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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.
- 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 -ltr
```

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

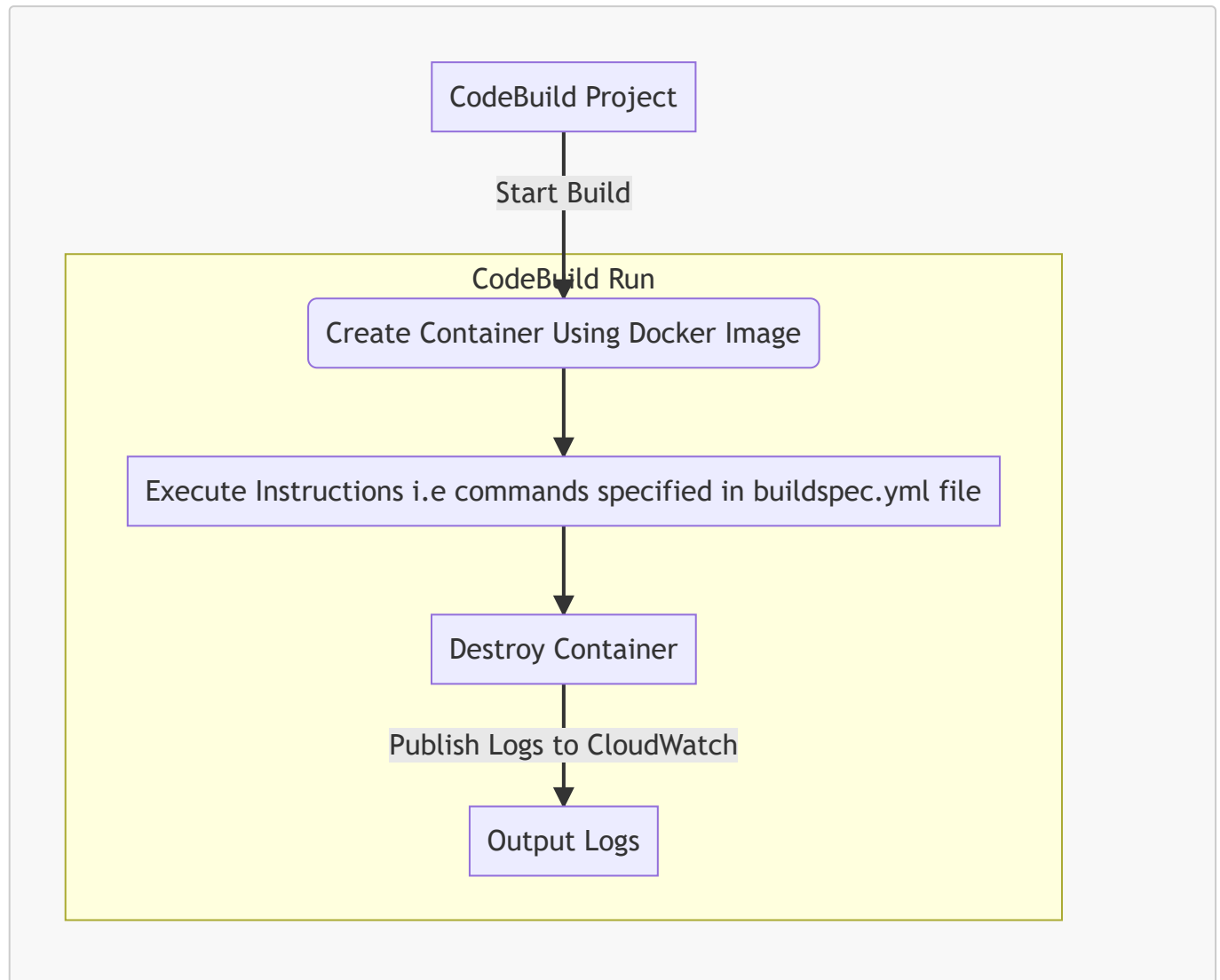
Retry build

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