

1. Job failed because of compile errors. [SCREENSHOT01]

The screenshot shows the CircleCI web interface for a project named "Tinega-Devops". On the left, there's a sidebar with navigation links like Dashboard, Projects, Insights, Organization Settings, Plan, and a note about building behind a firewall. The main area shows a build step titled "Restoring cache" followed by "Back-end build". The build log output is displayed in a monospaced font:

```
26 found 641 vulnerabilities (2 low, 143 moderate, 371 high, 125 critical)
27 run `npm audit fix` to fix them, or `npm audit` for details
28
29 > glee2@1.0.0 build /home/circleci/project/backend
30 > tsc
31
32 src/main.ts:31:21 - error TS1005: ',' expected.
33
34 .addBearerAuth()x // here is an intentional compile error. Remove the "x" and the backend should compile.
35 ~
36
37 src/main.ts:32:5 - error TS1128: Declaration or statement expected.
38
39
40 .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/2022-07-25T00_33_44_227Z-debug.log
56
57
58 Exited with code exit status 2
```

2. Job failed because of unit tests. [SCREENSHOT02]

The screenshot shows the CircleCI web interface for the same project "Tinega-Devops". The sidebar and navigation are identical to Screenshot 01. The main area shows a build step titled "Checkout code" followed by "Run backend test". The build log output is displayed in a monospaced font:

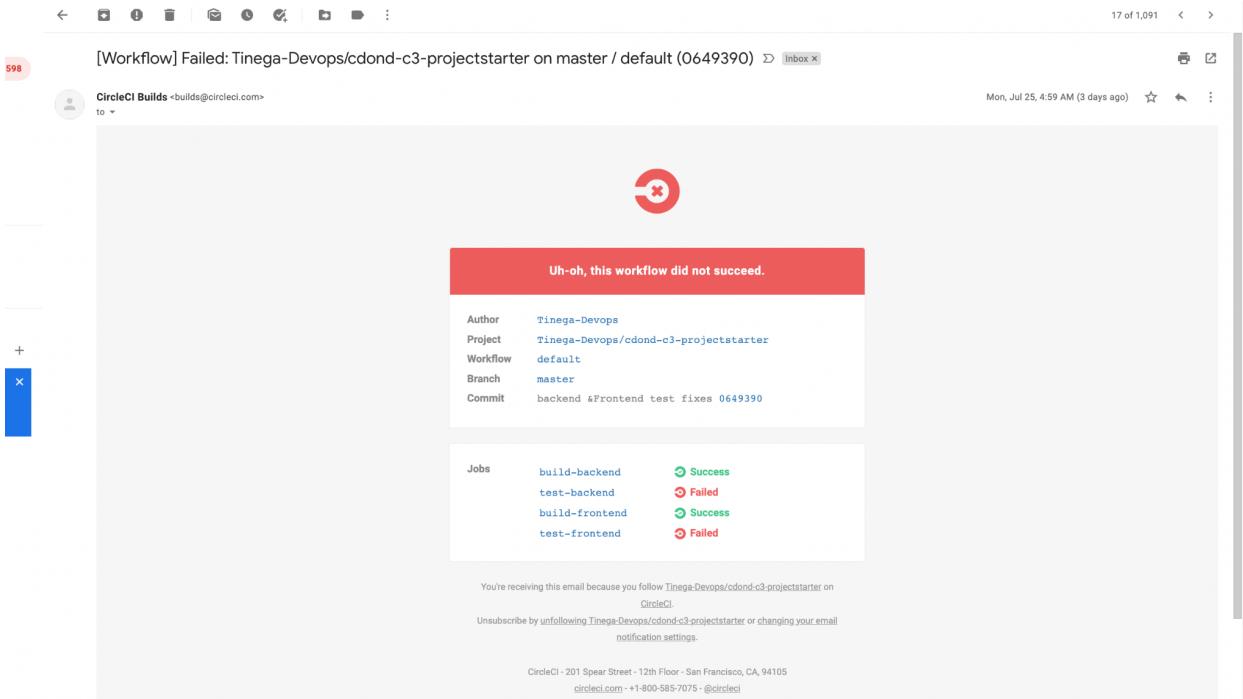
```
255 prisma/repo/prisma.yml
256 errors
257 error.filter.ts
258 status
259 status.controller.ts
260 status.module.ts
261 -----
262
263 Summary of all failing tests
264 FAIL src/modules/domain/employees/commands/handlers/employee-activator.handler.spec.ts
265   • Employee Remover > when a user activates an employee > should activate the employee from the repository
266
267     expect(jest.fn()).toBeCalledWith(...expected)
268
269     Expected: 100
270     Received: 101
271
272     Number of calls: 1
273
274       33 | 
275       34 |     // Assert
276       35 |     expect(employeeRepository.findById).toBeCalledWith(100);
277       |
278       36 |     expect(employeeRepository.save).toBeCalled();
279       37 |   });
280       38 | });
281
282     at src/modules/domain/employees/commands/handlers/employee-activator.handler.spec.ts:35:43
283     at fulfilled (src/modules/domain/employees/commands/handlers/employee-activator.handler.spec.ts:5:58)
284
285 Test Suites: 1 failed, 50 passed, 51 total
```

3. Job that failed because of vulnerable packages. [SCREENSHOT03]

The screenshot shows a CI/CD pipeline interface for a project named "Tinega-Devops". On the left, there's a sidebar with navigation links like Dashboard, Projects, Insights, Organization Settings, Plan, Notifications, Status (OPERATIONAL), Docs, Orbs, and Support. A prominent callout box in the sidebar says "Build behind a firewall" and "Install a self-hosted runner in 5 minutes or less." The main area displays two pipeline stages: "Restoring cache" (green checkmark) and "Run backend Scan" (red exclamation mark). The "Run backend Scan" stage has a status message: "Your output is too large to display in the browser. Only the last 400000 characters are displayed." Below this, a button says "Download the full output as a file". The output itself is a table listing vulnerabilities:

Line	Severity	Category	Description
5564	Moderate	Prototype Pollution	In Ajv
5565		Package	ajv
5566		Patched in	>=6.12.3
5567		Dependency of	winston-loggly-bulk
5568		Path	winston-loggly-bulk > node-loggly-bulk > request >
5569			har-validator > ajv
5570		More info	https://github.com/advisories/GHSA-v88g-cgmw-v5xw
5571	High	Crash in HeaderParser	In dicer
5572		Package	dicer
5573		Patched in	No patch available
5574		Dependency of	@nestjs/platform-express
5575		Path	@nestjs/platform-express > multer > busboy > dicer
5576		More info	https://github.com/advisories/GHSA-wm7h-9275-46v2
5577			
5578			
5579			
5580			
5581			
5582			
5583			
5584			
5585			
5586			
5587			
5588			

4. An alert from one of your failed builds. [SCREENSHOT04]



5. Appropriate job failure for infrastructure creation. [SCREENSHOT05]

The screenshot shows a CircleCI build log for the 'Tinega-Devops' organization. The sidebar includes links for Dashboard, Projects, Insights, Organization Settings, Plan, Notifications, Status (OPERATIONAL), Docs, Orbs, and Support.

The main area displays a list of build steps:

- Spin up environment (1s)
- Preparing environment variables (0s)
- Checkout code (0s)
- Install Dependencies (5s)
- Ensure back-end infrastructure exists (1m 12s)

The 'Ensure back-end infrastructure exists' step is expanded, showing the command run and its output:

```

1 #!/bin/bash -eo pipefail
2 aws cloudformation deploy \
3   --template-file .circleci/files/backend.yml \
4   --stack-name "udapeople-backend-${CIRCLE_WORKFLOW_ID:0:7}" \
5   --parameter-overrides ID="${CIRCLE_WORKFLOW_ID:0:7}" \
6   --tags project=udapeople
7
8
9 Waiting for changeset to be created..
10 Waiting for stack create/update to complete
11
12
13 Failed to create/update the stack. Run the following command
14 to fetch the list of events leading up to the failure
15 aws cloudformation describe-stack-events --stack-name udapeople-backend-3d48373
16
17 Exited with code exit status 255
18 CircleCI received exit code 255

```

6. Appropriate job failure for the smoke test job. [SCREENSHOT06]

The screenshot shows a CircleCI pipeline for the 'Tinega-Devops' organization. The pipeline consists of several steps:

- Checkout code (green checkmark)
- Install Node.js 13 (green checkmark)
- Install AWS cli (green checkmark)
- Backend smoke test (green checkmark)
- Frontend smoke test (red exclamation mark):
 - Contains a shell script with code to check if a frontend website contains "Welcome".
 - Logs show the script exiting with status 1.
 - Message: "Exited with code exit status 1"
 - Message: "CircleCI received exit code 1"
- Destroy environments (green checkmark)
- Revert migrations (green checkmark)

7. Successful rollback after a failed smoke test. [SCREENSHOT07]

The screenshot shows a CircleCI pipeline for the 'Tinega-Devops' organization. The pipeline includes the following steps:

- Frontend smoke test (red exclamation mark):
 - Contains a shell script with code to check if a frontend website contains "Welcome".
 - Logs show the script exiting with status 1.
 - Message: "Exited with code exit status 1"
 - Message: "CircleCI received exit code 1"
- Destroy environments (green checkmark):
 - Contains a shell script with commands to delete S3 objects and CloudFormation stacks.
 - Logs show the deletion of various files and stacks.
 - Message: "# Your code here"
 - Message: "aws s3 rm s3://udapeople-\$[CIRCLE_WORKFLOW_ID:0:7] --recursive"
 - Message: "aws cloudformation delete-stack --stack-name "udapeople-backend-\$[CIRCLE_WORKFLOW_ID:0:7]"
 - Message: "aws cloudformation delete-stack --stack-name "udapeople-frontend-\$[CIRCLE_WORKFLOW_ID:0:7]"
 - Message: "delete: s3://udapeople-131a4a1/1ceff9123b66b50a7d3cb5b22160855.eot"
 - Message: "delete: s3://udapeople-131a4a1/2fa692cd55bfc83c228c0ab271e4388c.woff"
 - Message: "delete: s3://udapeople-131a4a1/224b6d9d16679dab02826a2a7ea705eb.ttf"
 - Message: "delete: s3://udapeople-131a4a1/f148bb042eee8da41dd8.js"
 - Message: "delete: s3://udapeople-131a4a1/7d234c755f55c47d2c5a.js"
 - Message: "delete: s3://udapeople-131a4a1/bundle.js"
 - Message: "delete: s3://udapeople-131a4a1/images/6ab15f4239b7d187935cf6f4ec3313bf-kiwi.svg"
 - Message: "delete: s3://udapeople-131a4a1/index.html"

8. Successful promotion job. [SCREENSHOT08]

The screenshot shows a CircleCI workflow interface. At the top, there's a header with "Author & Message" and a user icon followed by the text "debugged frontend smoke test". Below the header is a navigation bar with tabs: STEPS (which is selected), TESTS, TIMING, ARTIFACTS, and RESOURCES. A "NEW" button is also visible. The main area displays a list of workflow steps:

- Spin up environment (1s)
- Preparing environment variables (0s)
- Checkout code (0s)
- Install dep / Save Old Workflow ID to kvdb.io (0s)
- Update cloudfont distribution (3m 42s)

The "Update cloudfont distribution" step is expanded, showing the following command and its execution log:

```
#!/bin/bash -eo pipefail
aws cloudformation deploy \
--template-file .circleci/files/cloudfont.yml \
--parameter-overrides WorkflowID="${CIRCLE_WORKFLOW_ID:0:7}" \
--stack-name InitialStack
```

Execution log (lines 7-11):

```
Waiting for changeset to be created..
Waiting for stack create/update to complete
Successfully created/updated stack - InitialStack
CircleCI received exit code 0
```

9. Successful cleanup job. [SCREENSHOT09]

```

#!/bin/bash -eo pipefail
export STACKS=$(aws cloudformation list-stacks \
    --query "StackSummaries[*].StackName" \
    --stack-status-filter CREATE_COMPLETE --no-paginate --output text)
echo Stack names: "${STACKS[@]}"
export OldWorkflowID=$(curl --insecure https://kvdb.io/MBGPvZf6Vk2h3Pb7TjmL9Y/old_workflow_id)
echo Old Workflow ID: $OldWorkflowID

```

Stack names: udapeople-frontend-7eb71e2 udapeople-backend-7eb71e2 udapeople-frontend-d4e69fa udapeople-backend-d4e69fa

% Total	% Received	% Xferd	Average Speed	Time	Time	Time	Current
100	7	100	7	0	0	60	0

Old Workflow ID: d4e69fa

CircleCI received exit code 0

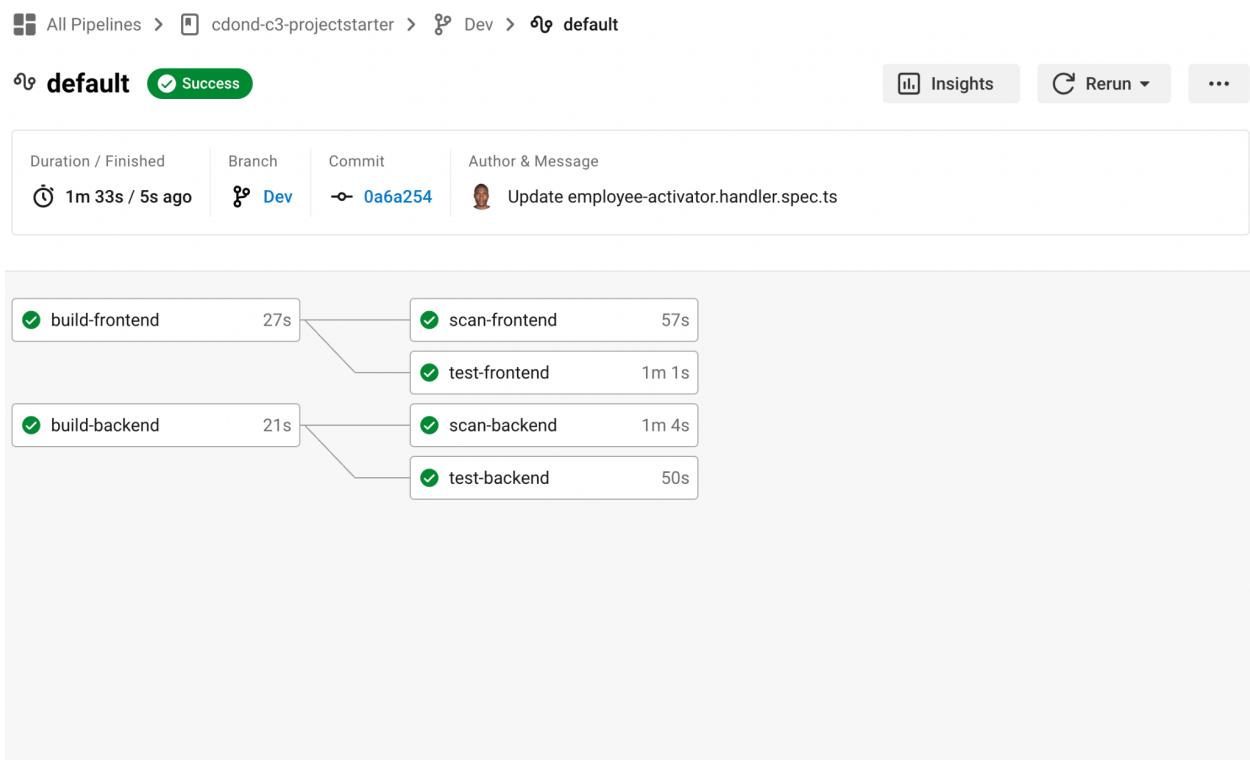

```

#!/bin/bash -eo pipefail
export OldWorkflowID=$(curl --insecure https://kvdb.io/MBGPvZf6Vk2h3Pb7TjmL9Y/old_workflow_id)
echo Old Workflow ID: $OldWorkflowID
if [[ "${STACKS[@]}" =~ "{$OldWorkflowID}" ]]
then
    aws s3 rm "s3://udapeople-${OldWorkflowID}" --recursive
    aws cloudformation delete-stack --stack-name "udapeople-backend-${OldWorkflowID}"
    aws cloudformation delete-stack --stack-name "udapeople-frontend-${OldWorkflowID}"
fi

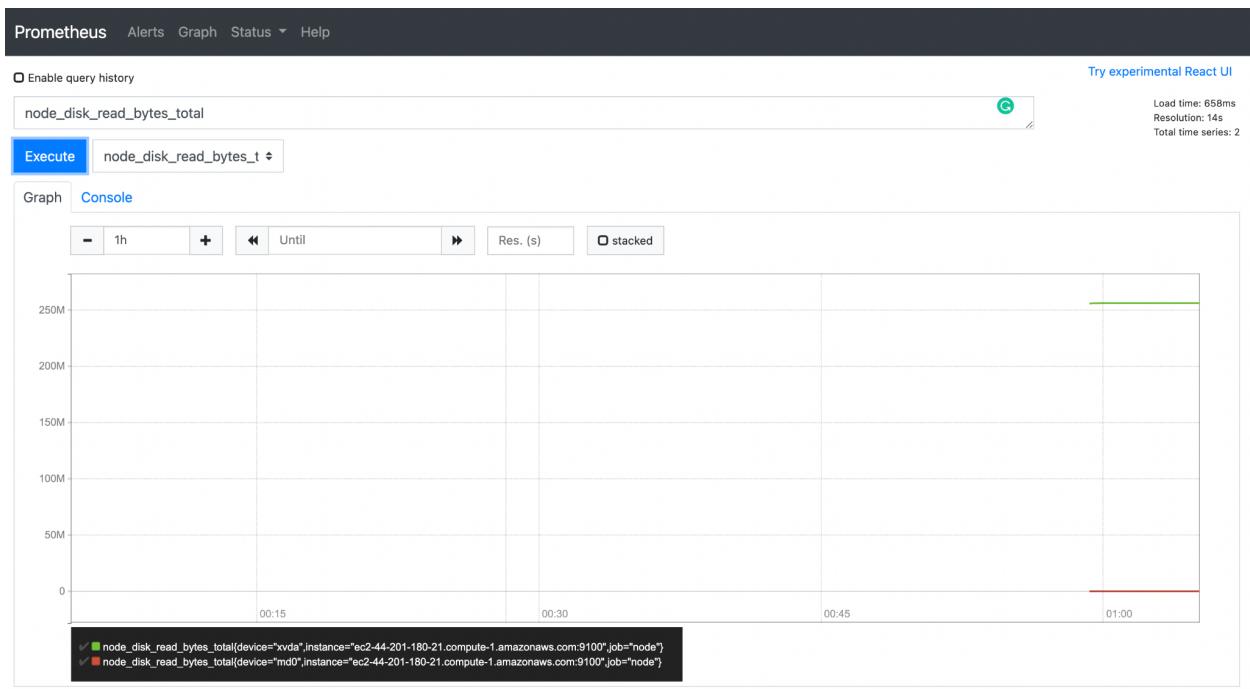
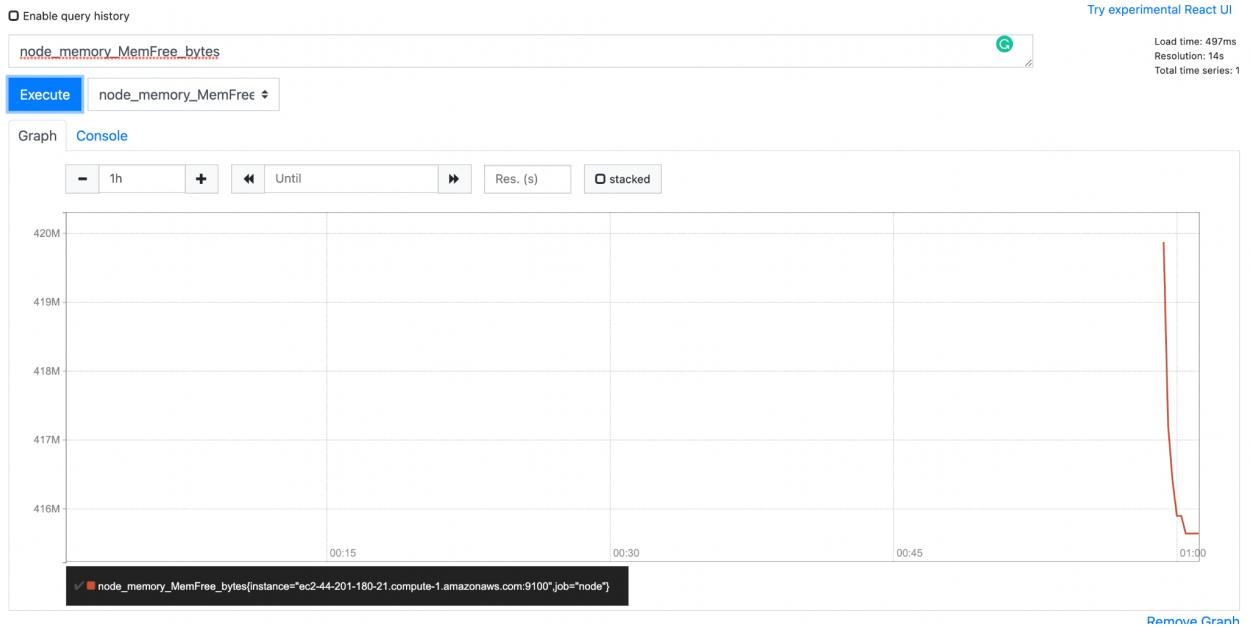
```

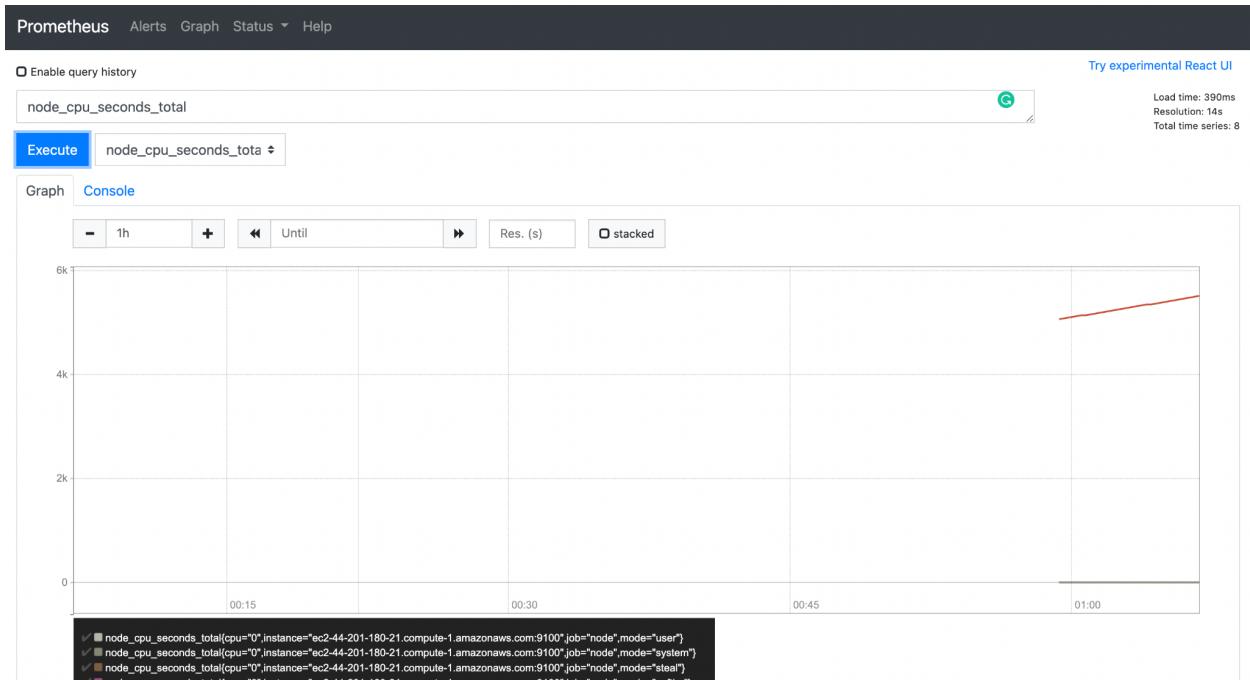
% Total	% Received	% Xferd	Average Speed	Time	Time	Time	Current
100	7	100	7	0	0	63	0

10. Only deploy on pushed to master branch. [SCREENSHOT10]



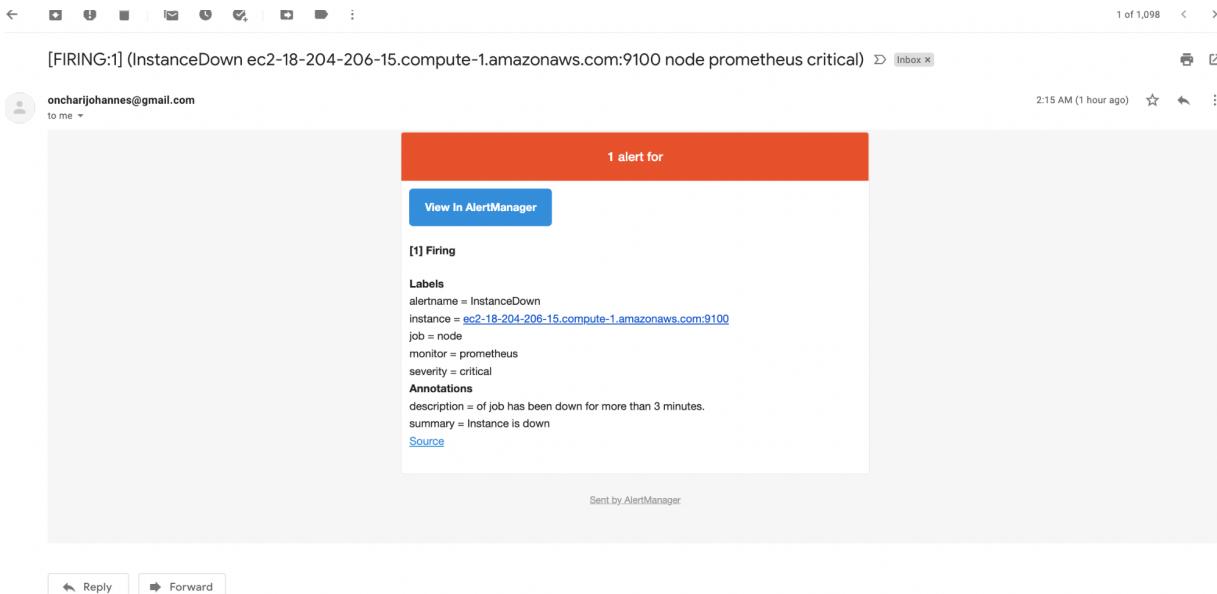
11. Provide a screenshot of a graph of your EC2 instance including available memory, available disk space, and CPU usage. [SCREENSHOT11]



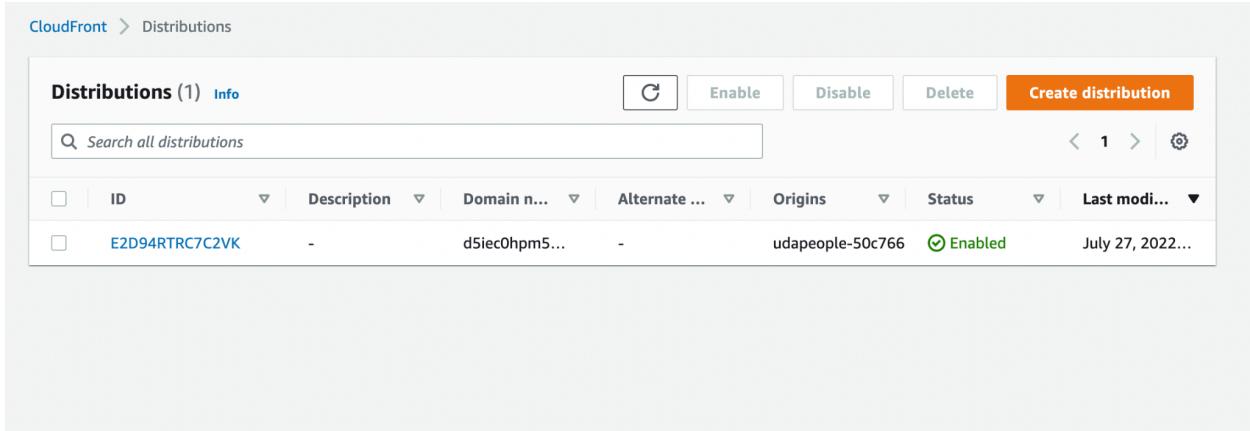


12. Provide a screenshot of an alert that was sent by Prometheus.

[SCREENSHOT12]



13. Provide a screenshot showing the evidence of deployed and functioning front-end application in CloudFront (aka, your production front-end).
[URL03_SCREENSHOT]



The screenshot shows the AWS CloudFront Distributions page. At the top, there is a breadcrumb navigation: CloudFront > Distributions. Below the breadcrumb, there is a search bar labeled "Search all distributions" and a row of buttons: "C" (Create), "Enable", "Disable", "Delete", and "Create distribution". A table below lists the distribution details:

ID	Description	Domain name	Alternate domain names	Origins	Status	Last modified
E2D94RTRC7C2VK	-	d5iec0hpm5...	-	udapeople-50c766	Enabled	July 27, 2022...

14. Provide a screenshot showing the evidence of a healthy backend application.
The backend endpoint status should show a healthy response.
[URL04_SCREENSHOT]

The screenshot shows a web browser window with the URL d5iec0hpm561h.cloudfront.net/#/employees. The page title is "View & Manage Employees". On the left, there is a sidebar with a "Employees" section containing "View & Manage" and "Add New" buttons. The main content area displays a table with columns: Display Name, Last Name, Email, Tags, Birthdate, Start Date, and Action. The table has two tabs at the top: "Active" (selected) and "Archived". A search bar with placeholder text "Type to filter..." and a magnifying glass icon is located above the table. The table itself is currently empty.

This screenshot shows the same web application after a new employee has been added. The URL has changed to [Not Secure | udapeople-d4e69fa.s3-website-us-east-1.amazonaws.com/#/employees](https://udapeople-d4e69fa.s3-website-us-east-1.amazonaws.com/#/employees). The main content area now displays a single row in the table:

Display Name	Last Name	Email	Tags	Birthdate	Start Date	Action
Tinega	Onchari	oncharijohannes@g...		7/26/2022	7/26/2022	⋮

15. Provide a screenshot of your Prometheus server showing UP state

[URL05_SCREENSHOT]

Not Secure | ec2-52-70-219-217.compute-1.amazonaws.com:9090/targets

Apps G help portal - Goog... Memory Manage... Chrome DevTools... Indexed Database... Keyboard Shortcut... Google JavaScript... w3schools - Goog... Other Bookmarks Update

Prometheus Alerts Graph Status Help

Targets

All Unhealthy

node (1/1 up) show less

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://ec2-44-201-180-21.compute-1.amazonaws.com:9100/metrics	UP	instance="ec2-44-201-180-21.compute-1.amazonaws.com:9100" job="node"	8.654s ago	14.95ms	

prometheus (1/1 up) show less

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://localhost:9090/metrics	UP	instance="localhost:9090" job="prometheus"	6.334s ago	5.453ms	