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Github Repository: <https://github.com/justgnoh/Task-B-CS3219>

Task B1

Running the API Locally

Enter working directory: `OTOT_Task_B`

Initial Install: `npm install`

Run commands in designated PSQL from `init.md`

Setup `.env`: Refer to `.env` example and populate with a local db connection

Run the API: `node index.js`

Proceed to test with Localhost endpoints

- GET /getAllUsers
- GET /getUser/:id
- POST /users/
- PUT /users/:id
- DELETE /users/:id

Calling API endpoints locally

B1 Local Endpoints / GET users

GET localhost:6969/getAllUsers Send

Params Authorization Headers (6) Body Pre-request Script Tests Settings Cookies

Query Params

KEY	VALUE	DESCRIPTION	...	Bulk Edit
Key	Value	Description		

Body Cookies Headers (6) Test Results 200 OK 76 ms 1.58 KB Save Response

Pretty Raw Preview Visualize JSON

```
1 {
2   {
3     "id": 1,
4     "name": "pine",
5     "email": "pine@gmail.com"
6   },
7   {
8     "id": 2,
9     "name": "Alice",
10    "email": "alice@gmail.com"
11  },
12  {
13    "id": 3,
14    "name": "Bob",
15    "email": "bob@gmail.com"
16  },
17 }
```

GET

localhost:6969/getUser/27

Send

ParamsAuthorizationHeaders (6)BodyPre-request ScriptTestsSettingsCookies

Query Params

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
	Key	Value	Description		

BodyCookiesHeaders (6)Test Results

200 OK29 ms263 BSave Response

PrettyRawPreviewVisualizeJSON

```
1 {
2   "id": 27,
3   "name": "mocha",
4   "email": "chai@gmail.com"
5 }
6
7
```

POST

localhost:6969/users

Send

ParamsAuthorizationHeaders (8)BodyPre-request ScriptTestsSettingsCookies

noneform-datax-www-form-urlencodedrawbinaryGraphQL

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
<input checked="" type="checkbox"/>	name	bacon			
<input checked="" type="checkbox"/>	email	bacon@gmail.com			

BodyCookiesHeaders (6)Test Results

201 Created83 ms219 BSave Response

PrettyRawPreviewVisualizeHTML

```
1 User added
```

PUTlocalhost:6969/users/5Send

ParamsAuthorizationHeaders (8)BodyPre-request ScriptTestsSettingsCookies

noneform-datax-www-form-urlencodedrawbinaryGraphQL

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
<input checked="" type="checkbox"/>	name	porky			
<input checked="" type="checkbox"/>	email	porky@gmail.com			
	Key	Value	Description		

BodyCookiesHeaders (6)Test Results200 OK23 ms229 BSave Response

PrettyRawPreviewVisualizeHTML

1 User modified with ID: 5

DELETElocalhost:6969/users/35Send

ParamsAuthorizationHeaders (6)BodyPre-request ScriptTestsSettingsCookies

noneform-datax-www-form-urlencodedrawbinaryGraphQL

This request does not have a body

BodyCookiesHeaders (6)Test Results200 OK54 ms229 BSave Response

PrettyRawPreviewVisualizeHTML

1 User deleted with ID: 35

[TaskB1.3] Edge Cases handled

POST /users

Description: Adds a user to the db

- Returns 400 if name is missing
- Returns 400 if email is missing

POST localhost:6969/users Send

Params Authorization Headers (8) **Body** Pre-request Script Tests Settings Cookies

none form-data x-www-form-urlencoded raw binary GraphQL

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
<input type="checkbox"/>	name	bacon			
<input checked="" type="checkbox"/>	email	bacon@gmail.com			

Body Cookies Headers (6) Test Results 400 Bad Request 18 ms 244 B Save Response

Pretty Raw Preview Visualize HTML

1 Bad Request. No name provided.

POST localhost:6969/users Send

Params Authorization Headers (8) **Body** Pre-request Script Tests Settings Cookies

none form-data x-www-form-urlencoded raw binary GraphQL

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
<input checked="" type="checkbox"/>	name	bacon			
<input type="checkbox"/>	email	bacon@gmail.com			

Body Cookies Headers (6) Test Results 400 Bad Request 11 ms 245 B Save Response

Pretty Raw Preview Visualize HTML

1 Bad Request. No email provided.

PUT /users/:id

Description: Updates a user's data

- Returns 400 if parameter of id is not an integer
- Returns 400 if name is missing
- Returns 400 if email is missing

PUT

localhost:6969/users/a

Send

ParamsAuthorizationHeaders (8)BodyPre-request ScriptTestsSettingsCookies

none

form-data

x-www-form-urlencoded

raw

binary

GraphQL

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
<input checked="" type="checkbox"/>	name	porky			
<input checked="" type="checkbox"/>	email	porky@gmail.com			
	Key	Value	Description		

BodyCookiesHeaders (6)Test Results

400 Bad Request11 ms242 BSave Response

PrettyRawPreviewVisualizeHTML

1Bad Request. No ID provided.

PUT

localhost:6969/users/5

Send

ParamsAuthorizationHeaders (8)BodyPre-request ScriptTestsSettingsCookies

none

form-data

x-www-form-urlencoded

raw

binary

GraphQL

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
<input type="checkbox"/>	name	porky			
<input checked="" type="checkbox"/>	email	porky@gmail.com			
	Key	Value	Description		

BodyCookiesHeaders (6)Test Results

400 Bad Request7 ms244 BSave Response

PrettyRawPreviewVisualizeHTML

1Bad Request. No name provided.

PUT

localhost:6969/users/5

Send

Params

Authorization

Headers (8)

Body

Pre-request Script

Tests

Settings

Cookies

none

form-data

x-www-form-urlencoded

raw

binary

GraphQL

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
<input checked="" type="checkbox"/>	name	porky			
<input type="checkbox"/>	email	porky@gmail.com			
	Key	Value	Description		

Body

Cookies

Headers (6)

Test Results

400 Bad Request

30 ms

245 B

Save Response

Pretty

Raw

Preview

Visualize

HTML

1 Bad Request. No email provided.

[TaskB1.2 & TaskB3] Access the Deployed API

Users may access the application via: **'justingnoh-cs3219-task-b.herokuapp.com'**

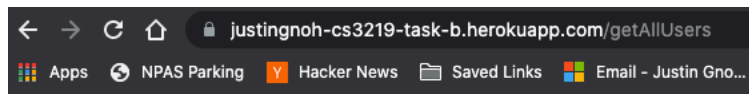
Simply use Postman or your browser to interact with the API with the appropriate routes.

Continuous Deployment with Travis

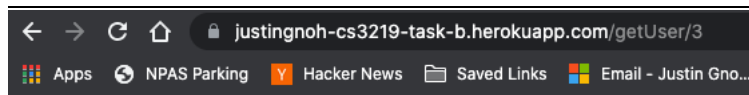
Travis log of continuous deployment. Observe that the app is deployed to Heroku through the travis build.

```
243 host: 'localhost',
244 database: 'postgres',
245 password: 'postgres',
246 port: '5432'
247 }
248 App running on port 6969.
249
250
251 Users
252 GET /getAllUsers
253 connected
254 Post Deployment Test
255 [ { now: 2021-11-11T08:53:54.554Z } ]
256 ✓ should get users
257 GET /getUser/:id
258 ✓ should get user with user id 1
259 POST /users
260 ✓ should post a user successfully
261 PUT /users/:id
262 ✓ should update a user successfully
263 DELETE /users/:id
264 ✓ should delete a user successfully
265 GET /users/:id
266 ✓ should get EMPTY user after deletion
267
268
269 6 passing (50ms)
270
271 The command "npm test" exited with 0.
272 store build cache
273
274 $ rm $(travis_internal_ruby) --fuzzy do ruby -S gem install dpl
275
276 Installing deploy dependencies
277 authentication succeeded
278 checking for app justingnoh-cs3219-task-b
279 found app justingnoh-cs3219-task-b
280 Preparing deploy
281 Deploying application
282 HEAD detached at 2627106
283 Changes not staged for commit:
284   (use "git add <file>..." to update what will be committed)
285   (use "git restore <file>..." to discard changes in working directory)
286     modified:   package-lock.json
287
288 no changes added to commit (use "git add" and/or "git commit -a")
289 Dropped refs/stash@{0} (573c745de1a2ea7fb7d6c8e41d65b9b2416468b8)
290
291 Done. Your build exited with 0.
```

The images below demonstrate access to the deployed API



```
{
  {
    "id": 1,
    "name": "Alice",
    "email": "alice@gmail.com"
  },
  {
    "id": 2,
    "name": "Bob",
    "email": "bob@gmail.com"
  },
  {
    "id": 3,
    "name": "Charly",
    "email": "charly@gmail.com"
  }
}
```



```
{
  {
    "id": 3,
    "name": "Charly",
    "email": "charly@gmail.com"
  }
}
```

POST

https://justingnoh-cs3219-task-b.herokuapp.com/users/

Send

Params

Authorization

Headers (8)

Body

Pre-request Script

Tests

Settings

Cookies

none

form-data

x-www-form-urlencoded

raw

binary

GraphQL

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
<input checked="" type="checkbox"/>	name	bacon			
<input checked="" type="checkbox"/>	email	bacon@gmail.com			
<input checked="" type="checkbox"/>	id	4			
	Key	Value	Description		

Body

Cookies

Headers (8)

Test Results

Status: 201 Created

Time: 287 ms

Size: 263 B

Save Response

Pretty

Raw

Preview

Visualize

HTML

1 User added with ID: 4

←

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↺

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🔒 justingnoh-cs3219-task-b.herokuapp.com/getAllUsers/

📱 Apps

📍 NPAS Parking

📰 Hacker News

🔖 Saved Links

📧 Email - Justin Gno...

▼

[

▼

{

"id": 1,

"name": "Alice",

"email": "alice@gmail.com"

},

▼

{

"id": 2,

"name": "Bob",

"email": "bob@gmail.com"

},

▼

{

"id": 3,

"name": "Charly",

"email": "charly@gmail.com"

},

▼

{

"id": 4,

"name": "bacon",

"email": "bacon@gmail.com"

}

]

}

PUT

https://justingnoh-cs3219-task-b.herokuapp.com/users/1

Send

Params

Authorization

Headers (8)

Body

Pre-request Script

Tests

Settings

Cookies

none

form-data

x-www-form-urlencoded

raw

binary

GraphQL

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
<input checked="" type="checkbox"/>	name	porky			
<input checked="" type="checkbox"/>	email	porky@gmail.com			
	Key	Value	Description		

Body

Cookies

Headers (8)

Test Results

Status: 200 OK

Time: 340 ms

Size: 261 B

Save Response

Pretty

Raw

Preview

Visualize

HTML

1 User modified with ID: 1

←

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justingnoh-cs3219-task-b.herokuapp.com/getAllUsers/

Apps

NPAS Parking

Hacker News

Saved Links

Email - Justin Gno...

```
[
  {
    "id": 1,
    "name": "porky",
    "email": "porky@gmail.com"
  },
  {
    "id": 2,
    "name": "Bob",
    "email": "bob@gmail.com"
  },
  {
    "id": 3,
    "name": "Charly",
    "email": "charly@gmail.com"
  },
  {
    "id": 4,
    "name": "bacon",
    "email": "bacon@gmail.com"
  }
]
```

DELETE ▼ <https://justingnoh-cs3219-task-b.herokuapp.com/users/4> Send ▼

Params Authorization Headers (6) Body Pre-request Script Tests Settings Cookies

Body Cookies Headers (8) Test Results 🔗 Status: 200 OK Time: 280 ms Size: 260 B Save Response ▼

Pretty Raw Preview Visualize HTML ▼ 🔍

1 User deleted with ID: 4

← → ↻ 🏠 justingnoh-cs3219-task-b.herokuapp.com/getAllUsers/

📱 Apps 🚗 NPAS Parking 📰 Hacker News 📁 Saved Links 🖨 Email - Justin Gno...

```
[
  {
    "id": 1,
    "name": "porky",
    "email": "porky@gmail.com"
  },
  {
    "id": 2,
    "name": "Bob",
    "email": "bob@gmail.com"
  },
  {
    "id": 3,
    "name": "Charly",
    "email": "charly@gmail.com"
  },
  {
    "id": 4,
    "name": "bacon",
    "email": "bacon@gmail.com"
  }
]
```

[TaskB2.1] Running Tests Locally

Assuming users have followed the instructions till this point, `npm install` will not be necessary anymore. If you are reading the report from here, do run the commands found at the start of the document.

To run tests locally, simply run the command `npm test`

```
+ cs3219-b2-travis git:(master) x npm test

> node-api-postgres@1.0.0 test /Users/justingnoh/OneDrive - National University of Singapore/Year 3 Sem 1/CS3219/cs3219-b2-travis
> mocha --require babel-register tests/*.js --exit

App running on port 6969.

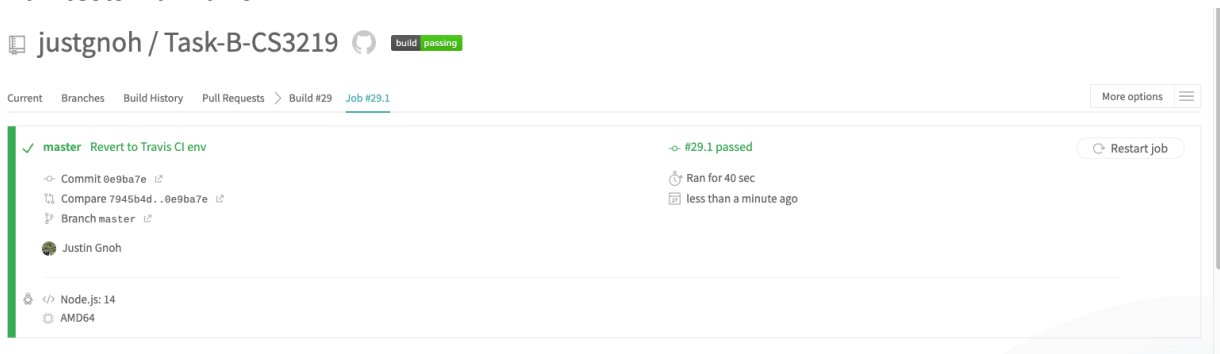
Users
connected
GET /beerstyles
[ { now: 2021-11-10T13:46:04.610Z } ]
  ✓ should get users (66ms)
GET /getAllUsers
  ✓ should get users
GET /getUser/:id
  ✓ should get user with user id 1
POST /users
  ✓ should post a user successfully (46ms)
PUT /users/:id
  ✓ should update a user successfully
DELETE /users/:id
  ✓ should update a user successfully

6 passing (440ms)
```

Observe that all the test cases pass.

[TaskB2.2] Running Tests via Travis

The images below demonstrates a successful build with Travis. More images of the build log are added to show that tests are successfully run within this Travis build, demonstrating the ability to run tests via Travis.



```

222
223 $ npm install
224
225 $ psql -c "CREATE TABLE users (id INTEGER PRIMARY KEY, name TEXT, email TEXT);" -U postgres
226 $ psql -c "INSERT INTO users VALUES (1, 'Alice', 'alice@gmail.com');" -U postgres
227 $ psql -c "INSERT INTO users VALUES (2, 'Bob', 'bob@gmail.com');" -U postgres
228 $ psql -c "INSERT INTO users VALUES (3, 'Charly', 'charly@gmail.com');" -U postgres
229 $ psql -c "select * from users;" -U postgres
230
231 $ npm test
232
233 > node-api-postgres@1.0.0 test /home/travis/build/justgnoh/Task-B-CS3219
234 > mocha --require babel-register tests/*.js --exit
235
236 {
237   user: 'postgres',
238   host: 'localhost',
239   database: 'postgres',
240   password: 'postgres',
241   port: '5432'
242 }
243 App running on port 6969.
244
245 Users
246 GET /getAllUsers
247 connected
248 [ { now: 2021-11-11T06:46:27.129Z } ]
249   ✓ should get users
250 GET /getUser/:id
251   ✓ should get user with user id 1
252 POST /users
253   ✓ should post a user successfully
254 PUT /users/:id
255   ✓ should update a user successfully
256 DELETE /users/:id
257   ✓ should delete a user successfully
258 GET /users/:id
259   ✓ should get EMPTY user after deletion
260
261 6 passing (53ms)
262
263 The command "npm test" exited with 0.
264 store build cache
265
266 Done. Your build exited with 0.

```

```

205
206 $ node --version
207 v14.18.1
208 $ npm --version
209 6.14.15
210 $ mvn --version
211 0.38.0
212
213 $ npm install
214
215 $ psql -c "create database api;" -U postgres
216 $ psql -c "CREATE USER justingnoh WITH PASSWORD 'justgnoh';" -U postgres -d api
217 $ psql -c "CREATE TABLE users (id INTEGER PRIMARY KEY, name TEXT, email TEXT);" -U postgres -d api
218 $ psql -c "INSERT INTO users VALUES (1, 'Alice', 'alice@gmail.com');" -U postgres -d api
219 $ psql -c "INSERT INTO users VALUES (2, 'Bob', 'bob@gmail.com');" -U postgres -d api
220 $ psql -c "INSERT INTO users VALUES (3, 'Charly', 'charly@gmail.com');" -U postgres -d api
221 $ psql -c "select * from users;" -U postgres -d api
222 $ npm test
223
224 > node-api-postgres@1.0.0 test /home/travis/build/justgnoh/Task-B-CS3219
225 > mocha --require babel-register tests/*.js --exit
226
227 App running on port 6969.
228
229 Users
230 GET /getAllUsers
231 connected
232 [ { now: 2021-11-11T04:22:50.719Z } ]
233   ✓ should get users
234 GET /getUser/:id
235   ✓ should get user with user id 1
236 POST /users
237   ✓ should post a user successfully
238 PUT /users/:id
239   ✓ should update a user successfully
240 DELETE /users/:id
241   ✓ should delete a user successfully
242 GET /users/:id
243   ✓ should get EMPTY user after deletion
244
245 6 passing (52ms)
246
247 The command "npm test" exited with 0.
248 store build cache
249
250 Done. Your build exited with 0.

```

[Task B4] Setup Frontend

1. Enter the working directory: ``cd frontend/``
2. Enter the command ``npm install``
 - a. This command installs all the necessary dependencies to run the app.
3. Enter the command ``npm start`` to start the frontend
 - a. Note: The frontend endpoints are configured to run with the deployed API.
4. The browser should open and link to ``localhost:3000``
5. If the browser does not open automatically, type in ``localhost:3000`` into your web browser to access the app.

Description

This application has 5 buttons linked up to the 5 api endpoints. The Request card on the left allows users to take in request bodies and upon clicking on the button, the result will show up in the Result card on the right.

Home Page

Task B

Get All User's Names

Get user's name by id

Create new user

Update user details

Delete user

Request

id User id

name User's Name

email User email

When you are done, click on one of the buttons above to get the data

Result

Request results show up here

Get all user names

Task B

Get All User's Names

Get user's name by id

Create new user

Update user details

Delete user

Request

id User id

name User's Name

email User email

When you are done, click on one of the
buttons above to get the data

Result

porky Bob Charly bacon testt

Get the name of a specified user id

Task B

Get All User's Names

Get user's name by id

Create new user

Update user details

Delete user

Request

id1

nameUser's Name

emailUser email

When you are done, click on one of the buttons above to get the data

Result

porky

Error is shown with missing id

Task B

Get All User's Names

Get user's name by id

Create new user

Update user details

Delete user

Request

idUser id

nameUser's Name

emailUser email

When you are done, click on one of the buttons above to get the data

Result

Please check if you have input valid id.

Adding a new user

Task B

Get All User's NamesGet user's name by idCreate new userUpdate user detailsDelete user

Request

id

6

name

new user

email

newuser@gmail.com

When you are done, click on one of the buttons above to get the data

Result

User added with ID: 6

Adding user with missing body will result in an error

Task B

Get All User's NamesGet user's name by idCreate new userUpdate user detailsDelete user

Request

id

User id

name

new user

email

newuser@gmail.com

When you are done, click on one of the buttons above to get the data

Result

Please check if you have input valid id, name & email.

Updating a user

Task B

Get All User's Names

Get user's name by id

Create new user

Update user details

Delete user

Request

id6

nameold user

emailnewuser@gmail.com

When you are done, click on one of the buttons above to get the data

Result

User modified with ID: 6

Deleting a user

Task B

Get All User's Names

Get user's name by id

Create new user

Update user details

Delete user

Request

id6

nameUser's Name

emailUser email

When you are done, click on one of the buttons above to get the data

Result

User deleted with ID: 6

Important Learning

Heroku Deployment

- Create a Procfile
- Connect Postgres Addon via DATABASE_URL
- Use process.env.PORT

Travis CD

- Requires Travis CLI
- Requires Heroku CLI
- Get AuthToken from Heroku & Encrypt with Travis. It will automatically add it to the travis.yml script

<https://devcenter.heroku.com/articles/getting-started-with-nodejs?singlepage=true#define-a-procfile>

Pre continuous deployment with Travis

```
2021-11-11T08:43:59.000000+00:00 app[api]: Build succeeded
2021-11-11T08:44:00.644381+00:00 heroku[web.1]: Starting process with command `npm start`
2021-11-11T08:44:02.769059+00:00 app[web.1]:
2021-11-11T08:44:02.769072+00:00 app[web.1]: > node-api-postgres@1.0.0 start /app
2021-11-11T08:44:02.769073+00:00 app[web.1]: > node index.js
2021-11-11T08:44:02.769073+00:00 app[web.1]:
2021-11-11T08:44:02.935325+00:00 app[web.1]: postgres://clqxmxyerrewi:1560afb1ff1519d58f47852d9275185f42d06c32e65f25b5bb8633f5e52d14b8@ec2-44-194-232-228.compute-1.amazonaws.com:5432/dc5ke3hjham0or
2021-11-11T08:44:02.952132+00:00 app[web.1]: App running on port 27303.
2021-11-11T08:44:02.981768+00:00 app[web.1]: connected
2021-11-11T08:44:03.395421+00:00 heroku[web.1]: State changed from starting to up
2021-11-11T08:44:03.700883+00:00 app[web.1]: [ { now: 2021-11-11T08:44:02.982Z } ]
2021-11-11T08:44:03.700883+00:00 app[web.1]: [ { now: 2021-11-11T08:44:02.982Z } ]
```

Post continuous deployment with Travis

Observe the new logging statement below (4th line from bottom): Post Deployment Test

```
heroku logs --tail --app justingnoh-cs3219-task-b
2021-11-11T08:44:02.952132+00:00 app[web.1]: App running on port 27303.
2021-11-11T08:44:02.981768+00:00 app[web.1]: connected
2021-11-11T08:44:03.395421+00:00 heroku[web.1]: State changed from starting to up
2021-11-11T08:44:03.700883+00:00 app[web.1]: [ { now: 2021-11-11T08:44:02.982Z } ]
2021-11-11T08:54:04.000000+00:00 app[api]: Build started by user justingnoh@gmail.com
2021-11-11T08:54:25.956138+00:00 heroku[web.1]: Restarting
2021-11-11T08:54:26.015342+00:00 heroku[web.1]: State changed from up to starting
2021-11-11T08:54:26.723337+00:00 heroku[web.1]: Stopping all processes with SIGTERM
2021-11-11T08:54:27.005834+00:00 heroku[web.1]: Process exited with status 143
2021-11-11T08:54:25.696799+00:00 app[api]: Release v21 created by user justingnoh@gmail.com
2021-11-11T08:54:25.696799+00:00 app[api]: Deploy 26271064 by user justingnoh@gmail.com
2021-11-11T08:54:28.274833+00:00 heroku[web.1]: Starting process with command `npm start`
2021-11-11T08:54:26.000000+00:00 app[api]: Build succeeded
2021-11-11T08:54:29.937056+00:00 app[web.1]:
2021-11-11T08:54:29.937070+00:00 app[web.1]: > node-api-postgres@1.0.0 start /app
2021-11-11T08:54:29.937071+00:00 app[web.1]: > node index.js
2021-11-11T08:54:29.937071+00:00 app[web.1]:
2021-11-11T08:54:30.103997+00:00 app[web.1]: postgres://clqxmxyerrewi:1560afb1ff1519d58f47852d9275185f42d06c32e65f25b5bb8633f5e52d14b8@ec2-44-194-232-228.compute-1.amazonaws.com:5432/dc5ke3hjham0or
2021-11-11T08:54:30.116763+00:00 app[web.1]: App running on port 27246.
2021-11-11T08:54:30.154999+00:00 app[web.1]: connected
2021-11-11T08:54:30.155076+00:00 app[web.1]: Post Deployment Test
2021-11-11T08:54:30.318703+00:00 heroku[web.1]: State changed from starting to up
2021-11-11T08:54:30.227436+00:00 app[web.1]: [ { now: 2021-11-11T08:54:30.158Z } ]
```