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## Create a build project ( No Source )

- Navigate to CodeBuild Service and **Create a Project**
- Specify Configuration for below mentioned sections:

### Project configuration

- **Project name**
  - Enter a name for this build project. Build project names must be unique across each AWS account.
- **Description**
  - Enter an optional description of the build project to help other users understand what this project is used for
- **Build badge**
  - Select Enable build badge to make your project's build status visible and embeddable. **Keep Default Option.**
- **Enable concurrent build limit** (Optional)
  - This is used to limit the number of concurrent builds for this project. **Keep Default Option.**

## Create build project

### Project configuration

Project name

test-codebuild-project-demo

A project name must be 2 to 255 characters. It can include the letters A-Z and a-z, the numbers 0-9, and the special characters - and \_.

Description - *optional*

This is Demo CodeBuild Project : test-codebuild-project-demo

Build badge - *optional*

☐ Enable build badge

Enable concurrent build limit - *optional*

Limit the number of allowed concurrent builds for this project.

☐ Restrict number of concurrent builds this project can start

► Additional configuration

tags

## Source

- Choose the source code provider type. For now select : **No Source**

### Source

Add source

Source 1 - Primary

Source provider

No source ▼

## Environment

- Environment image**
  - To use a Docker image managed by AWS CodeBuild, choose **Managed image**, and then make selections from **Operating system** as *Ubuntu*, **Runtime(s)**, **Image** as *aws/codebuild/standard:5.0*, and **Image version**.

## Environment

### Environment image



Managed image

Use an image managed by AWS CodeBuild



Custom image

Specify a Docker image

### Operating system

Ubuntu



The programming language runtimes are now included in the standard image of Ubuntu 18.04, which is recommended for new CodeBuild projects created in the console. See [Docker Images Provided by CodeBuild for details](#).

### Runtime(s)

Standard



### Image

aws/codebuild/standard:5.0



### Image version

Always use the latest image for this runtime version



### Environment type

Linux



- **Privileged**

- Select Privileged only if you plan to use this build project to build Docker images. This option will be explored later.

- **Service role**

- Here CodeBuild Project will require a IAM Role with Trust Relationship Document having [codebuild.amazonaws.com](https://codebuild.amazonaws.com).
- This Service Role will be attached to CodeBuild Project and the Build Execution will have IAM Permissions as per the Policy attached to this Service Role.
- Do one of the following:
  - If you do not have a CodeBuild service role, choose **New service role**. In **Role name**, enter a name for the new role
  - If you have a CodeBuild service role, choose **Existing service role**. In **Role ARN**, choose the service role

### Privileged

- ☐ Enable this flag if you want to build Docker images or want your builds to get elevated privileges

### Service role



#### New service role

Create a service role in your account



#### Existing service role

Choose an existing service role from your account

### Role name

codebuild-test-codebuild-project-demo-service-role

Type your service role name

- **Additional Configuration**

- **Timeout**

- Specify a value between 5 minutes and 480 minutes (8 hours) after which CodeBuild stops the build if it is not complete.

- **VPC**

- Do Not Select any VPC.

- **Compute**

- Select **3 GB memory, 2 vCPUs** which comes under Free Tier Limit.

- **Environment variables**

- Keep this blank as of now

### ▼ Additional configuration

Timeout, certificate, VPC, compute type, environment variables, file systems

#### Timeout

Default timeout is 1 hour

Hours

1

Minutes

0

Timeout must be between 5 minutes and 8 hours

#### Queued timeout

Default time in build queue is 8 hours

Hours

8

Minutes

0

Timeout must be between 5 minutes and 8 hours

#### Certificate

If you have a self-signed certificate or a certificate signed by a certification authority, choose the option to install it from your S3 bucket.



Do not install any certificate



Install certificate from your S3 bucket

#### VPC

Select a VPC that your AWS CodeBuild project will access.

#### Compute



3 GB memory, 2 vCPUs



7 GB memory, 4 vCPUs



15 GB memory, 8 vCPUs



145 GB memory, 72 vCPUs


## Buildspec

### • Build specifications

- The build specification is a **YAML file** that lets you choose the commands to run at each phase of the build.
- As we have selected **No Source**, select **Insert build commands**
  - Enter commands you want to run during the build phase.
  - Use the [buildspec-sample.yml](#) file content to test the Execution Build.

## Buildspec

### Build specifications

 If the primary source for the build project is "No source", a valid buildspec command must be provided

☐ Use a buildspec file  
Store build commands in a YAML-formatted buildspec file

☒ Insert build commands  
Store build commands as build project configuration

### Build commands

```
1  version: 0.2
2
3  # Set an environment variable that can be used below in the build phases.
4  env:
5    variables:
6      TEST_VAR: "t2.micro"
7  phases:
8    install:
9      commands:
10       - echo Entered the install phase
11       - apt-get update -y
12       - echo $TEST_VAR
13    finally:
14       - echo This always runs even if the update or install command fails
15  pre_build:
16    commands:
17       - echo Entered the pre_build phase...
18    finally:
19       - echo This always runs even if the login command fails
20  build:
21    commands:
22       - ls -altr
```

## Artifacts

- Artifacts are files generated by Build Execution and can be stored on S3 Bucket.
- Select *No Artifacts* as of now.

## Logs

- CodeBuild Execution Logs are stored in CloudWatch Log Group.
- Once above options are configured, select **Create Build Project**

## Artifacts

Add artifact

Artifact 1 - Primary

Type

No artifacts

You might choose no artifacts if you are running tests or pushing a Docker image to Amazon ECR.

► Additional configuration

Cache, encryption key

## Logs

CloudWatch

☒ CloudWatch logs - *optional*  
Checking this option will upload build output logs to CloudWatch.

Group name

Stream name

S3

☐ S3 logs - *optional*  
Checking this option will upload build output logs to S3.

Cancel

Create build project

- Navigate to Build Project that is created and execute the same.

Developer Tools > CodeBuild > Build projects > test-codebuild-project-demo

test-codebuild-project-demo

Notify

Share

Edit

Delete build project

Start build with overrides

Start build

Configuration

Source provider	Primary repository	Artifacts upload location	Build badge
No source	-	-	Disabled
Public builds			
Disabled			

Build history

Batch history

Build details

Build triggers

Metrics

Build history

Refresh

Stop build

View artifacts

View logs

Delete builds

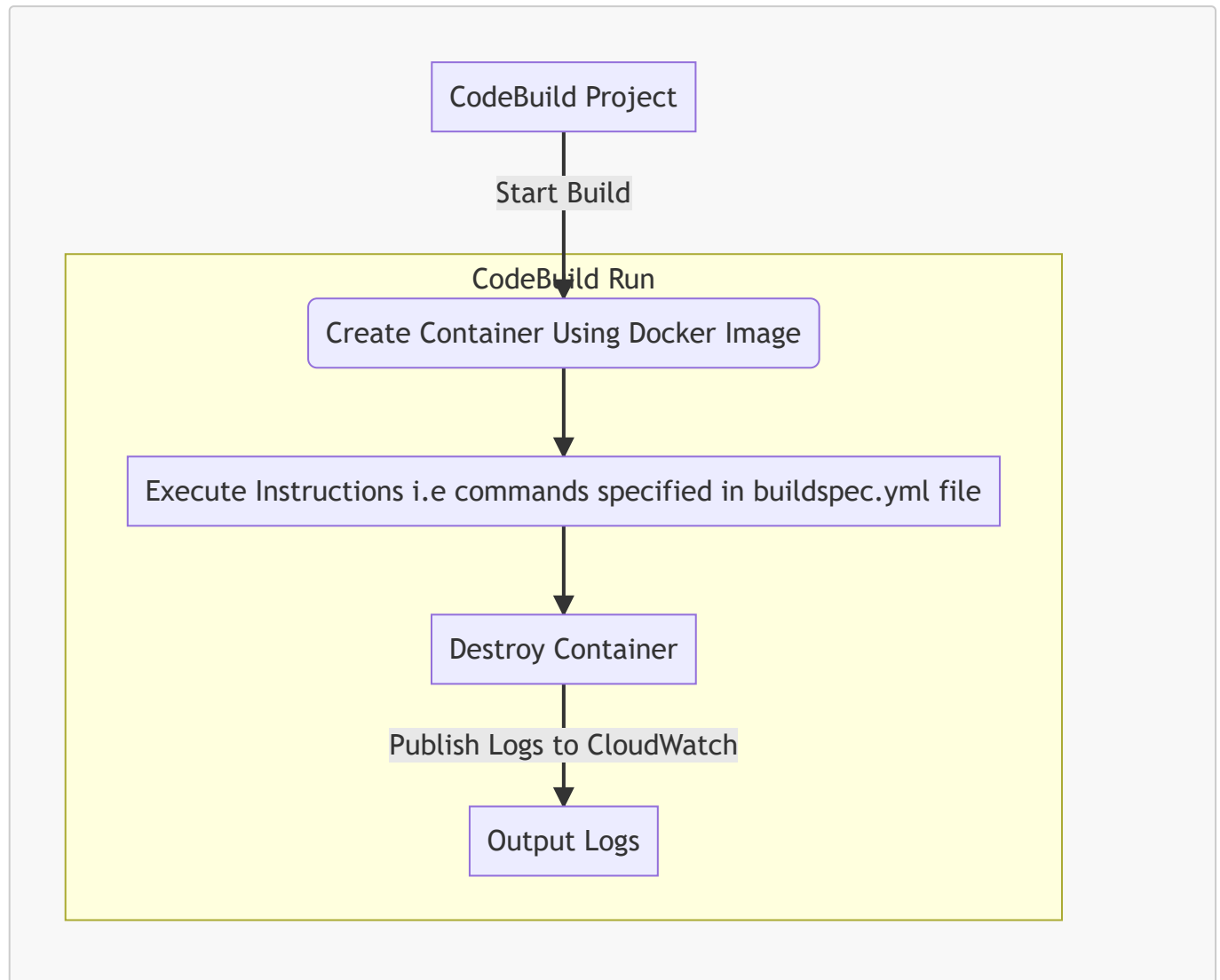
Retry build

< 1 > ⚙

Build run	Status	Build number	Source version	Submitter	Duration	Completed
No results						
There are no results to display.						

## CodeBuild Project Execution:

- Navigate to CodeBuild Project that was created, and Select **Start Build** to execute the CodeBuild Run and verify build details along with phases information.



- Build Execution Logs are stored in CloudWatch Log Group

Developer Tools > CodeBuild > Build projects > test-codebuild-project-demo > test-codebuild-project-demo:2c6b57b2-790b-44e3-b1f6-a126127fa02b

test-codebuild-project-demo:2c6b57b2-790b-44e3-b1f6-a126127fa02b Stop build Retry build

**Build status**

Status ✔ Succeeded	Initiator ansible-user	Build ARN arn:aws:codebuild:us-east-1:082923708139:build/test-codebuild-project-demo:2c6b57b2-790b-44e3-b1f6-a126127fa02b	Resolved source version -
Start time Jan 3, 2022 12:56 PM (UTC+5:30)	End time Jan 3, 2022 12:56 PM (UTC+5:30)	Build number 1	

**Build logs** | Phase details | Reports | Environment variables | Build details | Resource utilization

Showing the last 188 lines of the build log. [View entire log](#) Tail logs

^ Show previous logs

```
1 [Container] 2022/01/03 07:26:23 Waiting for agent ping
2 [Container] 2022/01/03 07:26:24 Waiting for DOWNLOAD_SOURCE
3 [Container] 2022/01/03 07:26:24 Phase is DOWNLOAD_SOURCE
4 [Container] 2022/01/03 07:26:24 CODEBUILD_SRC_DIR=/codebuild/output/src022125107/src
5 [Container] 2022/01/03 07:26:24 YAML location is /codebuild/readonly/buildspec.yml
6 [Container] 2022/01/03 07:26:24 Processing environment variables
7 [Container] 2022/01/03 07:26:24 No runtime version selected in buildspec.
8 [Container] 2022/01/03 07:26:26 Moving to directory /codebuild/output/src022125107/src
9 [Container] 2022/01/03 07:26:26 Configuring ssm agent with target id: codebuild:2c6b57b2-790b-44e3-b1f6-a126127fa02b
10 [Container] 2022/01/03 07:26:26 Successfully updated ssm agent configuration
11 [Container] 2022/01/03 07:26:26 Registering with agent
12 [Container] 2022/01/03 07:26:26 Phases found in YAML: 4
13 [Container] 2022/01/03 07:26:26 INSTALL: 3 commands
14 [Container] 2022/01/03 07:26:26 PRE_BUILD: 1 commands
15 [Container] 2022/01/03 07:26:26 BUILD: 5 commands
```



- Build Execution Phase Details shows the details of individual phases that are executed.

Build status

Status

✔ Succeeded

Initiator

ansible-user

Build ARN

arn:aws:codebuild:us-east-1:082923708139:build/test-codebuild-project-demo:2c6b57b2-790b-44e3-b1f6-a126127fa02b

Resolved source version

-

Start time

Jan 3, 2022 12:56 PM (UTC+5:30)

End time

Jan 3, 2022 12:56 PM (UTC+5:30)

Build number

1

Build logs

Phase details

Reports

Environment variables

Build details

Resource utilization

Name

Status

Context

Duration

Start time

End time

SUBMITTED

✔ Succeeded

-

<1 sec

Jan 3, 2022 12:56 PM (UTC+5:30)

Jan 3, 2022 12:56 PM (UTC+5:30)

QUEUED

✔ Succeeded

-

1 sec

Jan 3, 2022 12:56 PM (UTC+5:30)

Jan 3, 2022 12:56 PM (UTC+5:30)

PROVISIONING

✔ Succeeded

-

17 secs

Jan 3, 2022 12:56 PM (UTC+5:30)

Jan 3, 2022 12:56 PM (UTC+5:30)

DOWNLOAD\_SOURCE

✔ Succeeded

-

2 secs

Jan 3, 2022 12:56 PM (UTC+5:30)

Jan 3, 2022 12:56 PM (UTC+5:30)

INSTALL

✔ Succeeded

-

5 secs

Jan 3, 2022 12:56 PM (UTC+5:30)

Jan 3, 2022 12:56 PM (UTC+5:30)

PRE\_BUILD

✔ Succeeded

-

<1 sec

Jan 3, 2022 12:56 PM (UTC+5:30)

Jan 3, 2022 12:56 PM (UTC+5:30)

BUILD

✔ Succeeded

-

<1 sec

Jan 3, 2022 12:56 PM (UTC+5:30)

Jan 3, 2022 12:56 PM (UTC+5:30)

POST\_BUILD

✔ Succeeded

-

<1 sec

Jan 3, 2022 12:56 PM (UTC+5:30)

Jan 3, 2022 12:56 PM (UTC+5:30)

UPLOAD\_ARTIFACTS

✔ Succeeded

-

<1 sec

Jan 3, 2022 12:56 PM (UTC+5:30)

Jan 3, 2022 12:56 PM (UTC+5:30)

- Modify the buildspec commands to use `aws cli` commands and execute the Build Project Again.
- If there is an Error that the Build is **Failed**, troubleshoot the logs displayed for that specific Build Number and check for IAM Role Permissions.