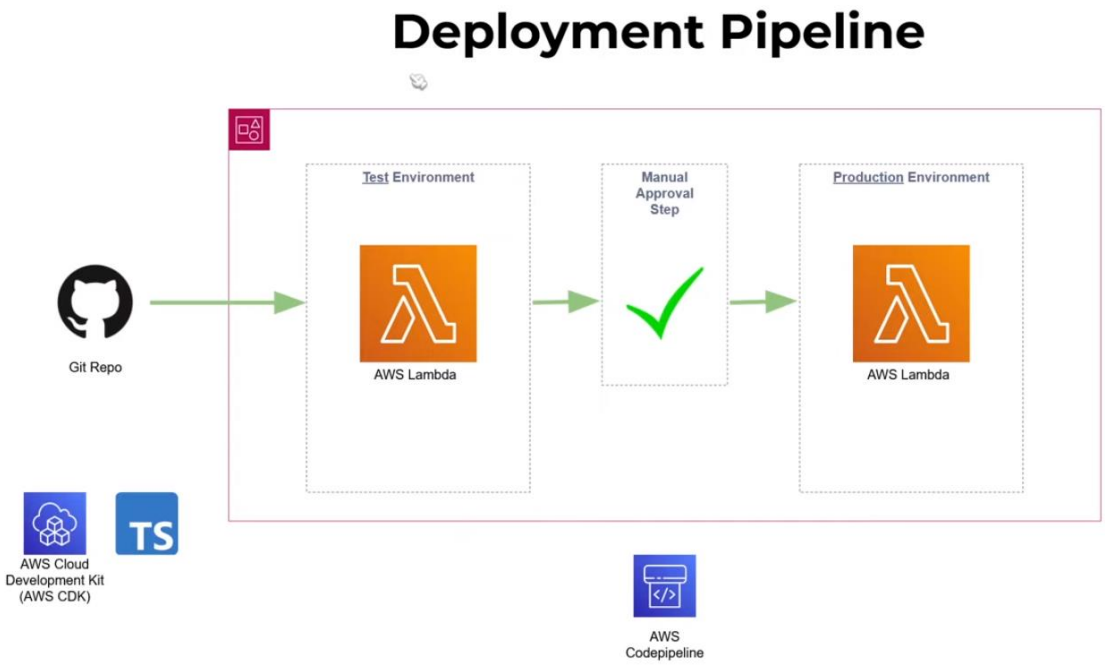
AWS CodePipeline (CI / CD) Tutorial with CDK

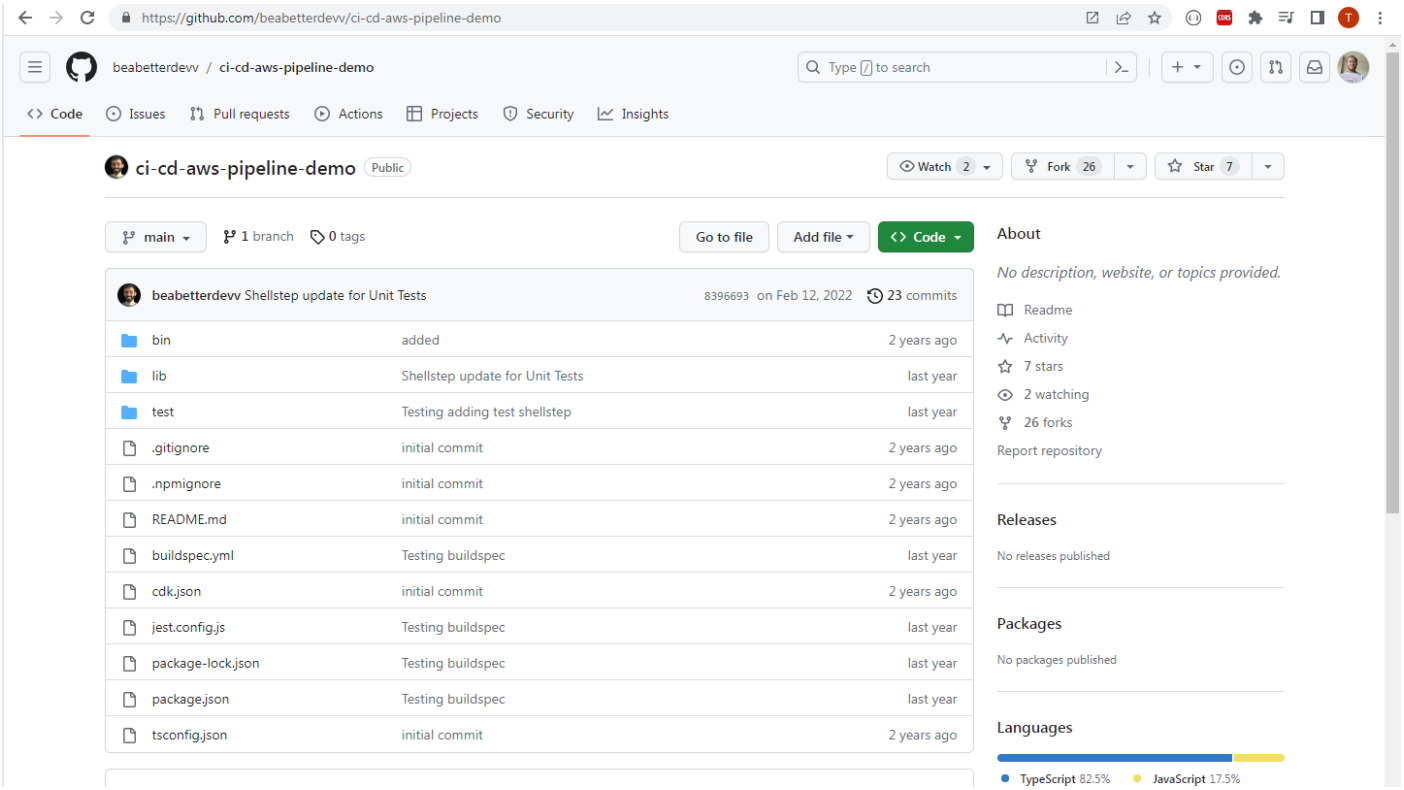
Be A Better Dev
177K subscribers
Subscribe

1.2K | Share | Download | Thanks | ...

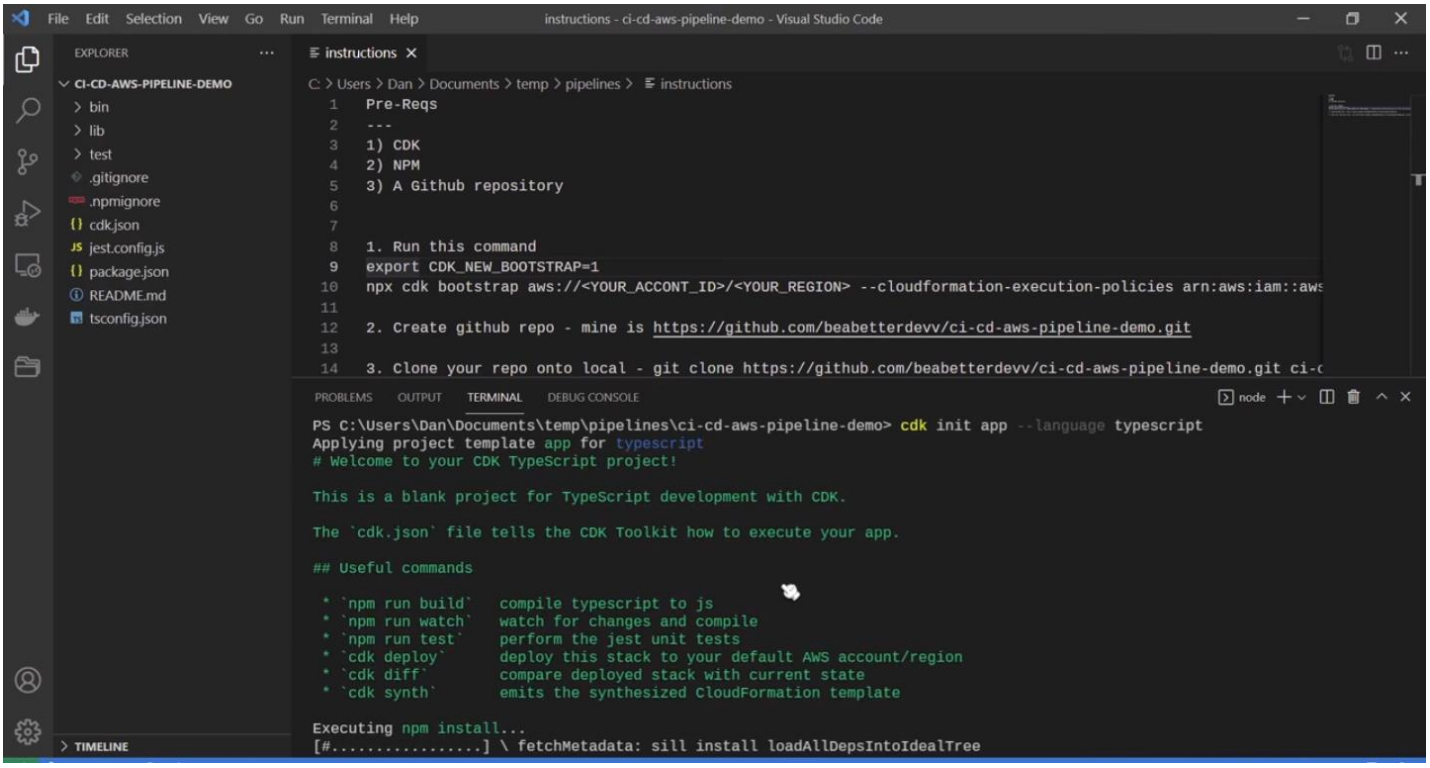
65,634 views Feb 7, 2022 AWS DevOps Playlist - Must Know Services
CodePipeline is a popular Continuous Integration (CI) and Continuous Delivery (CD) tool on AWS. In this tutorial, I show you how to setup a CI / CD pipeline using CodePipeline, CDK and TypeScript. We set up two stages, test and prod. I show you how to structure your CDK code to deploy two different lambda functions. In upcoming videos, I'll show you how to add unit testing to your pipeline to ensure application health prior to deployment.

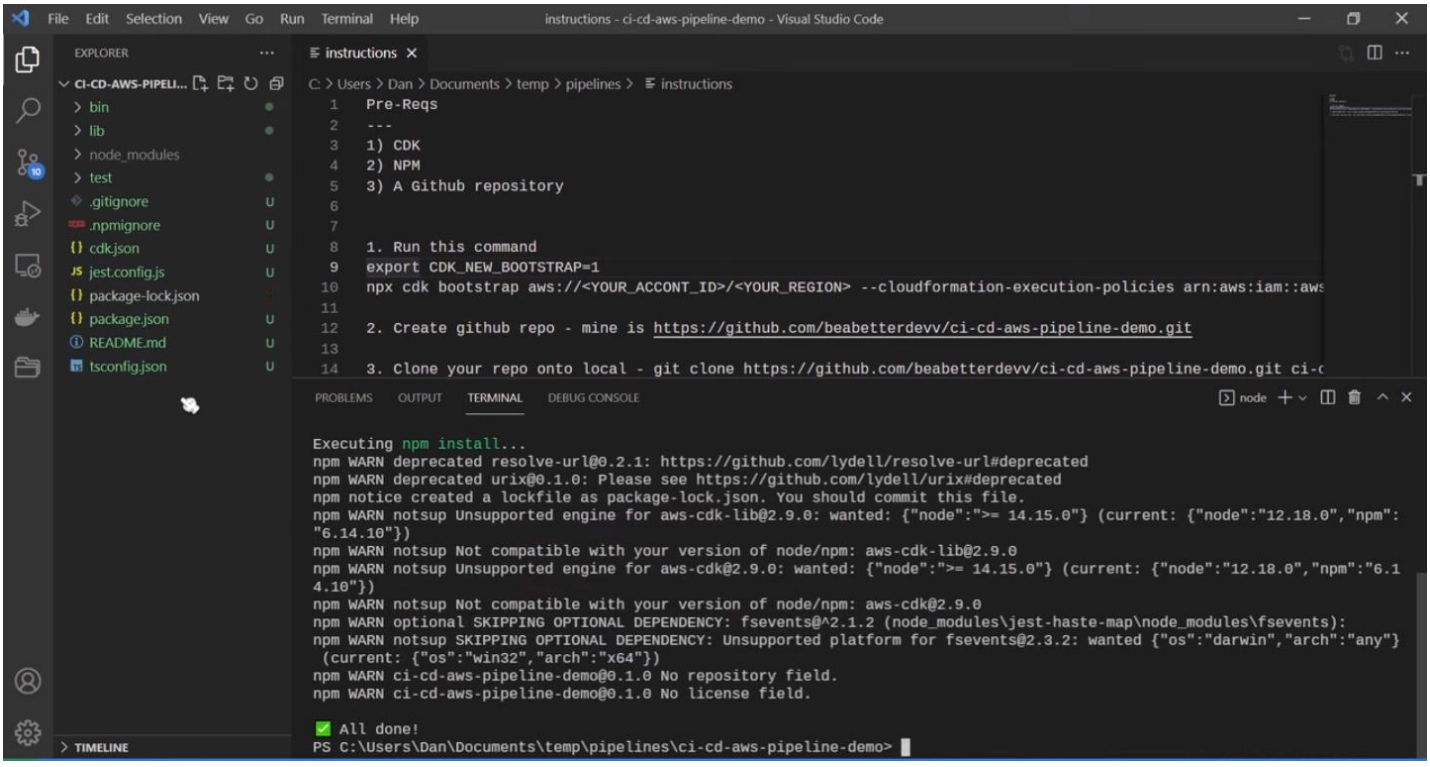


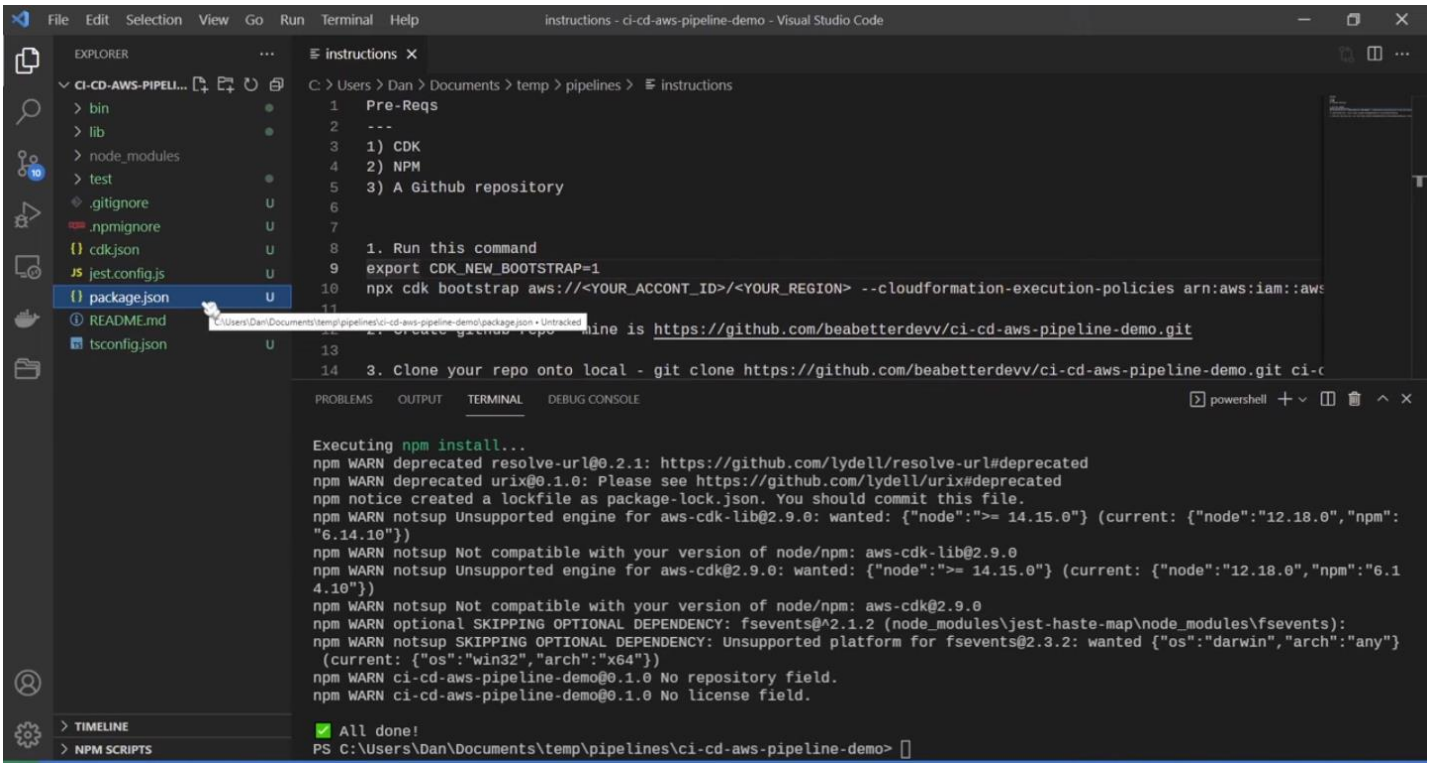
When you commit the CDK code to the GitHub repo, it will deploy to the Test environment, then a manual approval to get it to the Production environment.



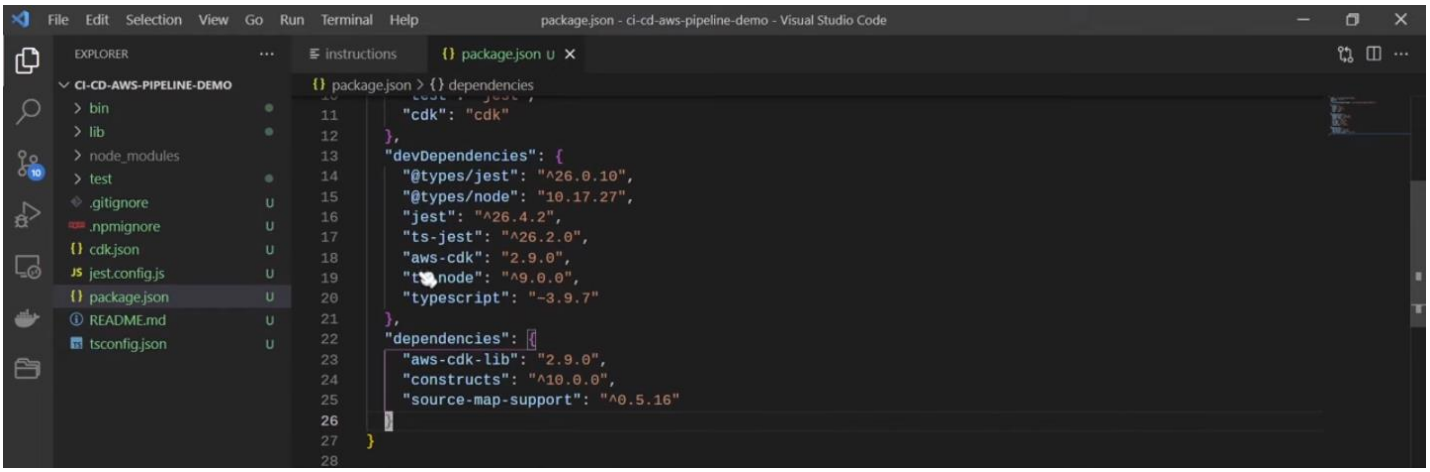
https://github.com/beabetterdevv/ci-cd-aws-pipeline-demo


File Edit Selection View Go Run Terminal Help
instructions - ci-cd-aws-pipeline-demo - Visual Studio Code
EXPLORER
CI-CD-AWS-PIPELINE-DEMO
bin
lib
test
.gitignore
.npmignore
cdk.json
jest.config.js
package.json
README.md
tsconfig.json
instructions
C: > Users > Dan > Documents > temp > pipelines > instructions
1 Pre-Reqs
2 ---
3 1) CDK
4 2) NPM
5 3) A Github repository
6
7
8 1. Run this command
9 export CDK_NEW_BOOTSTRAP=1
10 npx cdk bootstrap aws://<YOUR_ACCONT_ID>/<YOUR_REGION> --cloudformation-execution-policies arn:aws:iam::aws
11
12 2. Create github repo - mine is https://github.com/beabetterdevv/ci-cd-aws-pipeline-demo.git
13
14 3. Clone your repo onto local - git clone https://github.com/beabetterdevv/ci-cd-aws-pipeline-demo.git ci-c
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
node
PS C:\Users\Dan\Documents\temp\pipelines\ci-cd-aws-pipeline-demo> cdk init app --language typescript
Applying project template app for typescript
Welcome to your CDK TypeScript project!
This is a blank project for TypeScript development with CDK.
The `cdk.json` file tells the CDK Toolkit how to execute your app.
Useful commands
* `npm run build` compile typescript to js
* `npm run watch` watch for changes and compile
* `npm run test` perform the jest unit tests
* `cdk deploy` deploy this stack to your default AWS account/region
* `cdk diff` compare deployed stack with current state
* `cdk synth` emits the synthesized CloudFormation template
Executing npm install...
[#.....] \ fetchMetadata: sill install loadAllDepsIntoIdealTree
TIMELINE

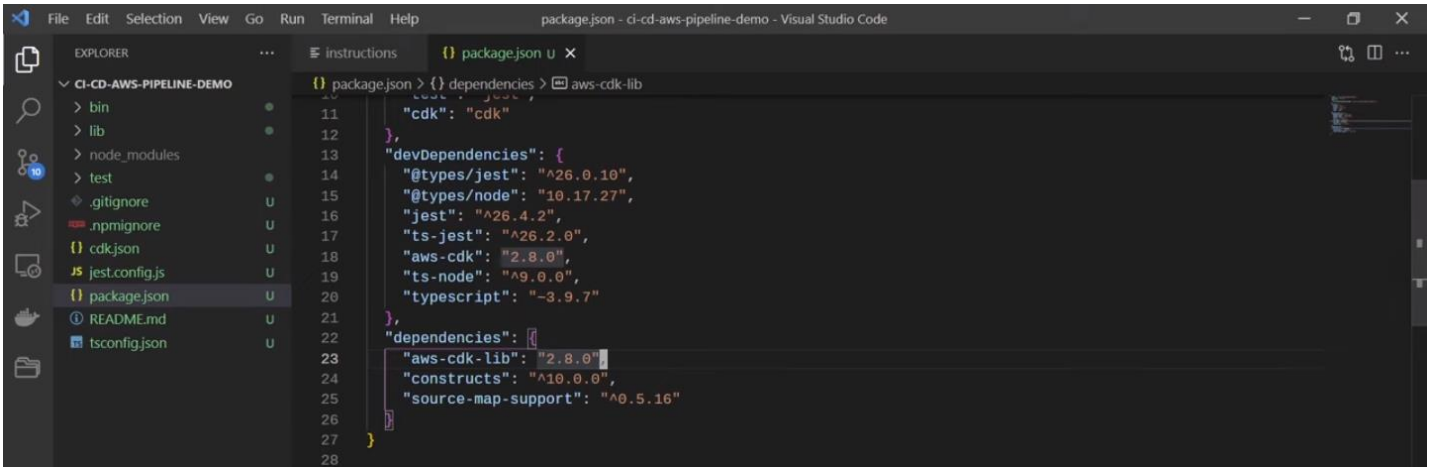

File Edit Selection View Go Run Terminal Help
instructions - ci-cd-aws-pipeline-demo - Visual Studio Code
EXPLORER
CI-CD-AWS-PIPELI...
bin
lib
node_modules
test
.gitignore
.npmignore
cdk.json
jest.config.js
package-lock.json
package.json
README.md
tsconfig.json
instructions
C: > Users > Dan > Documents > temp > pipelines > instructions
1 Pre-Reqs
2 ---
3 1) CDK
4 2) NPM
5 3) A Github repository
6
7
8 1. Run this command
9 export CDK_NEW_BOOTSTRAP=1
10 npx cdk bootstrap aws://<YOUR_ACCONT_ID>/<YOUR_REGION> --cloudformation-execution-policies arn:aws:iam::aws
11
12 2. Create github repo - mine is https://github.com/beabetterdevv/ci-cd-aws-pipeline-demo.git
13
14 3. Clone your repo onto local - git clone https://github.com/beabetterdevv/ci-cd-aws-pipeline-demo.git ci-c
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
node
Executing npm install...
npm WARN deprecated resolve-url@0.2.1: https://github.com/lydell/resolve-url#deprecated
npm WARN deprecated urix@0.1.0: Please see https://github.com/lydell/urix#deprecated
npm notice created a lockfile as package-lock.json. You should commit this file.
npm WARN notsup Unsupported engine for aws-cdk-lib@2.9.0: wanted: {"node":">= 14.15.0"} (current: {"node":"12.18.0","npm":"6.14.10"})
npm WARN notsup Not compatible with your version of node/npm: aws-cdk-lib@2.9.0
npm WARN notsup Unsupported engine for aws-cdk@2.9.0: wanted: {"node":">= 14.15.0"} (current: {"node":"12.18.0","npm":"6.14.10"})
npm WARN notsup Not compatible with your version of node/npm: aws-cdk@2.9.0
npm WARN optional SKIPPING OPTIONAL DEPENDENCY: fsevents@^2.1.2 (node_modules\jest-haste-map\node_modules\fsevents):
npm WARN notsup SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@2.3.2: wanted {"os":"darwin","arch":"any"} (current: {"os":"win32","arch":"x64"})
npm WARN ci-cd-aws-pipeline-demo@0.1.0 No repository field.
npm WARN ci-cd-aws-pipeline-demo@0.1.0 No license field.
All done!
PS C:\Users\Dan\Documents\temp\pipelines\ci-cd-aws-pipeline-demo>
TIMELINE

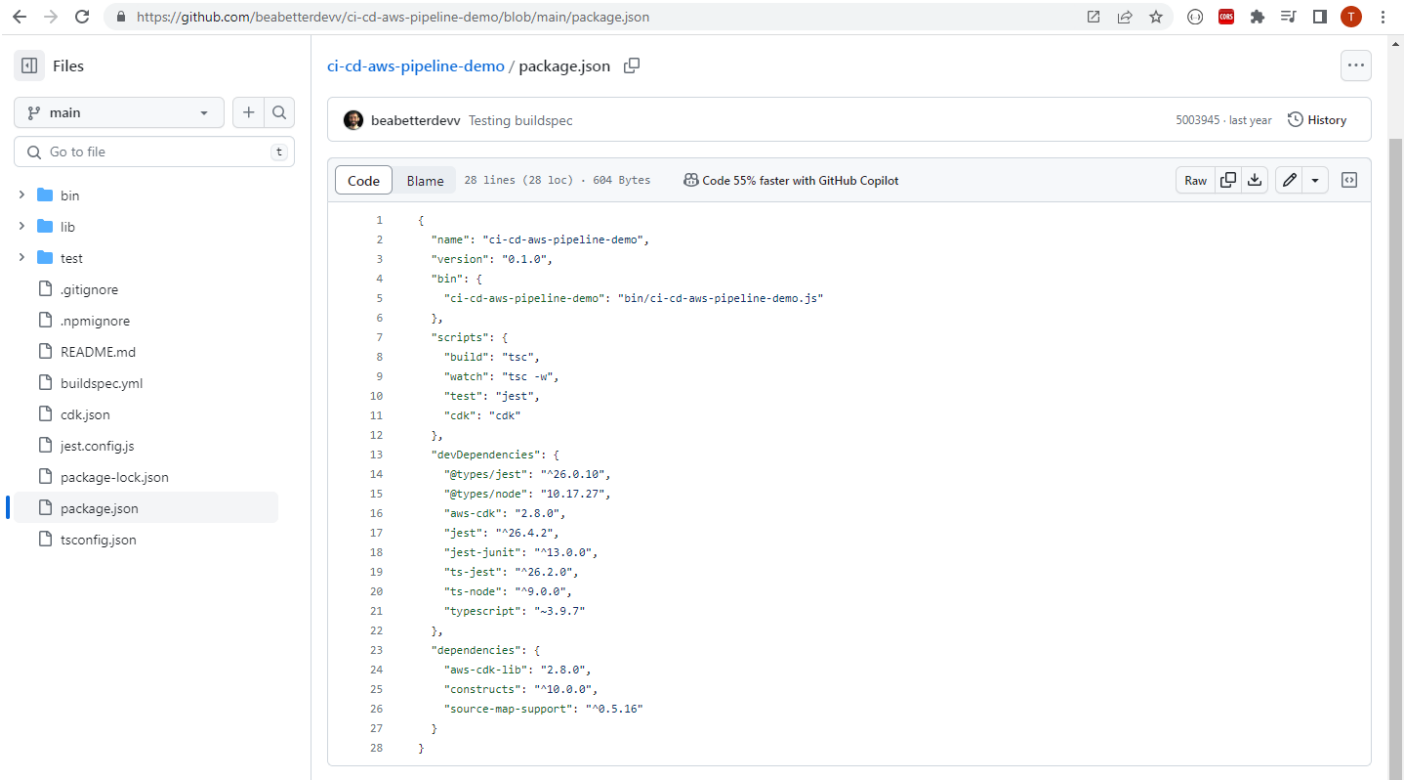


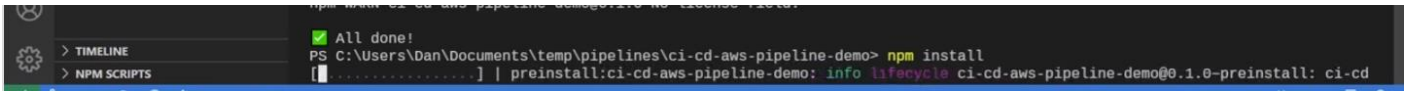
Delete your **package-lock.json** file because it has a version lock on the cdk@2.9.0 version which we cannot use.

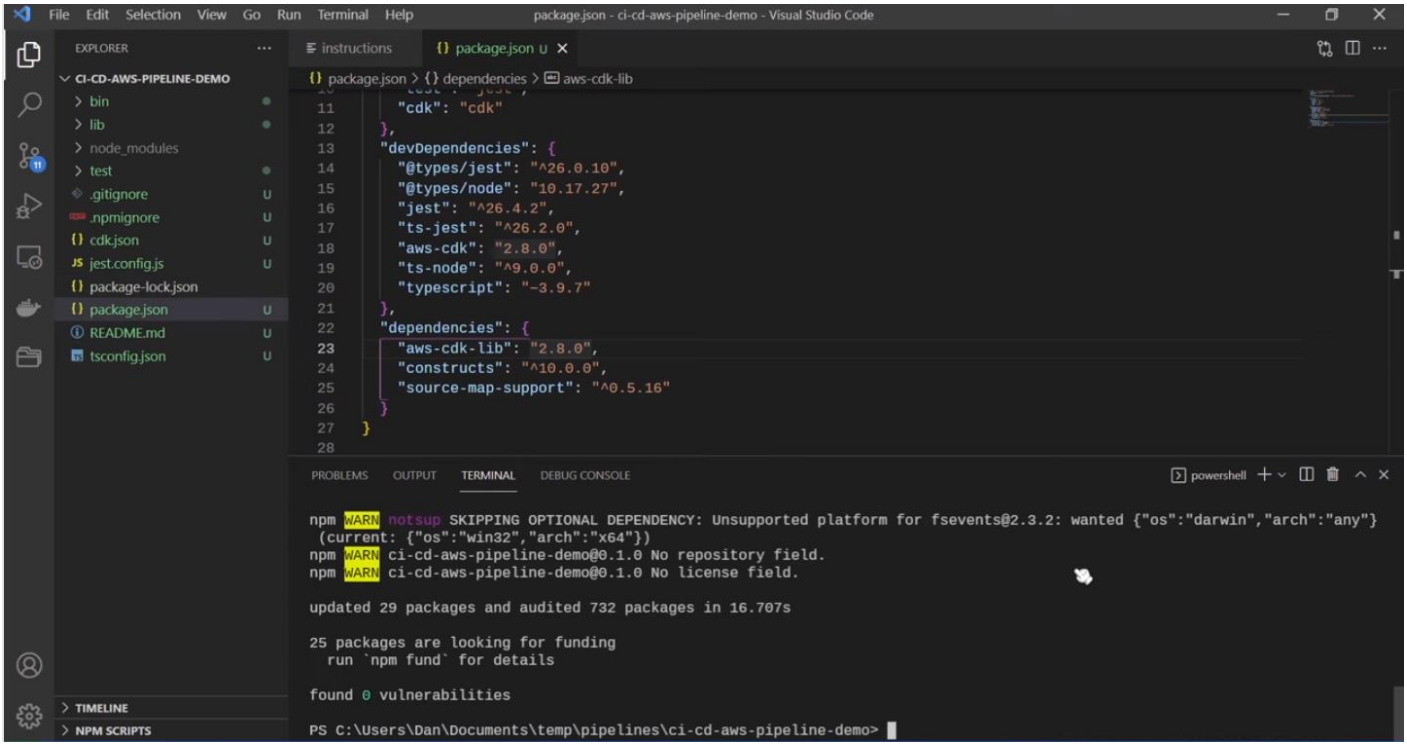


Then update your cdk libraries to the 2.8.0 version as below

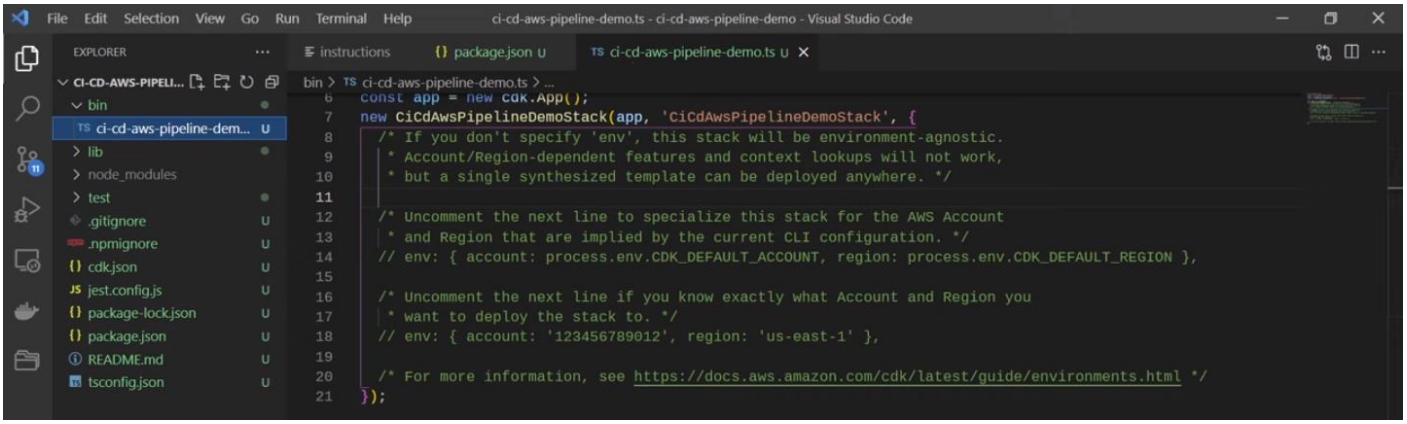




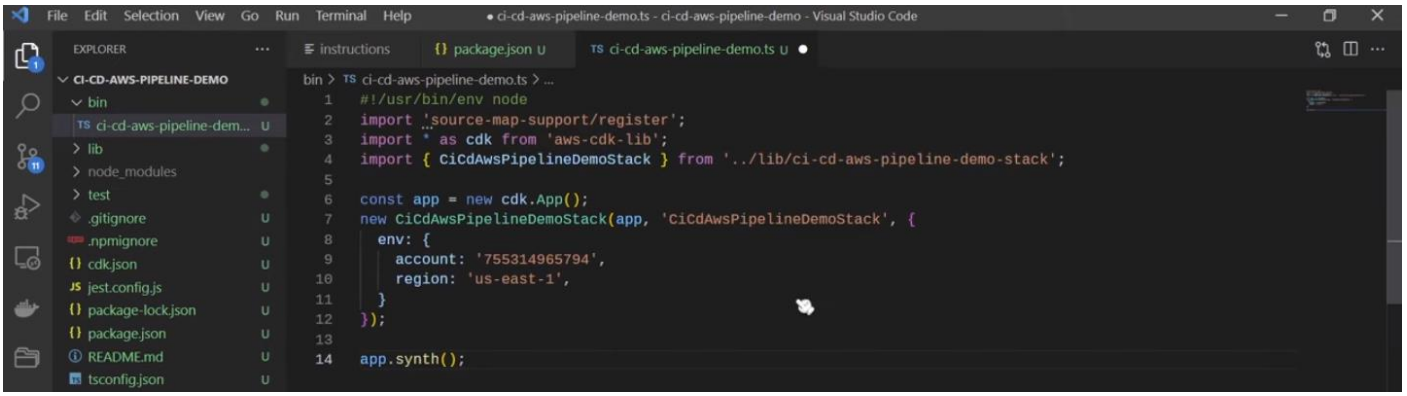




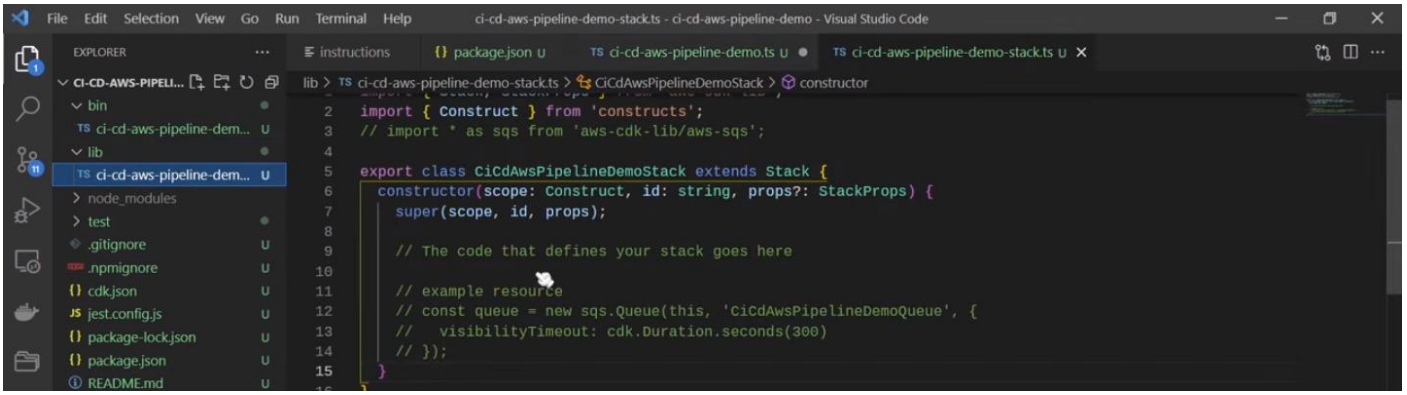
Now run the **npm install** command to generate a new **package-lock.json** file as above



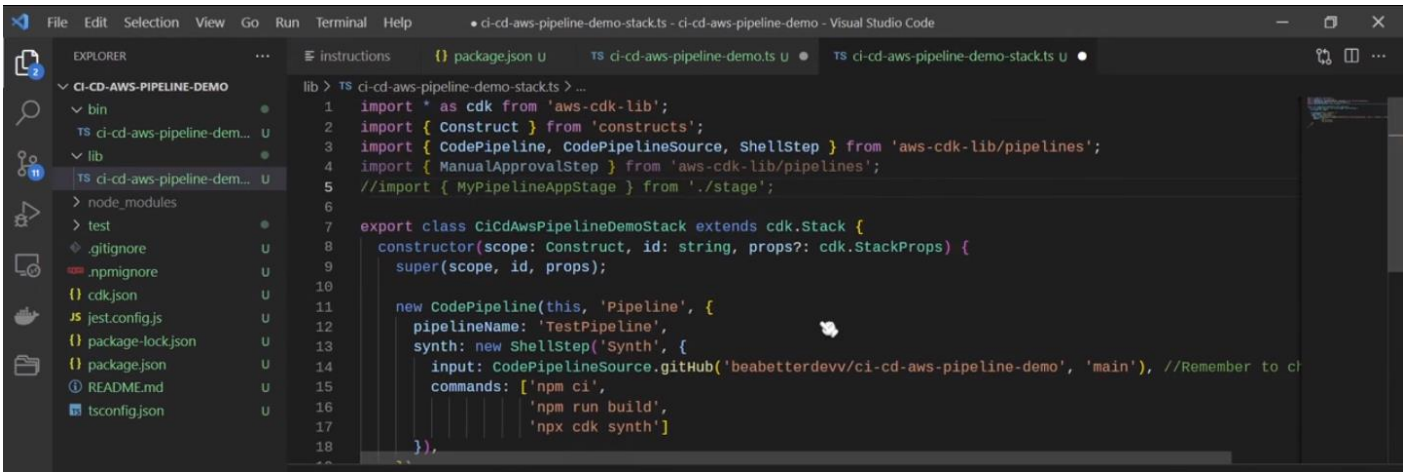
Open the file in your bin directory and replace the code as below with your AWS account and region values

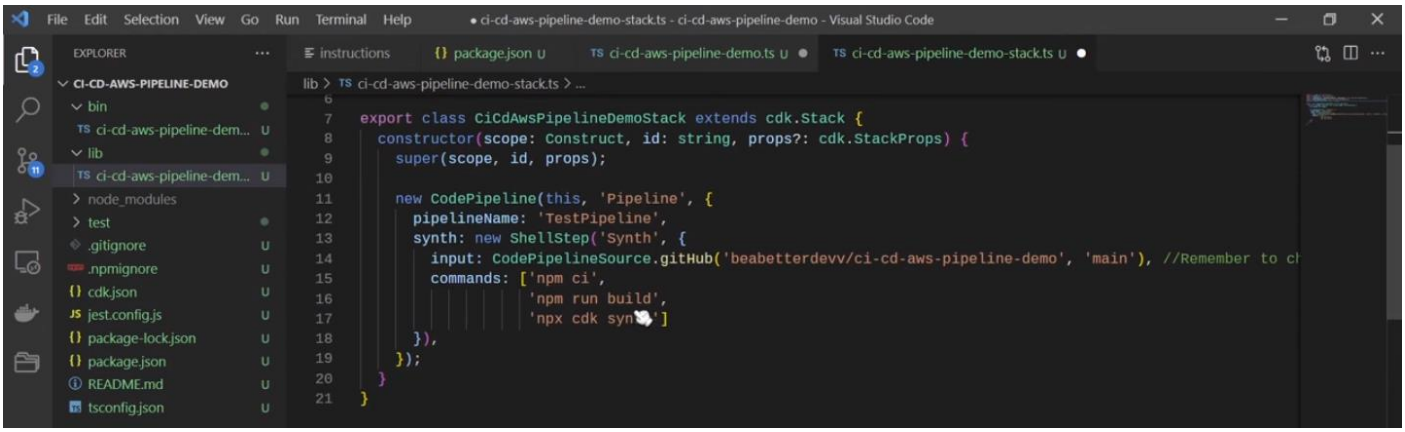


We are creating a new stack and the **app.synth()** method will then bootstrap the entire process for you

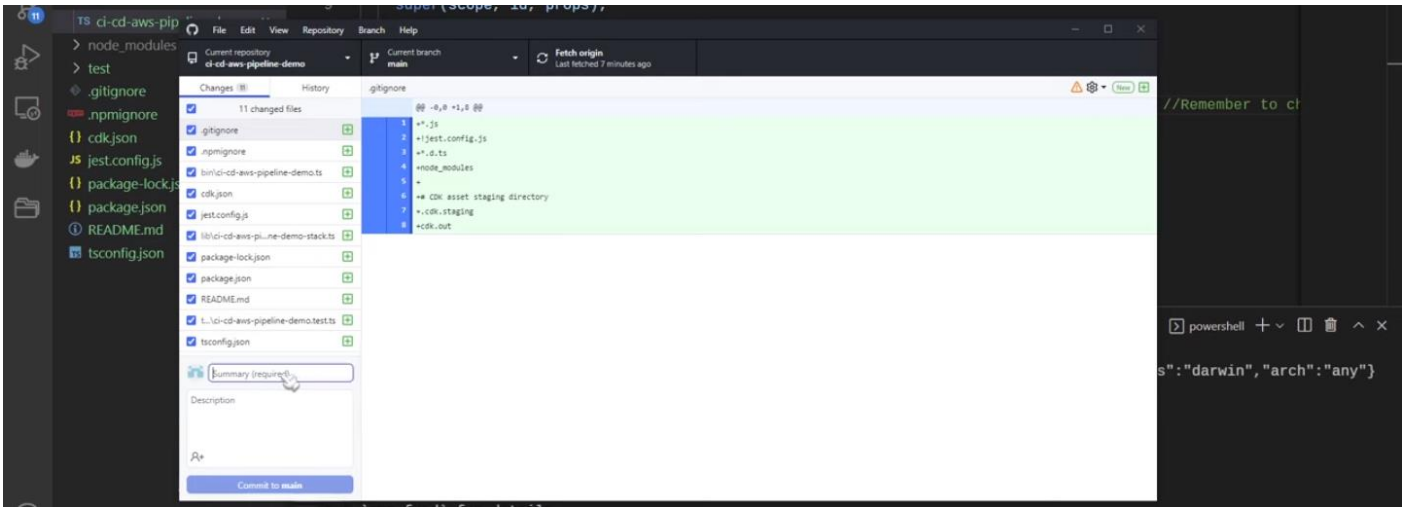


Replace the above to the below code

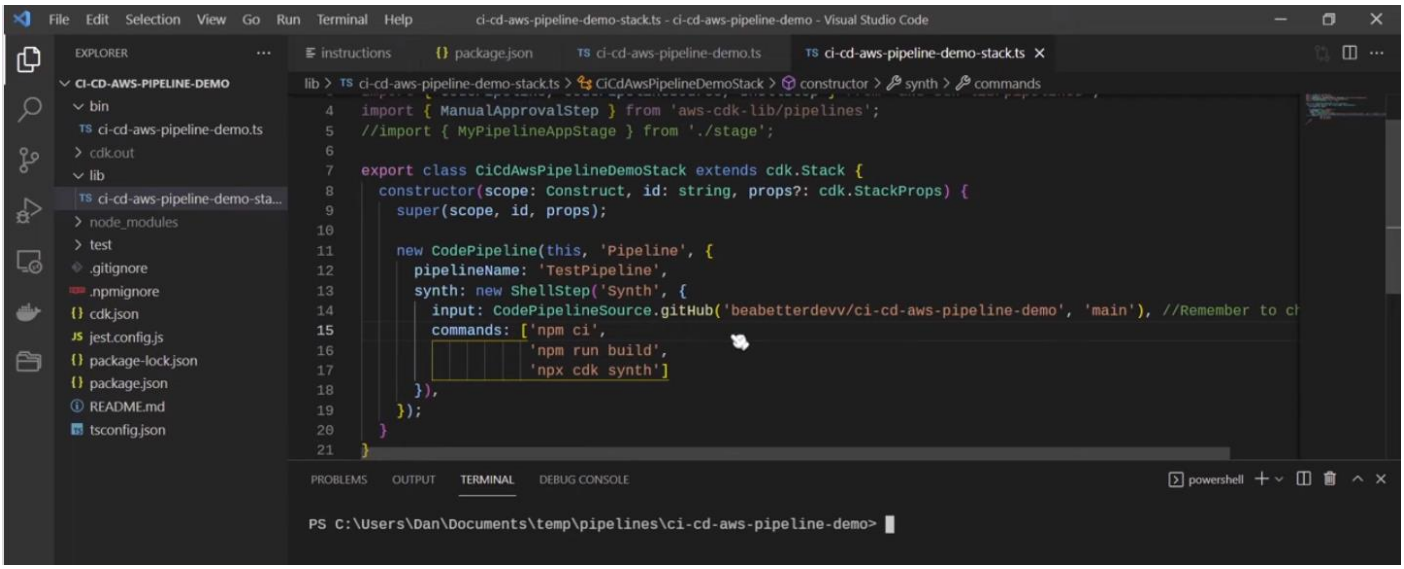


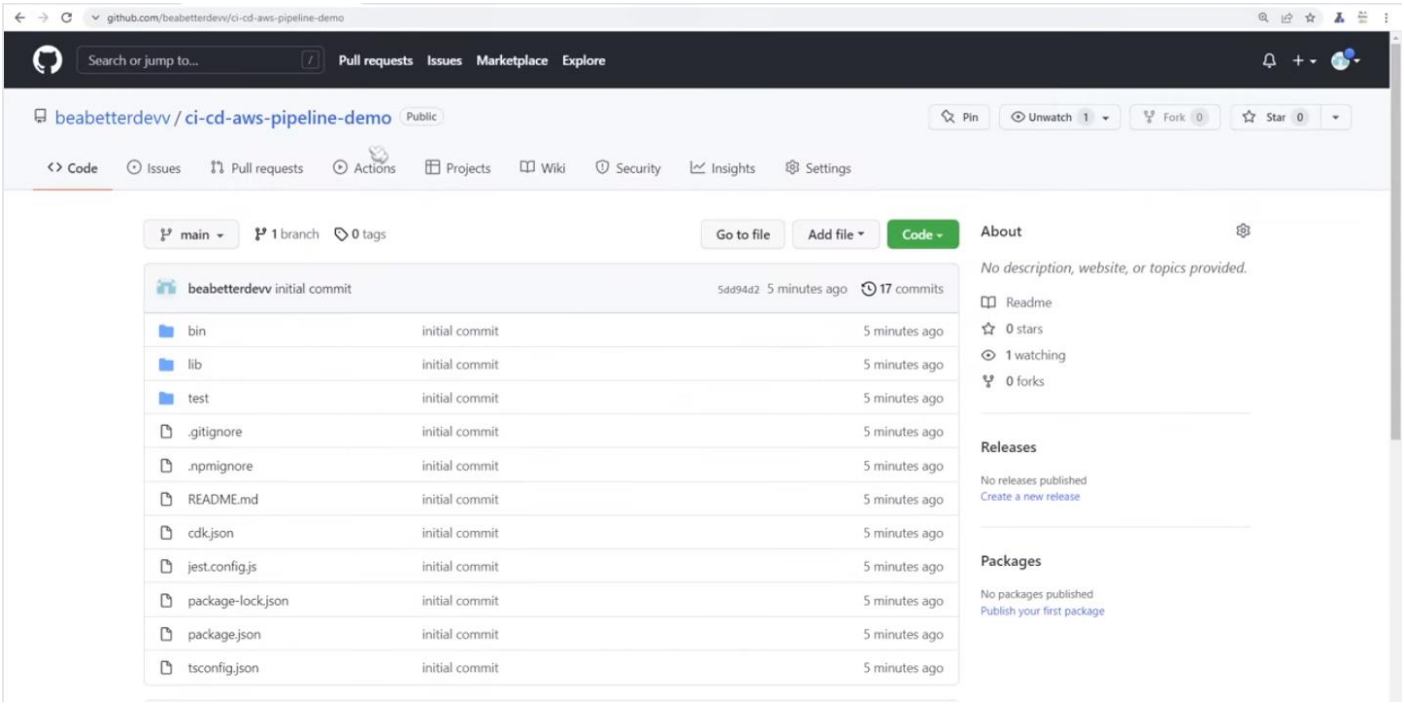


We are creating a new code pipeline which is a construct, we give it a name on 12, add a new shellstep on line 13 and point it to our GitHub repo on line 14. Then we supply the commands to run in the build step of the pipeline.

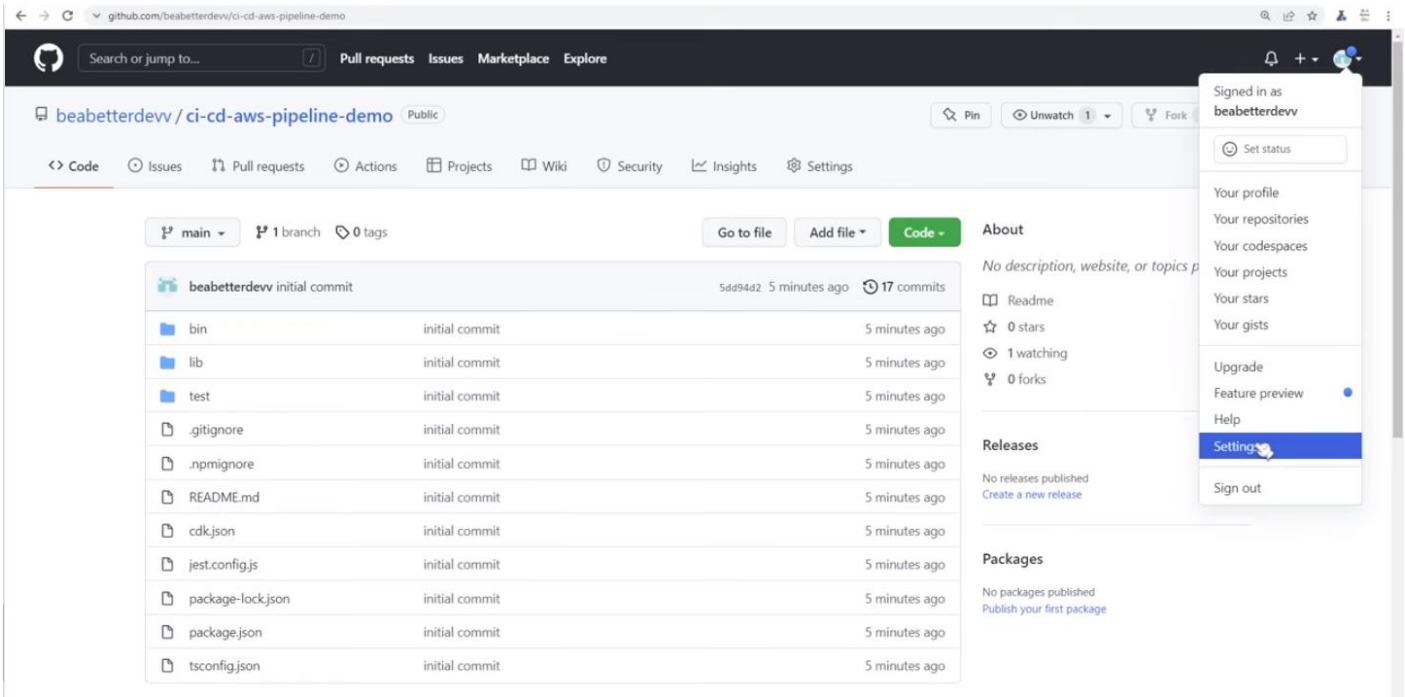


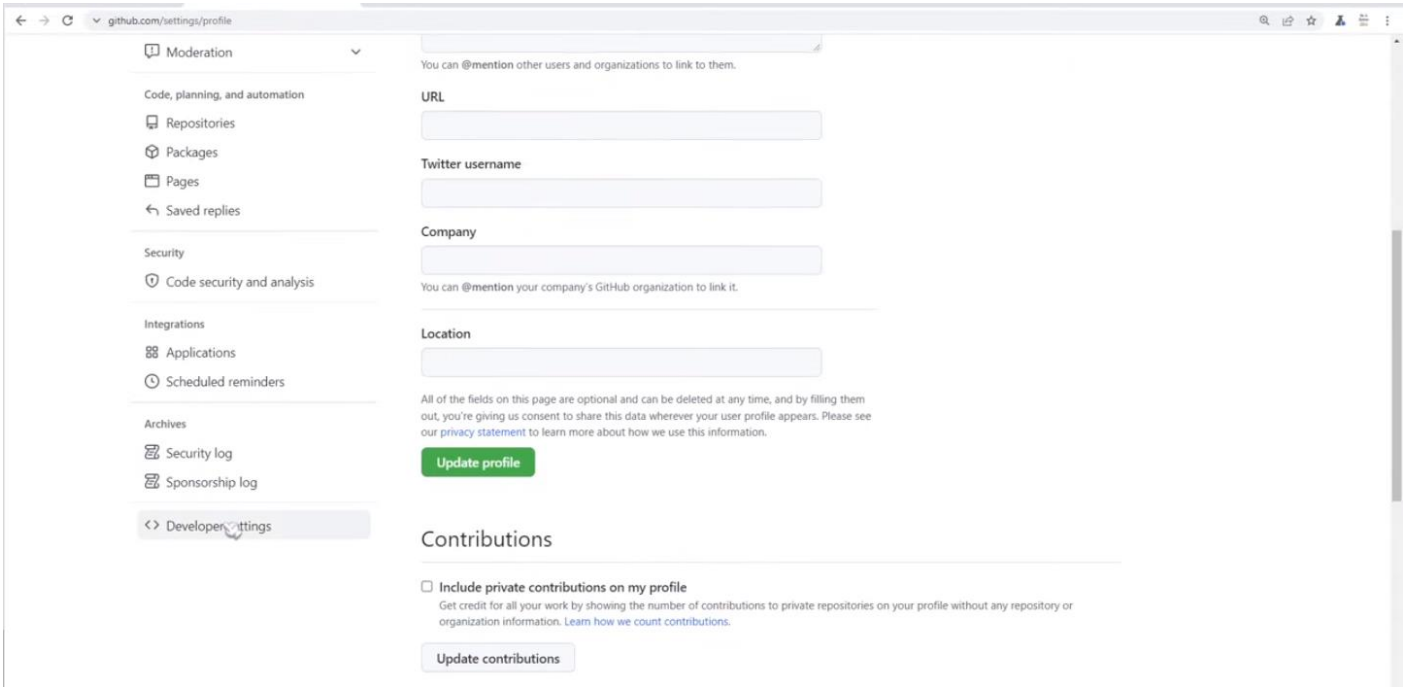
We then commit the code changes.

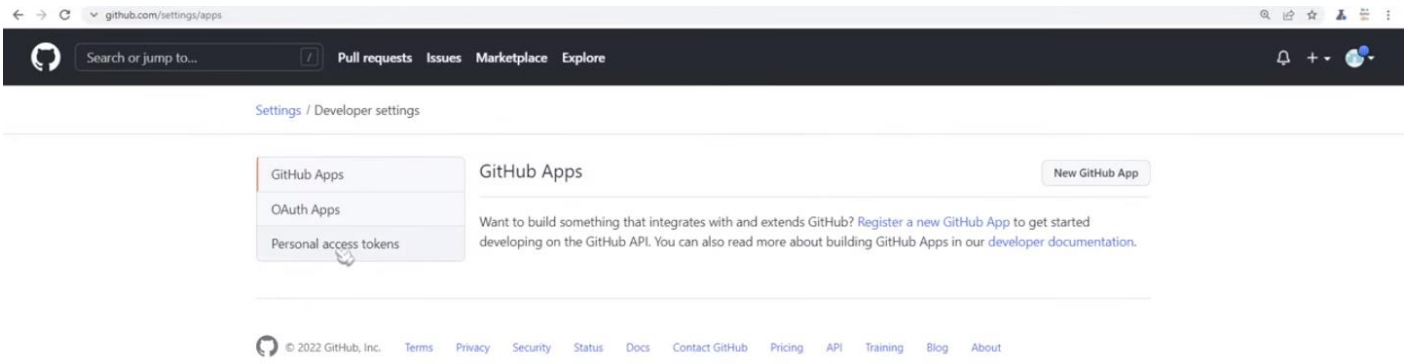


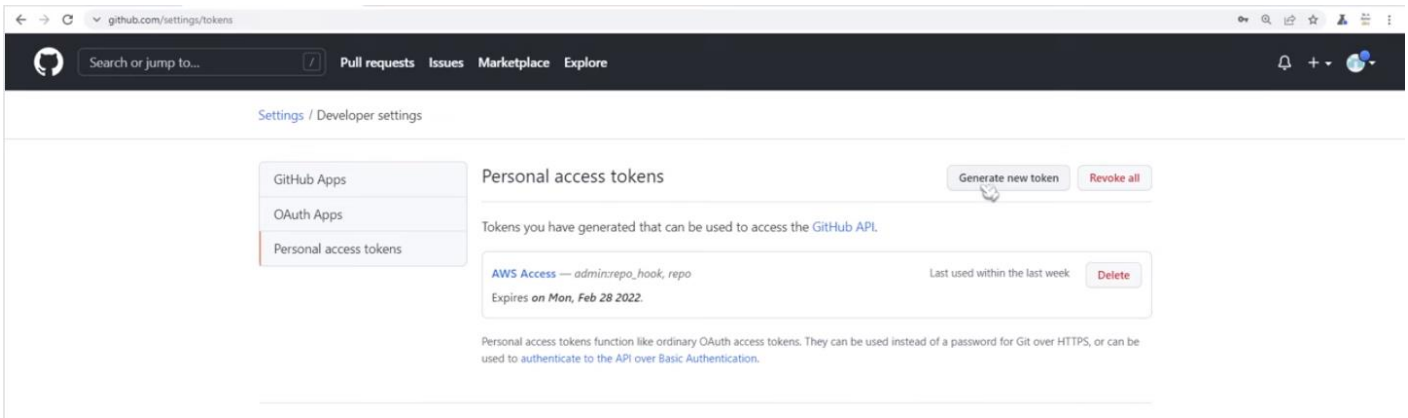


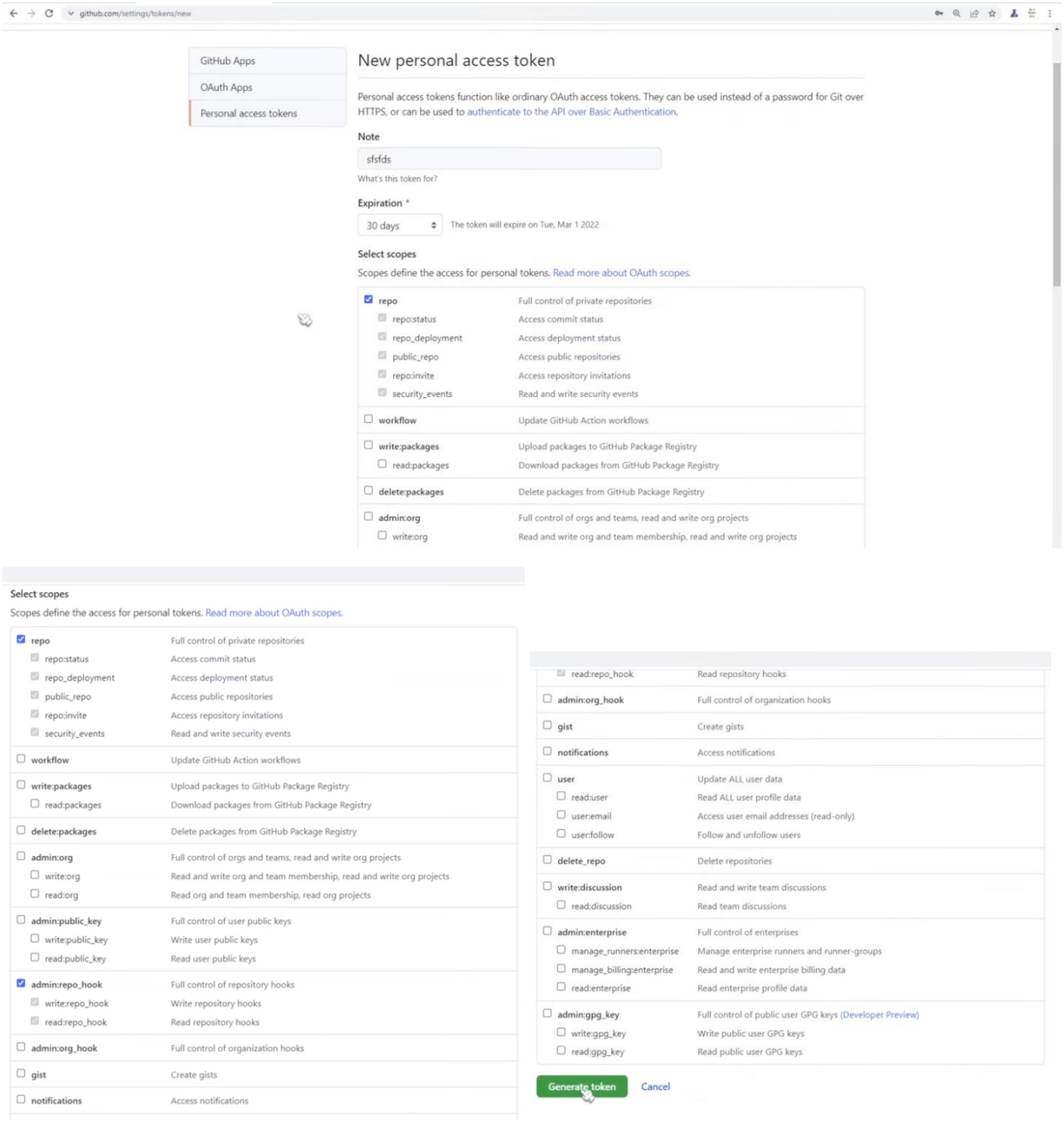
We need to create an access token for AWS use from our GitHub code. We will then create a secret in AWS that contains the access token we got from our GitHub repo that the CDK and Code Pipeline can use.



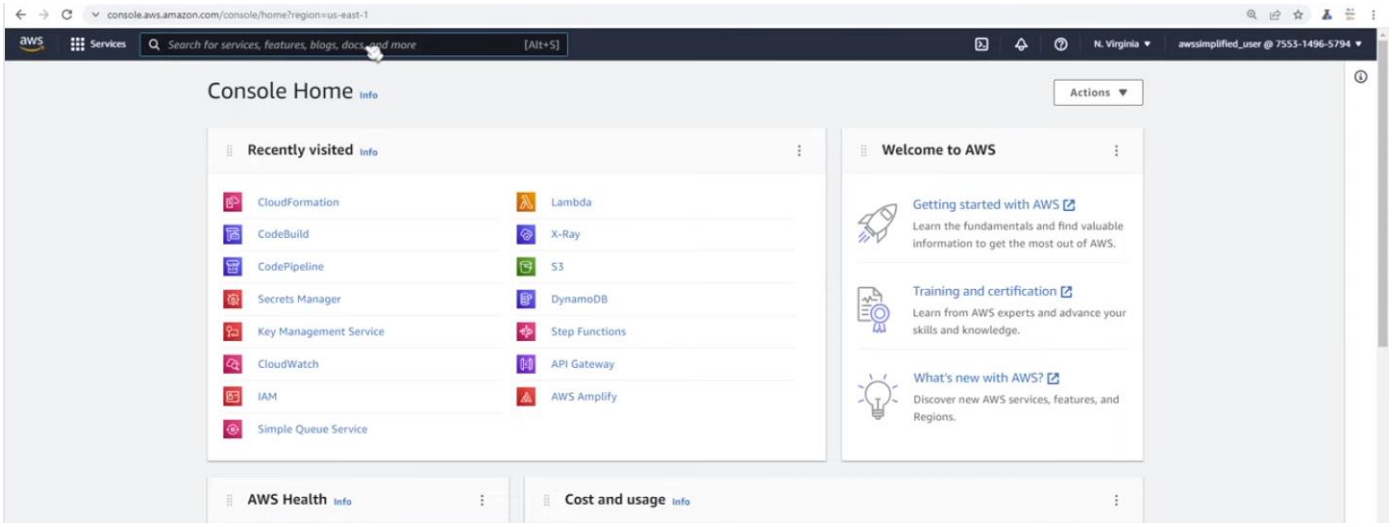

github.com/settings/profile
Moderation
Code, planning, and automation
Repositories
Packages
Pages
Saved replies
Security
Code security and analysis
Integrations
Applications
Scheduled reminders
Archives
Security log
Sponsorship log
Developer settings
You can @mention other users and organizations to link to them.
URL
Twitter username
Company
You can @mention your company's GitHub organization to link it.
Location
All of the fields on this page are optional and can be deleted at any time, and by filling them out, you're giving us consent to share this data wherever your user profile appears. Please see our privacy statement to learn more about how we use this information.
Update profile
Contributions
Include private contributions on my profile
Get credit for all your work by showing the number of contributions to private repositories on your profile without any repository or organization information. Learn how we count contributions.
Update contributions

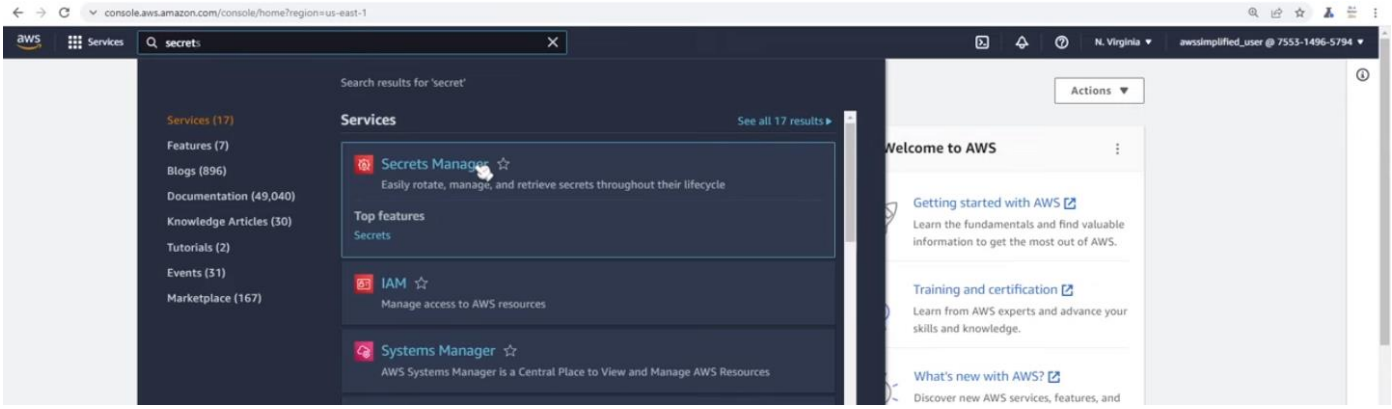

github.com/settings/apps
Search or jump to...
Pull requests
Issues
Marketplace
Explore
Settings / Developer settings
GitHub Apps
OAuth Apps
Personal access tokens
GitHub Apps
New GitHub App
Want to build something that integrates with and extends GitHub? Register a new GitHub App to get started developing on the GitHub API. You can also read more about building GitHub Apps in our developer documentation.
© 2022 GitHub, Inc.
Terms
Privacy
Security
Status
Docs
Contact GitHub
Pricing
API
Training
Blog
About

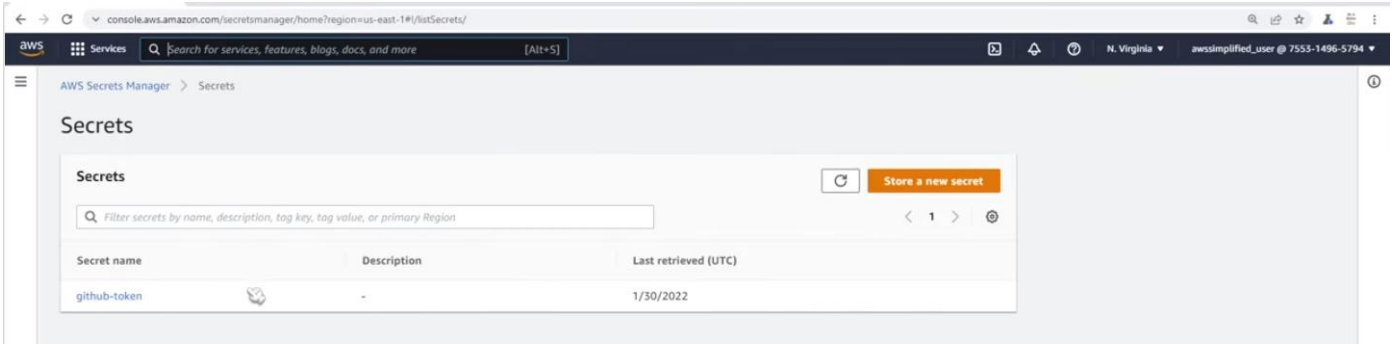

github.com/settings/tokens
Search or jump to...
Pull requests
Issues
Marketplace
Explore
Settings / Developer settings
GitHub Apps
OAuth Apps
Personal access tokens
Personal access tokens
Generate new token
Revoke all
Tokens you have generated that can be used to access the GitHub API.
AWS Access — admin:repo_hook, repo
Last used within the last week
Delete
Expires on Mon, Feb 28 2022.
Personal access tokens function like ordinary OAuth access tokens. They can be used instead of a password for Git over HTTPS, or can be used to authenticate to the API over Basic Authentication.

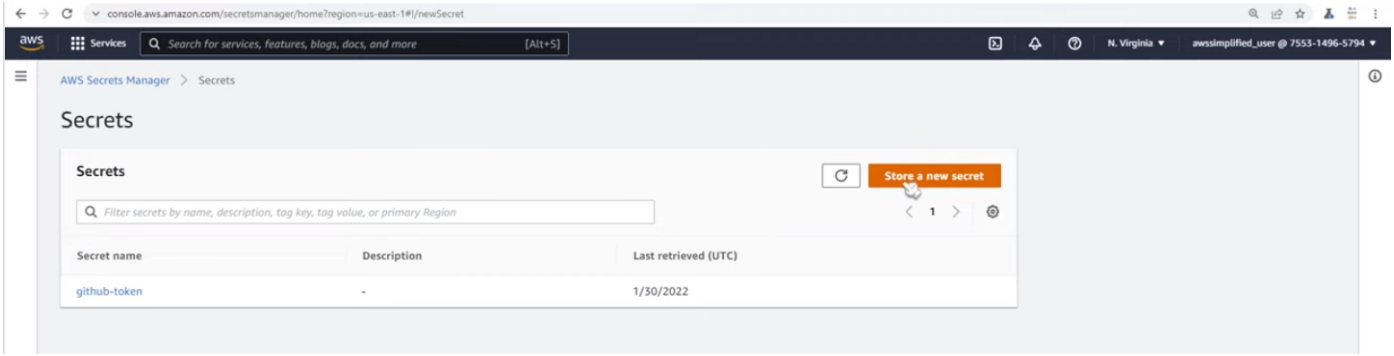


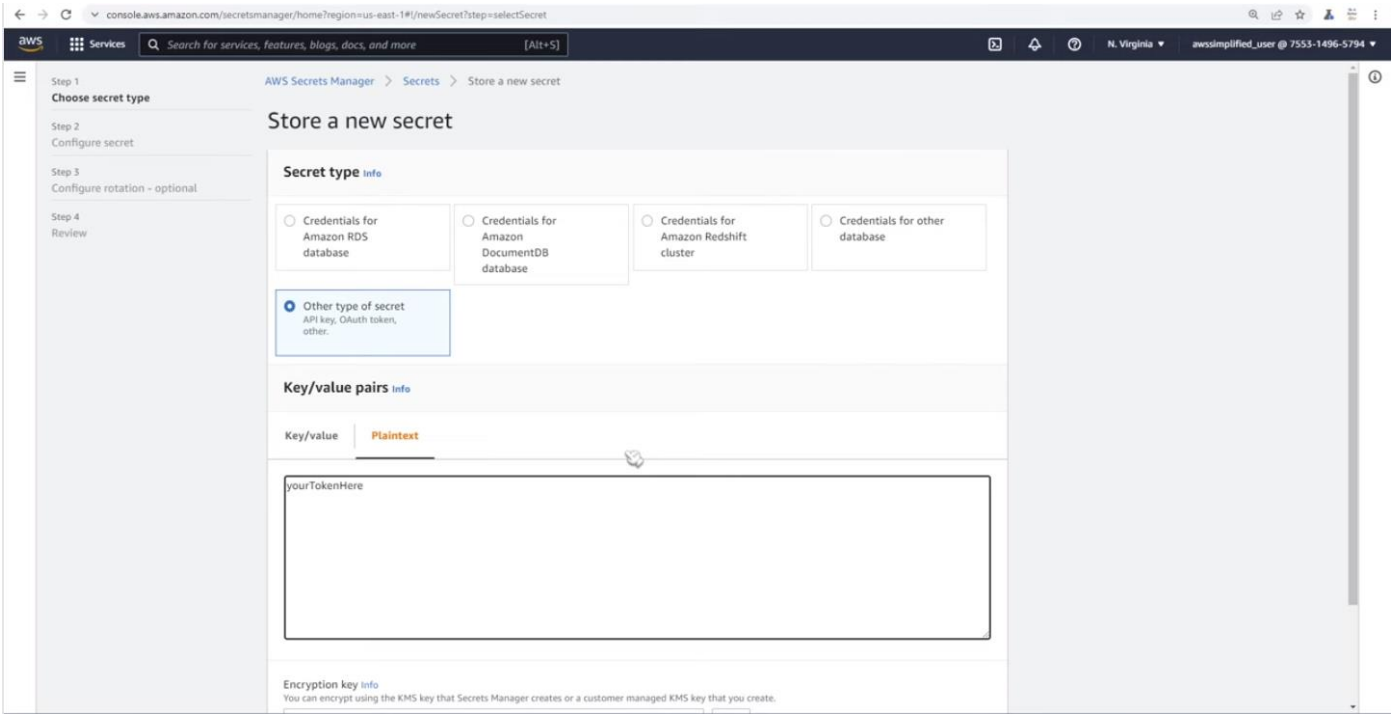
You then copy the generated access token and go to the AWS console to create a secret

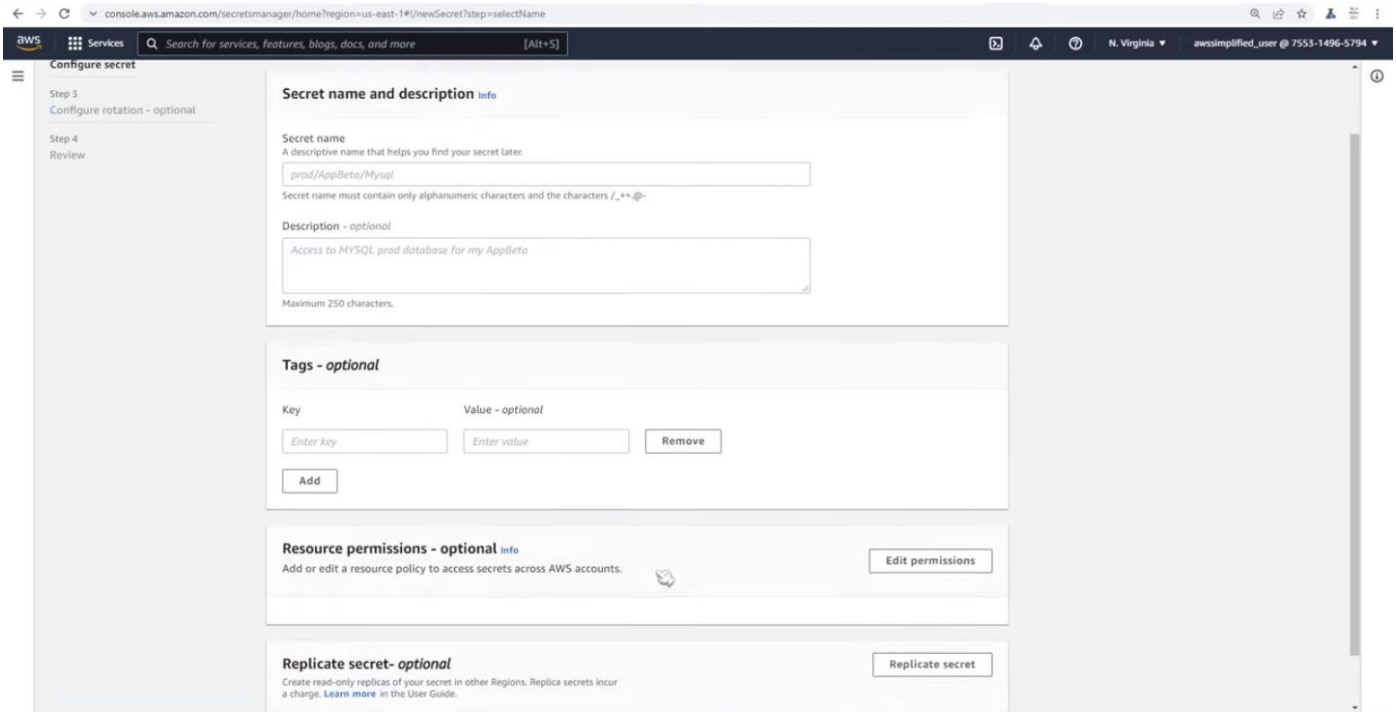

console.aws.amazon.com/console/home?region=us-east-1
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
Console Home Info
Actions
Recently visited Info
CloudFormation
CodeBuild
CodePipeline
Secrets Manager
Key Management Service
CloudWatch
IAM
Simple Queue Service
Lambda
X-Ray
S3
DynamoDB
Step Functions
API Gateway
AWS Amplify
Welcome to AWS
Getting started with AWS
Learn the fundamentals and find valuable information to get the most out of AWS.
Training and certification
Learn from AWS experts and advance your skills and knowledge.
What's new with AWS?
Discover new AWS services, features, and Regions.
AWS Health Info
Cost and usage Info

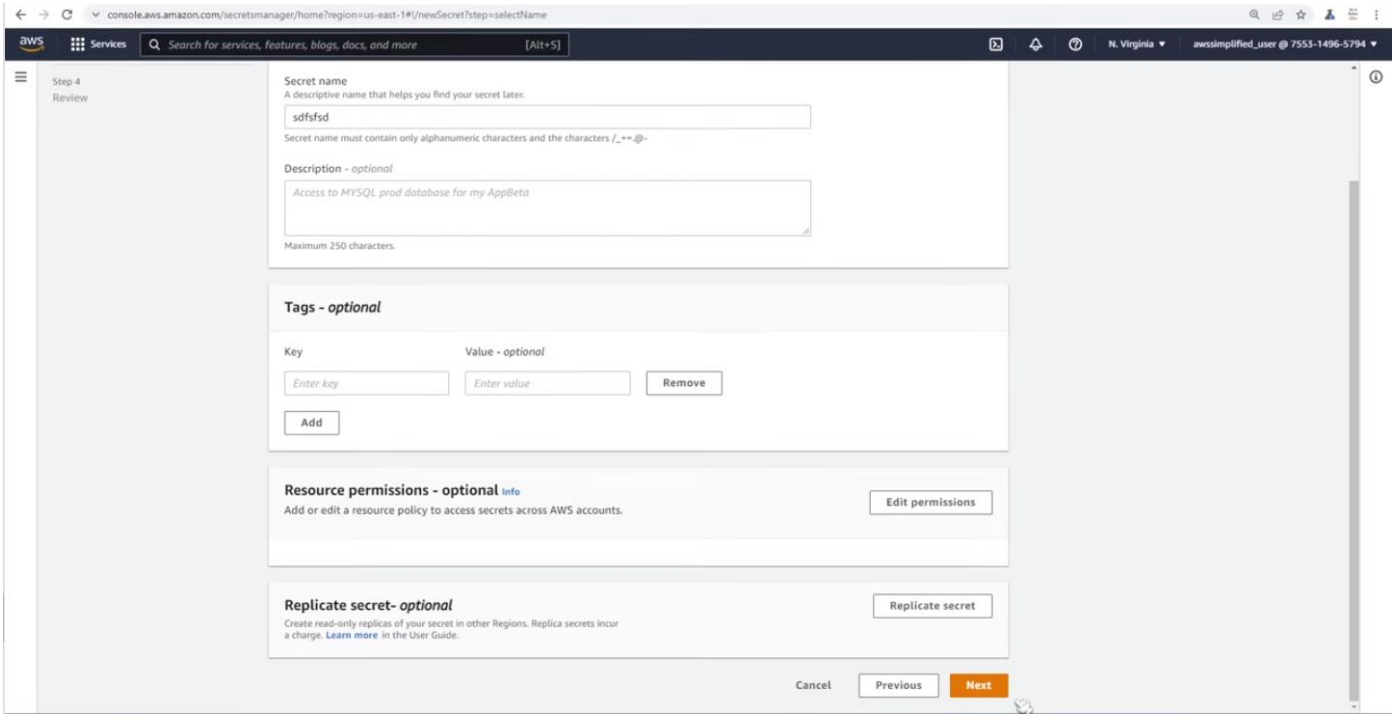

console.aws.amazon.com/console/home?region=us-east-1
Services
secrets
N. Virginia
awssimplified_user @ 7553-1496-5794
Search results for 'secret'
Services (17)
Features (7)
Blogs (896)
Documentation (49,040)
Knowledge Articles (30)
Tutorials (2)
Events (31)
Marketplace (167)
Services
See all 17 results
Secrets Manager
Easily rotate, manage, and retrieve secrets throughout their lifecycle
Top features
Secrets
IAM
Manage access to AWS resources
Systems Manager
AWS Systems Manager is a Central Place to View and Manage AWS Resources
Actions
Welcome to AWS
Getting started with AWS
Learn the fundamentals and find valuable information to get the most out of AWS.
Training and certification
Learn from AWS experts and advance your skills and knowledge.
What's new with AWS?


console.aws.amazon.com/secretsmanager/home?region=us-east-1#!/listSecrets/
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
AWS Secrets Manager > Secrets
Secrets
Secrets
Store a new secret
Filter secrets by name, description, tag key, tag value, or primary Region
1
Secret name
Description
Last retrieved (UTC)
github-token
-
1/30/2022

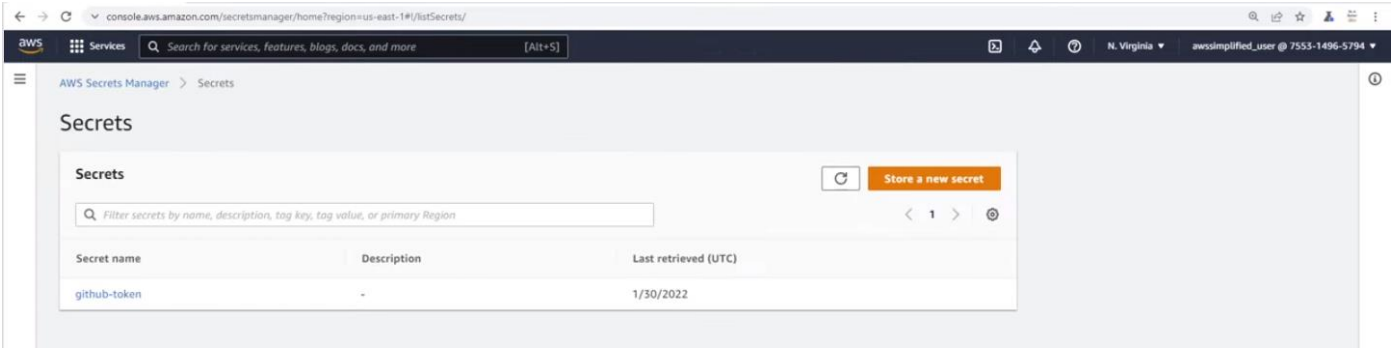

console.aws.amazon.com/secretsmanager/home?region=us-east-1#!/newSecret
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
AWS Secrets Manager > Secrets
Secrets
Secrets
Store a new secret
Filter secrets by name, description, tag key, tag value, or primary Region
1
Secret name
Description
Last retrieved (UTC)
github-token
-
1/30/2022


console.aws.amazon.com/secretsmanager/home?region=us-east-1#!/newSecret?step=selectSecret
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
Step 1
Choose secret type
Step 2
Configure secret
Step 3
Configure rotation - optional
Step 4
Review
AWS Secrets Manager > Secrets > Store a new secret
Store a new secret
Secret type Info
Credentials for Amazon RDS database
Credentials for Amazon DocumentDB database
Credentials for Amazon Redshift cluster
Credentials for other database
Other type of secret
API key, OAuth token, other.
Key/value pairs Info
Key/value
Plaintext
yourTokenHere
Encryption key Info
You can encrypt using the KMS key that Secrets Manager creates or a customer managed KMS key that you create.

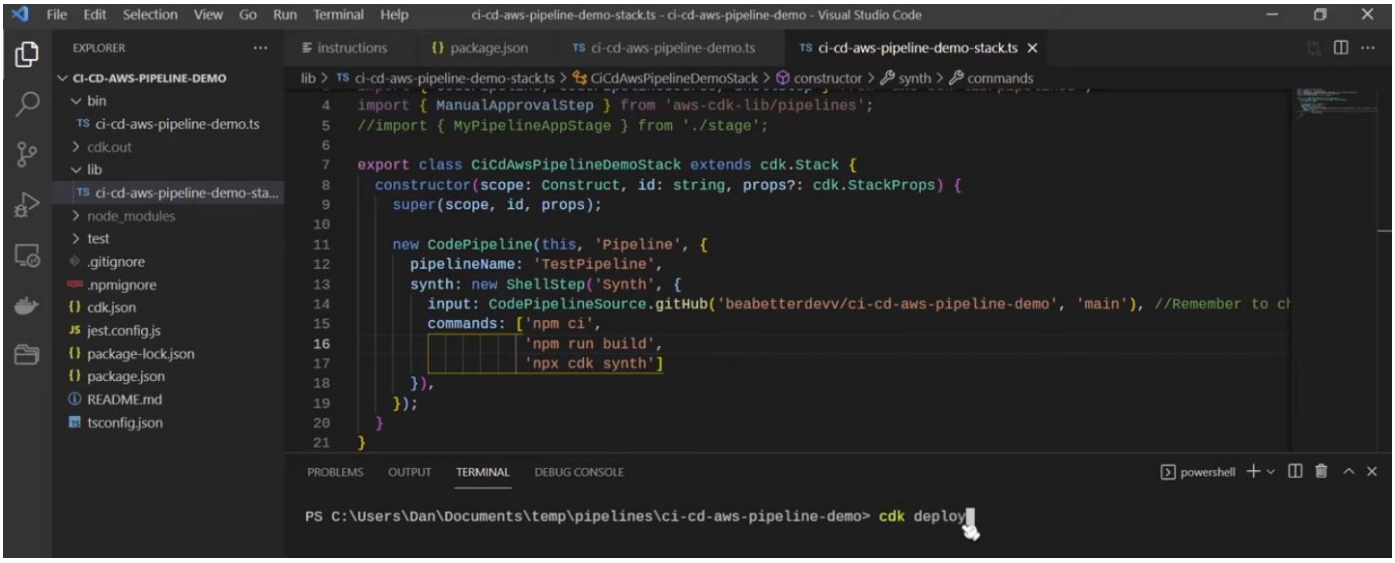

console.aws.amazon.com/secretsmanager/home?region=us-east-1#!/newSecret?step=selectName
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
Configure secret
Step 3
Configure rotation - optional
Step 4
Review
Secret name and description Info
Secret name
A descriptive name that helps you find your secret later.
prod/AppBeta/Mysql
Secret name must contain only alphanumeric characters and the characters /_+=.@-
Description - optional
Access to MYSQL prod database for my AppBeta
Maximum 250 characters.
Tags - optional
Key
Value - optional
Enter key
Enter value
Remove
Add
Resource permissions - optional Info
Add or edit a resource policy to access secrets across AWS accounts.
Edit permissions
Replicate secret- optional
Create read-only replicas of your secret in other Regions. Replica secrets incur a charge. Learn more in the User Guide.
Replicate secret



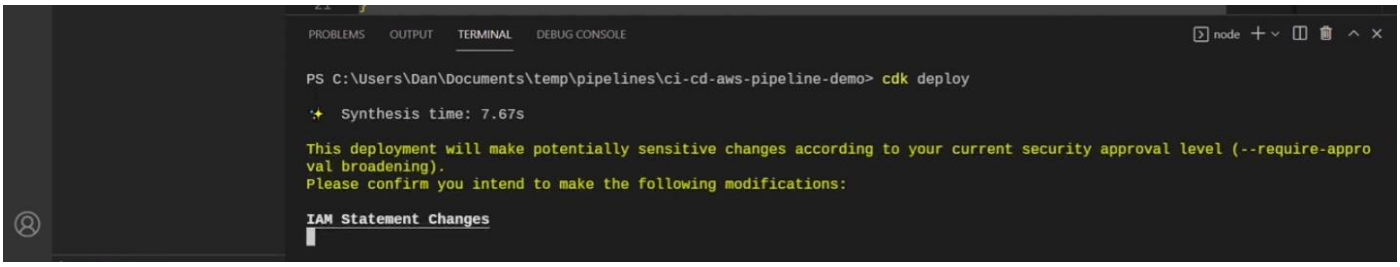
The secret name should be **github-token** above

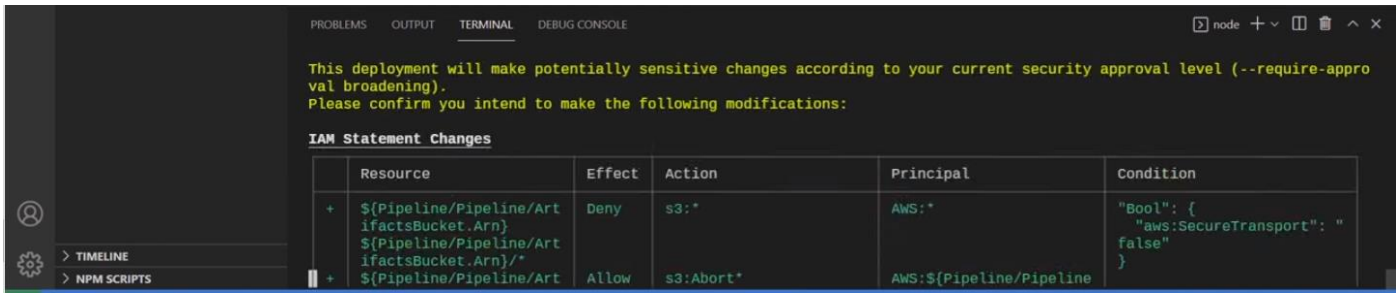


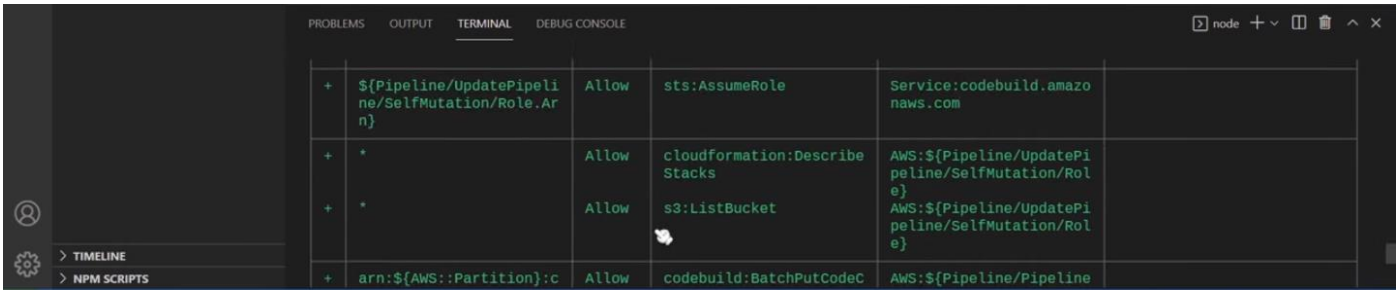
Create a secret called **github-token** as above. This is what the CDK will use when it handshakes the link between GitHub and AWS



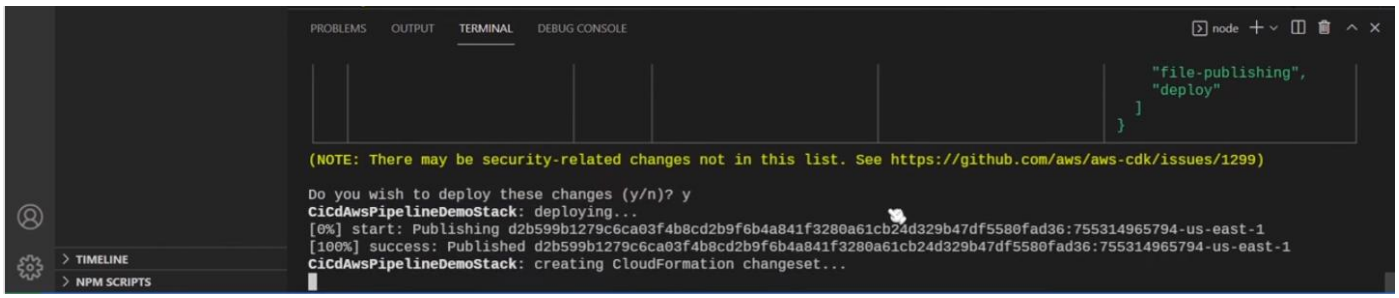
Make sure you commit the code changes into your GitHub repo, the run the **cdk deploy** command to create the initial version of our code pipeline

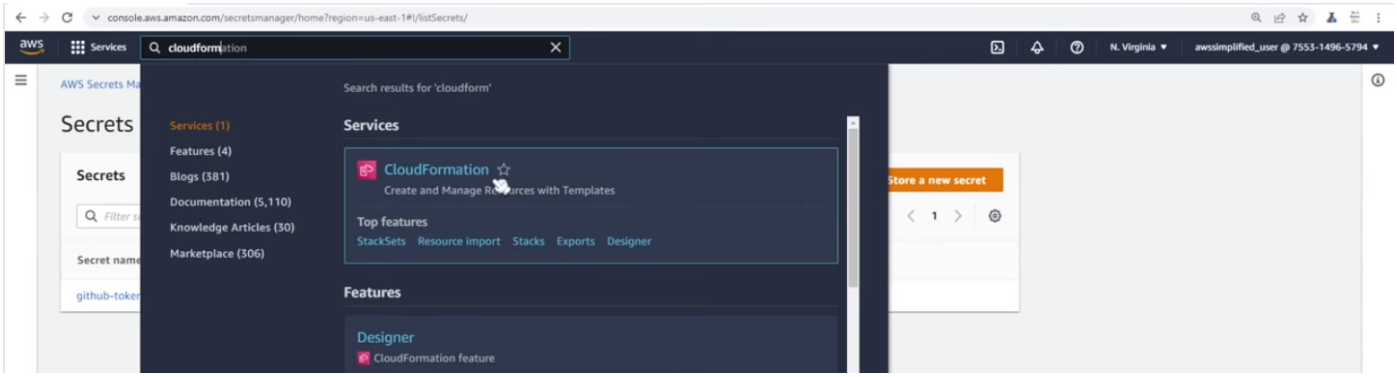

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
node
PS C:\Users\Dan\Documents\temp\pipelines\ci-cd-aws-pipeline-demo> cdk deploy
✨ Synthesis time: 7.67s
This deployment will make potentially sensitive changes according to your current security approval level (--require-approval broadening).
Please confirm you intend to make the following modifications:
IAM Statement Changes

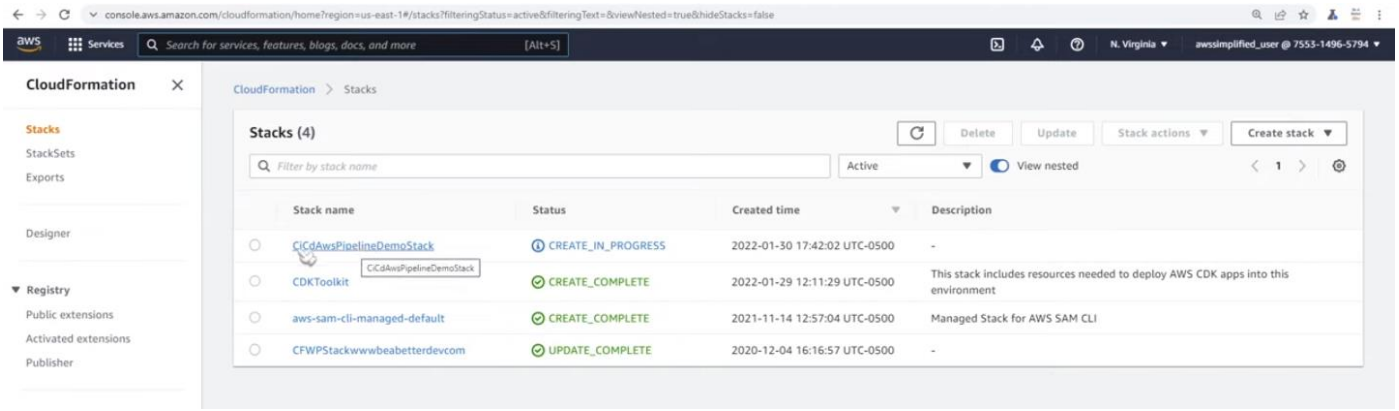

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
node
This deployment will make potentially sensitive changes according to your current security approval level (--require-approval broadening).
Please confirm you intend to make the following modifications:
IAM Statement Changes
Resource
Effect
Action
Principal
Condition
+ ${Pipeline/Pipeline/ArtifactsBucket.Arn} ${Pipeline/Pipeline/ArtifactsBucket.Arn}/*
Deny
s3:*
AWS:*
"Bool": { "aws:SecureTransport": "false" }
+ ${Pipeline/Pipeline/Art
Allow
s3:Abort*
AWS:${Pipeline/Pipeline
TIMELINE
NPM SCRIPTS

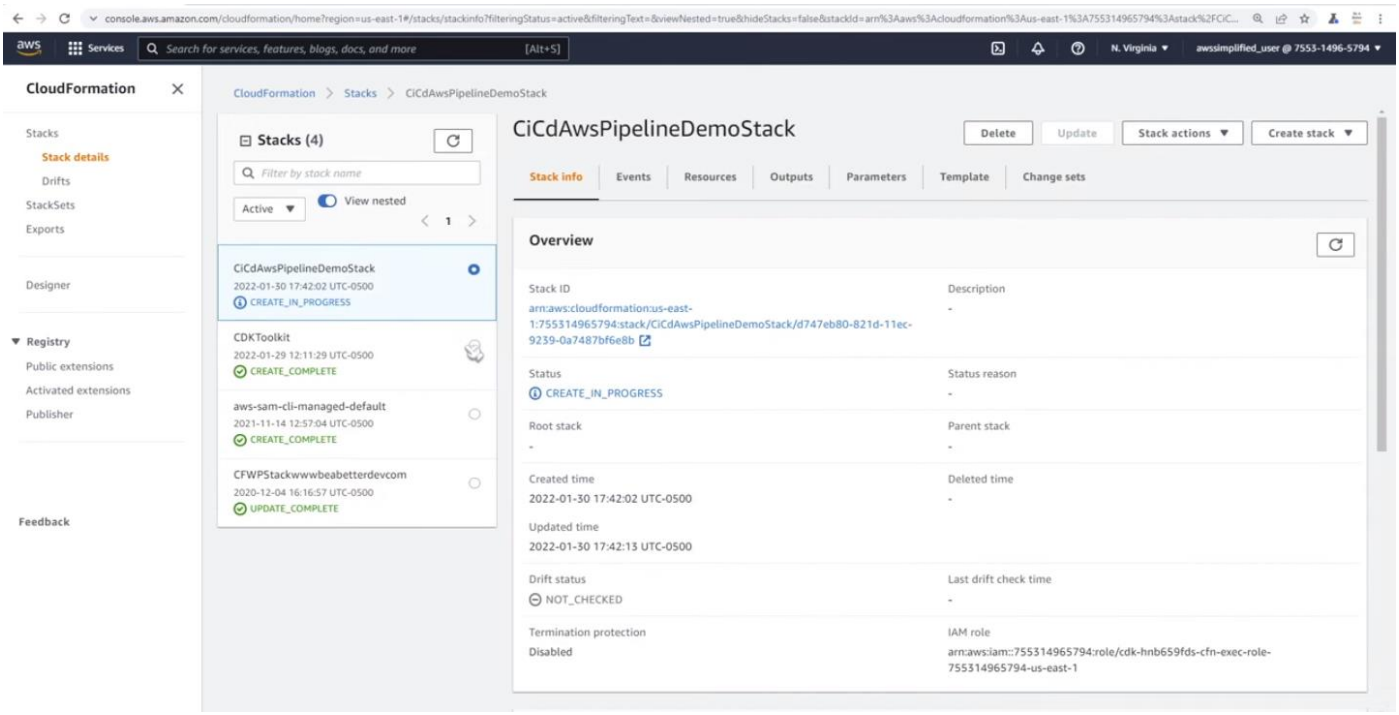

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
node
+ ${Pipeline/UpdatePipeline/SelfMutation/Role.Arn}
Allow
sts:AssumeRole
Service:codebuild.amazonaws.com
+ *
Allow
cloudformation:DescribeStacks
AWS:${Pipeline/UpdatePipeline/SelfMutation/Role}
+ *
Allow
s3:ListBucket
AWS:${Pipeline/UpdatePipeline/SelfMutation/Role}
+ arn:${AWS::Partition}:c
Allow
codebuild:BatchPutCodeC
AWS:${Pipeline/Pipeline
TIMELINE
NPM SCRIPTS

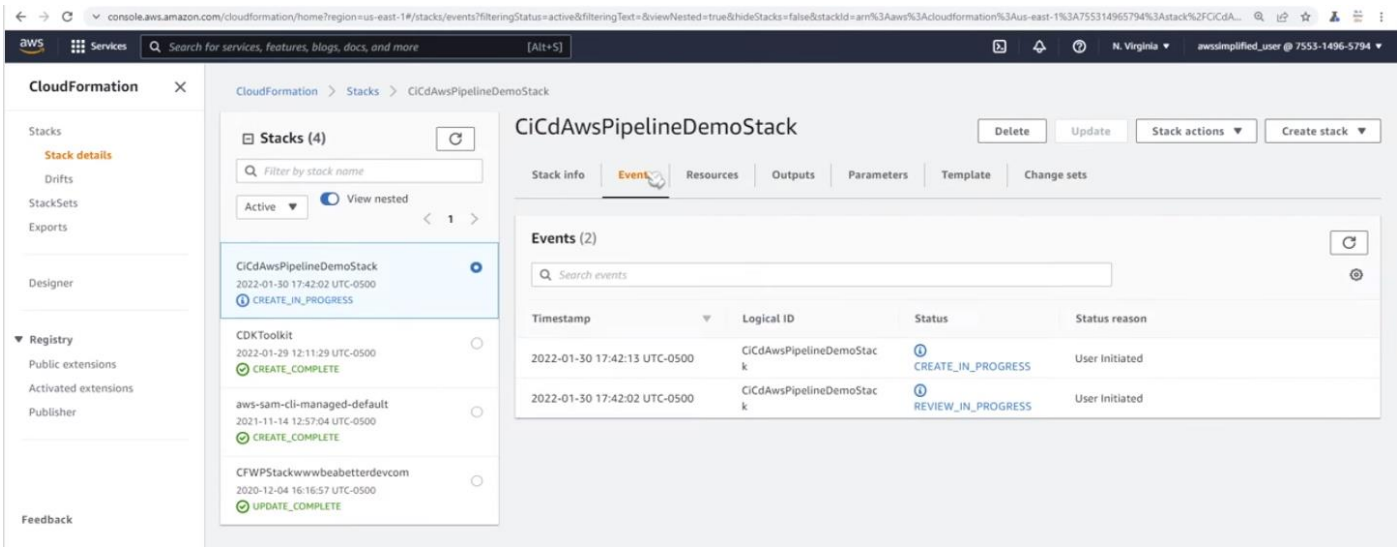

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
node
+ arn:*:iam::755314965794:role/*
Allow
sts:AssumeRole
AWS:${Pipeline/UpdatePipeline/SelfMutation/Role}
"ForAnyValue:StringEquals": { "iam:ResourceTag/aws-cdk:bootstrap-role": ["image-publishing", "file-publishing", "deploy"] }
(NOTE: There may be security-related changes not in this list. See https://github.com/aws/aws-cdk/issues/1299)
Do you wish to deploy these changes (y/n)?
TIMELINE
NPM SCRIPTS

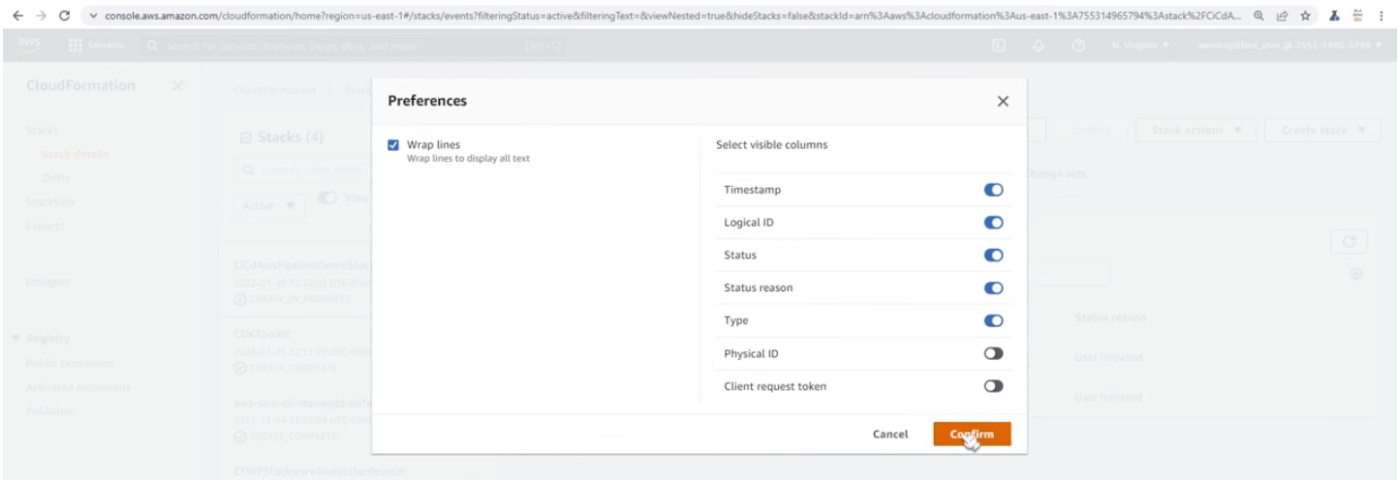

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
node
"file-publishing", "deploy"] }
(NOTE: There may be security-related changes not in this list. See https://github.com/aws/aws-cdk/issues/1299)
Do you wish to deploy these changes (y/n)? y
CiCdAwsPipelineDemoStack: deploying...
[0%] start: Publishing d2b599b1279c6ca03f4b8cd2b9f6b4a841f3280a61cb24d329b47df5580fad36:755314965794-us-east-1
[100%] success: Published d2b599b1279c6ca03f4b8cd2b9f6b4a841f3280a61cb24d329b47df5580fad36:755314965794-us-east-1
CiCdAwsPipelineDemoStack: creating CloudFormation changeset...
TIMELINE
NPM SCRIPTS

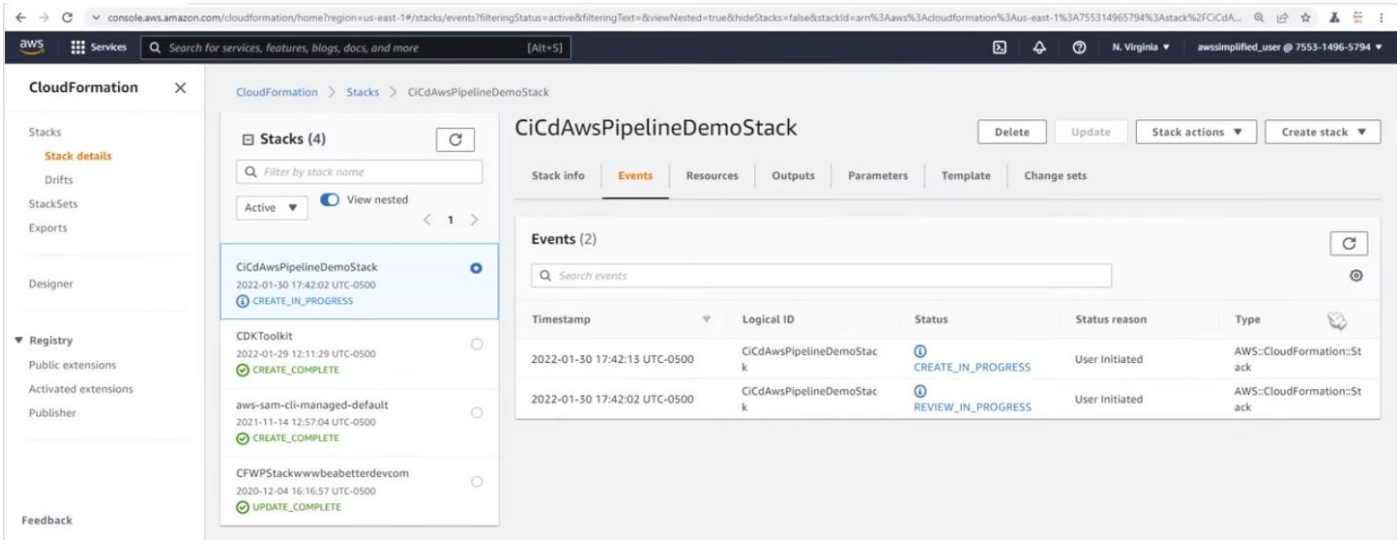

console.aws.amazon.com/secretsmanager/home?region=us-east-1#/listSecrets/
aws
Services
cloudformation
N. Virginia
awssimplified_user @ 7553-1496-5794
AWS Secrets Ma
Secrets
Search results for 'cloudform'
Services (1)
Features (4)
Blogs (381)
Documentation (5,110)
Knowledge Articles (30)
Marketplace (306)
Services
CloudFormation
Create and Manage Resources with Templates
Top features
StackSets Resource import Stacks Exports Designer
Features
Designer
CloudFormation feature
Store a new secret
Secret name
github-token

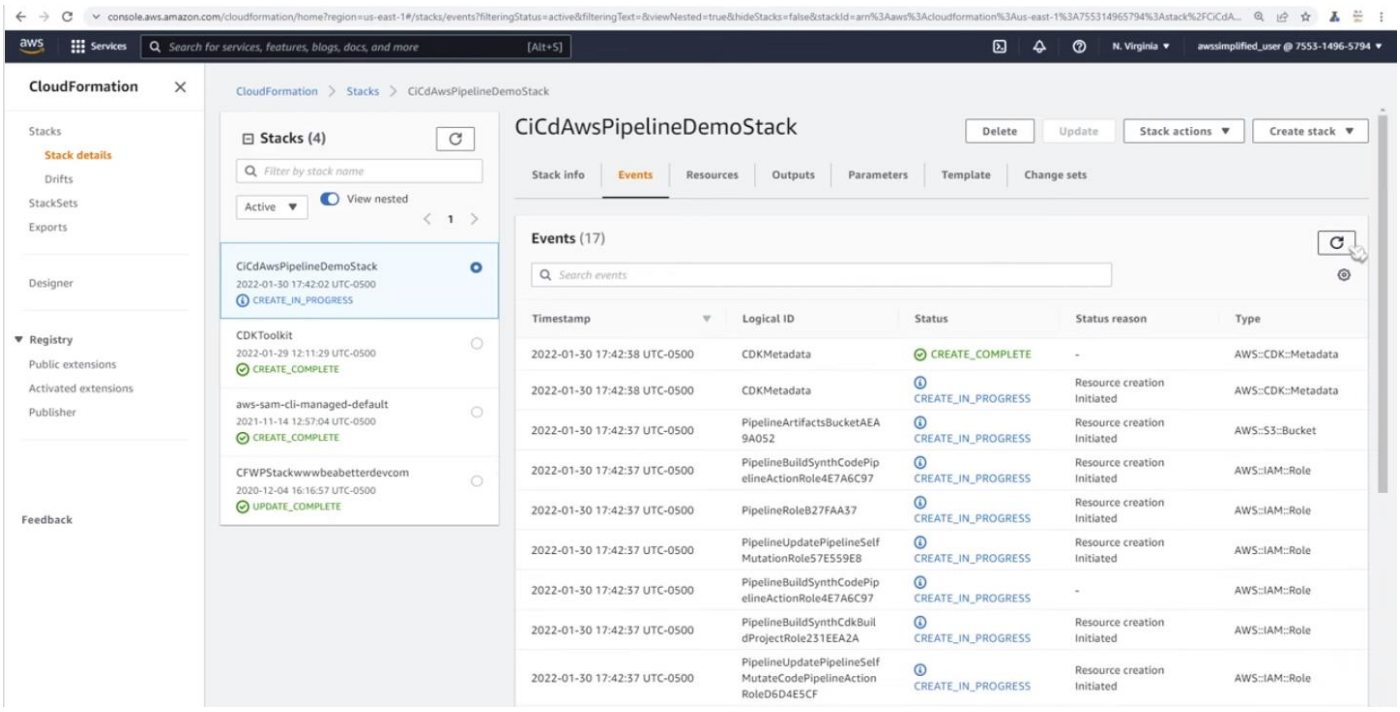

CloudFormation
Stacks
StackSets
Exports
Designer
Registry
Public extensions
Activated extensions
Publisher
CloudFormation > Stacks
Stacks (4)
Delete
Update
Stack actions
Create stack
Filter by stack name
Active
View nested
Stack name
Status
Created time
Description
CiCdAwsPipelineDemoStack
CREATE_IN_PROGRESS
2022-01-30 17:42:02 UTC-0500
CDKToolkit
CREATE_COMPLETE
2022-01-29 12:11:29 UTC-0500
This stack includes resources needed to deploy AWS CDK apps into this environment
aws-sam-cli-managed-default
2021-11-14 12:57:04 UTC-0500
Managed Stack for AWS SAM CLI
CFWPStackwwwbeabetterdevcom
UPDATE_COMPLETE
2020-12-04 16:16:57 UTC-0500

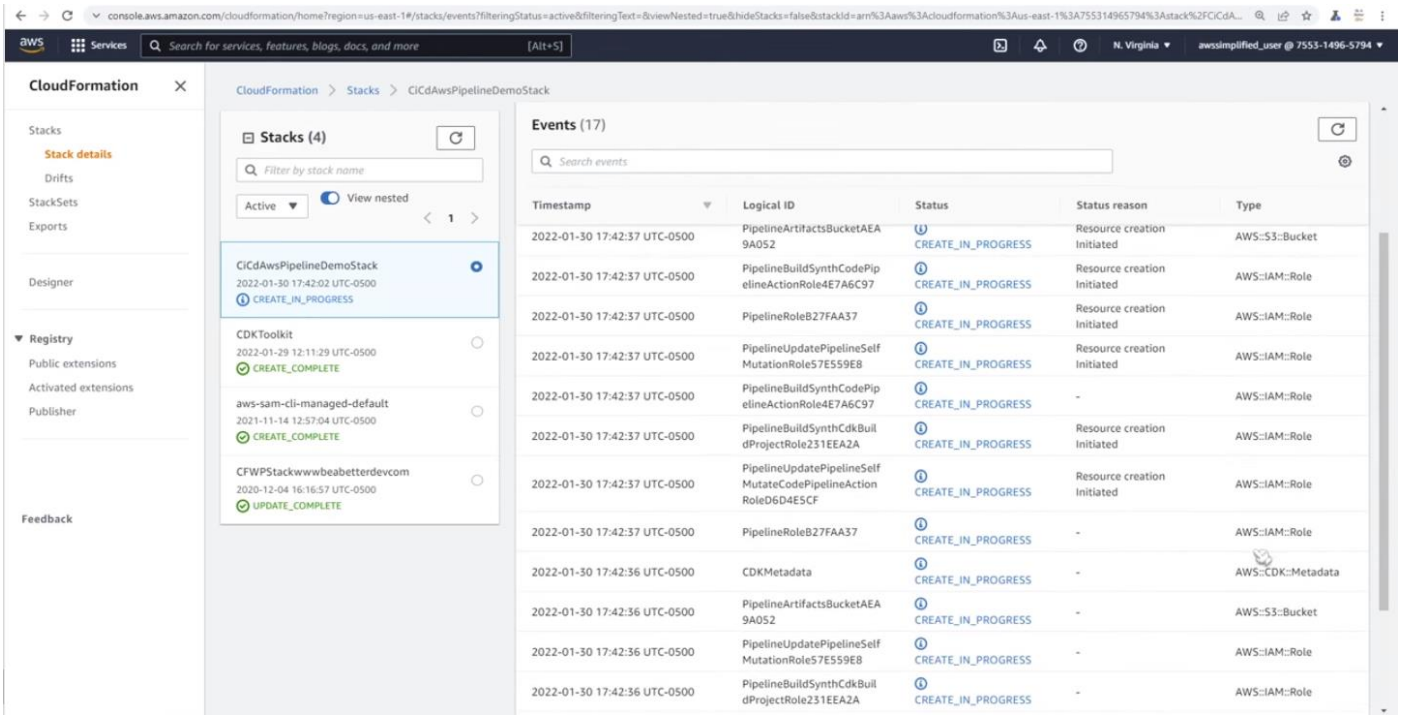

CloudFormation > Stacks > CiCdAwsPipelineDemoStack
Stack details
Drifts
Feedback
CiCdAwsPipelineDemoStack
Delete
Update
Stack actions
Create stack
Stack info
Events
Resources
Outputs
Parameters
Template
Change sets
Overview
Stack ID
arn:aws:cloudformation:us-east-1:755314965794:stack/CiCdAwsPipelineDemoStack/d747eb80-821d-11ec-9239-0a7487bf6e8b
Description
Status
CREATE_IN_PROGRESS
Status reason
Root stack
Parent stack
Created time
2022-01-30 17:42:02 UTC-0500
Deleted time
Updated time
2022-01-30 17:42:13 UTC-0500
Drift status
NOT_CHECKED
Last drift check time
Termination protection
Disabled
IAM role
arn:aws:iam::755314965794:role/cdk-hnb659fds-cfn-exec-role-755314965794-us-east-1

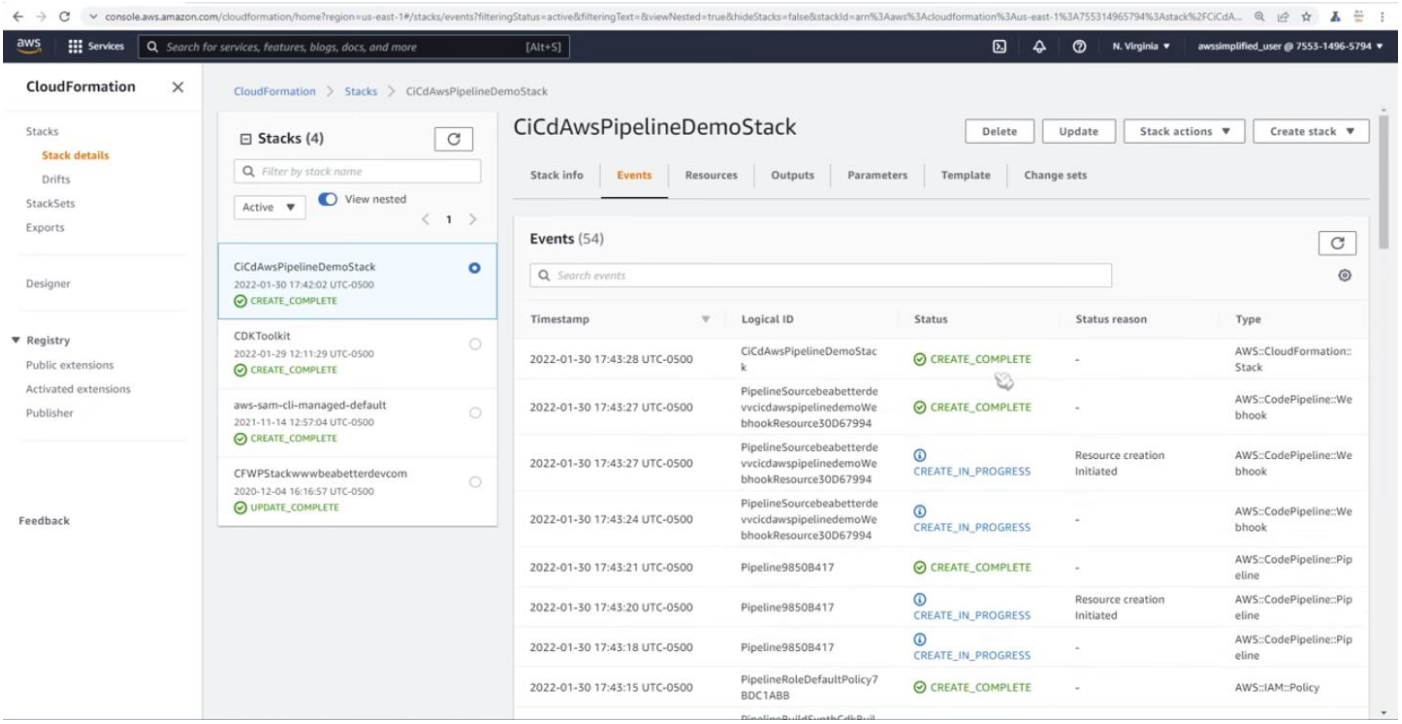

CloudFormation > Stacks > CiCdAwsPipelineDemoStack
Stack details
Drifts
Feedback
CiCdAwsPipelineDemoStack
Delete
Update
Stack actions
Create stack
Stack info
Events
Resources
Outputs
Parameters
Template
Change sets
Events (2)
Search events
Timestamp
Logical ID
Status
Status reason
2022-01-30 17:42:13 UTC-0500
CiCdAwsPipelineDemoStack
CREATE_IN_PROGRESS
User Initiated
2022-01-30 17:42:02 UTC-0500
REVIEW_IN_PROGRESS

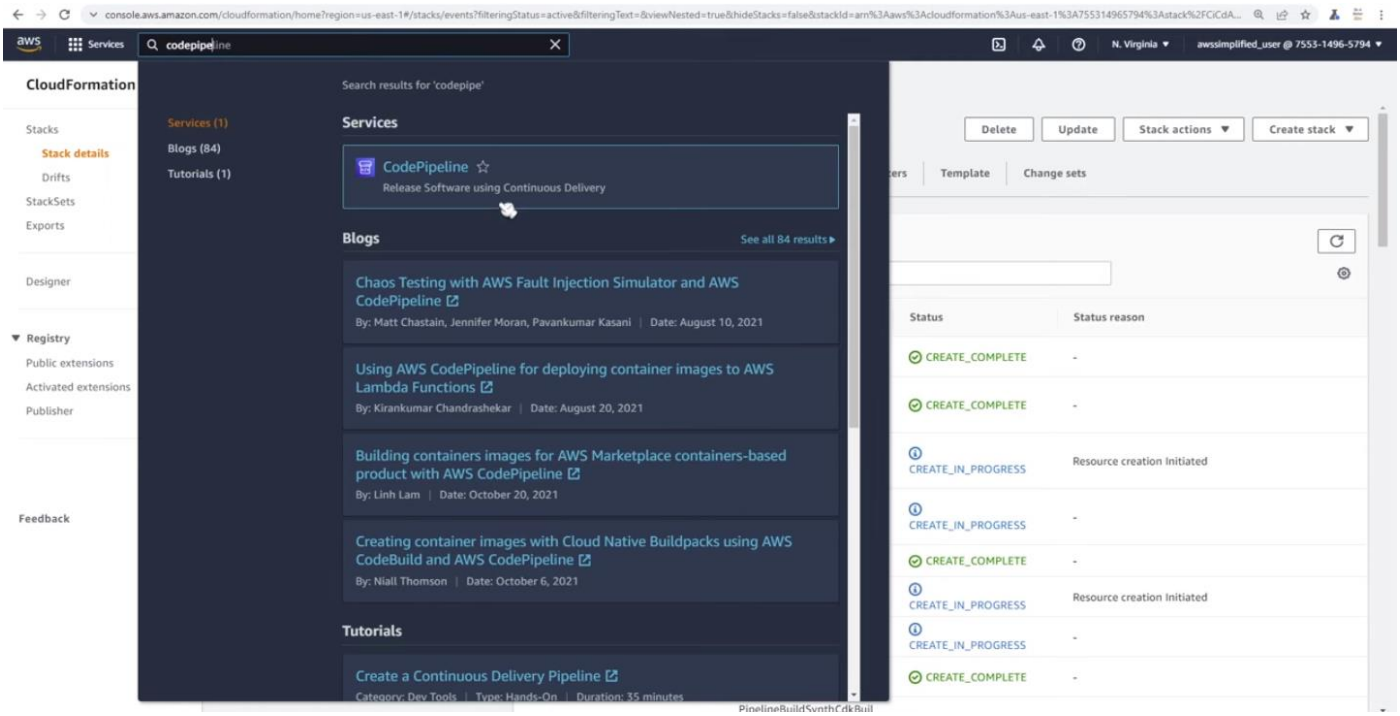

Preferences
Wrap lines
Wrap lines to display all text
Select visible columns
Timestamp
Logical ID
Status
Status reason
Type
Physical ID
Client request token
Cancel
Confirm

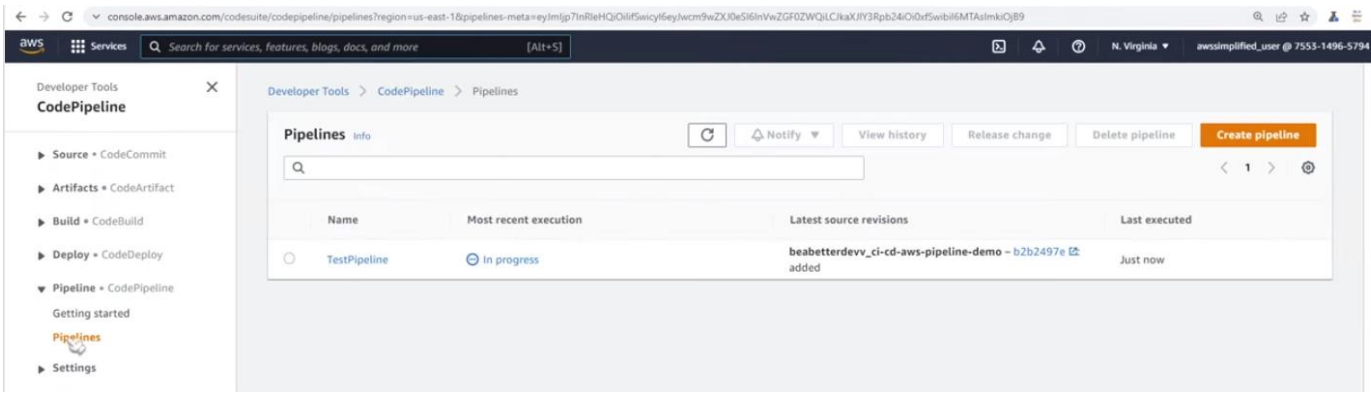

CloudFormation
Stacks (4)
CiCdAwsPipelineDemoStack
Delete
Update
Stack actions
Create stack
Stack info
Events
Resources
Outputs
Parameters
Template
Change sets
Events (2)
Timestamp
Logical ID
Status
Status reason
Type
2022-01-30 17:42:13 UTC-0500
CiCdAwsPipelineDemoStack
CREATE_IN_PROGRESS
User Initiated
AWS::CloudFormation::Stack
2022-01-30 17:42:02 UTC-0500
CiCdAwsPipelineDemoStack
REVIEW_IN_PROGRESS
User Initiated
AWS::CloudFormation::Stack

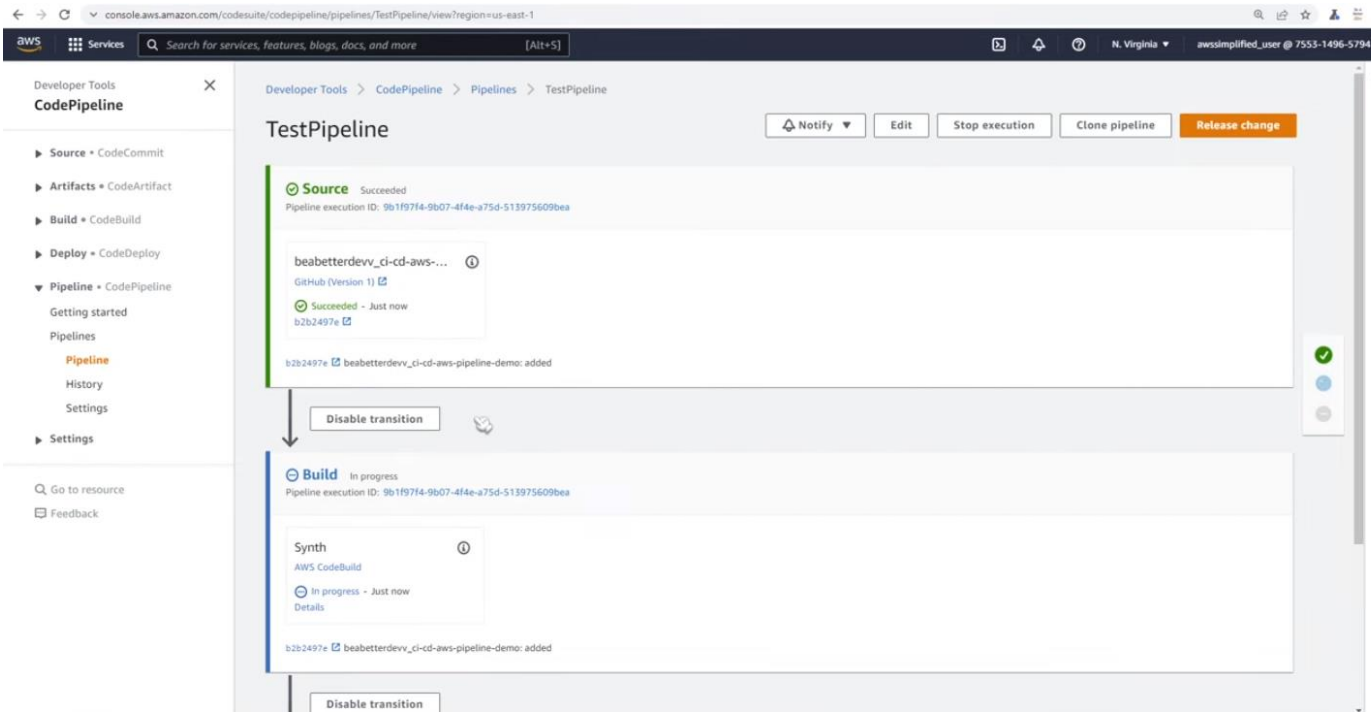

CloudFormation
Stacks (4)
CiCdAwsPipelineDemoStack
Delete
Update
Stack actions
Create stack
Stack info
Events
Resources
Outputs
Parameters
Template
Change sets
Events (17)
Timestamp
Logical ID
Status
Status reason
Type
2022-01-30 17:42:38 UTC-0500
CDKMetadata
CREATE_COMPLETE
-
AWS::CDK::Metadata
2022-01-30 17:42:38 UTC-0500
CDKMetadata
CREATE_IN_PROGRESS
Resource creation Initiated
AWS::CDK::Metadata
2022-01-30 17:42:37 UTC-0500
PipelineArtifactsBucketAEA9A052
CREATE_IN_PROGRESS
Resource creation Initiated
AWS::S3::Bucket
2022-01-30 17:42:37 UTC-0500
PipelineBuildSynthCodePipelineActionRole4E7A6C97
CREATE_IN_PROGRESS
Resource creation Initiated
AWS::IAM::Role
2022-01-30 17:42:37 UTC-0500
PipelineRoleB27FAA37
CREATE_IN_PROGRESS
Resource creation Initiated
AWS::IAM::Role
2022-01-30 17:42:37 UTC-0500
PipelineUpdatePipelineSelfMutationRole57E559E8
CREATE_IN_PROGRESS
Resource creation Initiated
AWS::IAM::Role
2022-01-30 17:42:37 UTC-0500
PipelineBuildSynthCodePipelineActionRole4E7A6C97
CREATE_IN_PROGRESS
-
AWS::IAM::Role
2022-01-30 17:42:37 UTC-0500
PipelineBuildSynthCdkBuildProjectRole231EEA2A
CREATE_IN_PROGRESS
Resource creation Initiated
AWS::IAM::Role
2022-01-30 17:42:37 UTC-0500
PipelineUpdatePipelineSelfMutateCodePipelineActionRoleD6D4E5CF
CREATE_IN_PROGRESS
Resource creation Initiated
AWS::IAM::Role


CloudFormation
Stacks
Stack details
Drifts
StackSets
Exports
Designer
Registry
Public extensions
Activated extensions
Publisher
Feedback
CloudFormation > Stacks > CiCdAwsPipelineDemoStack
Stacks (4)
Filter by stack name
Active
View nested
CiCdAwsPipelineDemoStack
2022-01-30 17:42:02 UTC-0500
CREATE_IN_PROGRESS
CDKToolkit
2022-01-29 12:11:29 UTC-0500
CREATE_COMPLETE
aws-sam-cli-managed-default
2021-11-14 12:57:04 UTC-0500
CREATE_COMPLETE
CFWPStackwwwbeabetterdevcom
2020-12-04 16:16:57 UTC-0500
UPDATE_COMPLETE
Events (17)
Search events
Timestamp
Logical ID
Status
Status reason
Type
2022-01-30 17:42:37 UTC-0500 PipelineArtifactsBucketAEA9A052 CREATE_IN_PROGRESS Resource creation Initiated AWS::S3::Bucket
2022-01-30 17:42:37 UTC-0500 PipelineBuildSynthCodePipelineActionRole4E7A6C97 CREATE_IN_PROGRESS Resource creation Initiated AWS::IAM::Role
2022-01-30 17:42:37 UTC-0500 PipelineRoleB27FAA37 CREATE_IN_PROGRESS Resource creation Initiated AWS::IAM::Role
2022-01-30 17:42:37 UTC-0500 PipelineUpdatePipelineSelfMutationRole57E559E8 CREATE_IN_PROGRESS Resource creation Initiated AWS::IAM::Role
2022-01-30 17:42:37 UTC-0500 PipelineBuildSynthCodePipelineActionRole4E7A6C97 CREATE_IN_PROGRESS - AWS::IAM::Role
2022-01-30 17:42:37 UTC-0500 PipelineBuildSynthCdkBuildProjectRole231EEA2A CREATE_IN_PROGRESS Resource creation Initiated AWS::IAM::Role
2022-01-30 17:42:37 UTC-0500 PipelineUpdatePipelineSelfMutateCodePipelineActionRoleD6D4E5CF CREATE_IN_PROGRESS Resource creation Initiated AWS::IAM::Role
2022-01-30 17:42:37 UTC-0500 PipelineRoleB27FAA37 CREATE_IN_PROGRESS - AWS::IAM::Role
2022-01-30 17:42:36 UTC-0500 CDKMetadata CREATE_IN_PROGRESS - AWS::CDK::Metadata
2022-01-30 17:42:36 UTC-0500 PipelineArtifactsBucketAEA9A052 CREATE_IN_PROGRESS - AWS::S3::Bucket
2022-01-30 17:42:36 UTC-0500 PipelineUpdatePipelineSelfMutationRole57E559E8 CREATE_IN_PROGRESS - AWS::IAM::Role
2022-01-30 17:42:36 UTC-0500 PipelineBuildSynthCdkBuildProjectRole231EEA2A CREATE_IN_PROGRESS - AWS::IAM::Role

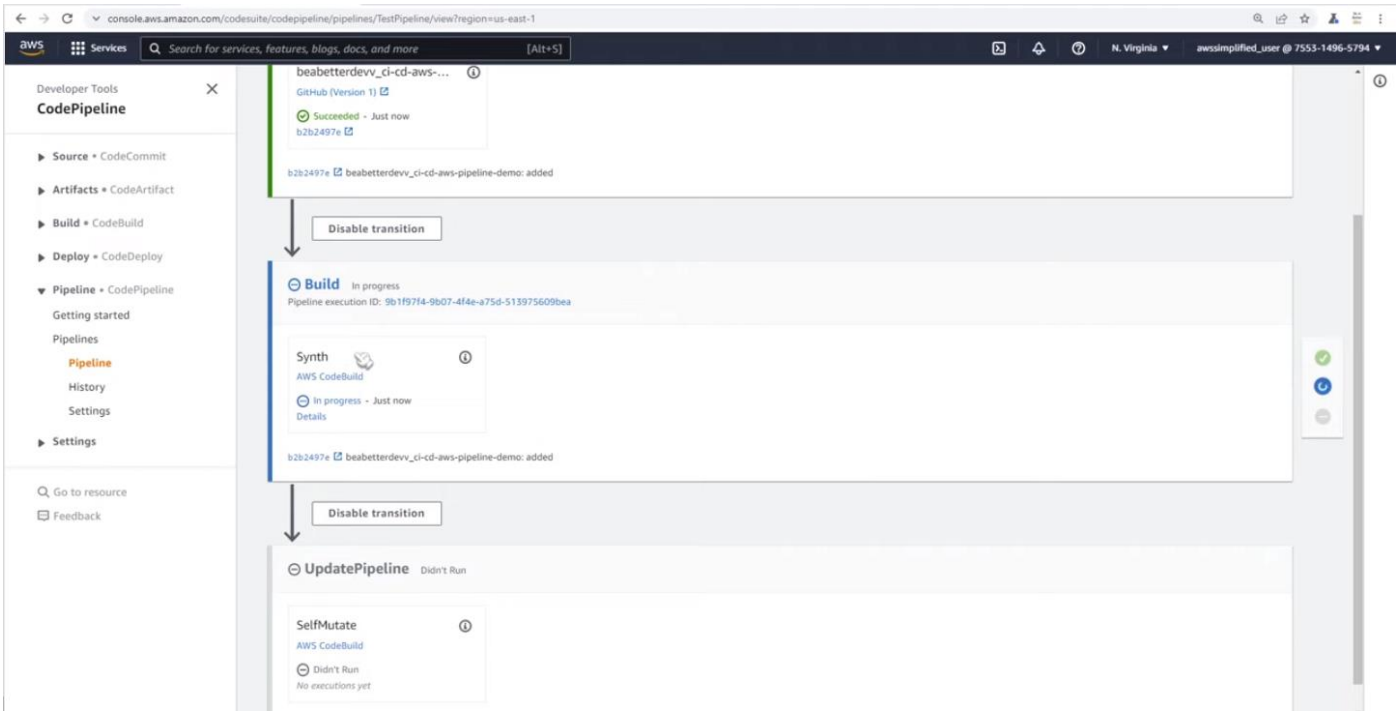

CloudFormation
Stacks
Stack details
Drifts
StackSets
Exports
Designer
Registry
Public extensions
Activated extensions
Publisher
Feedback
CloudFormation > Stacks > CiCdAwsPipelineDemoStack
Stacks (4)
Filter by stack name
Active
View nested
CiCdAwsPipelineDemoStack
2022-01-30 17:42:02 UTC-0500
CREATE_COMPLETE
CDKToolkit
2022-01-29 12:11:29 UTC-0500
CREATE_COMPLETE
aws-sam-cli-managed-default
2021-11-14 12:57:04 UTC-0500
CREATE_COMPLETE
CFWPStackwwwbeabetterdevcom
2020-12-04 16:16:57 UTC-0500
UPDATE_COMPLETE
CiCdAwsPipelineDemoStack
Delete
Update
Stack actions
Create stack
Stack info
Events
Resources
Outputs
Parameters
Template
Change sets
Events (54)
Search events
Timestamp
Logical ID
Status
Status reason
Type
2022-01-30 17:43:28 UTC-0500 CiCdAwsPipelineDemoStack CREATE_COMPLETE - AWS::CloudFormation::Stack
2022-01-30 17:43:27 UTC-0500 PipelineSourcebeabetterdevvcicdawspipelinedemoWebhookResource30D67994 CREATE_COMPLETE - AWS::CodePipeline::Webhook
2022-01-30 17:43:27 UTC-0500 PipelineSourcebeabetterdevvcicdawspipelinedemoWebhookResource30D67994 CREATE_IN_PROGRESS Resource creation Initiated AWS::CodePipeline::Webhook
2022-01-30 17:43:24 UTC-0500 PipelineSourcebeabetterdevvcicdawspipelinedemoWebhookResource30D67994 CREATE_IN_PROGRESS - AWS::CodePipeline::Webhook
2022-01-30 17:43:21 UTC-0500 Pipeline9850B417 CREATE_COMPLETE - AWS::CodePipeline::Pipeline
2022-01-30 17:43:20 UTC-0500 Pipeline9850B417 CREATE_IN_PROGRESS Resource creation Initiated AWS::CodePipeline::Pipeline
2022-01-30 17:43:18 UTC-0500 Pipeline9850B417 CREATE_IN_PROGRESS - AWS::CodePipeline::Pipeline
2022-01-30 17:43:15 UTC-0500 PipelineRoleDefaultPolicy7BDC1ABB CREATE_COMPLETE - AWS::IAM::Policy

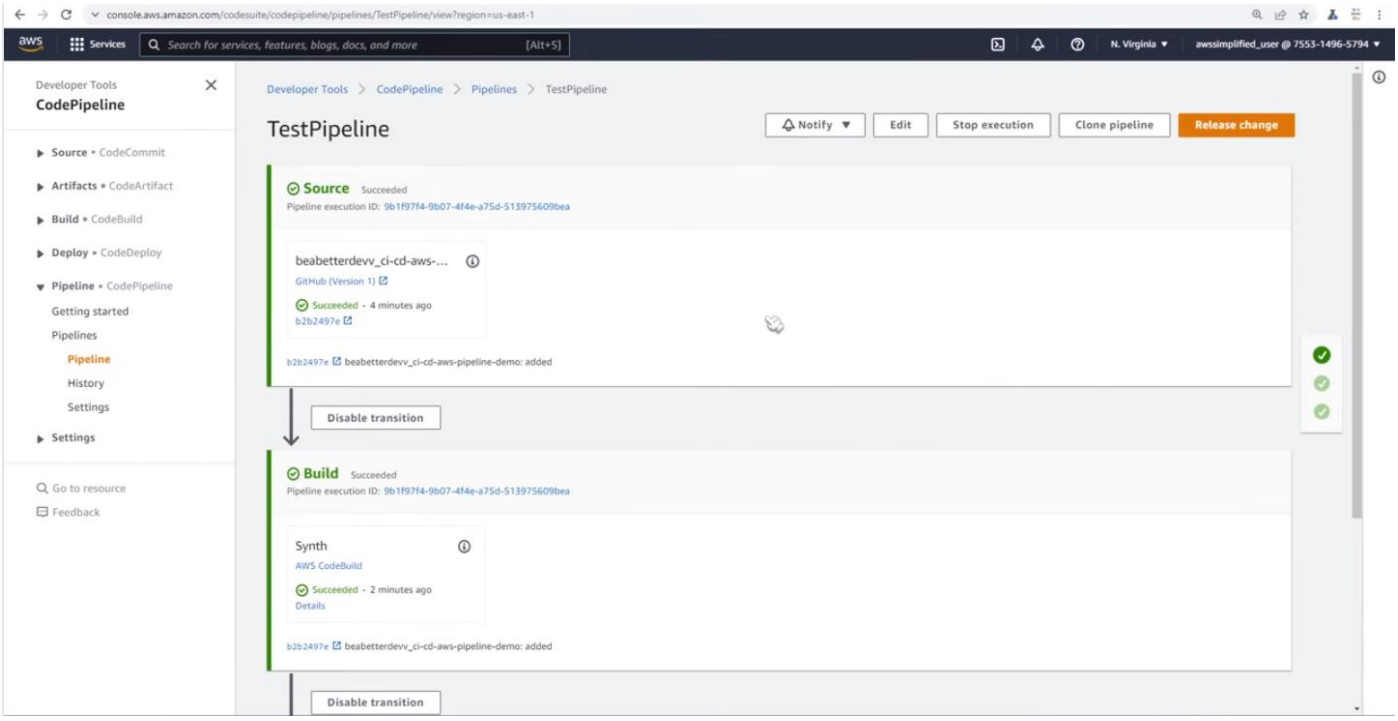


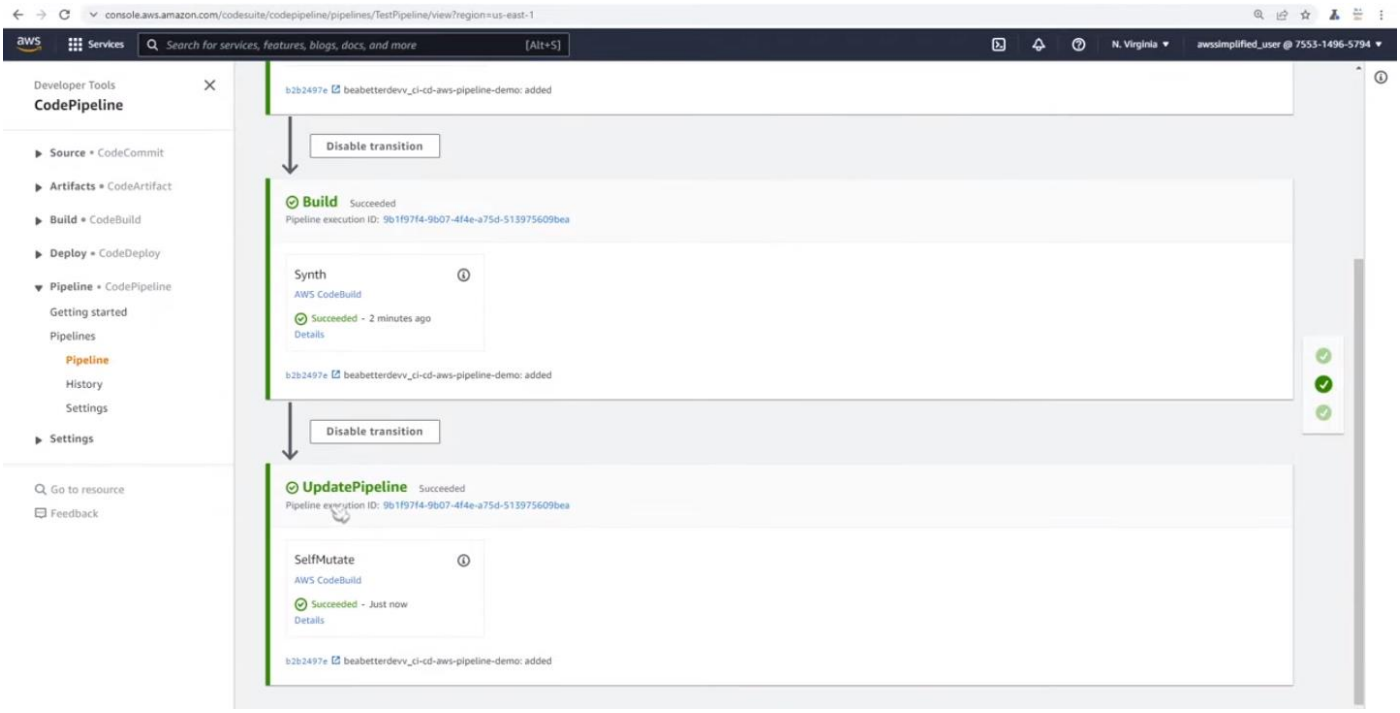


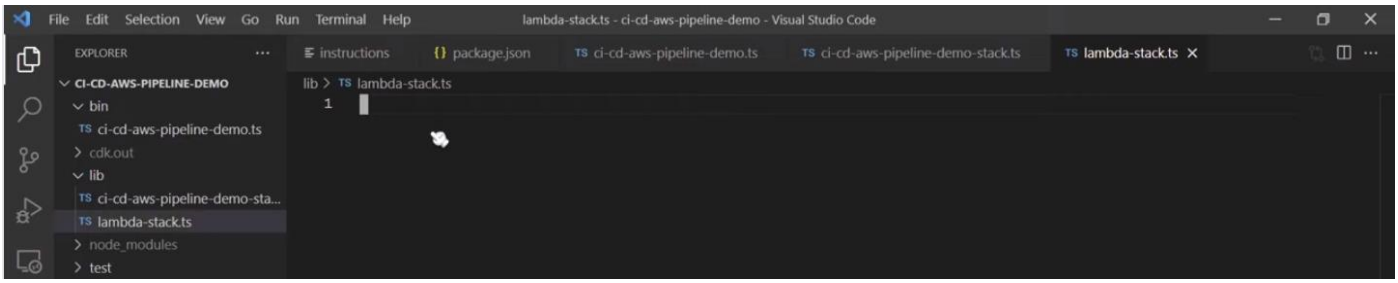


We can see that Code Pipeline is now correctly linked to our GitHub repository and shows the commits made to it

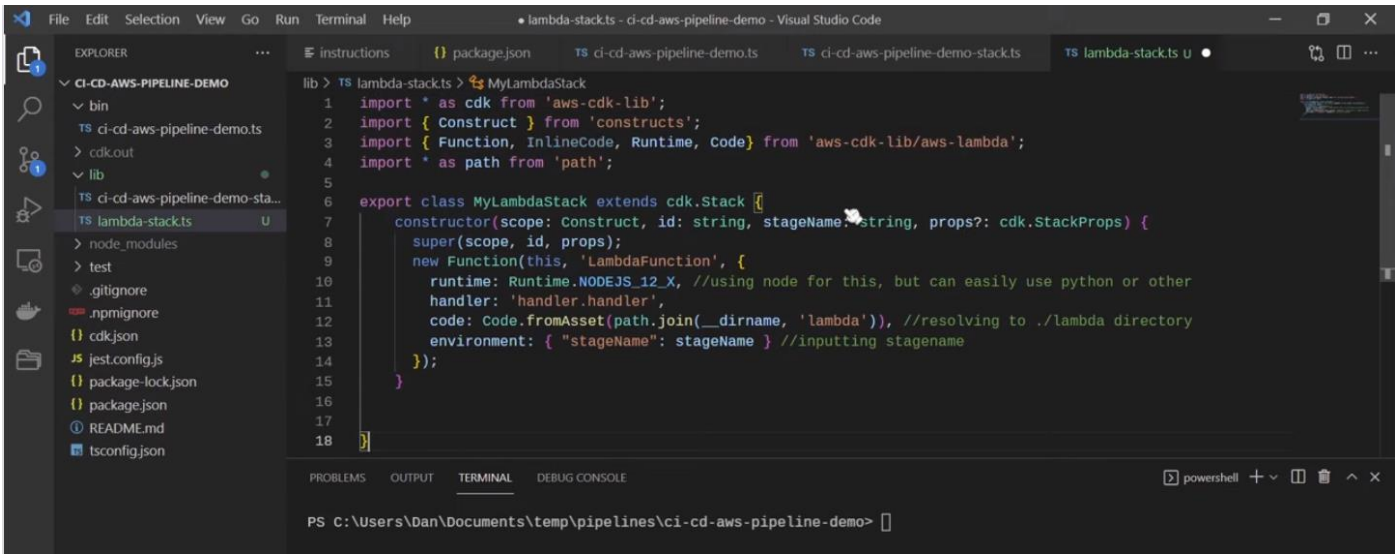

console.aws.amazon.com/codesuite/codepipeline/pipelines/TestPipeline/view?region=us-east-1
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
Developer Tools
CodePipeline
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Pipeline • CodePipeline
Getting started
Pipelines
Pipeline
History
Settings
Settings
Go to resource
Feedback
beabetterdevv_ci-cd-aws-...
GitHub (Version 1)
Succeeded - Just now
b2b2497e
b2b2497e beabetterdevv_ci-cd-aws-pipeline-demo: added
Disable transition
Build In progress
Pipeline execution ID: 9b1f97f4-9b07-4f4e-a75d-513975609bea
Synth
AWS CodeBuild
In progress - Just now
Details
b2b2497e beabetterdevv_ci-cd-aws-pipeline-demo: added
Disable transition
UpdatePipeline Didn't Run
SelfMutate
AWS CodeBuild
Didn't Run
No executions yet


console.aws.amazon.com/codesuite/codepipeline/pipelines/TestPipeline/view?region=us-east-1
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
Developer Tools
CodePipeline
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Pipeline • CodePipeline
Getting started
Pipelines
Pipeline
History
Settings
Settings
Go to resource
Feedback
Developer Tools > CodePipeline > Pipelines > TestPipeline
TestPipeline
Notify
Edit
Stop execution
Clone pipeline
Release change
Source Succeeded
Pipeline execution ID: 9b1f97f4-9b07-4f4e-a75d-513975609bea
beabetterdevv_ci-cd-aws-...
GitHub (Version 1)
Succeeded - 4 minutes ago
b2b2497e
b2b2497e beabetterdevv_ci-cd-aws-pipeline-demo: added
Disable transition
Build Succeeded
Pipeline execution ID: 9b1f97f4-9b07-4f4e-a75d-513975609bea
Synth
AWS CodeBuild
Succeeded - 2 minutes ago
Details
b2b2497e beabetterdevv_ci-cd-aws-pipeline-demo: added
Disable transition

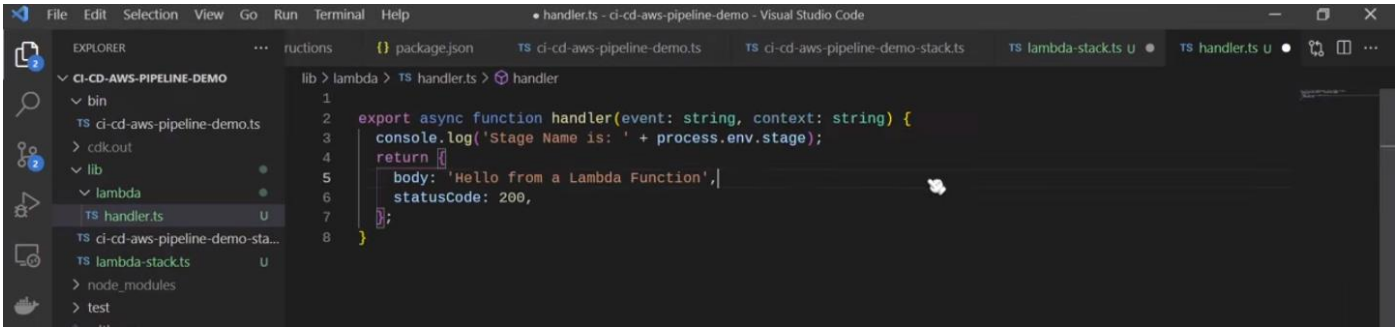




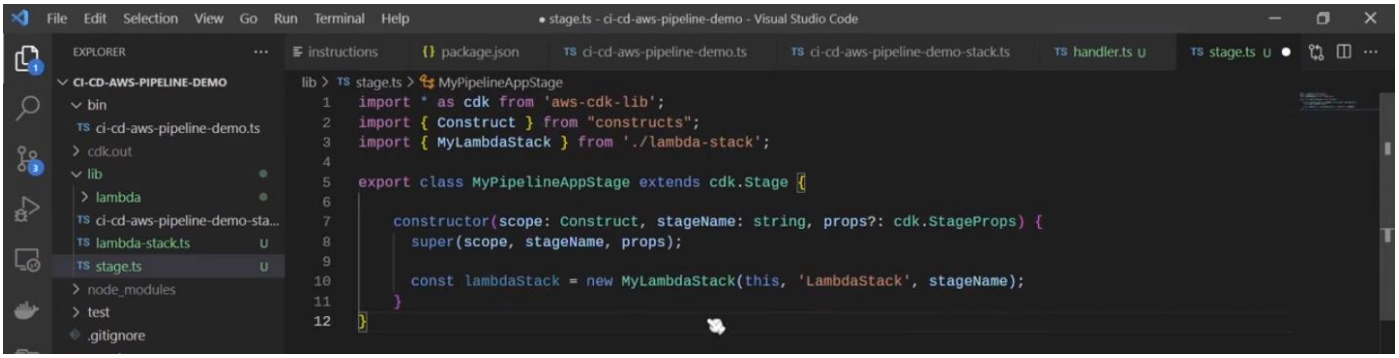
Next, we can now start to create our Lambda stack as below



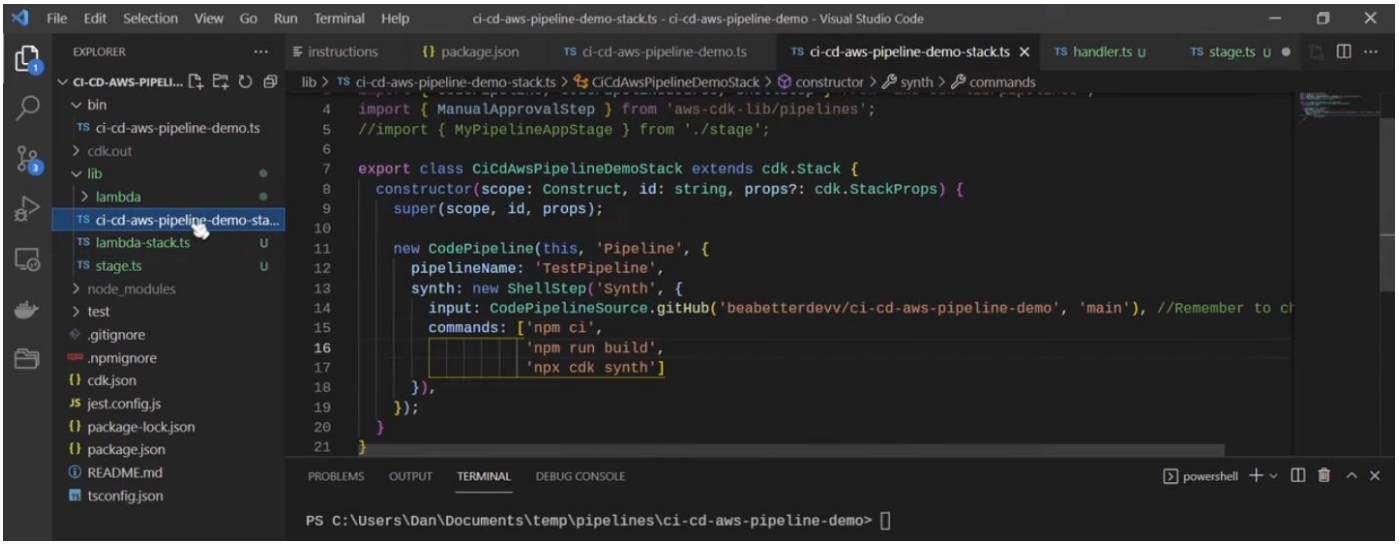
Note the environment variable called **stageName** on line 7 and 13, this will allow us set environments like test, production to deploy to and toggle features for.



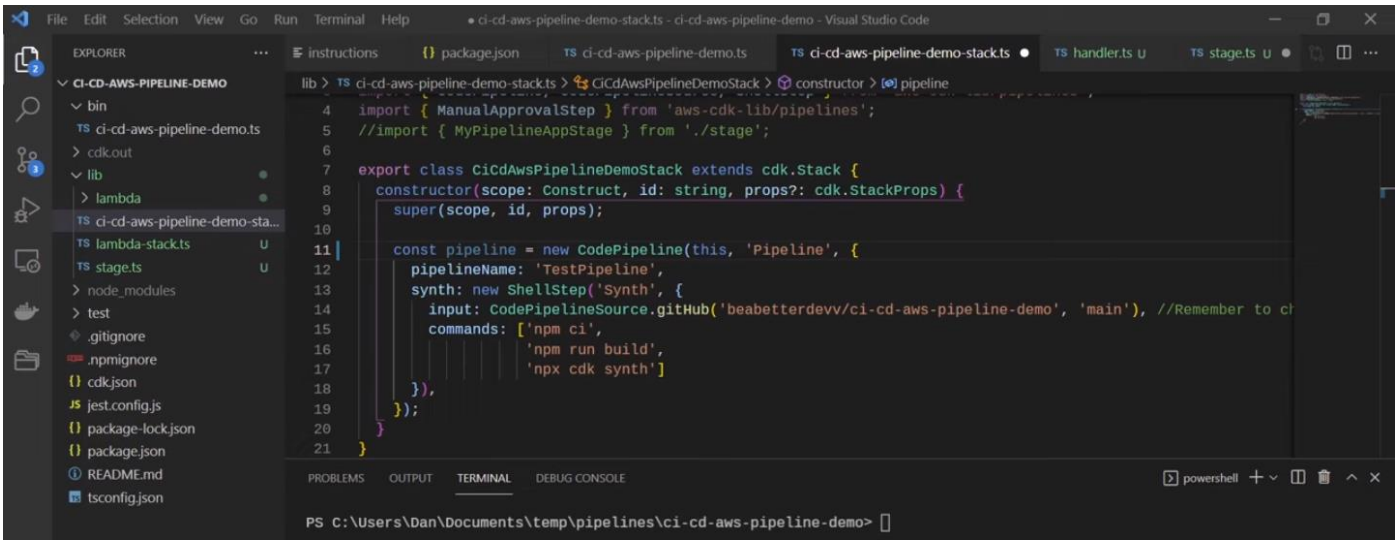
Then create a folder called **lambda** and a new file within it called **handler.ts**, put in the code above just for now

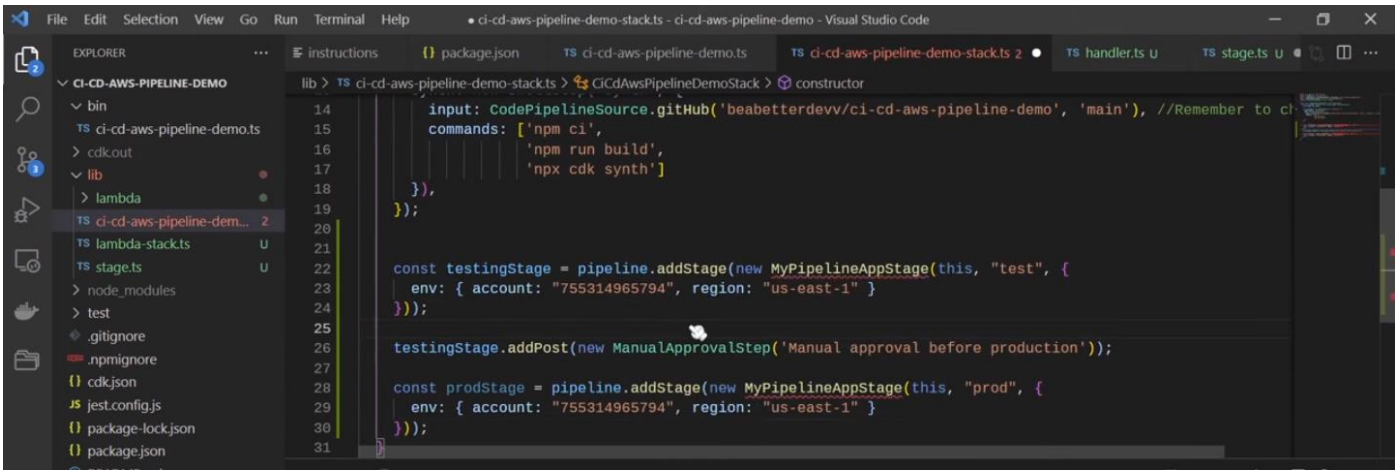


Next, we need to set up our stages using the file **stage.ts** as above, test and production stages.

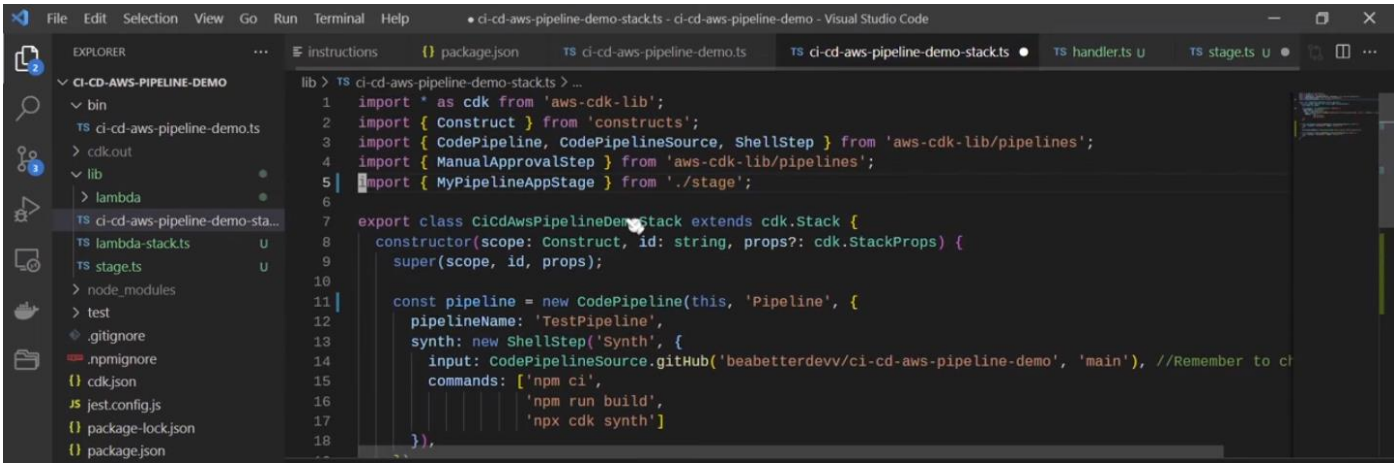


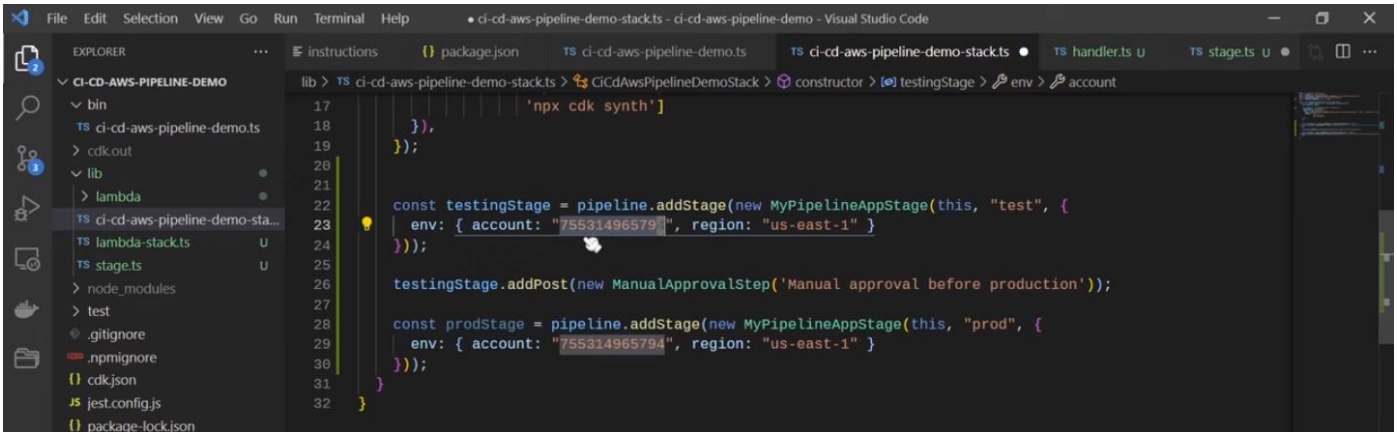
We now need to change the above code by adding our new stages



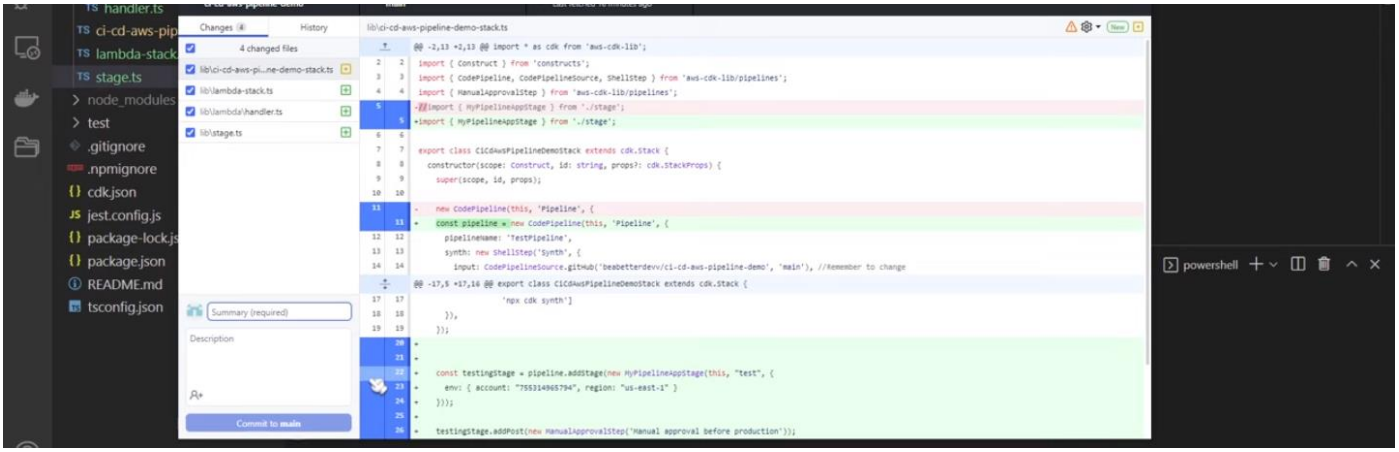


Now add the imports and the stage details as below

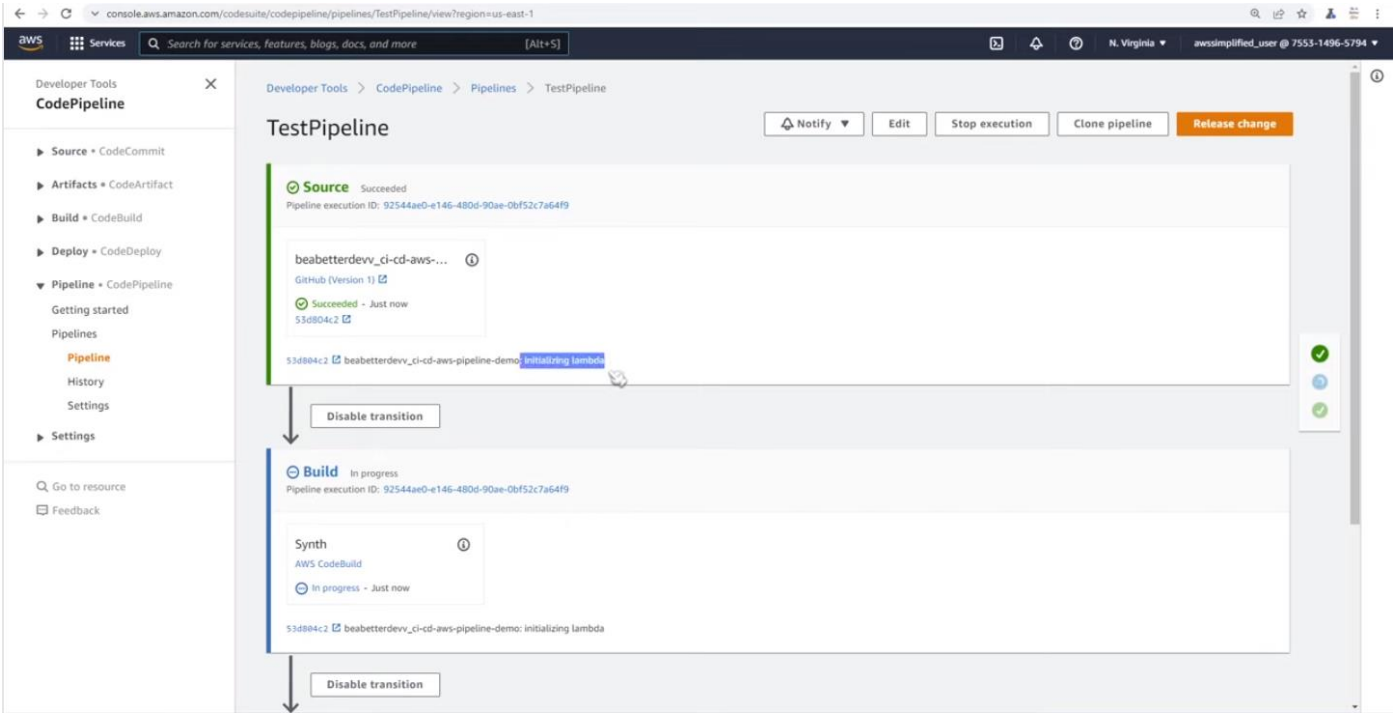


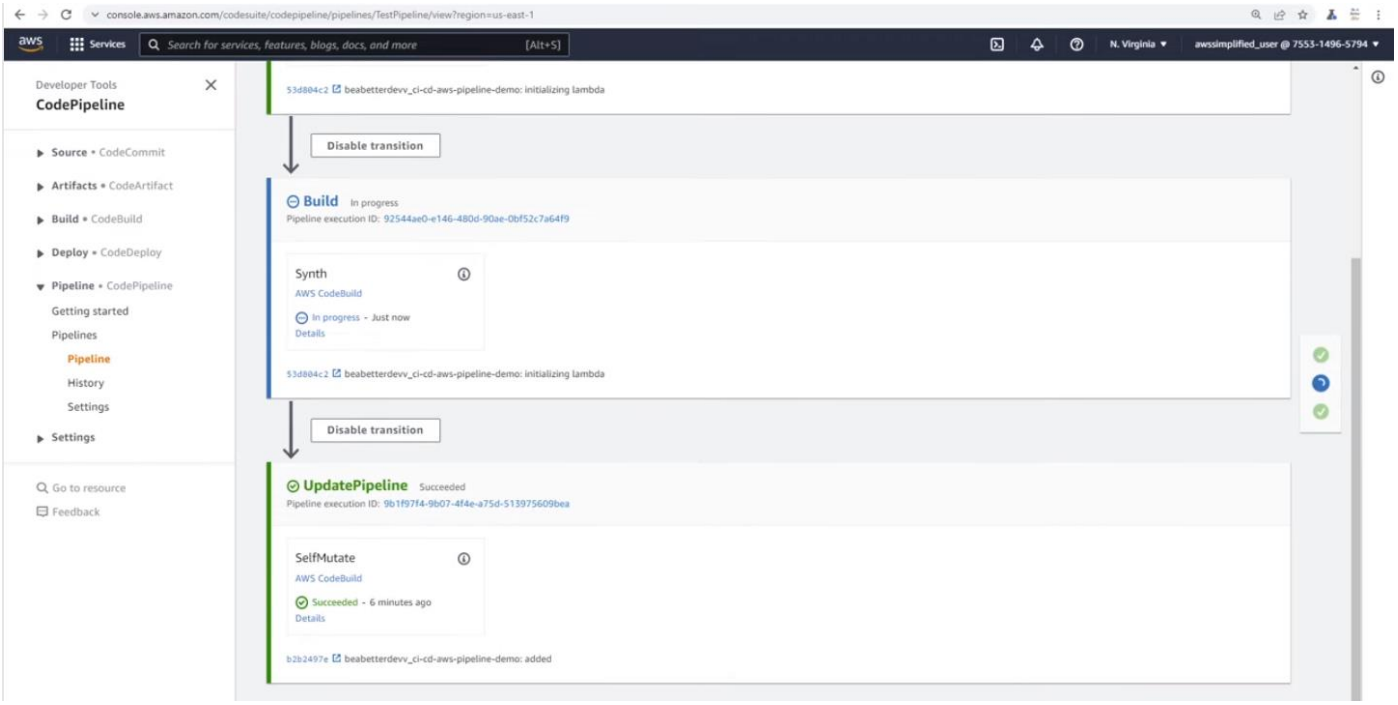


Not that we added a **manual approval post step** between our **test** and **prod** stages above, this step requires that someone goes to the **AWS console** and manually clicks the approve button so that code can be deployed to prod.

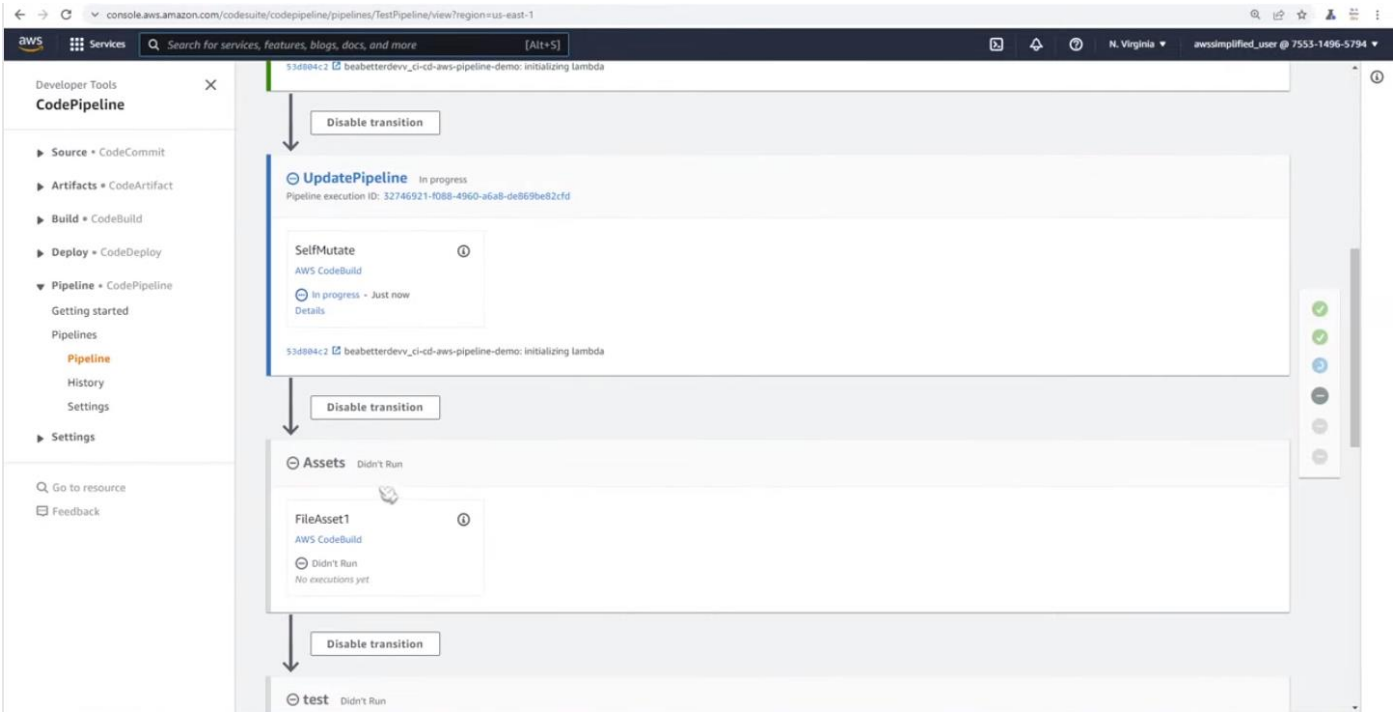


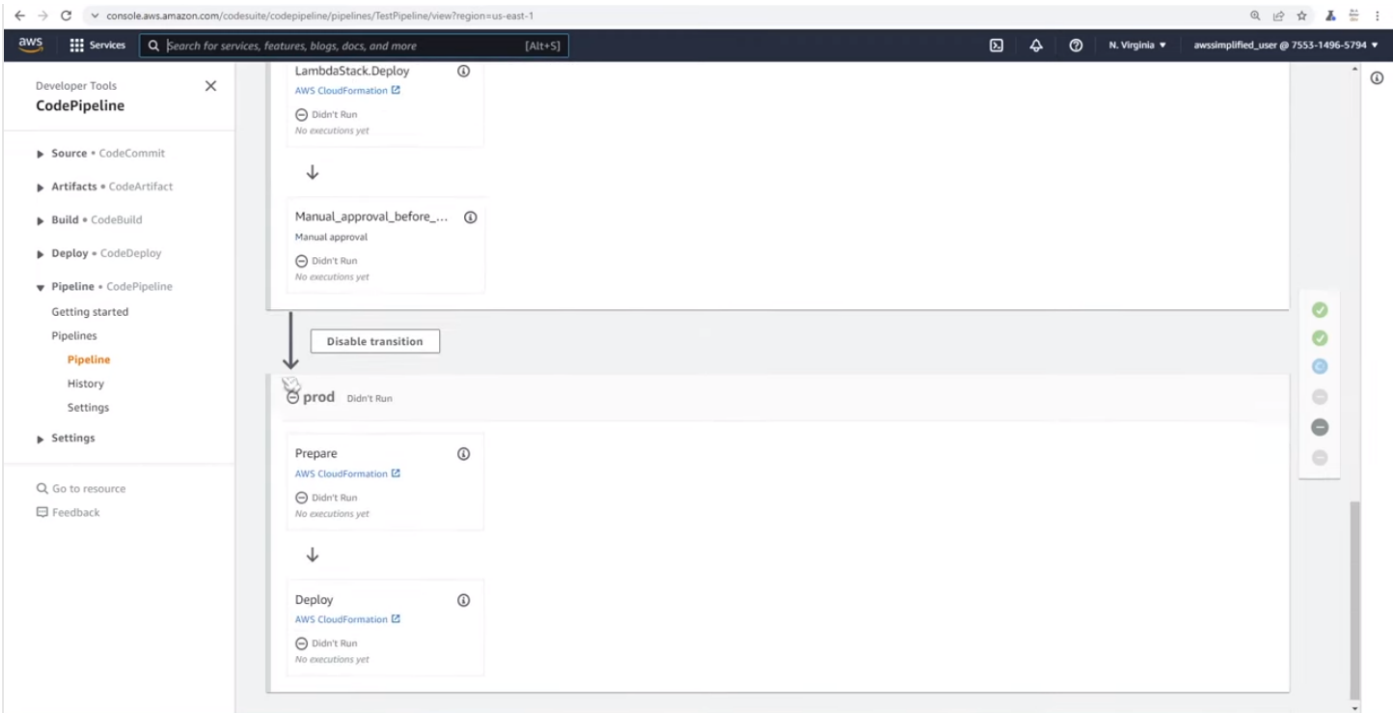
We then commit the code to our GitHub repo

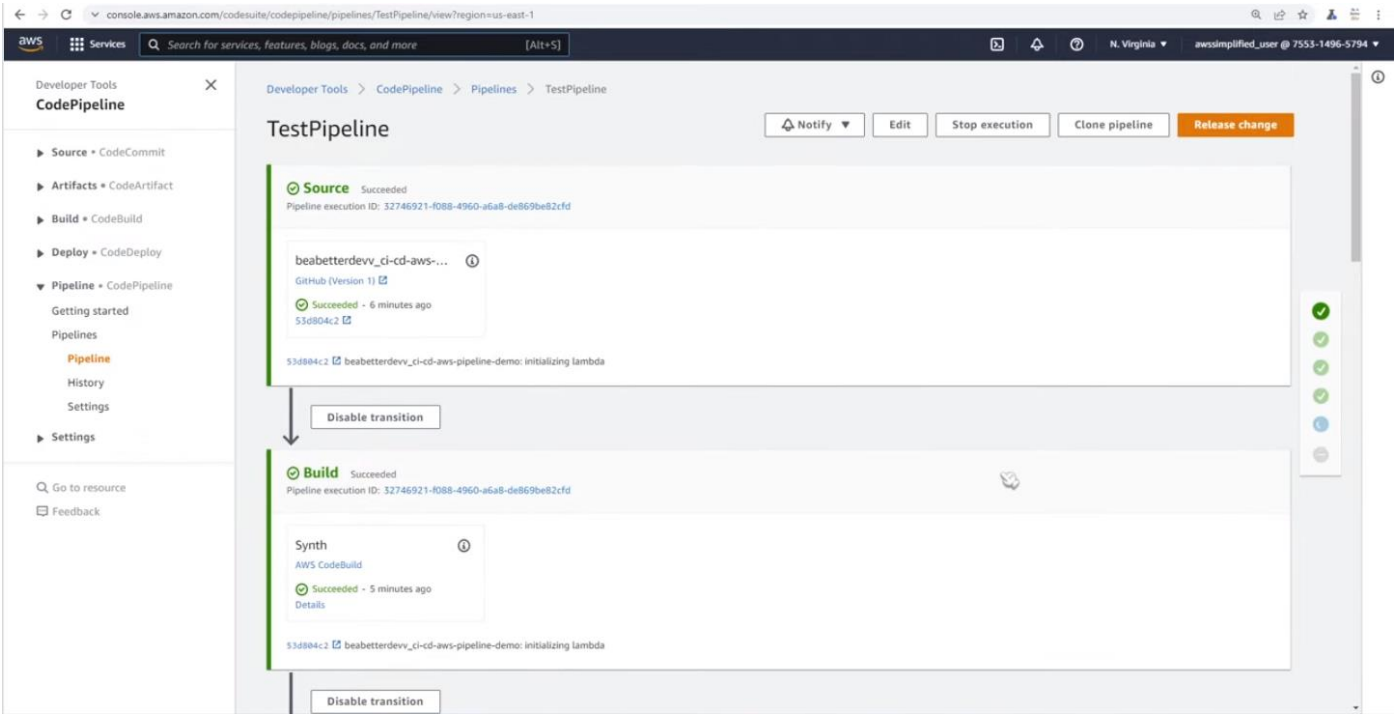


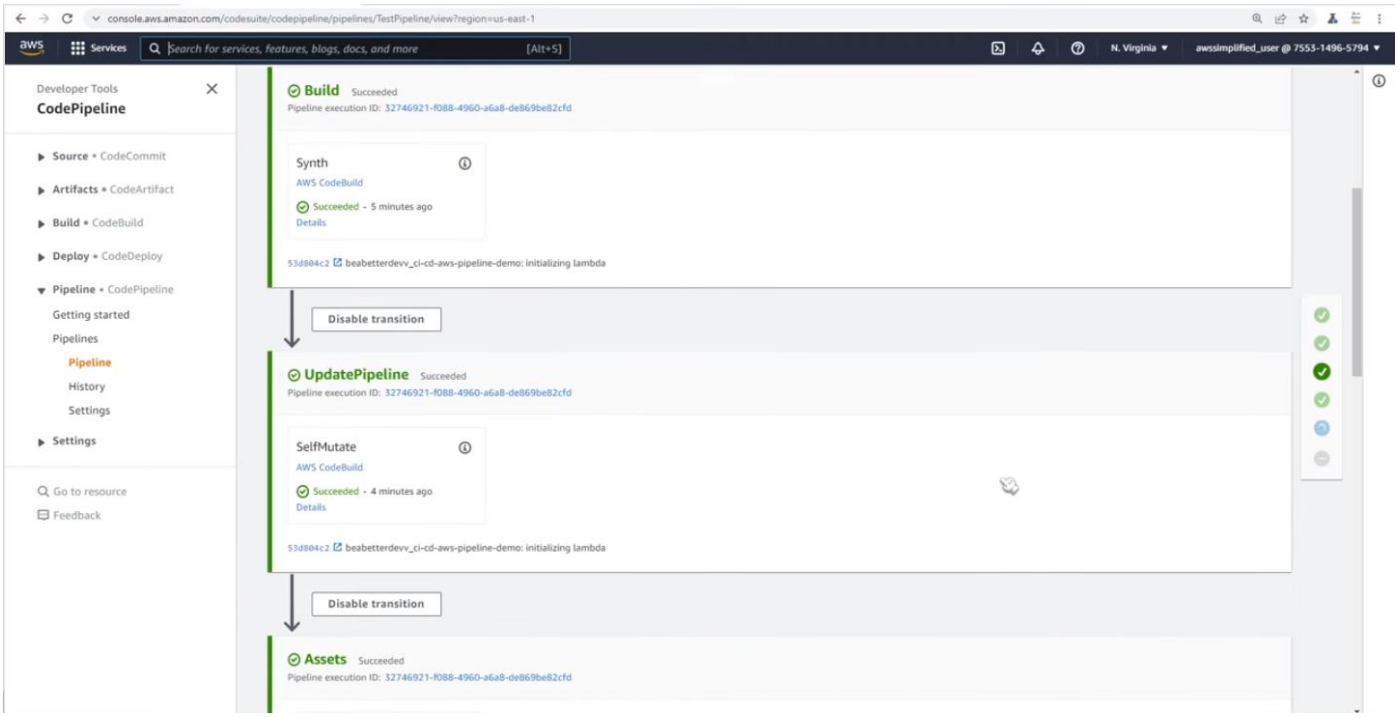


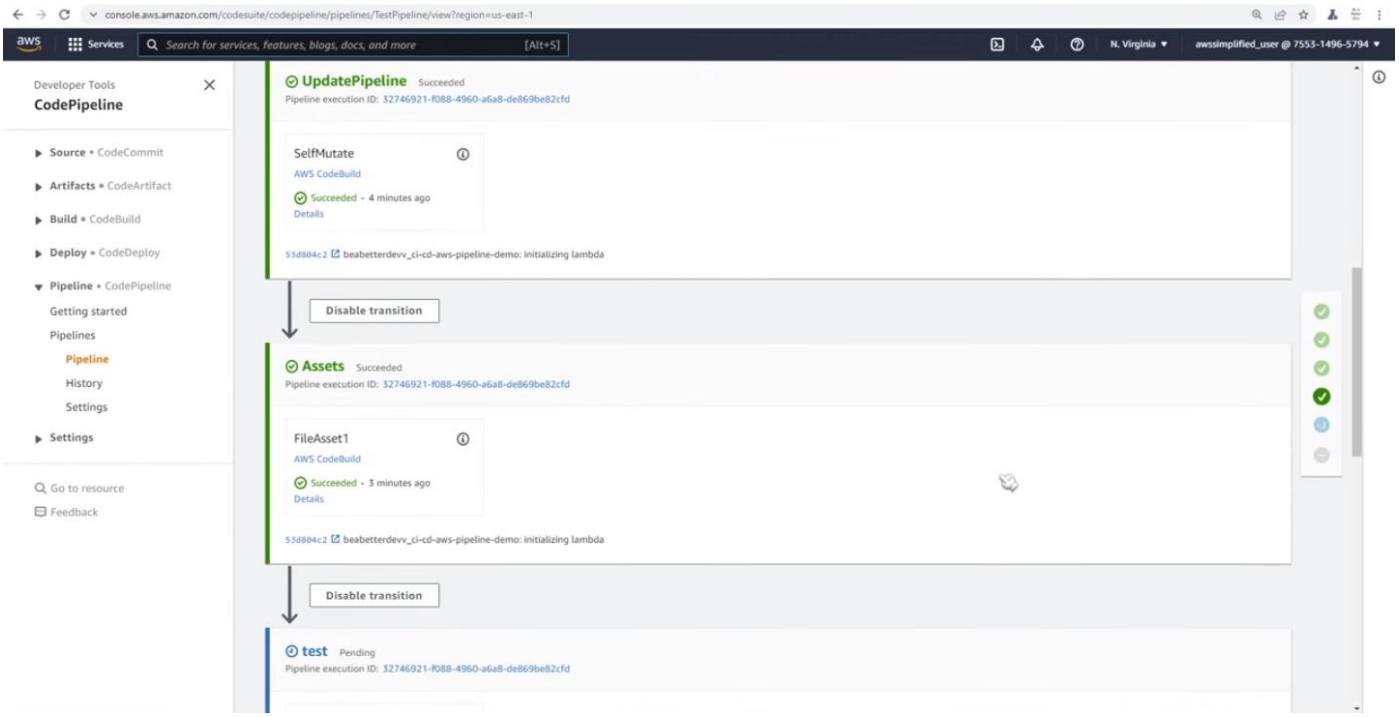
The shape of the **UpdatePipeline** step will change to include deployment to a test environment, a manual step, then deployment to a prod environment.

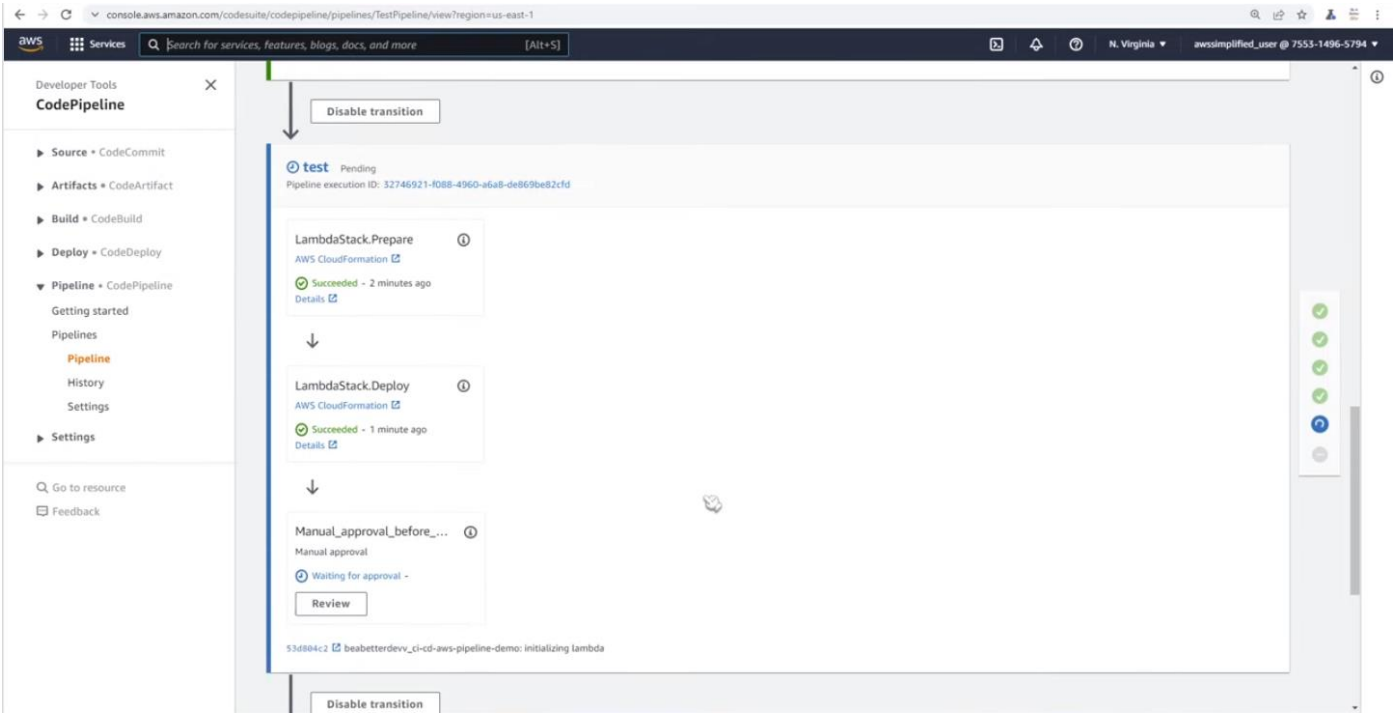


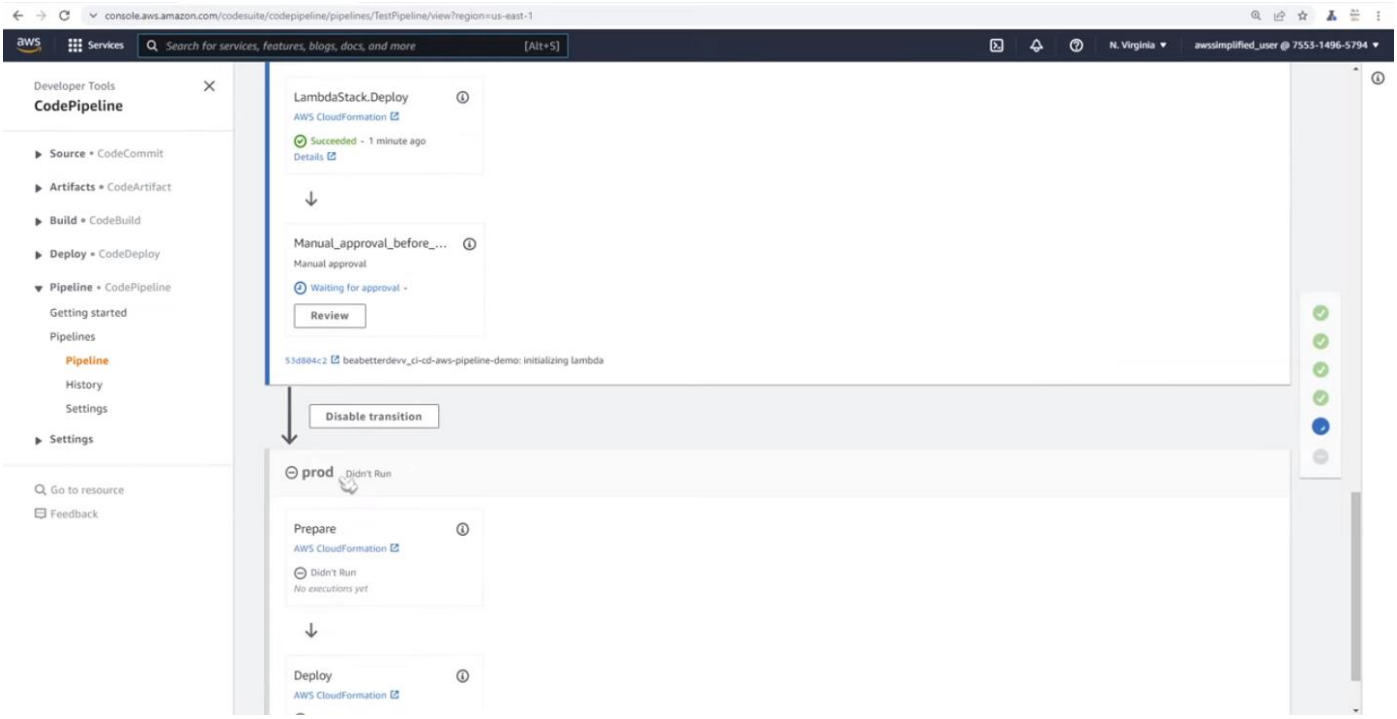

console.aws.amazon.com/codesuite/codepipeline/pipelines/TestPipeline/view?region=us-east-1
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
Developer Tools
CodePipeline
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Pipeline • CodePipeline
Getting started
Pipelines
Pipeline
History
Settings
Settings
Go to resource
Feedback
LambdaStack.Deploy
AWS CloudFormation
Didn't Run
No executions yet
Manual_approval_before_...
Manual approval
Didn't Run
No executions yet
Disable transition
prod
Didn't Run
Prepare
AWS CloudFormation
Didn't Run
No executions yet
Deploy
AWS CloudFormation
Didn't Run
No executions yet

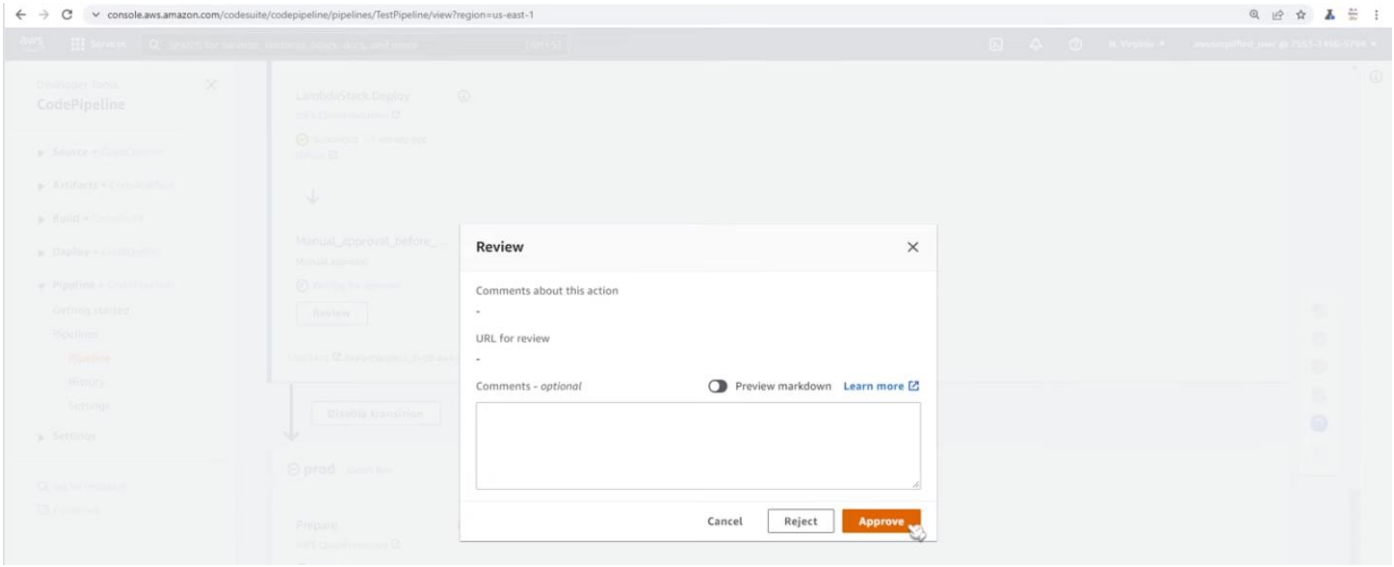

console.aws.amazon.com/codesuite/codepipeline/pipelines/TestPipeline/view?region=us-east-1
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
Developer Tools
CodePipeline
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Pipeline • CodePipeline
Getting started
Pipelines
Pipeline
History
Settings
Settings
Go to resource
Feedback
Developer Tools > CodePipeline > Pipelines > TestPipeline
TestPipeline
Notify
Edit
Stop execution
Clone pipeline
Release change
Source Succeeded
Pipeline execution ID: 32746921-f088-4960-a6a8-de869be82cfd
beabetterdevv_ci-cd-aws-...
GitHub (Version 1)
Succeeded - 6 minutes ago
53d804c2
53d804c2 beabetterdevv_ci-cd-aws-pipeline-demo: initializing lambda
Disable transition
Build Succeeded
Pipeline execution ID: 32746921-f088-4960-a6a8-de869be82cfd
Synth
AWS CodeBuild
Succeeded - 5 minutes ago
Details
53d804c2 beabetterdevv_ci-cd-aws-pipeline-demo: initializing lambda
Disable transition

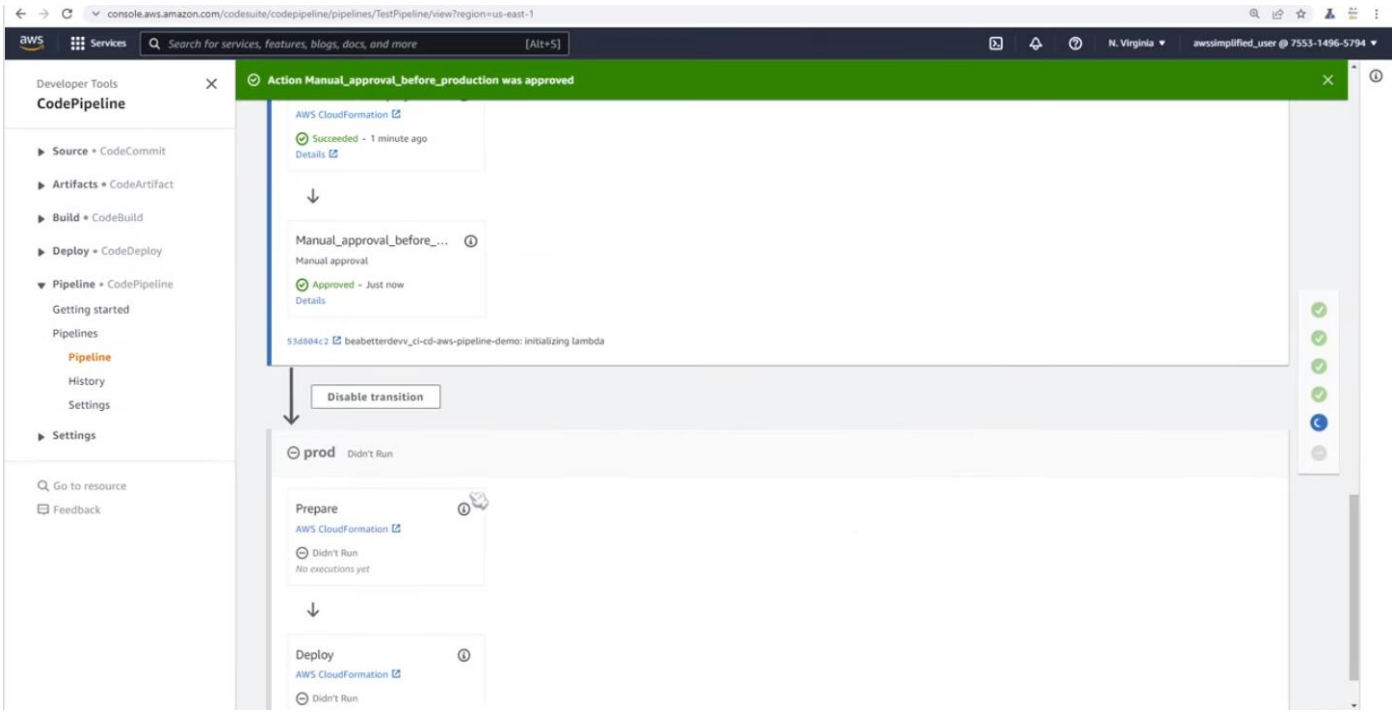

console.aws.amazon.com/codesuite/codepipeline/pipelines/TestPipeline/view?region=us-east-1
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
Developer Tools
CodePipeline
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Pipeline • CodePipeline
Getting started
Pipelines
Pipeline
History
Settings
Settings
Go to resource
Feedback
Build Succeeded
Pipeline execution ID: 32746921-f088-4960-a6a8-de869be82cfd
Synth
AWS CodeBuild
Succeeded - 5 minutes ago
Details
53d804c2 beabetterdevv_ci-cd-aws-pipeline-demo: initializing lambda
Disable transition
UpdatePipeline Succeeded
Pipeline execution ID: 32746921-f088-4960-a6a8-de869be82cfd
SelfMutate
AWS CodeBuild
Succeeded - 4 minutes ago
Details
53d804c2 beabetterdevv_ci-cd-aws-pipeline-demo: initializing lambda
Disable transition
Assets Succeeded
Pipeline execution ID: 32746921-f088-4960-a6a8-de869be82cfd

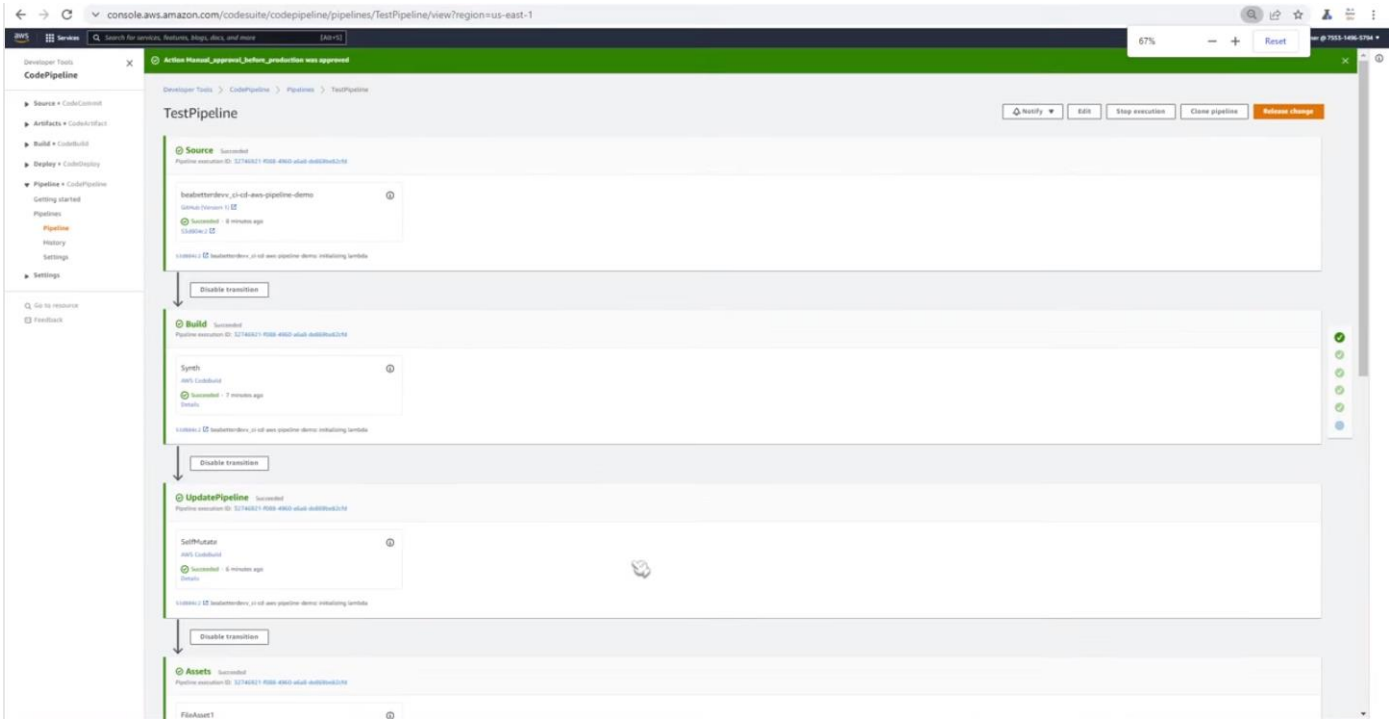

console.aws.amazon.com/codesuite/codepipeline/pipelines/TestPipeline/view?region=us-east-1
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
Developer Tools
CodePipeline
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Pipeline • CodePipeline
Getting started
Pipelines
Pipeline
History
Settings
Settings
Go to resource
Feedback
UpdatePipeline Succeeded
Pipeline execution ID: 32746921-f088-4960-a6a8-de869be82cfd
SelfMutate
AWS CodeBuild
Succeeded - 4 minutes ago
Details
53d804c2 beabetterdevv_ci-cd-aws-pipeline-demo: initializing lambda
Disable transition
Assets Succeeded
Pipeline execution ID: 32746921-f088-4960-a6a8-de869be82cfd
FileAsset1
AWS CodeBuild
Succeeded - 3 minutes ago
Details
53d804c2 beabetterdevv_ci-cd-aws-pipeline-demo: initializing lambda
Disable transition
test Pending
Pipeline execution ID: 32746921-f088-4960-a6a8-de869be82cfd


console.aws.amazon.com/codesuite/codepipeline/pipelines/TestPipeline/view?region=us-east-1
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
Developer Tools
CodePipeline
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Pipeline • CodePipeline
Getting started
Pipelines
Pipeline
History
Settings
Settings
Go to resource
Feedback
Disable transition
test
Pending
Pipeline execution ID: 32746921-f088-4960-a6a8-de869be82cfd
LambdaStack.Prepare
AWS CloudFormation
Succeeded - 2 minutes ago
Details
LambdaStack.Deploy
AWS CloudFormation
Succeeded - 1 minute ago
Details
Manual_approval_before_...
Manual approval
Waiting for approval -
Review
53d804c2 beabetterdevv_ci-cd-aws-pipeline-demo: initializing lambda
Disable transition

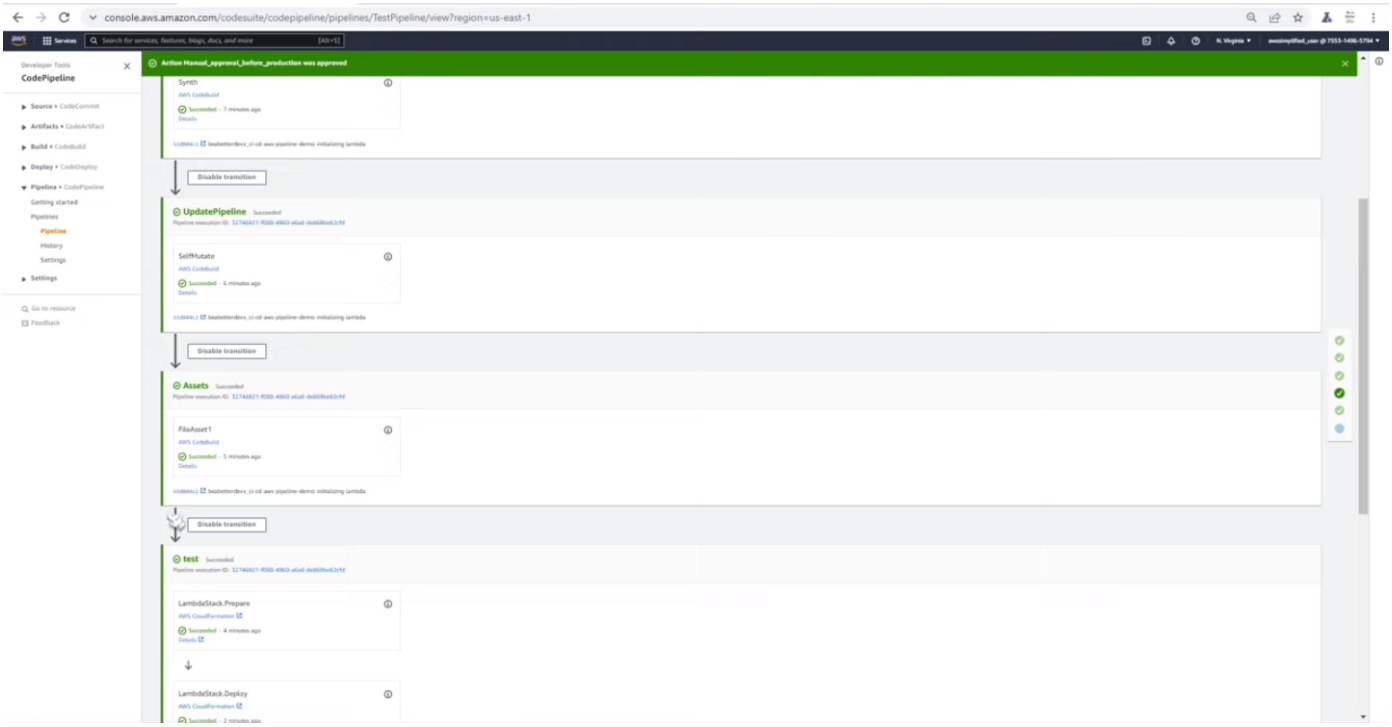

console.aws.amazon.com/codesuite/codepipeline/pipelines/TestPipeline/view?region=us-east-1
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
Developer Tools
CodePipeline
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Pipeline • CodePipeline
Getting started
Pipelines
Pipeline
History
Settings
Settings
Go to resource
Feedback
LambdaStack.Deploy
AWS CloudFormation
Succeeded - 1 minute ago
Details
Manual_approval_before_...
Manual approval
Waiting for approval -
Review
53d804c2 beabetterdevv_ci-cd-aws-pipeline-demo: initializing lambda
Disable transition
prod
Didn't Run
Prepare
AWS CloudFormation
Didn't Run
No executions yet
Deploy
AWS CloudFormation

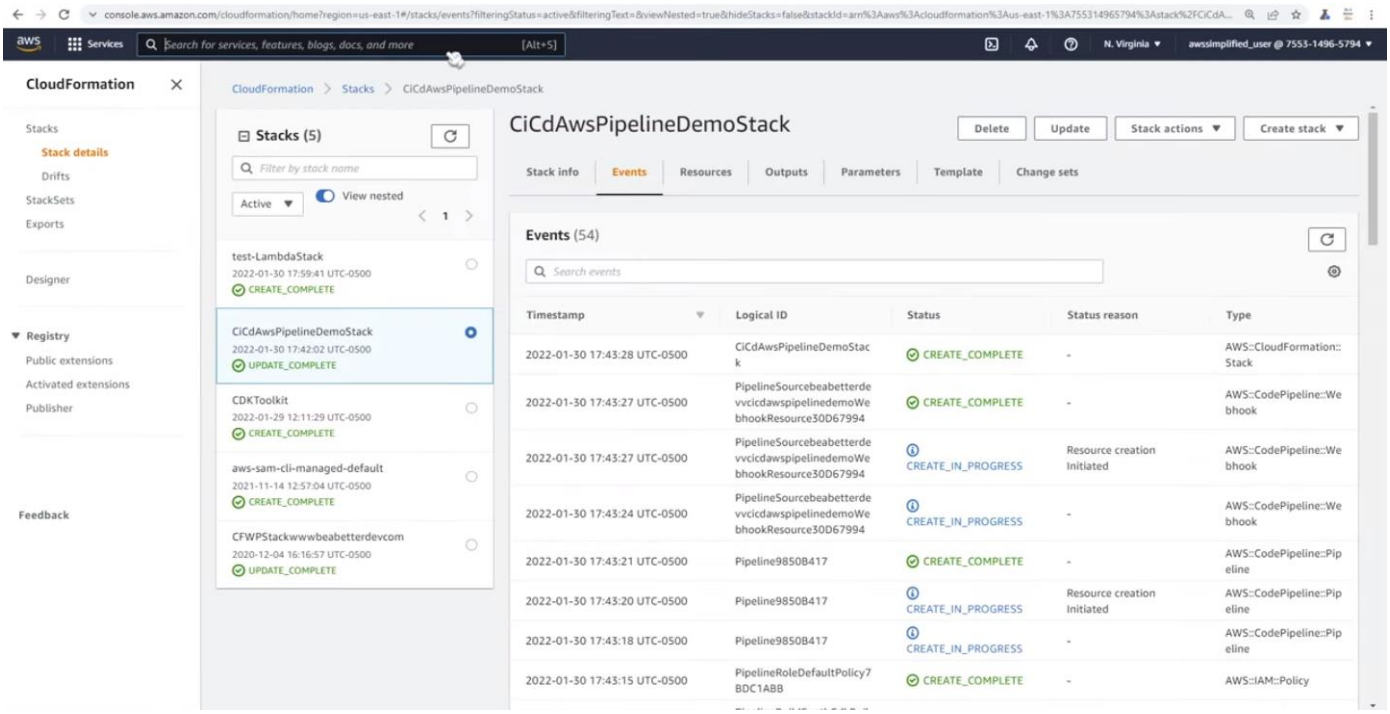

Review
Comments about this action
-
URL for review
-
Comments - optional
Preview markdown
Learn more
Cancel
Reject
Approve

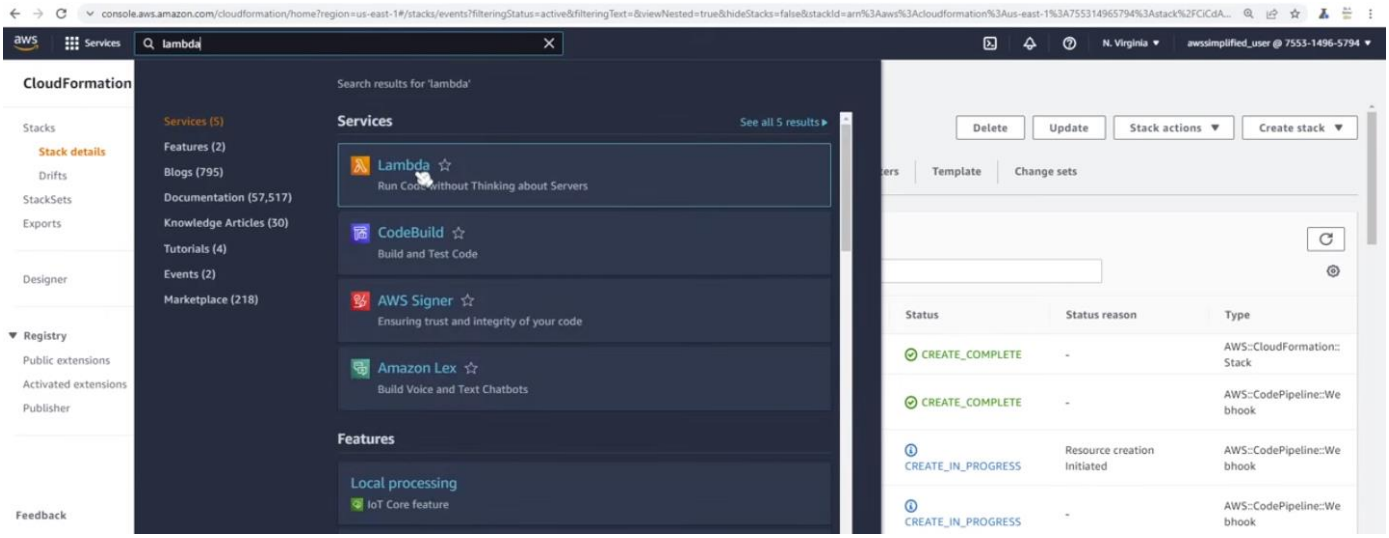

console.aws.amazon.com/codesuite/codepipeline/pipelines/TestPipeline/view?region=us-east-1
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
Developer Tools
CodePipeline
Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Pipeline • CodePipeline
Getting started
Pipelines
Pipeline
History
Settings
Settings
Go to resource
Feedback
Action Manual_approval_before_production was approved
AWS CloudFormation
Succeeded - 1 minute ago
Details
Manual_approval_before_...
Manual approval
Approved - Just now
Details
53d804c2 beabetterdevv_ci-cd-aws-pipeline-demo: initializing lambda
Disable transition
prod
Didn't Run
Prepare
AWS CloudFormation
Didn't Run
No executions yet
Deploy
AWS CloudFormation
Didn't Run

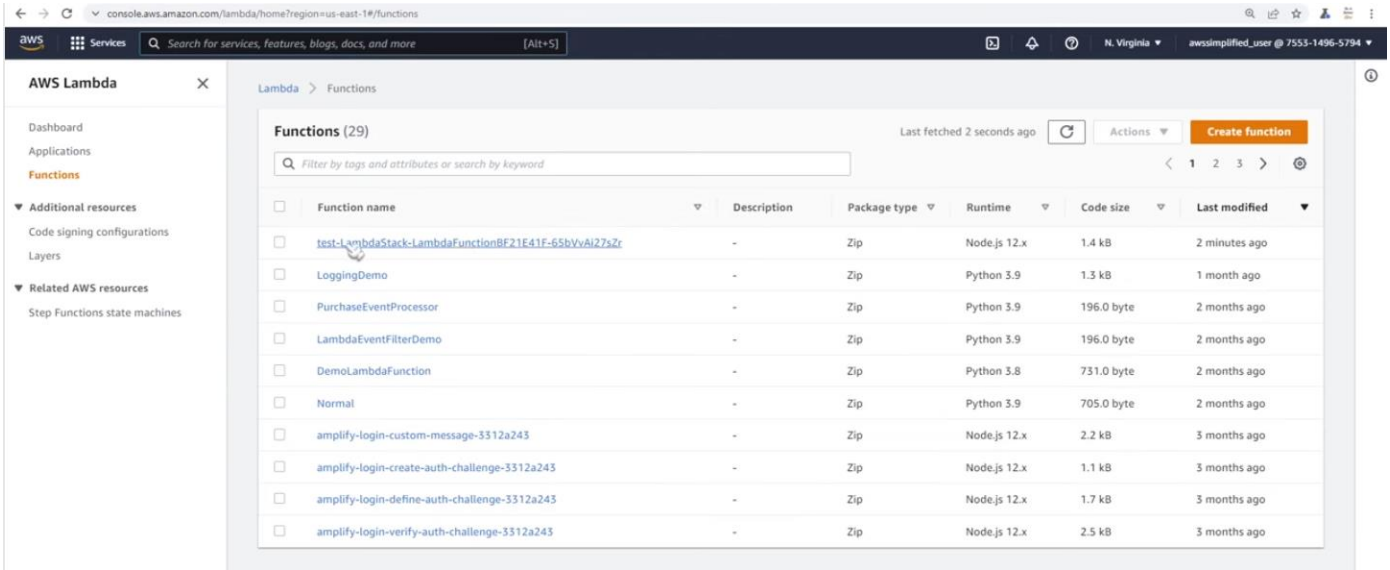


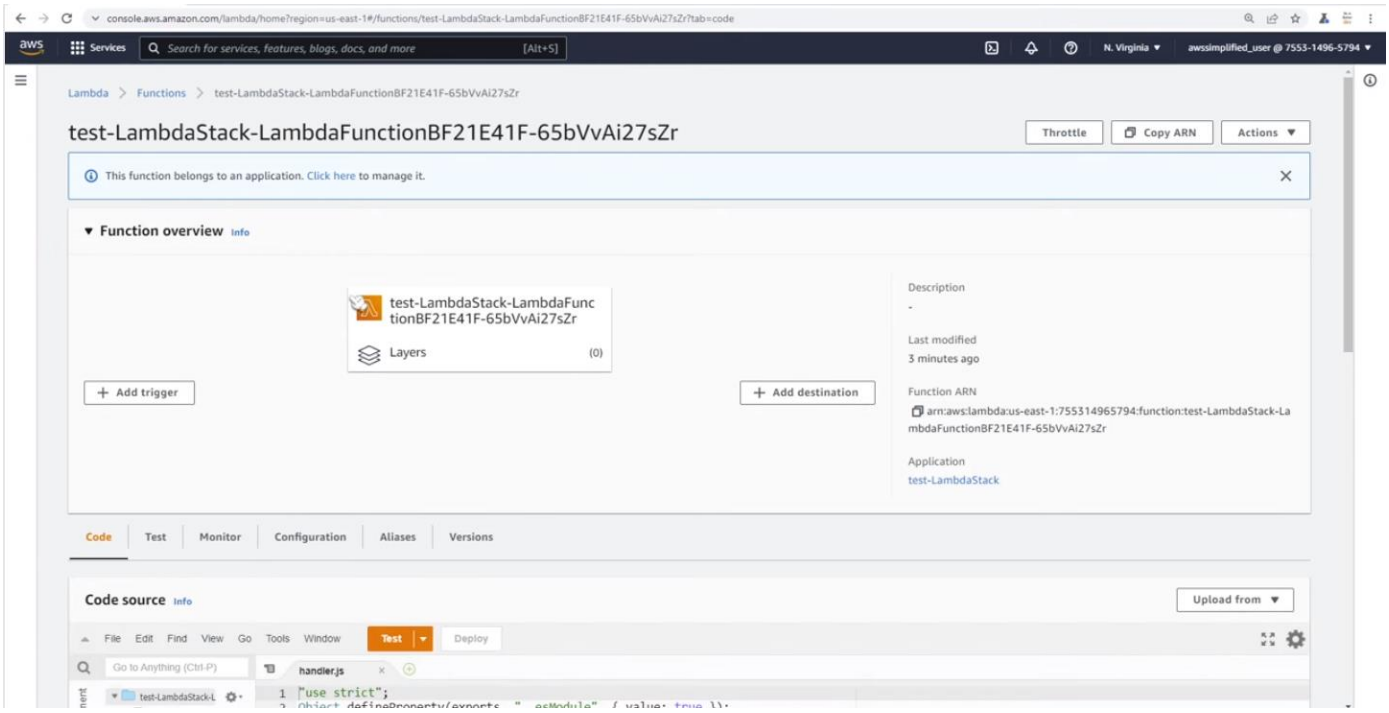
We can also add a unit test step after the build into our pipeline before the UpdatePipeline step

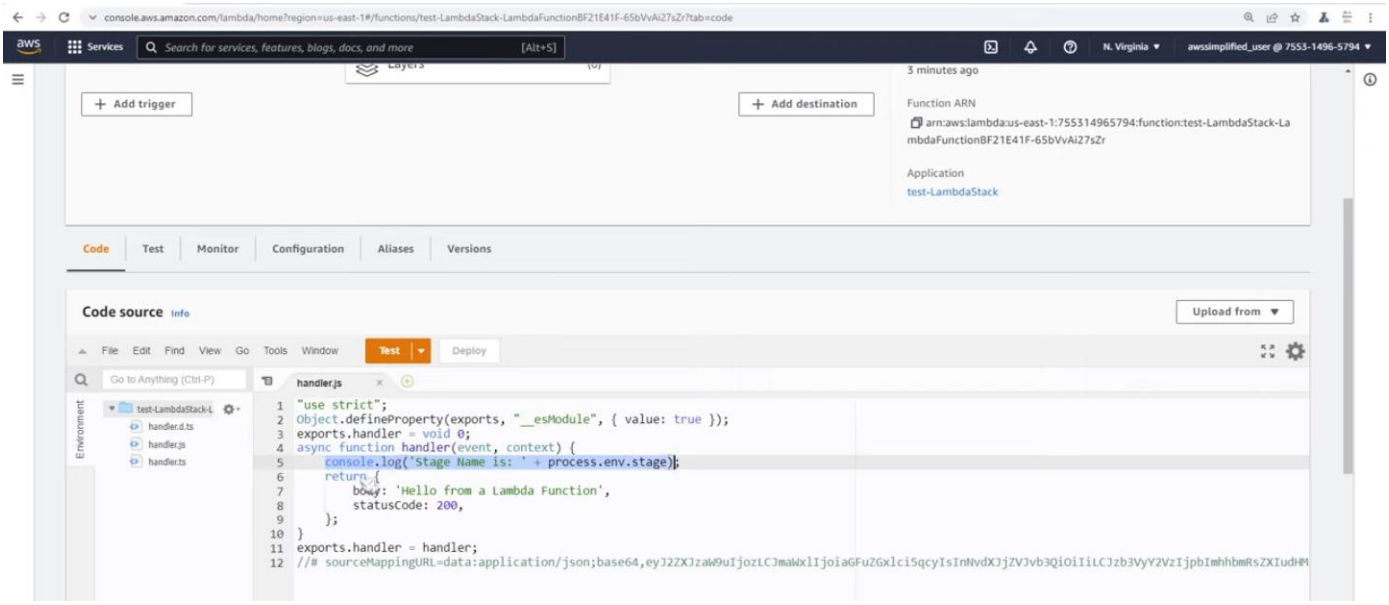


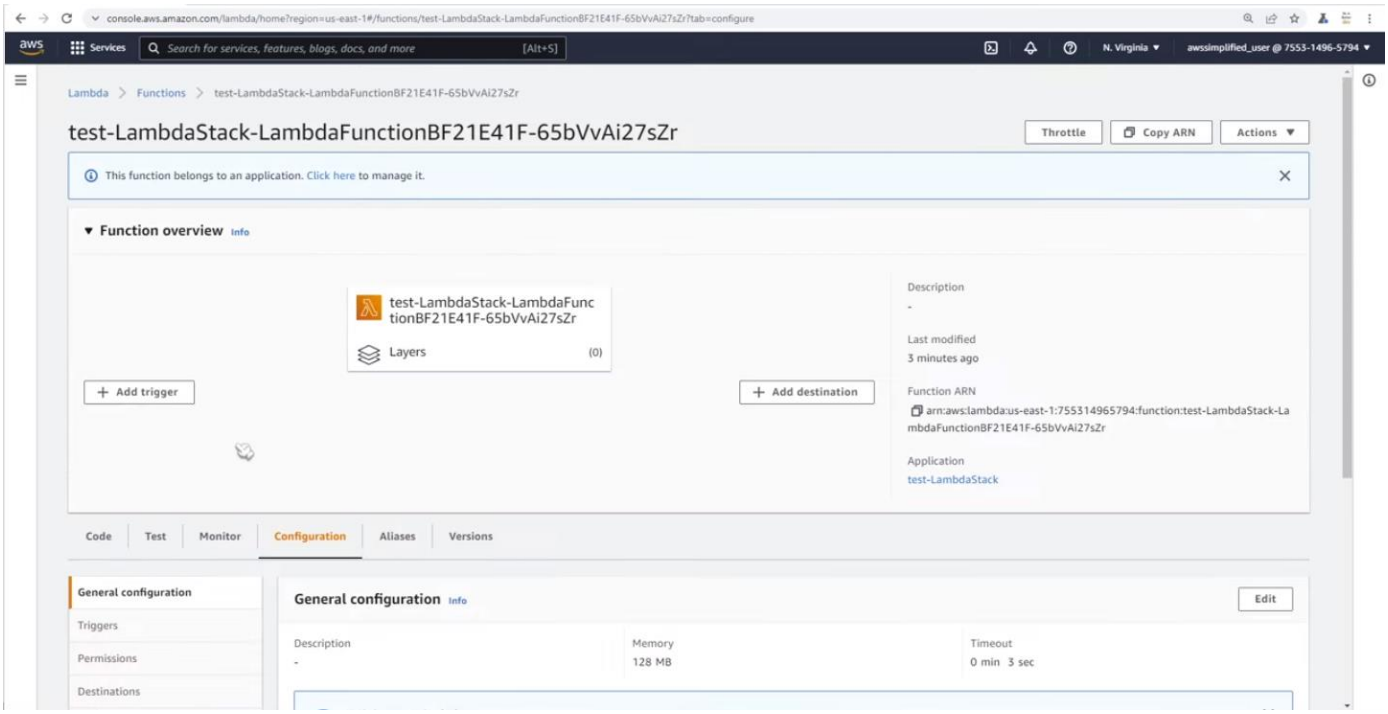

CloudFormation
Stacks
Stack details
Drifts
StackSets
Exports
Designer
Registry
Public extensions
Activated extensions
Publisher
Feedback
CloudFormation > Stacks > CiCdAwsPipelineDemoStack
Stacks (5)
Filter by stack name
Active
View nested
test-LambdaStack
2022-01-30 17:59:41 UTC-0500
CREATE_COMPLETE
CiCdAwsPipelineDemoStack
2022-01-30 17:42:02 UTC-0500
UPDATE_COMPLETE
CDKToolkit
2022-01-29 12:11:29 UTC-0500
CREATE_COMPLETE
aws-sam-cli-managed-default
2021-11-14 12:57:04 UTC-0500
CREATE_COMPLETE
CFWPStackwwwbeabetterdevcom
2020-12-04 16:16:57 UTC-0500
UPDATE_COMPLETE
CiCdAwsPipelineDemoStack
Delete
Update
Stack actions
Create stack
Stack info
Events
Resources
Outputs
Parameters
Template
Change sets
Events (54)
Search events
Timestamp
Logical ID
Status
Status reason
Type
2022-01-30 17:43:28 UTC-0500
CiCdAwsPipelineDemoStack
CREATE_COMPLETE
AWS::CloudFormation::Stack
2022-01-30 17:43:27 UTC-0500
PipelineSourcebeabetterdevvcicdawspipelinedemoWebhookResource30D67994
CREATE_COMPLETE
AWS::CodePipeline::Webhook
2022-01-30 17:43:27 UTC-0500
PipelineSourcebeabetterdevvcicdawspipelinedemoWebhookResource30D67994
CREATE_IN_PROGRESS
Resource creation Initiated
AWS::CodePipeline::Webhook
2022-01-30 17:43:24 UTC-0500
PipelineSourcebeabetterdevvcicdawspipelinedemoWebhookResource30D67994
CREATE_IN_PROGRESS
AWS::CodePipeline::Webhook
2022-01-30 17:43:21 UTC-0500
Pipeline9850B417
CREATE_COMPLETE
AWS::CodePipeline::Pipeline
2022-01-30 17:43:20 UTC-0500
Pipeline9850B417
CREATE_IN_PROGRESS
Resource creation Initiated
AWS::CodePipeline::Pipeline
2022-01-30 17:43:18 UTC-0500
Pipeline9850B417
CREATE_IN_PROGRESS
AWS::CodePipeline::Pipeline
2022-01-30 17:43:15 UTC-0500
PipelineRoleDefaultPolicy7BDC1ABB
CREATE_COMPLETE
AWS::IAM::Policy

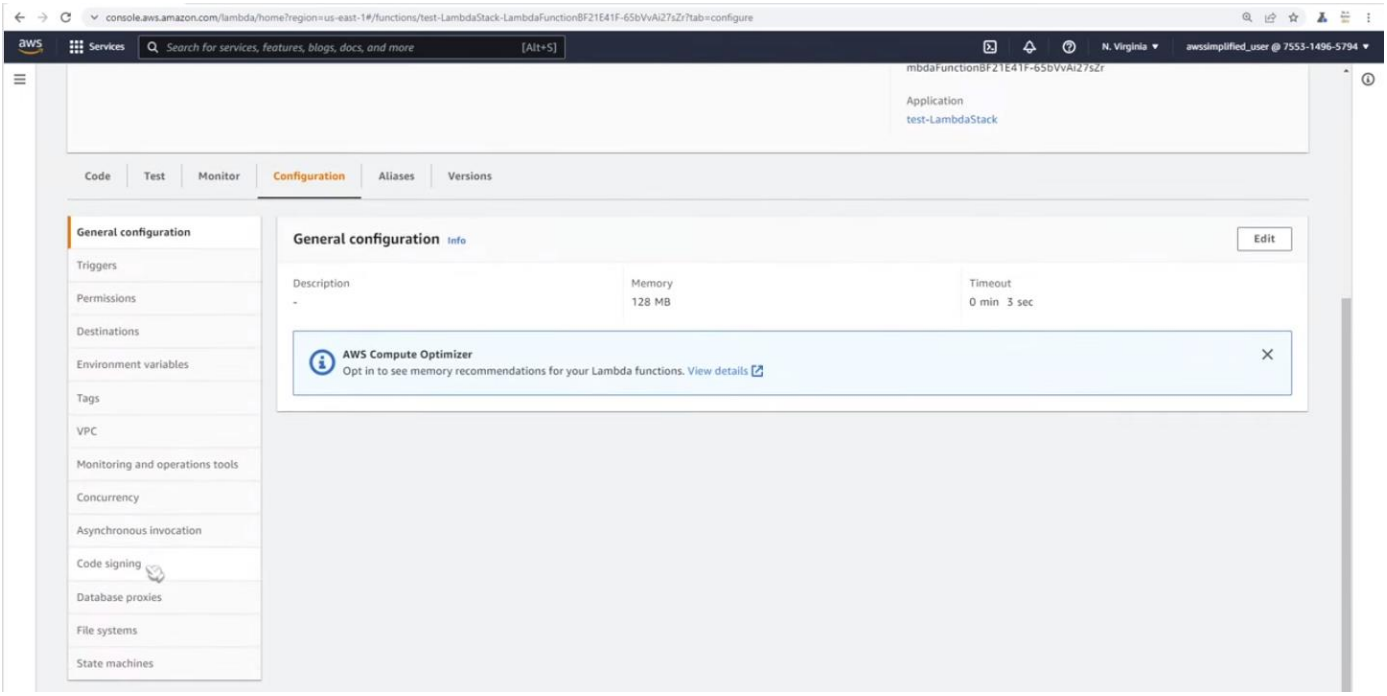

lambda
Search results for 'lambda'
Services (5)
Features (2)
Blogs (795)
Documentation (57,517)
Knowledge Articles (30)
Tutorials (4)
Events (2)
Marketplace (218)
Services
See all 5 results
Lambda
Run Code without Thinking about Servers
CodeBuild
Build and Test Code
AWS Signer
Ensuring trust and integrity of your code
Amazon Lex
Build Voice and Text Chatbots
Features
Local processing
IoT Core feature

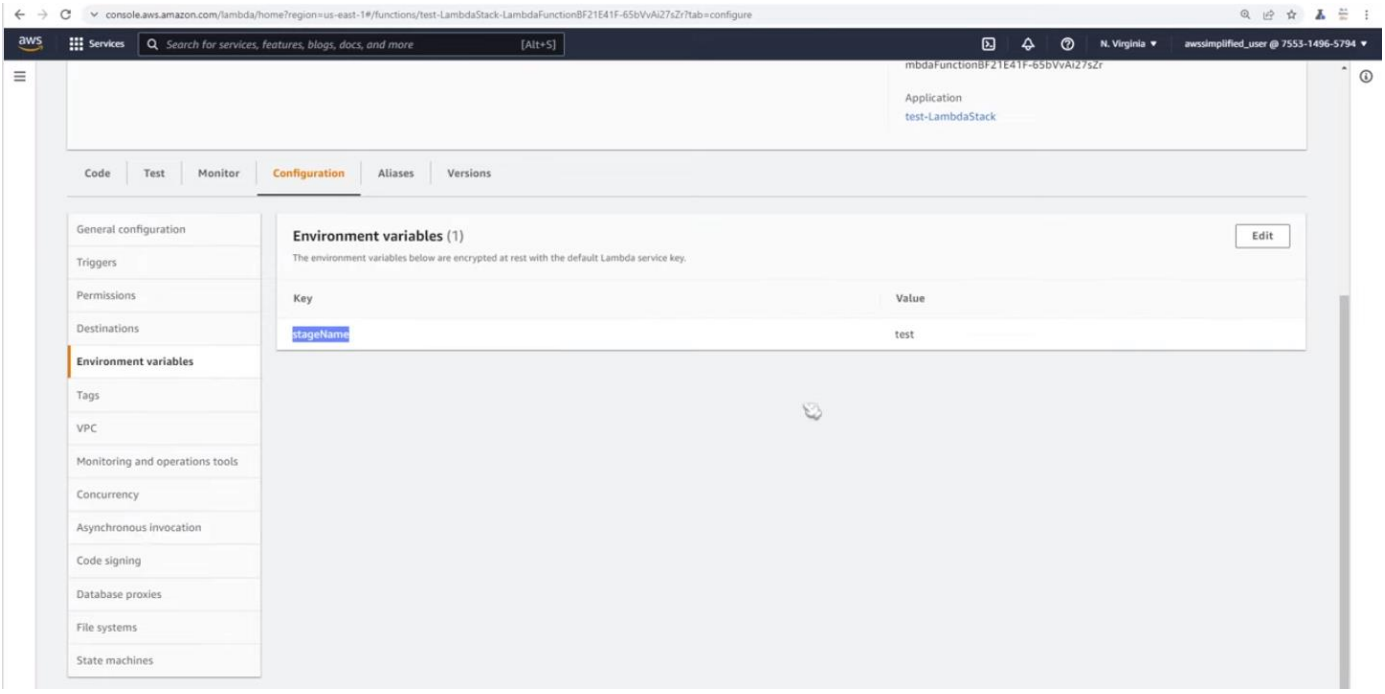

AWS Lambda
Dashboard
Applications
Functions
Additional resources
Code signing configurations
Layers
Related AWS resources
Step Functions state machines
Lambda > Functions
Functions (29)
Last fetched 2 seconds ago
Actions
Create function
Filter by tags and attributes or search by keyword
Function name
Description
Package type
Runtime
Code size
Last modified
test-LambdaStack-LambdaFunctionBF21E41F-65bVvAi27sZr
LoggingDemo
PurchaseEventProcessor
LambdaEventFilterDemo
DemoLambdaFunction
Normal
amplify-login-custom-message-3312a243
amplify-login-create-auth-challenge-3312a243
amplify-login-define-auth-challenge-3312a243
amplify-login-verify-auth-challenge-3312a243


console.aws.amazon.com/lambda/home?region=us-east-1#/functions/test-LambdaStack-LambdaFunctionBF21E41F-65bVvAi27sZr?tab=code
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
Lambda > Functions > test-LambdaStack-LambdaFunctionBF21E41F-65bVvAi27sZr
test-LambdaStack-LambdaFunctionBF21E41F-65bVvAi27sZr
Throttle
Copy ARN
Actions
This function belongs to an application. Click here to manage it.
Function overview Info
test-LambdaStack-LambdaFunctionBF21E41F-65bVvAi27sZr
Layers (0)
+ Add trigger
+ Add destination
Description
-
Last modified
3 minutes ago
Function ARN
arn:aws:lambda:us-east-1:755314965794:function:test-LambdaStack-LambdaFunctionBF21E41F-65bVvAi27sZr
Application
test-LambdaStack
Code
Test
Monitor
Configuration
Aliases
Versions
Code source Info
Upload from
File Edit Find View Go Tools Window
Test
Deploy
Go to Anything (Ctrl-P)
handler.js
1 "use strict";


console.aws.amazon.com/lambda/home?region=us-east-1#/functions/test-LambdaStack-LambdaFunctionBF21E41F-65bVvAi27sZr?tab=code
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
3 minutes ago
+ Add trigger
+ Add destination
Function ARN
arn:aws:lambda:us-east-1:755314965794:function:test-LambdaStack-LambdaFunctionBF21E41F-65bVvAi27sZr
Application
test-LambdaStack
Code
Test
Monitor
Configuration
Aliases
Versions
Code source Info
Upload from
File Edit Find View Go Tools Window
Test
Deploy
Go to Anything (Ctrl-P)
handler.js
Environment
test-LambdaStack-L
handler.d.ts
handler.js
handler.ts
1 "use strict";
2 Object.defineProperty(exports, "__esModule", { value: true });
3 exports.handler = void 0;
4 async function handler(event, context) {
5 console.log('Stage Name is: ' + process.env.stage);
6 return {
7 body: 'Hello from a Lambda Function',
8 statusCode: 200,
9 };
10 }
11 exports.handler = handler;
12 //# sourceMappingURL=data:application/json;base64,eyJ2ZXJzaW9uIjozLCJmaWxlIjoiaGFuZGxlci5qcyIsInNvdXJjZVJvb3QiOiIiLCJzb3VyY2VzIjpbImhhbmRsZXIudHM


console.aws.amazon.com/lambda/home?region=us-east-1#/functions/test-LambdaStack-LambdaFunctionBF21E41F-65bVvAi27sZr?tab=configure
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
Lambda > Functions > test-LambdaStack-LambdaFunctionBF21E41F-65bVvAi27sZr
test-LambdaStack-LambdaFunctionBF21E41F-65bVvAi27sZr
Throttle
Copy ARN
Actions
This function belongs to an application. Click here to manage it.
Function overview Info
test-LambdaStack-LambdaFunctionBF21E41F-65bVvAi27sZr
Layers (0)
+ Add trigger
+ Add destination
Description
-
Last modified
3 minutes ago
Function ARN
arn:aws:lambda:us-east-1:755314965794:function:test-LambdaStack-LambdaFunctionBF21E41F-65bVvAi27sZr
Application
test-LambdaStack
Code
Test
Monitor
Configuration
Aliases
Versions
General configuration
Triggers
Permissions
Destinations
General configuration Info
Edit
Description
-
Memory
128 MB
Timeout
0 min 3 sec


console.aws.amazon.com/lambda/home?region=us-east-1#/functions/test-LambdaStack-LambdaFunctionBF21E41F-65bVvAi27sZr?tab=configure
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
mbdaFunctionBF21E41F-65bVvAi27sZr
Application
test-LambdaStack
Code
Test
Monitor
Configuration
Aliases
Versions
General configuration
Triggers
Permissions
Destinations
Environment variables
Tags
VPC
Monitoring and operations tools
Concurrency
Asynchronous invocation
Code signing
Database proxies
File systems
State machines
General configuration Info
Edit
Description
-
Memory
128 MB
Timeout
0 min 3 sec
AWS Compute Optimizer
Opt in to see memory recommendations for your Lambda functions. View details


console.aws.amazon.com/lambda/home?region=us-east-1#/functions/test-LambdaStack-LambdaFunctionBF21E41F-65bVvAi27sZr?tab=configure
aws
Services
Search for services, features, blogs, docs, and more
[Alt+S]
N. Virginia
awssimplified_user @ 7553-1496-5794
mbdaFunctionBF21E41F-65bVvAi27sZr
Application
test-LambdaStack
Code
Test
Monitor
Configuration
Aliases
Versions
General configuration
Triggers
Permissions
Destinations
Environment variables
Tags
VPC
Monitoring and operations tools
Concurrency
Asynchronous invocation
Code signing
Database proxies
File systems
State machines
Environment variables (1)
The environment variables below are encrypted at rest with the default Lambda service key.
Edit
Key
Value
stageName
test