



Viewing Logs and Build Failures

End Goal: In this exercise, we will intentionally introduce an error into our build stage and then resolve it to understand how to troubleshoot and fix build failures using AWS CodeBuild. The goal is to demonstrate how to handle build failures in AWS CodeBuild by introducing an intentional error, analyzing the failure logs, and resolving the issue. This process helps understand the troubleshooting steps and ensures the pipeline is robust, enabling efficient and error-free deployments.

1. In the previous lab, we created our pipeline and successfully deployed it to our S3 bucket.
2. Now we will intentionally try to make a failure in our build stage and check the logs afterward then we will run the pipeline again after resolving the failures.
3. Now open the project in VS Code and open the buildspec.yml file and below you can see the changes we made are highlighted. You can directly copy the code mentioned below and paste it into your YAML file or you can make the changes by yourself. Just make sure that there should be no typo mistakes.

```
version: 0.2
phases:
  install:
    runtime-versions:
      nodejs: 20
    commands:
      - npm install -g @angular/cli@17
  pre_build:
    commands:
      - npm install
  build:
    commands:
      - echo 'Build error simulation checking'
      - exit 1
      - ng build -c production
    finally:
      - echo 'This is the final block execution!'
artifacts:
  base-directory: dist/my-angular-project
  files:
    - '**/*'
```

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```

4. After that you can go to the app.component.html file under app then under the calculator folder. Here we have changed the version of our website.

```

<header class="container">
  <div class="row pt-4 pb-4">
    <div class="col">
      <h1 id="page-title" class="text-dark text-center">
        Sample Angular App for <span class="text-danger">AWS CodePipeline Step by Step</span>
      </h1>
      <hr>
      <h2 class="text-end">
        <span class="badge bg-info">Version: 2.0</span>
      </h2>
    </div>
  </div>
</header>

```

5. So, the files we changed in this lecture have already been tracked by Git. Therefore, let's type the 'git commit' command with the '-a' option to stage all changes during the commit.

git commit -a -m "Build Error"
git push origin master

```

PS C:\Users\PULKIT\Downloads\my-angular-project> git commit -a -m "Build Error"
warning: in the working copy of 'src/app/app.component.html', LF will be replaced by CRLF the next time Git touches it
[master bbbae1c] Build Error
 2 files changed, 5 insertions(+), 1 deletion(-)
PS C:\Users\PULKIT\Downloads\my-angular-project> git push origin master
Enumerating objects: 11, done.
Counting objects: 100% (11/11), done.
Delta compression using up to 12 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 595 bytes | 595.00 KiB/s, done.
Total 6 (delta 5), reused 0 (delta 0), pack-reused 0
remote: Validating objects: 100%
To https://git-codecommit.eu-west-1.amazonaws.com/v1/repos/DemoAngularRepo
 5997113..bbbae1c  master -> master
PS C:\Users\PULKIT\Downloads\my-angular-project>

```

- Once we have pushed our code to the repository then our pipeline automatically starts executing. Below you can see that first, the source stage started then our build stage started executing. It will take some time on the build stage to simulate the failure so wait for it.

Developer Tools > CodePipeline > Pipelines > AngularPipeline

AngularPipeline

Pipeline type: V2 Execution mode: QUEUED

Source In progress

Source AWS CodeCommit
In progress - Just now

View details

Disable transition

Build In progress

Build AWS CodeBuild
In progress - Just now

View details

bbae1c6 Source: Build Error

Disable transition

Disable transition

Build Failed

Pipeline execution ID: f59a217f-a357-4505-a1b5-701d1f627a55

Build AWS CodeBuild
Failed - 2 minutes ago

View details

bbae1c6 Source: Build Error

- Below you can see that our build stage has failed now you have to click on View details.

Disable transition

Build Failed

Pipeline execution ID: f59a217f-a357-4505-a1b5-701d1f627a55

Build AWS CodeBuild
Failed - 2 minutes ago

View details

bbae1c6 Source: Build Error

Disable transition

8. Here you can see that it is 95 lines generated logs you can read them by yourself and understand why your build failed.

Action execution details

Action name: Build Status: Failed

Summary | **Logs** | Input

⌚ Failed Start time: 8 minutes ago Current phase: COMPLETED

Showing the last 95 lines of the build log. [View entire log](#)

▲ Show previous logs

```
1 [Container] 2024/08/07 10:20:51.276717 Running on CodeBuild On-demand
2 [Container] 2024/08/07 10:20:51.276727 Waiting for agent ping
3 [Container] 2024/08/07 10:20:51.377633 Waiting for DOWNLOAD_SOURCE
4 [Container] 2024/08/07 10:20:52.510662 Phase is DOWNLOAD_SOURCE
5 [Container] 2024/08/07 10:20:52.511749 CODEBUILD_SRC_DIR=/codebuild/output/src2795893462/src
6 [Container] 2024/08/07 10:20:52.512287 YAML location is /codebuild/output/src2795893462/src/buildspec.yml
7 [Container] 2024/08/07 10:20:52.513991 Setting HTTP client timeout to higher timeout for S3 source
8 [Container] 2024/08/07 10:20:52.514063 Processing environment variables
9 [Container] 2024/08/07 10:20:52.547725 Selecting 'nodejs' runtime version '20' based on manual selections...
10 [Container] 2024/08/07 10:20:54.733413 Running command echo "Installing Node.js version 20 ..."
11 Installing Node.js version 20 ...
12
13 [Container] 2024/08/07 10:20:54.740490 Running command n $NODE_20_VERSION
14   copying : node/20.11.1
15   installed : v20.11.1 (with npm 10.2.4)
16
17 [Container] 2024/08/07 10:21:37.084836 Moving to directory /codebuild/output/src2795893462/src
18 [Container] 2024/08/07 10:21:37.086388 Unable to initialize cache download: no paths specified to be cached
19 [Container] 2024/08/07 10:21:37.156493 Configuring ssm agent with target id: codebuild:980707b2-d02f-49b1-8e40-c18660ec3372
20 [Container] 2024/08/07 10:21:37.191017 Successfully updated ssm agent configuration
21 [Container] 2024/08/07 10:21:37.191454 Registering with agent
22 [Container] 2024/08/07 10:21:37.221752 Phases found in YAML: 3
23 [Container] 2024/08/07 10:21:37.221784 INSTALL: 1 commands
```

9. Now click on view details in your build phase again and choose view in code build and it will take you to code build in new tab.

Action execution details

Action name: Build Status: Failed

Summary | **Logs** | **Input**

Status Last updated
✖ Failed 8 minutes ago

Action execution ID
734d64b2-4b27-417b-b24f-3dea344690fb

Error code
Action execution failed

Error message
Build terminated with state: FAILED

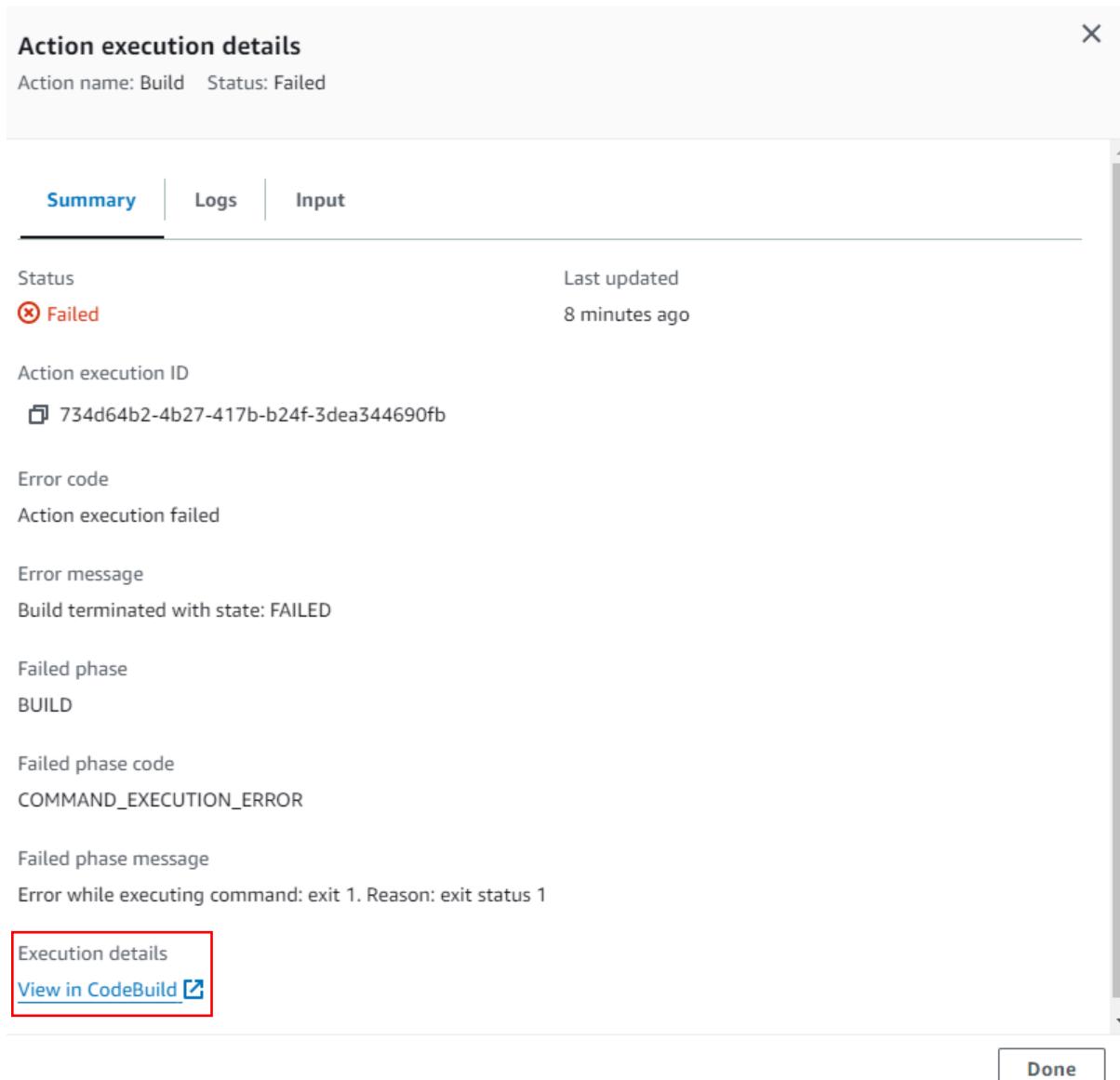
Failed phase
BUILD

Failed phase code
COMMAND_EXECUTION_ERROR

Failed phase message
Error while executing command: exit 1. Reason: exit status 1

Execution details
[View in CodeBuild](#)

Done



10. Here you can view the build logs, phase details, and reports for your build.

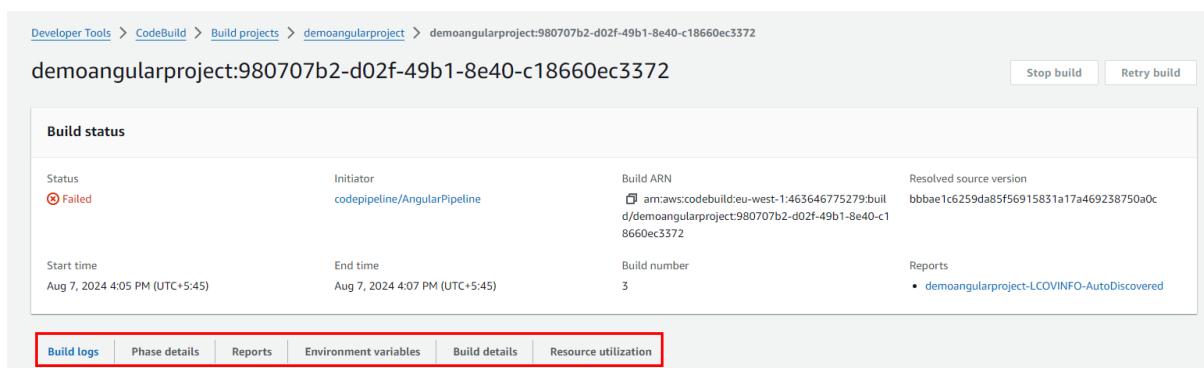
Developer Tools > CodeBuild > Build projects > demoangularproject > demoangularproject:980707b2-d02f-49b1-8e40-c18660ec3372

demoangularproject:980707b2-d02f-49b1-8e40-c18660ec3372

[Stop build](#) [Retry build](#)

Build status			
Status ✖ Failed	Initiator codepipeline/AngularPipeline	Build ARN arn:aws:codebuild:eu-west-1:463646775279:build/demoangularproject:980707b2-d02f-49b1-8e40-c18660ec3372	Resolved source version bbbae1c6259da85f56915831a17a469238750a0c
Start time Aug 7, 2024 4:05 PM (UTC+5:45)	End time Aug 7, 2024 4:07 PM (UTC+5:45)	Build number 3	Reports • demoangularproject-LCOVINFO-AutoDiscovered

[Build logs](#) [Phase details](#) [Reports](#) [Environment variables](#) [Build details](#) [Resource utilization](#)



11. Now you can also view your logs in Cloudwatch by clicking on view entire log.

Showing the last 95 lines of the build log. [View entire log](#)

No previous logs

12. As you see, it opened the CloudWatch Logs stream of this execution in a new tab and scrolled down to the last log automatically. You can see the same logs line by line here. Hence, you can use CloudWatch Logs as the long-term storage for your build logs and take advantage of its features.

Timestamp	Message
2024-08-07T10:20:56.518Z	[Container] 2024/08/07 10:20:51.276717 Running on CodeBuild On-demand
2024-08-07T10:20:56.518Z	[Container] 2024/08/07 10:20:51.276727 Waiting for agent ping
2024-08-07T10:20:56.518Z	[Container] 2024/08/07 10:20:51.377633 Waiting for DOWNLOAD_SOURCE
2024-08-07T10:20:56.518Z	[Container] 2024/08/07 10:20:52.510862 Phase is DOWNLOAD_SOURCE
2024-08-07T10:20:56.518Z	[Container] 2024/08/07 10:20:52.511749 CODEBUILD_SRC_DIR=/codebuild/output/src2795893462/src
2024-08-07T10:20:56.518Z	[Container] 2024/08/07 10:20:52.512287 YAML location is /codebuild/output/src2795893462/src/buildspec.yml
2024-08-07T10:20:56.518Z	[Container] 2024/08/07 10:20:52.513991 Setting HTTP client timeout to higher timeout for S3 source
2024-08-07T10:20:56.518Z	[Container] 2024/08/07 10:20:52.514063 Processing environment variables
2024-08-07T10:20:56.518Z	[Container] 2024/08/07 10:20:52.547725 Selecting 'nodejs' runtime version '20' based on manual selections...
2024-08-07T10:20:56.518Z	[Container] 2024/08/07 10:20:54.733413 Running command echo "Installing Node.js version 20 ..."
2024-08-07T10:20:56.518Z	Installing Node.js version 20 ...
2024-08-07T10:20:56.518Z	
2024-08-07T10:20:56.518Z	[Container] 2024/08/07 10:20:54.740490 Running command n \$NODE_20_VERSION
2024-08-07T10:20:56.518Z	copying : node/20.11.1
2024-08-07T10:21:58.572Z	installed : v20.11.1 (with npm 10.2.4)

13. Now go back to VS Code delete exit 1 and build simulation error commands from your buildspec.yml file. Then save it.

```

version: 0.2
phases:
  install:
    runtime-versions:
      nodejs: 20
    commands:
      - npm install -g @angular/cli@17
  pre_build:
    commands:
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  build:
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  artifacts:
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```

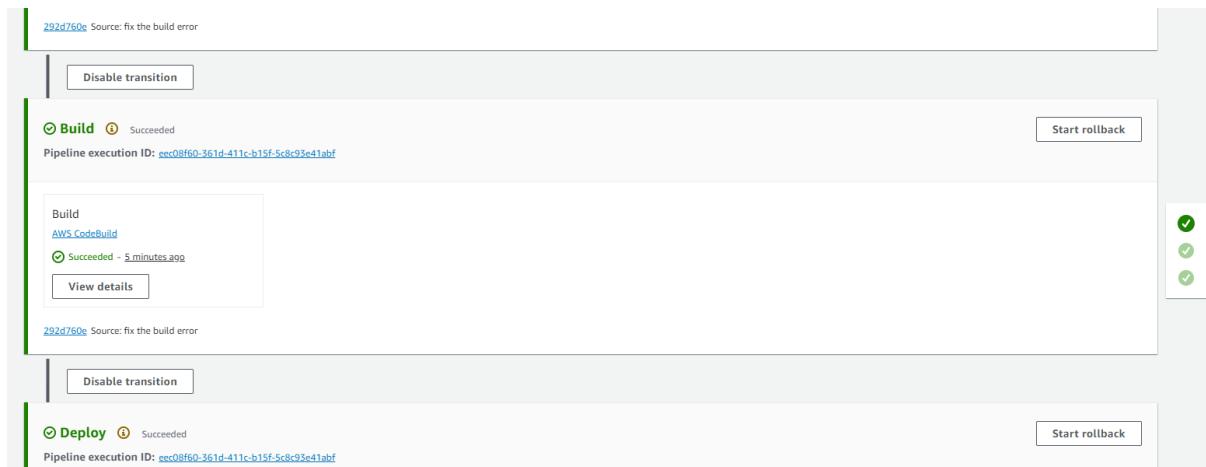
14. Then we make the commit and push the new project to our repository and if you go back to the pipeline, you will see that our pipeline has started executing again.

```

PS C:\Users\PULKIT\Downloads\my-angular-project> git commit -a -m "fix the build error"
[master 292d760] fix the build error
 1 file changed, 2 deletions(-)
● PS C:\Users\PULKIT\Downloads\my-angular-project> git push origin master
● Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 12 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 299 bytes | 299.00 KiB/s, done.
Total 3 (delta 2), reused 0 (delta 0), pack-reused 0
● remote: Validating objects: 100%
To https://git-codecommit.eu-west-1.amazonaws.com/v1/repos/DemoAngularRepo
  bbbae1c..292d760  master -> master
○ PS C:\Users\PULKIT\Downloads\my-angular-project>

```

15. Below you can see that our pipeline has been executed successfully. Below you can see that our pipeline has been executed successfully.



- Also, if you go to the website page and refresh it you can see that the version has been changed for our website which means that your pipeline was executed properly.

Sample Angular App for AWS CodePipeline Step by Step

Version: 2.0

Congratulations! You successfully built and deployed your code.

This is a simple single-page calculator app developed with Angular and Bootstrap for the build examples on the [AWS CodePipeline Step by Step](#) course.

The screenshot shows a simple calculator application with the following interface:

- Input Fields:** Two input fields containing "12" and "*" respectively, followed by a dropdown menu with a division symbol.
- Buttons:** A red "Clear" button and a green "Calculate" button.
- Result Area:** A light blue box displaying the result "Result: 24".