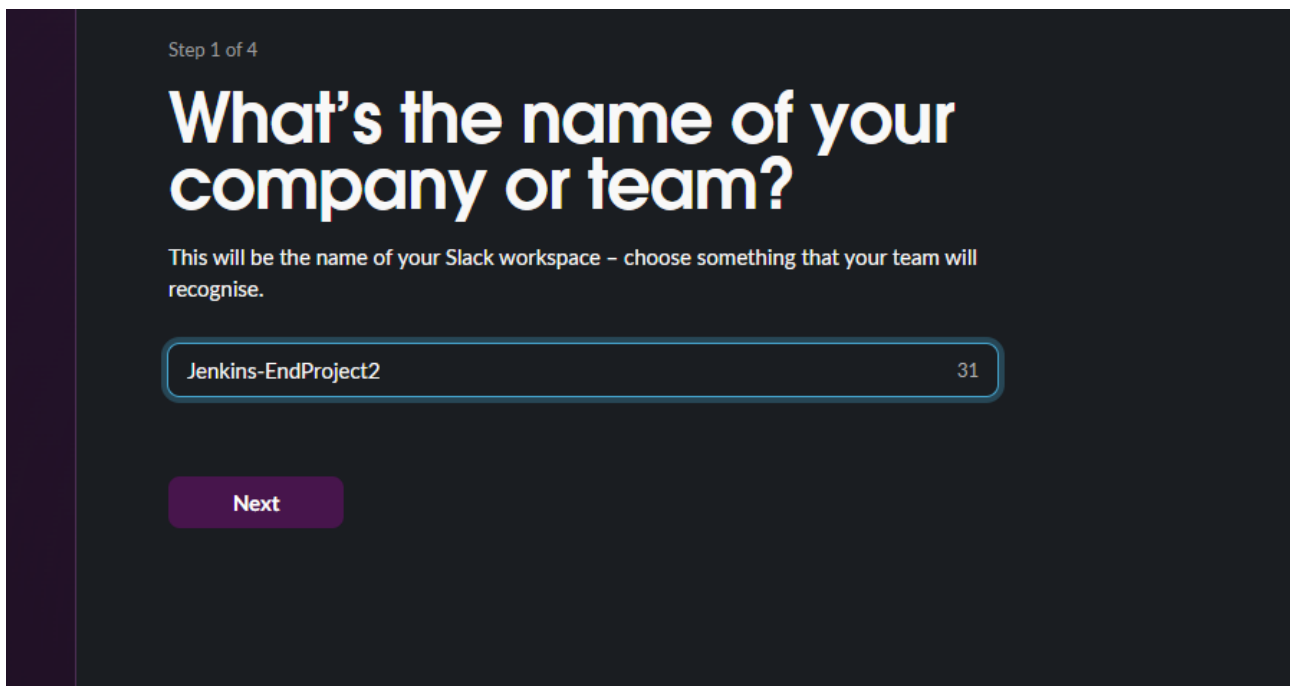
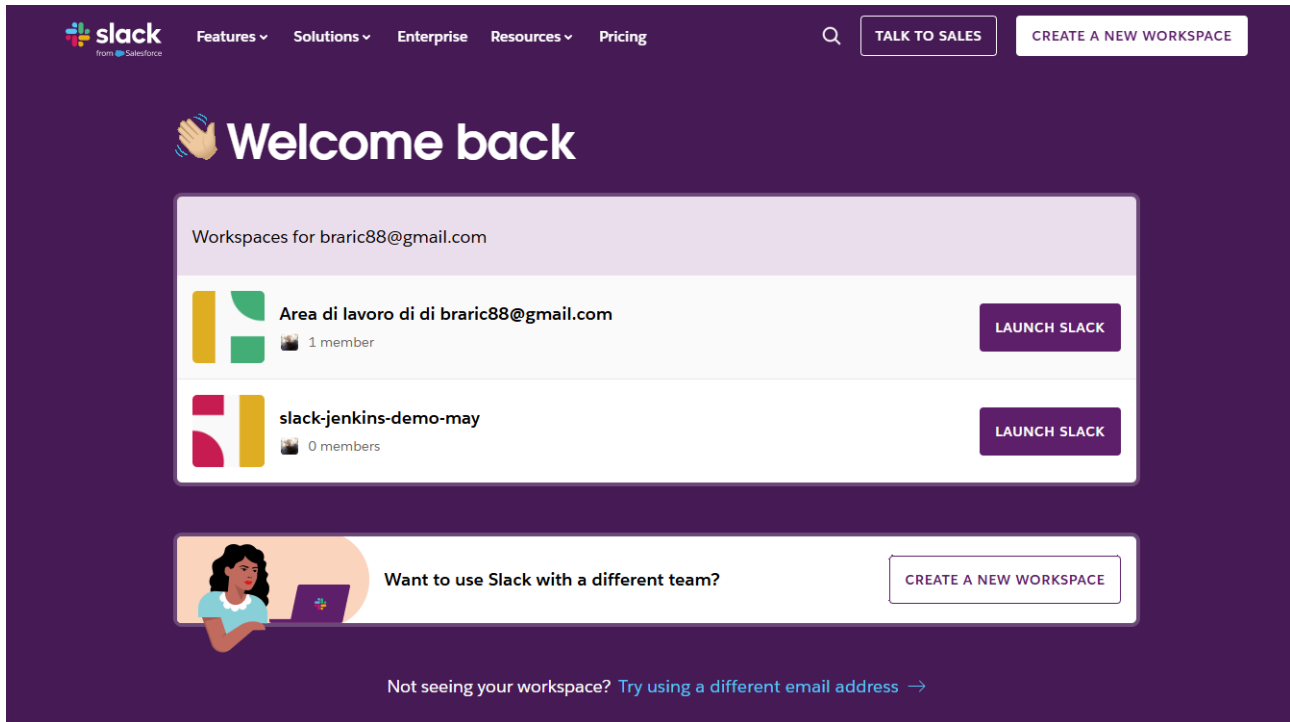
The following tasks outline the process of integrating Slack with Jenkins and setting up a Slack channel to remotely trigger Jenkins jobs:

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*

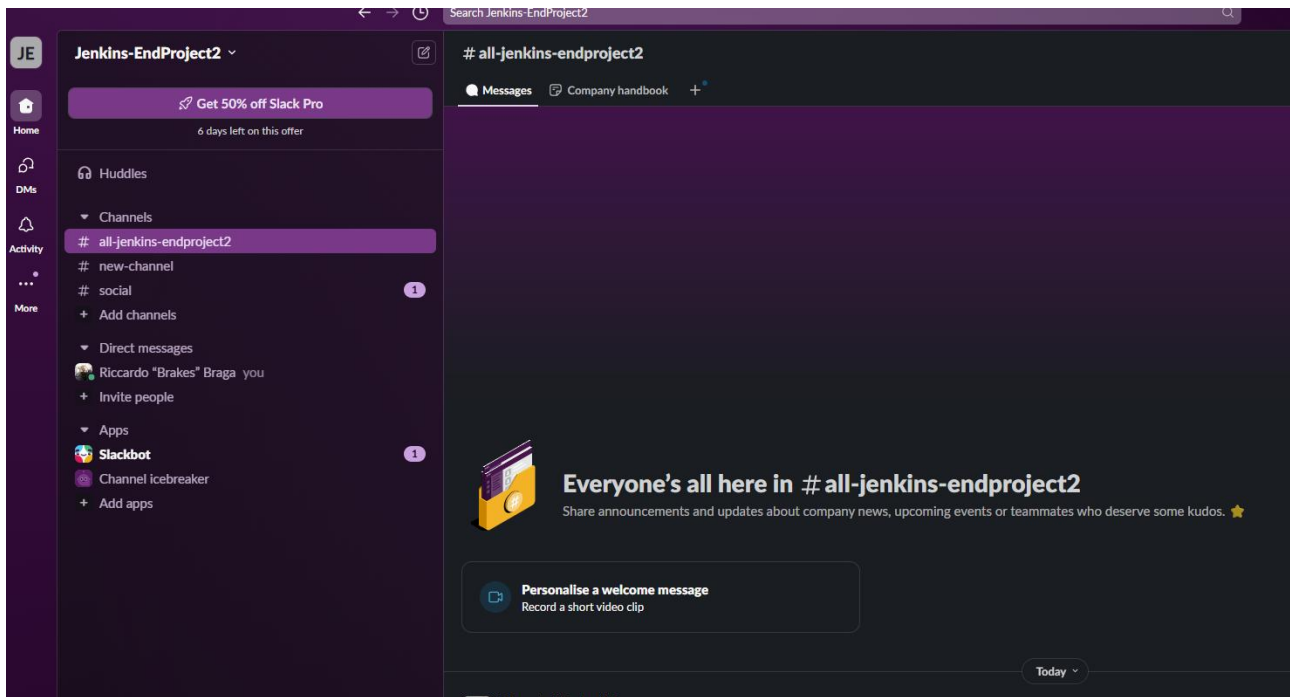
Solution

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

Created a dedicated workspace in Slack



Riccardo Braga
Braric88@gmail.com



Task 2: Configure Slack integration with the Jenkins plugin

Add Slack Notification Plugin in Jenkins

Plugins

Q slack

Install	Name ↓	Released
	Slack Notification 751.v2e44153c8fe1 slack Build Notifiers Integrates Jenkins with Slack, allows publishing build statuses, messages and files to Slack channels.	7 mo 6 days ago

Add Jenkins CI in Slack

Add apps to all-jenkins-endproject2

Q jenkins

From the App Directory

- Jenkins CI**
An open-source continuous integration server. [Install](#)
- Zenduty**
Revolutionary incident management for SRE, Ops, and Support Teams. [Install](#)
- marbot**
Configure monitoring for AWS: CloudWatch, EC2, RDS, EB, Lambda, a... [Install](#)
- BuildPulse**
Stop losing time to flaky tests. [Install](#)

Jenkins CI
An open-source continuous integration server.

Jenkins CI is a customisable continuous integration server with over 600 plugins, allowing you to configure it to meet your needs.
This integration will post build notifications to a channel in Slack.

Post to channel
Start by choosing a channel where Jenkins notifications will be posted.

all-jenkins-endproject2

[or create a new channel](#)

[Add Jenkins CI integration](#)

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

Slack

Workspace ?

jenkins-endproject2

Credential ?

slack

+ Add

Default channel / member id ?

all-jenkins-endproject2

☐ Custom slack app bot user ?

Advanced

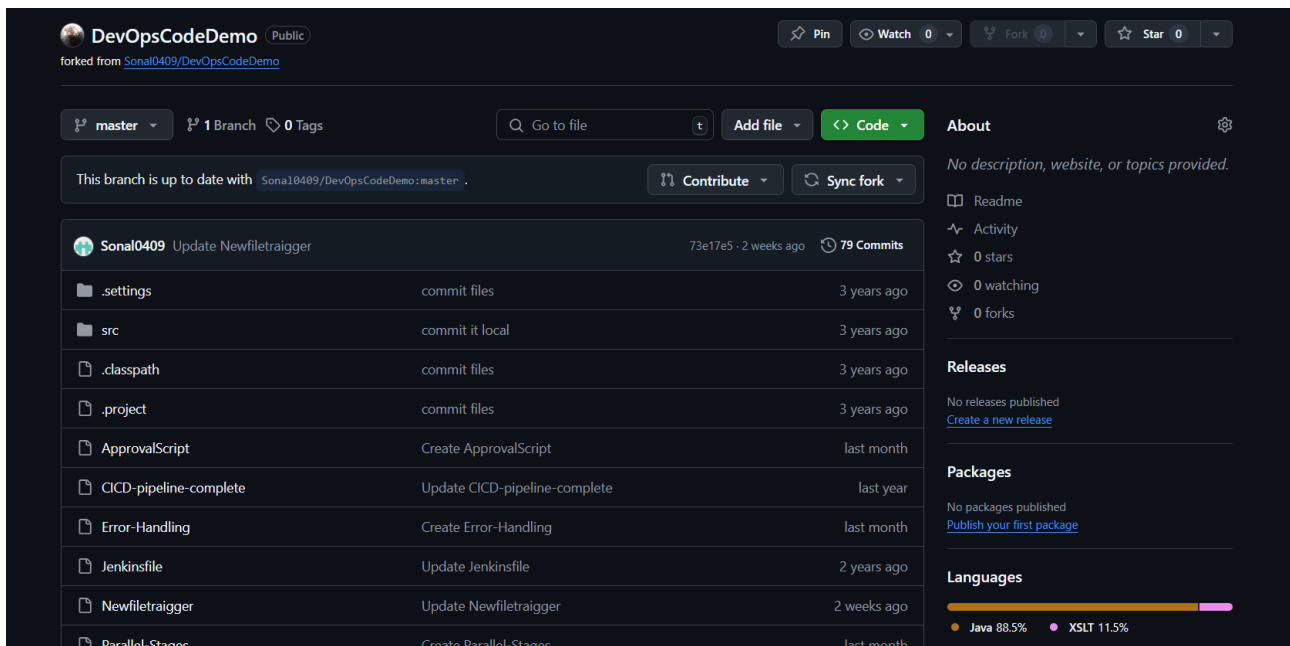
Success

Test Connection

Riccardo Braga
Braric88@gmail.com

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

Maven installations

Add Maven

Maven

Name

mymaven

Required

☒ Install automatically

Install from Apache

Version


3.9.9

Add installer


Add Maven

Enter an item name


» 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**

Creates 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{
```


Riccardo Braga
Braric88@gmail.com

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

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

Dashboard > Manage Jenkins > Security

Security

Authentication

☐ Disable "Keep me signed in" ?

Security Realm

Jenkins' own user database

☐ Allow users to sign up ?

Authorization

Logged-in users can do anything

☒ Allow anonymous read access ?

Markup Formatter

Markup Formatter ?

Plain text

Shows descriptions mostly as written. HTML unsafe characters like < and & are escaped to their respective character entities, and line breaks are converted to their HTML equivalent.

Save Apply

Dashboard > Jenkins-EndProject2 > Configuration

Configure

- General
- Advanced Project Options
- Pipeline

☐ Do not allow the pipeline to resume if the controller restarts

☐ GitHub project

☐ Pipeline speed/durability override ?

☐ Preserve stashes from completed builds ?

☐ This project is parameterized ?

☐ Throttle builds ?

Build Triggers

☐ Build after other projects are built ?

☐ Build periodically ?

☐ GitHub hook trigger for GITScm polling ?

☐ Poll SCM ?

☐ Quiet period ?

☒ Trigger builds remotely (e.g., from scripts) ?

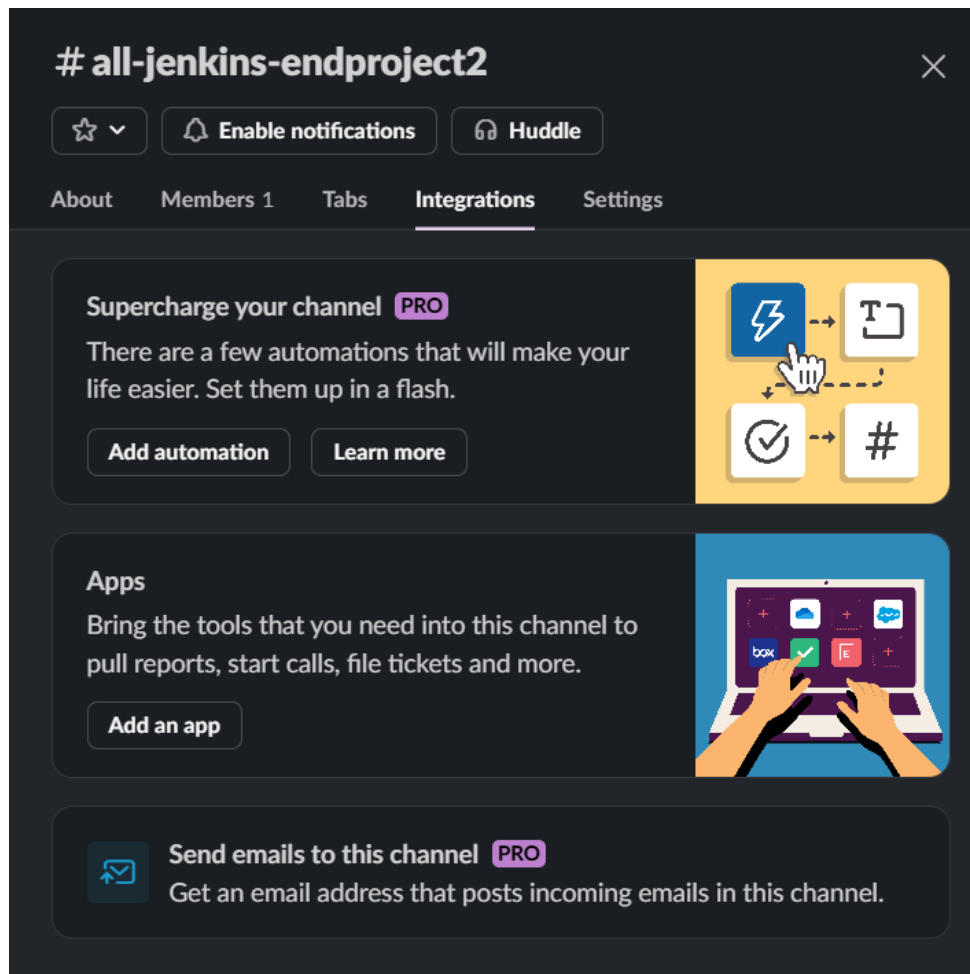
Authentication Token

tokenEndProject2

Use the following URL to trigger build remotely: JENKINS_URL/job/Jenkins-EndProject2/build?token=TOKEN_NAME or /buildWithParameters?token=TOKEN_NAME
Optionally append &cause=Cause+Text to provide text that will be included in the recorded build cause.


URL that Slack will use when launching the /buildjob command:

<http://3.110.228.112:8080/job/Jenkins-EndProject2/build?token=tokenEndProject2>



Adding Slash Commands for launching build via text

[< Browse apps](#)



[Add to Slack](#)

Learn more & Support

[Privacy policy](#)

[Terms](#)

Slash Commands

Description	Permissions	Security & compliance
<p>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.</p>		
<p>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.</p>		
<p>For example, typing <code>/weather 94070</code> 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.</p>		



Slash Commands

Customized Slack commands for your workspace.

*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.

Choose a command

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

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

URL

The URL to request when the slash command is run.

Method

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.

[Regenerate](#)

Customise name

Choose the username that this integration will post as.

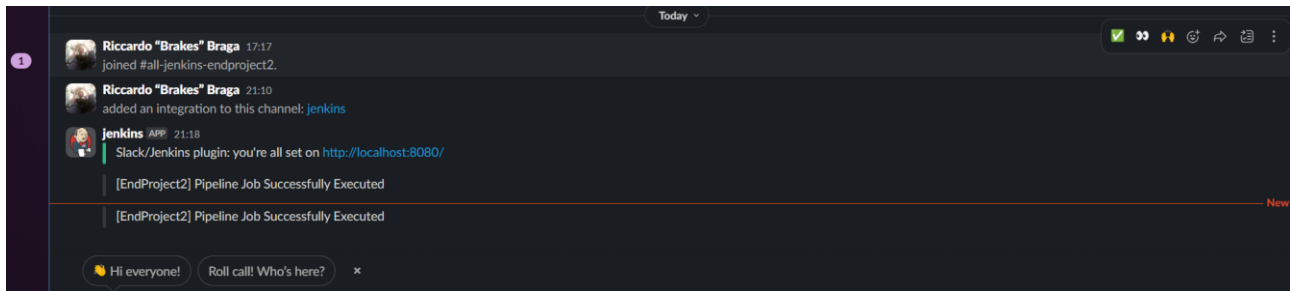
Customise icon

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



[Upload an image](#)

Result



✓ Build #4 (May 12, 2025, 7:22:16 PM)



Started by remote host 3.239.255.178 with note: null



This run spent:

- 8 sec waiting;
- 28 sec build duration;
- 36 sec total from scheduled to completion.



Revision: 73e17e5c75a96108c6feddf552d1a97c77535661

Repository: <https://github.com/brakes88/DevOpsCodeDemo>

- refs/remotes/origin/master

