



# AWS CLOUD DEVOPS UDACITY NANODEGREE 2022-2023

AHMED ALSAWI

The screenshot shows a web browser window displaying a CircleCI pipeline run. The browser's address bar shows the URL: `app.circleci.com/pipelines/github/AhmedRAlsawi/cdond-c3-projectstarter/3/workflows/2cef7e49-9525-465a-b717-1754d6bc70c0/jobs/4`. The browser's tab bar shows several tabs, including "Pipelines - AhmedRA...", "build-backend (4) - Ah...", "build-backend (5) - Ah...", "build-backend (7) - Ah...", "test-backend (13) - Ah...", and "AhmedRAlsawi/cdond...". The browser's address bar also shows a search bar with the text "app.circleci.com/pipelines/github/AhmedRAlsawi/cdond-c3-projectstarter/3/workflows/2cef7e49-9525-465a-b717-1754d6bc70c0/jobs/4".

The CircleCI interface shows a sidebar on the left with the user profile "AhmedRAlsawi" and "Ahmed Alsawi". The sidebar contains links to "Dashboard", "Projects", "Insights", "Organization Settings", and "Plan". A notification banner at the bottom of the sidebar reads: "CI behind your firewall just got easier. A more scalable, container friendly self-hosted runner is now in open preview." Below the banner is a "Notifications" section.

The main content area displays a job titled "Back-end build" with a duration of "27s". The job's output is shown in a terminal window, displaying the following text:

```
28 run `npm audit fix` to fix them, or `npm audit` for details
29
30 > glee2@1.0.0 build /home/circleci/project/backend
31 > tsc
32
33 src/main.ts:31:21 - error TS1005: ',' expected.
34
35 31   .addBearerAuth({x // here is an intentional compile error. Remove the "x" and the backend should compile.
36
37
38 src/main.ts:32:5 - error TS1128: Declaration or statement expected.
39
40 32   .build();
41
42
43
44 Found 2 errors.
45
46 npm ERR! code ELIFECYCLE
47 npm ERR! errno 2
48 npm ERR! glee2@1.0.0 build: `tsc`
49 npm ERR! Exit status 2
50 npm ERR!
51 npm ERR! Failed at the glee2@1.0.0 build script.
52 npm ERR! This is probably not a problem with npm. There is likely additional logging output above.
53
54 npm ERR! A complete log of this run can be found in:
55 npm ERR!     /home/circleci/.npm/_logs/2022-09-21T23_36_25_115Z-debug.log
56
```

SCREENSHOT01 EXAMPLE

Pipelines - AhmedRAIsawi/cdond x build-backend (4) - AhmedRAIsa x test-backend (13) - AhmedRAIsa x AhmedRAIsawi/cdond-c3-projec x

app.circleci.com/pipelines/github/AhmedRAIsawi/cdond-c3-projectstarter/7/workflows/ff81d0c1-7229-4d86-bc73-bd489b9eead5/jobs/13

ItiUI Software Testing AWS CSS reference - CSS... font | CSS-Tricks Cloud July Cohort How Items Flow Int... W3Schools CSS alig... Ahmed Raafat Demo My API Settings —...

**AhmedRAIsawi**  
Ahmed Alsawi

- Dashboard
- Projects
- Insights
- Organization Settings
- Plan

CI behind your firewall just got easier

A more scalable, container friendly self-hosted runner is now in open preview

Notifications

### Run back-end

40s

```
275
276     33 |
277     34 |     // Assert
278     > 35 |     expect(employeeRepository.findById).toBeCalledWith(100);
279         |                                     ^
280     36 |     expect(employeeRepository.save).toBeCalled();
281     37 |   });
282     38 |   });
283
284   at src/modules/domain/employees/commands/handlers/employee-activator.handler.spec.ts:35:43
285   at fulfilled (src/modules/domain/employees/commands/handlers/employee-activator.handler.spec.ts:5:58)
286
287
288   Test Suites: 1 failed, 50 passed, 51 total
289   Tests:       1 failed, 78 passed, 79 total
290   Snapshots:   0 total
291   Time:        32.573s
292   Ran all test suites.
293   npm ERR! code ELIFECYCLE
294   npm ERR! errno 1
295   npm ERR! glee2@1.0.0 test: `jest --runInBand`
296   npm ERR! Exit status 1
297   npm ERR!
298   npm ERR! Failed at the glee2@1.0.0 test script.
299   npm ERR! This is probably not a problem with npm. There is likely additional logging output above.
300
301   npm ERR! A complete log of this run can be found in:
302   npm ERR!     /home/circleci/.npm/_logs/2022-09-21T23_56_57_771Z-debug.log
303
```

Windows taskbar: File Explorer, Chrome, VS Code, Telegram, WhatsApp, Discord, Spotify, Task View, Search, Start

System tray: Network, Volume, ENG, 2:10 AM

SCREENSHOT02 EXAMPLE

scan-backend (35) - AhmedRAlsa...AhmedRAlsa

AhmedRAlsa/cdond-c3-projec

app.circedi.com/pipelines/github/AhmedRAlsa/cdond-c3-projectstarter/11/workflows/d616f274-946b-4a0f-aa89-cdaa8d38959b/jobs/35

ItiUISoftware TestingAWSMCSS reference - CSS...font | CSS-TricksCloud July CohortHow Items Flow Int...W3Schools CSS align...Ahmed Raafat DemoMy API Settings —...

AhmedRAlsa

Ahmed Alsa

Dashboard

Projects

Insights

Organization Settings

Plan

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Notifications

Scan back-end dependencies53s

Manual Review

Some vulnerabilities require your attention to resolve

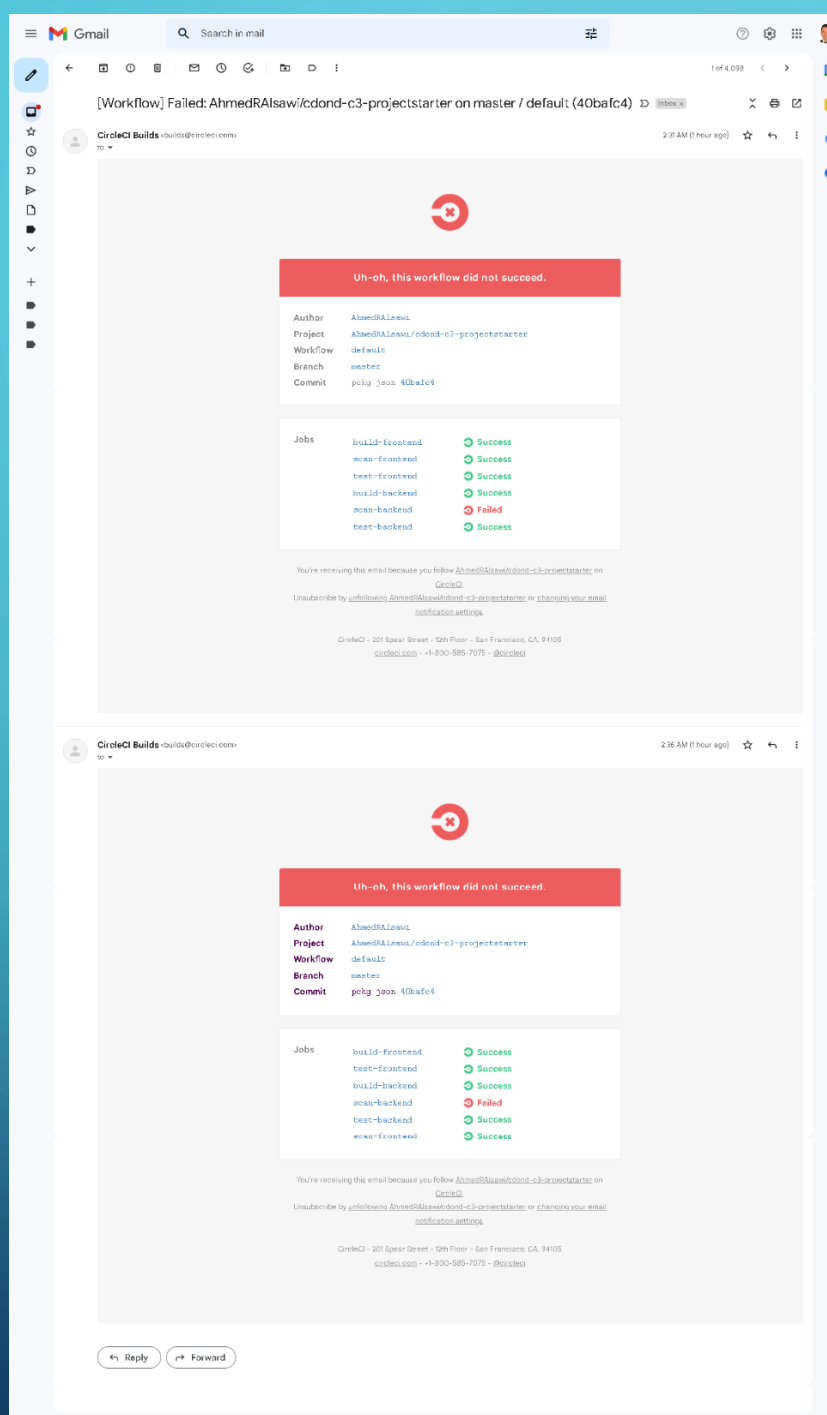
Visit <https://go.npm.me/audit-guide> for additional guidance

Critical	Prototype Pollution in minimist
Package	minimist
Patched in	>=1.2.6
Dependency of	@nestjs/platform-express
Path	@nestjs/platform-express > multer > mkdirp > minimist
More info	<a href="https://github.com/advisories/GHSA-xvch-5gv4-984h">https://github.com/advisories/GHSA-xvch-5gv4-984h</a>
Moderate	Prototype Pollution in minimist
Package	minimist
Patched in	>=0.2.1
Dependency of	@nestjs/platform-express

Windows taskbar with icons for Start, Search, Task View, Firefox, Chrome, VS Code, Telegram, and File Explorer.


System tray showing network, volume, and language (ENG) settings, along with the time 2:31 AM.

SCREENSHOT03 EXAMPLE



SCREENSHOT04 EXAMPLE

## SCREENSHOT06 EXAMPLE



**AhmedRalsawi**  
Ahmed Alsawi

Dashboard

Projects

Insights


Organization Settings

Plan



CI behind your firewall  
just got easier


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open preview

Notifications



▶  **Install dependencies**


2s



▶  **Backend smoke test.**

0s


 

▼  **Frontend smoke test.**



0s

```
1  #!/bin/sh -eo pipefail
2  URL="http://udapeople-${CIRCLE_WORKFLOW_ID:0:7}.s3-website-us-east-1.amazonaws.com/#/employees"
3  echo ${URL}
4  if curl -s ${URL} | grep "Welcome"
5  then
6      # Change this to 0 after the job fails
7      return 1
8  else
9      return 1
10 fi
11
12 http://udapeople-e3525f1.s3-website-*****.amazonaws.com/#/employees
13     Welcome
14
15 Exited with code exit status 1
16 CircleCI received exit code 1
```

▶  **Revert migrations**

0s

smoke-test (357) - AhmedRalsawi

CloudFormation - Stack udapeop

S3 Management Console

Instances | EC2 Management Con

+

app.circedi.com/pipelines/github/AhmedRalsawi/cdond-c3-projectstarter/74/workflows/e3525f12-44db-4524-b254-503302416f80/...

ItiUI Software Testing AWS CSS reference - CSS... font | CSS-Tricks Cloud July Cohort How Items Flow Int... W3Schools CSS align... Ahmed Raafat Demo My API Settings —...

Windows taskbar icons: File Explorer, Edge, Firefox, VS Code, Telegram, WhatsApp, Docker, etc.

System tray: Network, Volume, ENG, 11:47 PM

SCREENSHOT07 EXAMPLE

The screenshot shows a web browser window with multiple tabs. The active tab is a CircleCI pipeline job page for 'Update cloudfront distribution'. The left sidebar shows the user 'AhmedRAlsawi' and navigation links for Dashboard, Projects, Insights, Organization Settings, and Plan. The main content area displays the job's execution log, which includes shell commands for listing and deploying CloudFormation stacks, and a final success message.

cloudfront-update (377) - AhmedRAlsawi | CloudFormation - Stack | S3 Management Console | Instances | EC2 Management Console

app.circleci.com/pipelines/github/AhmedRAlsawi/cdond-c3-projectstarter/78/workflows/91f4a924-4ae7-42cf-aa5d-9cfdbfa9d784/job...

ItiUi | Software Testing | AWS | CSS reference - CSS... | font | CSS-Tricks | Cloud July Cohort | How Items Flow Int... | W3Schools CSS align... | Ahmed Raafat Demo | My API Settings —...

AhmedRAlsawi  
Ahmed Alsawi

Dashboard  
Projects  
Insights  
Organization Settings  
Plan

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Notifications


Update cloudfront distribution 4m 13s

```
1 #!/bin/bash -eo pipefail
2 # your code here
3 export OldWorkflowID=$(aws cloudformation list-exports \
4 --query "Exports[?Name=='WorkflowID'].Value" \
5 --no-paginate --output text)
6 echo $OldWorkflowID >> ~/OldWorkflowID.txt
7 cat ~/OldWorkflowID.txt
8 aws cloudformation deploy \
9 --template-file .circleci/files/cloudfront.yml \
10 --stack-name InitialStack \
11 --parameter-overrides WorkflowID=${CIRCLE_WORKFLOW_ID:0:7} \
12 --tags project=udapeople
13
14 echo $OldWorkflowID >> ~/OldWorkflowID.txt
15 cat ~/OldWorkflowID.txt
16
17 udapeople-236482386845
18
19 Waiting for changeset to be created..
20 Waiting for stack create/update to complete
21 Successfully created/updated stack - InitialStack
22 udapeople-236482386845
23 udapeople-236482386845
24 CircleCI received exit code 0
```

Windows taskbar: 12:33 AM, ENG, system icons.

SCREENSHOT08 EXAMPLE



**AhmedRalsawi**  
Ahmed Alsawi

Dashboard

Projects

Insights

Organization Settings

Plan

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open preview

Notifications

Get old stack workflow id and delete

```
1#!/bin/sh -eo pipefail
2
3export OldWorkflowID=$(aws cloudformation list-exports --query "Exports[?Name==`WorkflowID`].Value" --no-paginate --o
4echo OldWorkflowID: "${OldWorkflowID}"
5echo CIRCLE_WORKFLOW_ID "${CIRCLE_WORKFLOW_ID:0:7}"
6if [[ "${CIRCLE_WORKFLOW_ID:0:7}" != "${OldWorkflowID}" ]]
7then
8# your code goes here
9echo "Deleted"
10aws s3 rm "s3://udapeople-${OldWorkflowID}" --recursive
11aws cloudformation delete-stack --stack-name "udapeople-backend-${OldWorkflowID}"
12aws cloudformation delete-stack --stack-name "udapeople-frontend-${OldWorkflowID}"
13else
14echo "Not Deleted"
15fi
16
17OldWorkflowID: 5fccbe5
18CIRCLE_WORKFLOW_ID f80345f
19Deleted
20delete: s3://udapeople-5fccbe5/224b6d9d16679dab02826a2a7ea705eb.ttf
21delete: s3://udapeople-5fccbe5/2fa692cd55bfc83c228c0ab271e4388c.woff
22delete: s3://udapeople-5fccbe5/images/6ab15f4239b7d187935cf6f4ec3313bf-kiwi.svg
23delete: s3://udapeople-5fccbe5/1ceff9123b66b50a7d3cb5b221160855.eot
24delete: s3://udapeople-5fccbe5/index.html
25delete: s3://udapeople-5fccbe5/32f24c670adeaa388f7a.js
26delete: s3://udapeople-5fccbe5/bundle.js
27delete: s3://udapeople-5fccbe5/aa057573052e2700a756.js
28CircleCI received exit code 0
```

3s

SCREENSHOT09 EXAMPLE

Workflow - cdond-c3-projectstar x CloudFormation - Stack x S3 Management Console x +

app.circedi.com/pipelines/github/AhmedRAIsawi/cdond-c3-projectstarter/104/workflows/0a819a77-5cb8-4a57-8118-a62988e38f24

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AhmedRAIsawi Ahmed Alsawi

Dashboard Projects Insights Organization Settings Plan

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Notifications

Dashboard Project Branch Workflow

All Pipelines > cdond-c3-projectstarter > dev-branch > default

default Success

Insights Rerun ...

Duration / Finished	Branch	Commit	Author & Message
2m 8s / 34s ago	dev-branch	14e4166	only dev branch final trail

build-frontend 40s scan-frontend 1m 3s

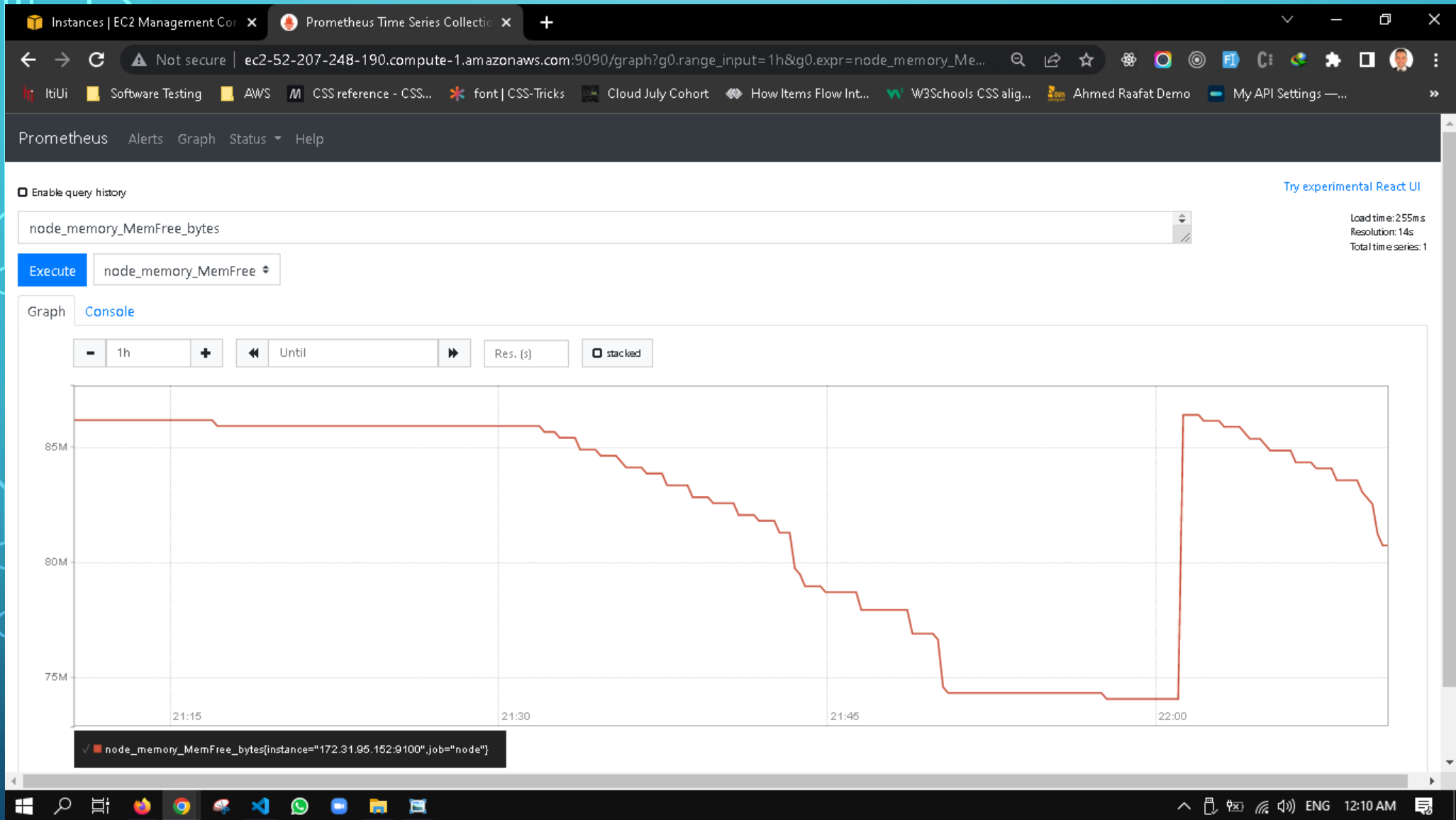
test-frontend 1m 22s

build-backend 33s scan-backend 1m 13s

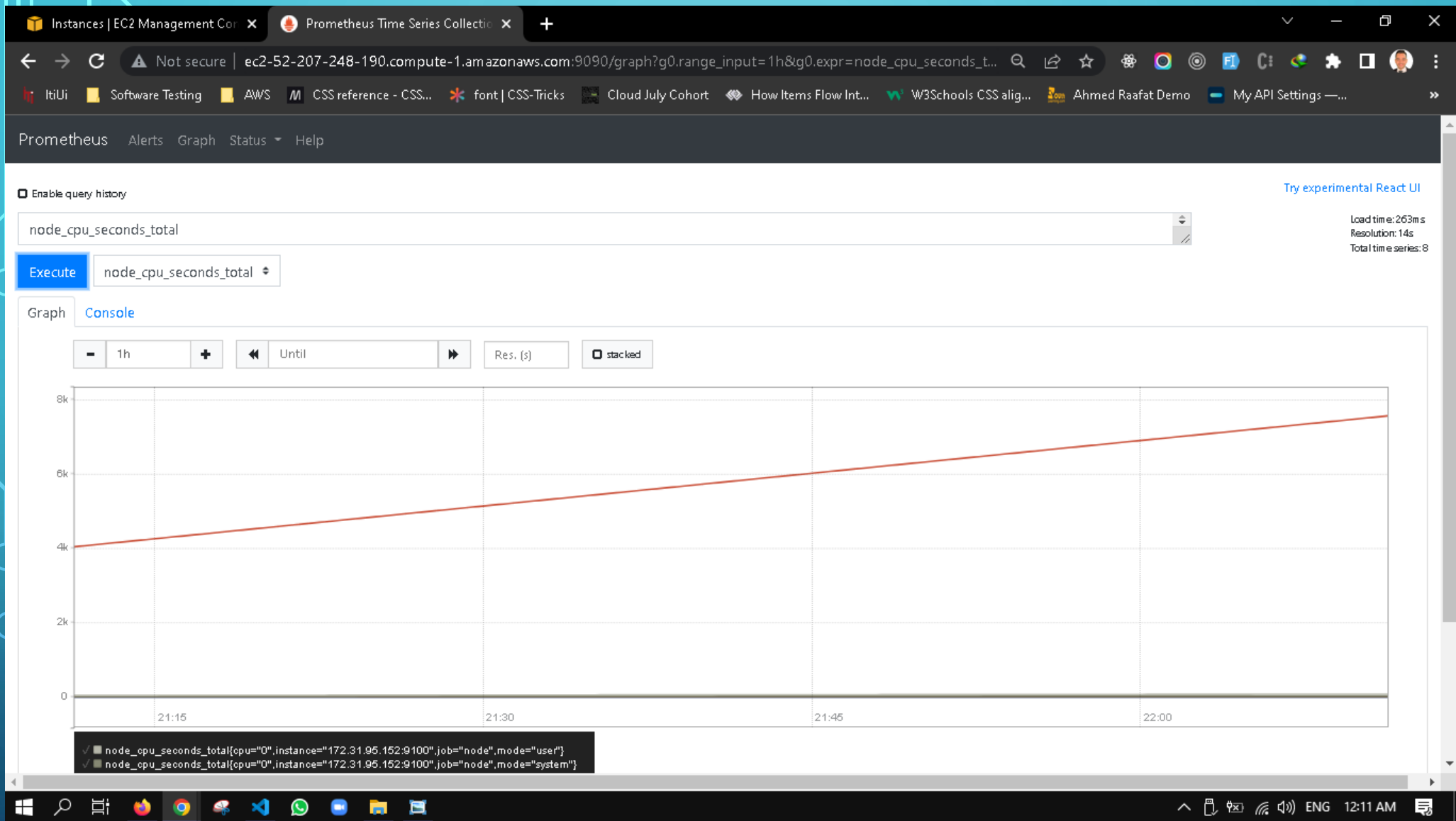
test-backend 1m 1s

Windows taskbar: Search, Task View, Firefox, Chrome, VS Code, WhatsApp, Telegram, File Explorer, System tray: Network, Volume, ENG, 3:06 AM

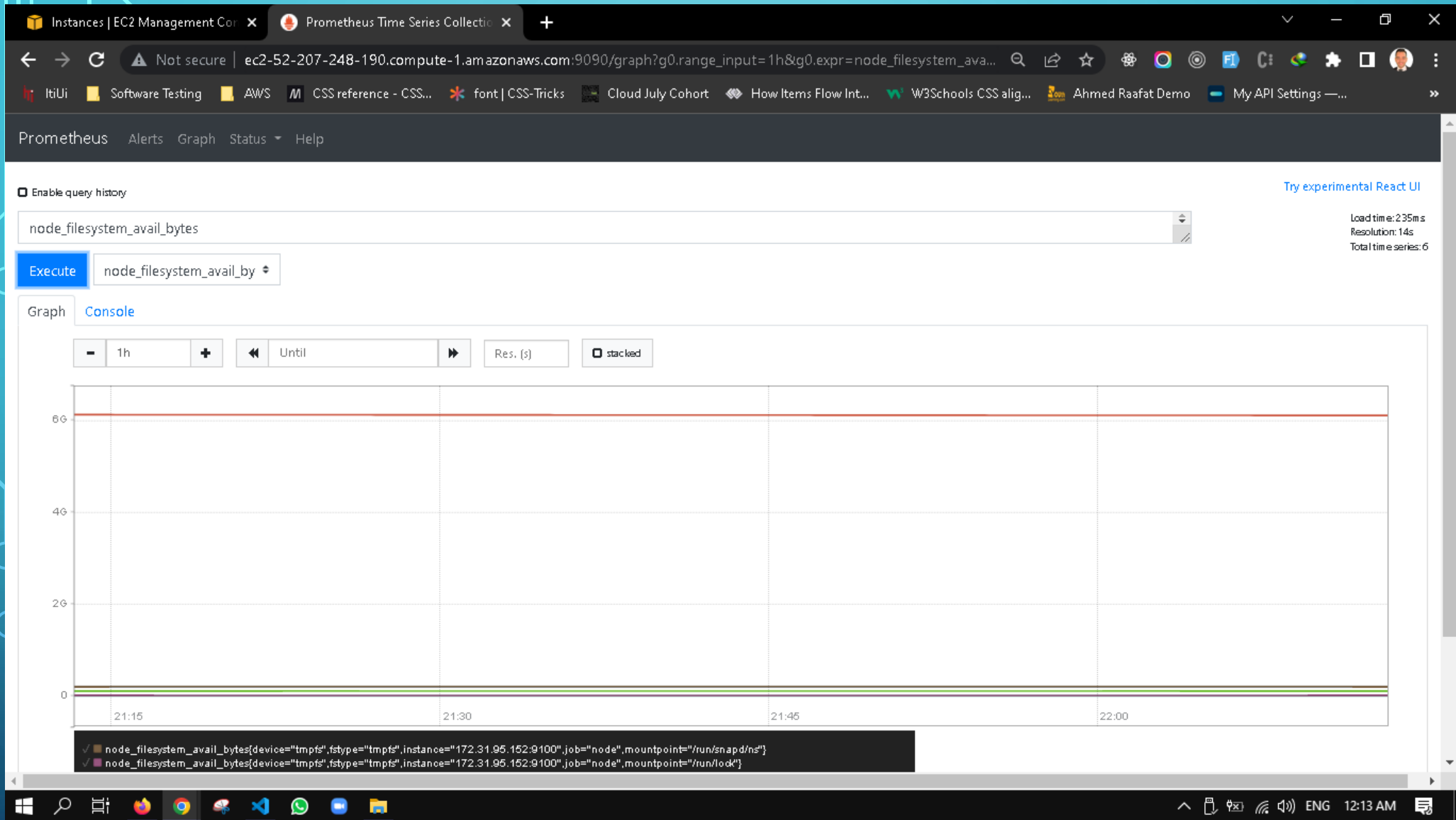
SCREENSHOT10 EXAMPLE



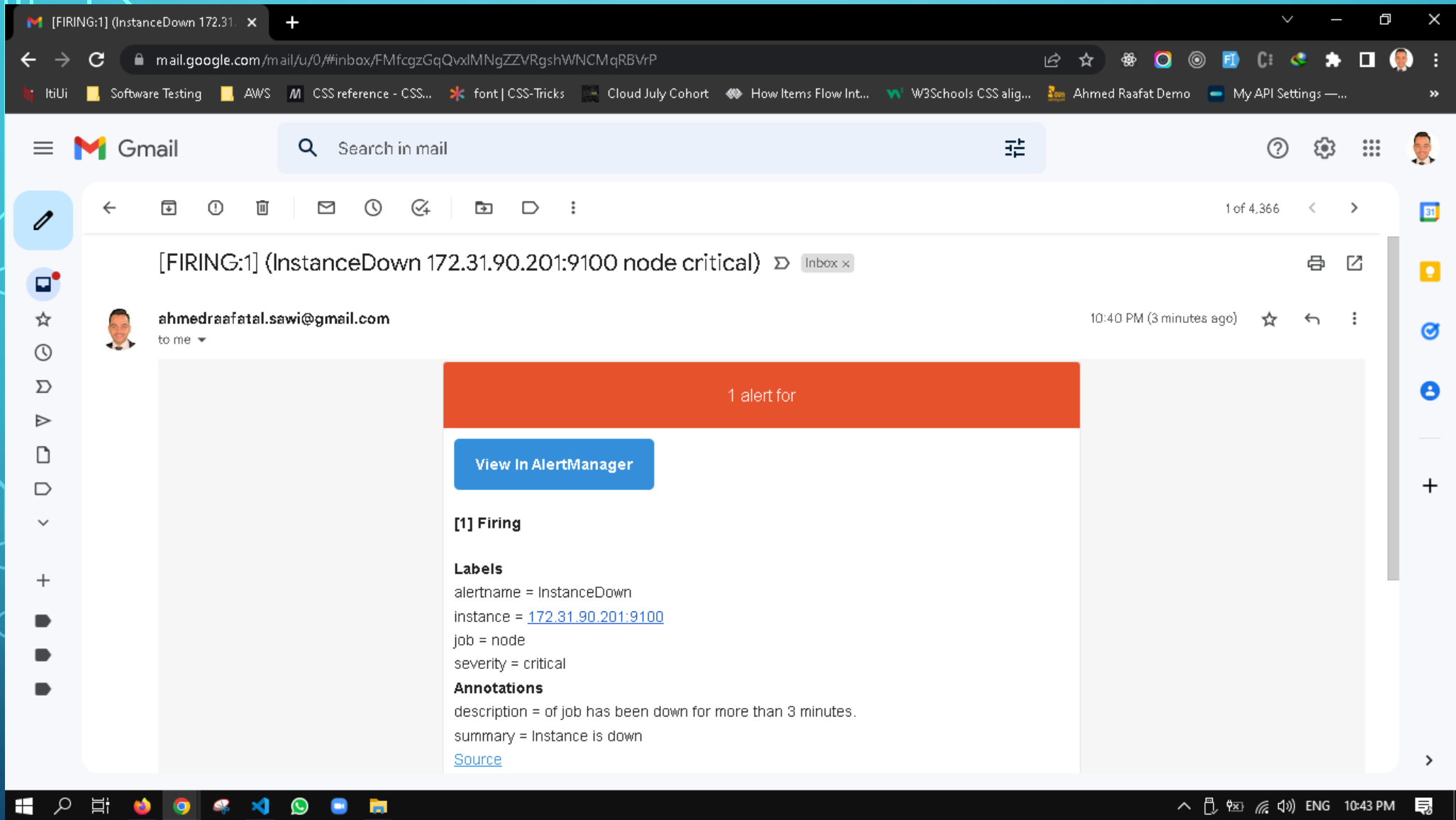
SCREENSHOT11 –A EXAMPLE



SCREENSHOT11-B EXAMPLE



SCREENSHOT11-C EXAMPLE



SCREENSHOT12 EXAMPLE

CloudFront x CloudFormation x S3 Management x RDS Management x Instances | EC2 M x Prometheus Time x Environment Vari x +

us-east-1.console.aws.amazon.com/cloudfront/v3/home?region=us-east-1#/distributions

ItiUi Software Testing AWS CSS reference - CSS... font | CSS-Tricks Cloud July Cohort How Items Flow Int... W3Schools CSS align... Ahmed Raafat Demo My API Settings —...

aws Services Search for services, features, blogs, docs, and more [Alt+S]

EC2 VPC Lambda S3 Elastic Beanstalk DynamoDB RDS CloudFront IAM Simple Queue Service Simple Notification Service Elastic Container Service CloudTrail

### CloudFront

- Distributions
- Policies
- Functions
- What's new **NEW**
- ▼ Telemetry
  - Monitoring
  - Alarms
  - Logs
- ▼ Reports & analytics
  - Cache statistics
  - Popular objects
  - Top referrers
  - Usage
  - Viewers

### CloudFront > Distributions

Distributions (1) Info

Search all distributions

<input type="checkbox"/>	ID	Descrip...	Domain name	Altern...	Origins	Status	Last
<input type="checkbox"/>	E3FYN5CZGI863L	-	d1gs36vi5voklz.cloudfront.net	-	udapeople-udape	✓ Enabled	Octo

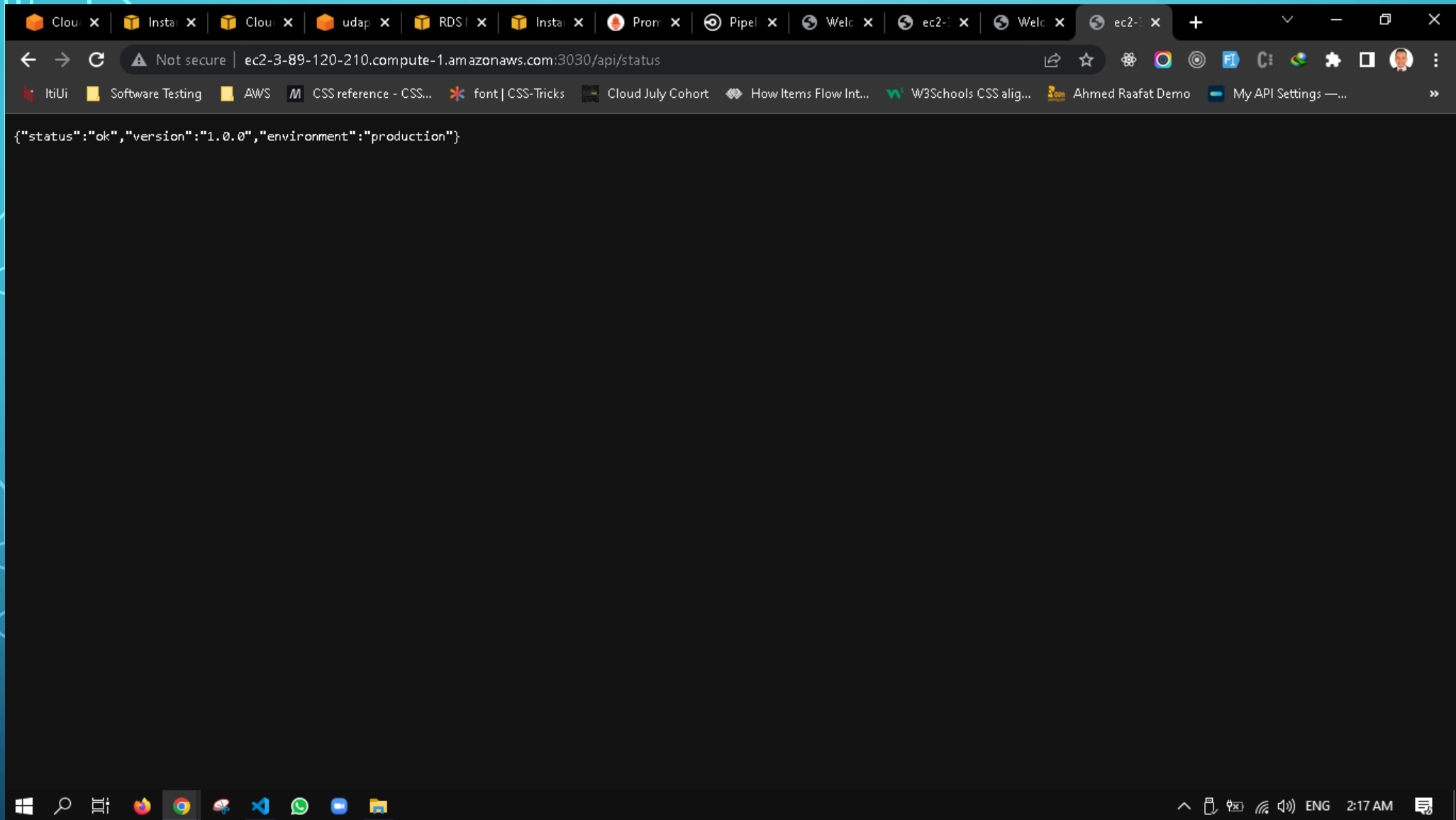
Feedback Looking for language selection? Find it in the new Unified Settings

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Windows taskbar: Search, File Explorer, Chrome, Edge, Teams, WhatsApp, Messenger, OneDrive, PowerPoint

System tray: Network, Volume, ENG, 1:36 AM

URL03\_SCREENSHOT



URL04\_SCREENSHOT



## Service Discovery

- prometheus (1/1 active targets)
- udapeople (1/1 active targets)

### prometheus [show less](#)

Discovered Labels	Target Labels
<code>__address__="localhost:9090"</code> <code>__metrics_path__="/metrics"</code> <code>__scheme__="http"</code> <code>job="prometheus"</code>	<code>instance="localhost:9090"</code> <code>job="prometheus"</code>

### udapeople [show less](#)

Discovered Labels	Target Labels
<code>__address__="172.31.93.149:9100"</code> <code>__meta_ec2_architecture="x86_64"</code> <code>__meta_ec2_availability_zone="us-east-1b"</code> <code>__meta_ec2_instance_id="i-0a06dbe21f2f79b14"</code> <code>__meta_ec2_instance_state="running"</code> <code>__meta_ec2_instance_type="t2.micro"</code> <code>__meta_ec2_owner_id="236482386845"</code> <code>__meta_ec2_primary_subnet_id="subnet-0765e6a4b2ece85e4"</code> <code>__meta_ec2_private_dns_name="ip-172-31-93-149.ec2.internal"</code> <code>__meta_ec2_private_ip="172.31.93.149"</code> <code>__meta_ec2_public_dns_name="ec2-3-89-120-210.compute-1.amazonaws.com"</code> <code>__meta_ec2_public_ip="3.89.120.210"</code> <code>__meta_ec2_subnet_id="subnet-0765e6a4b2ece85e4"</code> <code>__meta_ec2_tag_Name="backend-79101ab"</code> <code>__meta_ec2_tag_Project="Udapeople"</code> <code>__meta_ec2_tag_aws_cloudformation_logical_id="EC2Instance"</code> <code>__meta_ec2_tag_aws_cloudformation_stack_id="arnawscloudformation:us-east-1:236482386845:stack/udapeople-backend-79101ab/0e065140-4c1b-11ed-b072-0a7602c25c7d"</code> <code>__meta_ec2_tag_aws_cloudformation_stack_name="udapeople-backend-79101ab"</code> <code>__meta_ec2_vpc_id="vpc-0eed57605c226c79c"</code> <code>__metrics_path__="/metrics"</code> <code>__scheme__="http"</code> <code>job="udapeople"</code>	<code>instance="172.31.93.149:9100"</code> <code>job="udapeople"</code>