

Twitter Thread by Corey Quinn

**Corey Quinn**

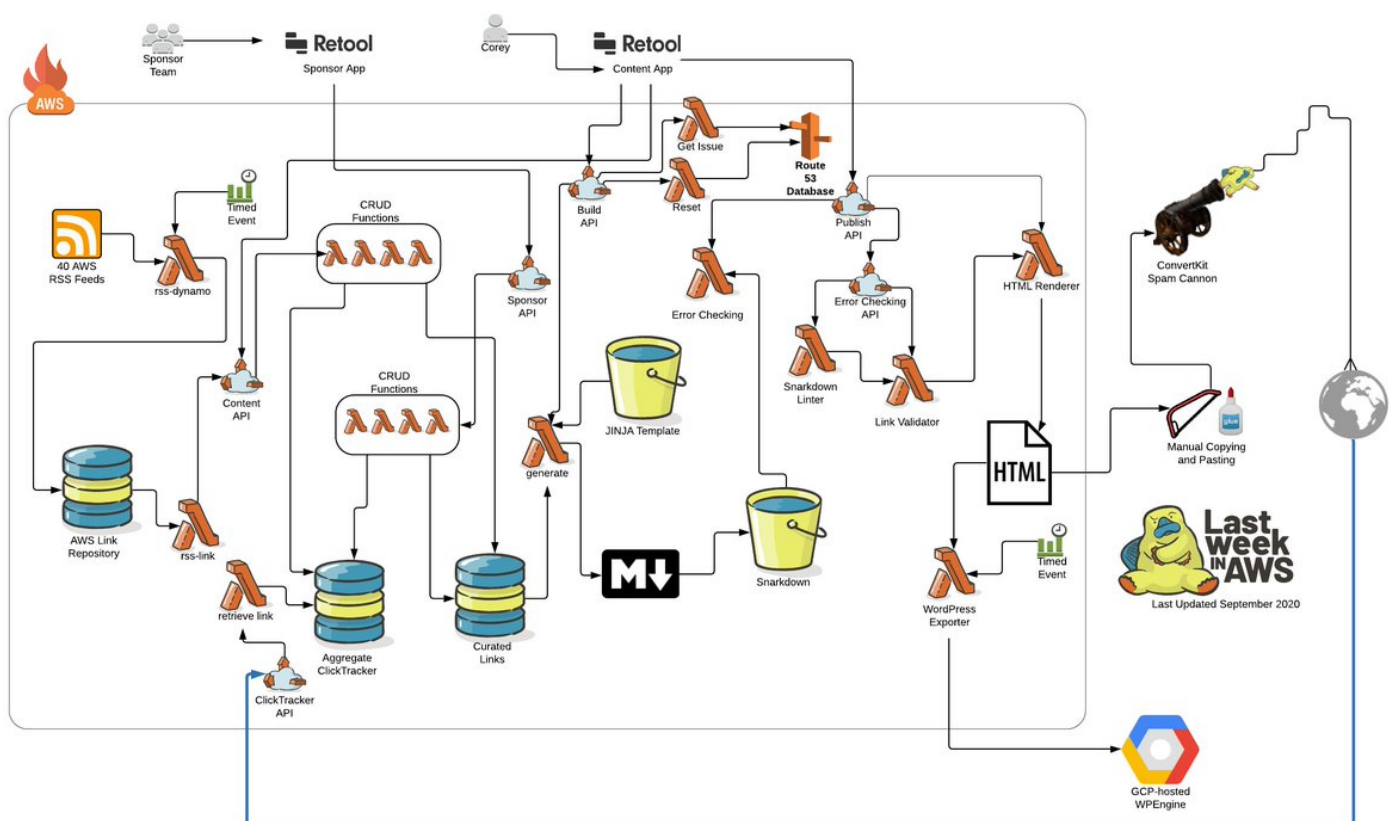
@QuinnyPig



Lest people think I've become too far lost in the Talking Head weeds this past #reinvent week, it's now time for me to livetweet my use of a new AWS service that was announced this week.

You probably get my re:Quinnvent newsletter. Here's the system I built that generates it.

Last Week in AWS Newsletter Production Pipeline



Now that CodeGuru supports Python, let's turn it loose on the "build" subservice. This is a [@goserverless](#) stack. The subcomponent features 8 Lambdas function fronted by 11 APIs Gateway.

Yes, let's get started with it!

Machine Learning

Amazon CodeGuru

Improve application quality and performance with ML

CodeGuru provides intelligent recommendations for improving application performance, efficiency, and code quality in your Java and Python applications.

Getting started

CodeGuru Reviewer ▼

Get started

It starts with the correct option selected. Good for it, bad for CodeCommit's veneer of legitimacy.

Associate repository [Info](#)

Repository details

CodeGuru is currently available for Java and Python source code.

Select source provider [Info](#)

☐ AWS CodeCommit

☐ Bitbucket

☒ GitHub or GitHub Enterprise Cloud

☐ GitHub Enterprise Server

Connect to GitHub or GitHub Enterprise Cloud
Allow Amazon CodeGuru to analyze your code, listen to pull request notifications, and comment on pull requests.

⊖ Not connected to your GitHub account

Connect to your GitHub account

Repository location

Select repository ▼

► **Tags - optional**

Cancel

Associate

Always always always use at least a 'project' or similar tag. Future you will thank you when you're attempting to figure out what the hell is costing money.

Connect to GitHub or GitHub Enterprise Cloud

Allow Amazon CodeGuru to analyze your code, listen to pull request notifications, and comment on pull requests.

✔ Connected to your GitHub account

Disconnect from your GitHub account

Repository location

nextweekinaws

▼ Tags - optional

Key

Value - optional

Q project X

Q codeguru-experiment X

Remove

Add new tag

You can add 49 more tags

Cancel

Associate

It's hanging out in "associating" state long enough that I'm starting to wonder if that's an ML term of art. GitHub's API is lightning-fast.

Repositories (1)

Pull requests on associated repositories trigger a review of the updated code.

↺

Manage tags

Disassociate repository

Associate repository

Q Find resources

All repositories...▼

1 match

Association ID	Repository Name	Status	Source
0b4cdc5d-f12a-43e4-ac16-26ca11179da8	nextweekinaws	⋮ Associating	GitHub

Bit of a UX fail here. To scan the entire repository I have to hit "code reviews" in the left nav bar. There's no direct shot from this window.

Dashboard

▼ Reviewer

Repositories

Code reviews

▼ Profiler

Profiling groups

Repositories (1)

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↺

Manage tags

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Find resources

All repositories...▼

1 match

< 1 >

⚙

Association ID	Repository Name	Status	Source
0b4cdc5d-f12a-43e4-ac16-26ca11179da8	nextweekinaws	Associated	GitHub

"Sure, I want security." Now after a bit of headscratching I see that it's overloading the term "repository" to mean an artifact bucket as well.

Much like a typical customer, I ignore that nonsense and disable the thing with the word "security" in it.

CodeGuru > Code reviews > Create repository analysis

Create repository analysis

Source code analysis

Choose how your source code is reviewed.

Code recommendations

Analyze source code in a repository branch for code quality recommendations.

Code and security recommendations

Analyze source code and build artifacts in an S3 bucket that CodeGuru Reviewer creates for you.

Repository name

Enter a name for your repository. CodeGuru Reviewer creates a new S3 bucket in your AWS account that contains your repository. The S3 association can be viewed on the [Repository](#) page.

Enter repository name

100 characters maximum.

Create S3 bucket and associate

Additional settings - optional

Code review name

Create repository analysis

Create repository analysis

Use a repository analysis to review source code in the branch of an associated repository. CodeGuru Reviewer reviews all the source code in the branch you specify.

CodeGuru Reviewer can analyze code and generate reviews using an associated AWS CodeCommit, Bitbucket, GitHub, GitHub Enterprise Cloud, or GitHub Enterprise Server repository.

CodeGuru Reviewer can analyze code with security analysis using an S3 associated repository. CodeGuru Reviewer creates the S3 bucket for you, then analyzes your source code and build artifacts. You upload zip files of your code and artifacts to the associated S3 repository.

Learn more

[Create code reviews](#)

[Create code reviews with security analysis](#)

"master" is my feature branch because I was told to hold off on converting it to "main" until some GitHub tooling made this easier.

No, I'm not misusing the term "feature branch."

Much like I do, [@awscloud](#)'s CodeGuru names code reviews / commit messages by smacking a keyboard a few times. In this case, "nextweekinaws-master-6p394lx6vgx92drp"

Create repository analysis

Source code analysis [Info](#)

Choose how your source code is reviewed.



Code recommendations

Analyze source code in a repository branch for code quality recommendations.



Code and security recommendations

Analyze source code and build artifacts in an S3 bucket that CodeGuru Reviewer creates for you.

Associated repository

Before you create a code review, you must first [associate the repository](#).

nextweekinaws (GitHub) ▼



Source branch

Specifying a source branch name will scan all the source code in that branch.

master

▼ Additional settings - optional

Code review name

Code review name

Enter your code review name here.

nextweekinaws-master-6p394lx6vgx92drp

Cancel

Create repository analysis

We're now in state "pending." It claims to take 5-10 minutes.

Github tells me this app is 60.6% Python, 39.4% HTML.

98 commits, dating back to my initial commit in October of 2017.

Code reviews Info

Pull request

Repository analysis

Repository analysis code reviews (1)



Action ▼

Create repository analysis

List of repository analysis code reviews on associated repositories for the last 90 days. Create a repository analysis to get a code review for all the code in one branch.

Search code reviews

< 1 >

Name ▼

Status ▼



nextweekinaws-master-6p394lx6vgx92drp



Pending

And according to [@awscloud](#) CodeGuru Reviewer, my Python is perfect with no improvements possible.

This is of course a screaming red flag that this service is fake, or else my code is so bad that it's not even recognized as Python.

Code review: nextweekinaws-master-6p394lx6vgx92drp

Details

Status

 Completed

Type

RepositoryAnalysis

Time created

4 Dec 2020 08:15:16 PM
GMT-0800

Last updated

4 Dec 2020 08:18:20 PM
GMT-0800

Repository name

nextweekinaws 

Branch name

master 

Provider

GitHub

Metered lines of code

262

ARN



arn:aws:codeguru-reviewer:us-west-2:910847060637:association:0b4cdc5d-f12a-43e4-ac16-26ca11179da8:code-review:RepositoryAnalysis-nextweekinaws-master-6p394lx6vgx92drp

Details

CodeGuru Reviewer successfully finished reviewing the source code.

Recommendations

0

Recommendations (0)



Find resources

All



0

matches



1



The code review is complete.

There are no code recommendations at this time.

I have an unstaged commit; I'm ripping out legacy access tokens for [@Pinboard](#) and [@Pocket](#) because I don't use them anymore. The actual keys were stored in Parameter Store because at one point I liked to cosplay as a responsible engineer.

```

Initial commit
[(.venv) cquinn@armbox master !1 ~/src/build % git status
On branch master
Your branch is up to date with 'origin/master'.

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   serverless.yml

no changes added to commit (use "git add" and/or "git commit -a")
[(.venv) cquinn@armbox master !1 ~/src/build % git diff
diff --git a/serverless.yml b/serverless.yml
index 060eb28..69466d9 100644
--- a/serverless.yml
+++ b/serverless.yml
@@ -13,9 +13,6 @@ provider:
   region: us-west-2
   environment:
     INSIDE_LAMBDA: "True"
-  PINBOARD_TOKEN: ${ssm:/PINBOARD_TOKEN~true}
-  POCKET_CONSUMER_KEY: ${ssm:/pocket_consumer_key~true}
-  POCKET_ACCESS_TOKEN: ${ssm:/pocket_access_token~true}
   DYNAMODB_TABLE: 'lwia-links'

functions:
[(.venv) cquinn@armbox master !1 ~/src/build %

```

I create a pull request for that change, and find it's already analyzing it.

This is worrisome.

CodeGuru
> Code reviews

Code reviews [Info](#)

Pull request
Repository analysis

Pull request code reviews (1)

Refresh

Action

List of pull request code reviews on associated repositories for the last 90 days. CodeGuru Reviewer automatically provides a code review when you create a pull request.

<
1
>

	Name	Status	Repository	Recommendations
	GITHUB-nextweekinaws-1-a3f90cbd6ebf2fc1b726ab34bac	Pending	nextweekinaws	-

Because CodeGuru charges 75¢ per hundred lines of code in a pull request. Think of, say, massive version updates to packages, you add a new module, etc. These can get large--and you never had to think about it that way before. Now it's

spendy.

And no recommendations to the pull request, which isn't a big surprise.

I add two more repos and start analyzing them.

(These are my custom anonymizing clicktracker for aggregate data only, and my "render Snarkdown into HTML" bits.)

Rude, [@awscloud](#).

Repository analysis code reviews (3)

↻




Action ▾

Create repository analysis

List of repository analysis code reviews on associated repositories for the last 90 days. Create a repository analysis to get a code review for all the code in one branch.

🔍 Search code reviews

< 1 > ⚙

Name ▾	Status ▾	Repository ↗ ▾	Recommendations ▾	Branch
 Publish-Newsletter-master-f67kcmbmgx0grz	✔ Completed	Publish-Newsletter	Don't quit your dayjob	master
 clicktracker-master-qs6qz4a8729delzp	✔ Completed	clicktracker	0	master
 nextweekinaws-master-6p394lx6vgx92drp	✔ Completed	nextweekinaws	0	master

I kid. It found no issues in any of my code. That's terrifying and now I know something's afoot.

Okay, *none* of my repositories are showing issues. I have a theory. Let's check the CodeGuru documentation.

Aha! Found it!

Amazon CodeGuru Reviewer uses program analysis combined with machine learning models trained on millions of lines of Java and Python code from the Amazon code base and other sources. When you associate CodeGuru Reviewer with a repository, CodeGuru Reviewer can find and flag code defects and suggest recommendations to improve your code. CodeGuru Reviewer provides actionable recommendations with a low rate of

Remember, this is "Machine Learning," which is a polite euphamism for "bias laundering." Nobody knows how the algorithm works.

I suspect that it wound up looking at a bunch of code and making some assumptions, like "if the author is 'Stephen' the code is shitty."

That is of course a joke. This is ML in tech in 2020. The actual author name would of course be something typically female-presenting.

So yeah. I don't honestly know how to evaluate this service. I assure you my code is far from perfect, but I can't seem to convince [@awscloud](#) of that.

I'll be expecting a job offer early next week.

Dashboard

Service overview

CodeGuru Reviewer data is from the past 90 days; CodeGuru Profiler data is from the most recent recommendation report.

Profiler recommendations

-

Reviewer recommendations

-

Lines of code metered

1k

Pull requests

5

Associated repositories (4)

Most recently updated repositories

Associate repository

Repository name	Status	Source	Last updated
snarkdown	Associated	GitHub	2020/12/04
Publish-Newsletter	Associated	GitHub	2020/12/04
clicktracker	Associated	GitHub	2020/12/04
nextweekinaws	Associated	GitHub	2020/12/04

One final note: if I weren't in the 90 day trial period, I would have paid [@awscloud](#) \$5 to tell me nothing at all via this experiment.

Full Repository Analysis

Beyond free tier

\$0.50 per 100 lines of code analyzed for the first 1,500,000 lines of code per month

Beyond 1,500,000 lines of code per month

\$0.40 per 100 lines of code analyzed

Oh, and even the pep8 linter has Some Thoughts on my shit tier code.

```
You should consider upgrading via the 'pip install --upgrade pip'
(.venv) cquinn@armbox master !1 ~/src/build % pycodestyle *.py
generate.py:17:60: E231 missing whitespace after ','
generate.py:22:67: E231 missing whitespace after ','
generate.py:48:80: E501 line too long (100 > 79 characters)
generate.py:85:5: E722 do not use bare 'except'
generate.py:133:5: E722 do not use bare 'except'
generate.py:155:80: E501 line too long (85 > 79 characters)
lockitin.py:32:9: W291 trailing whitespace
lockitin.py:34:5: E722 do not use bare 'except'
sponsor.py:17:1: W293 blank line contains whitespace
(.venv) cquinn@armbox master !1 ~/src/build %
```