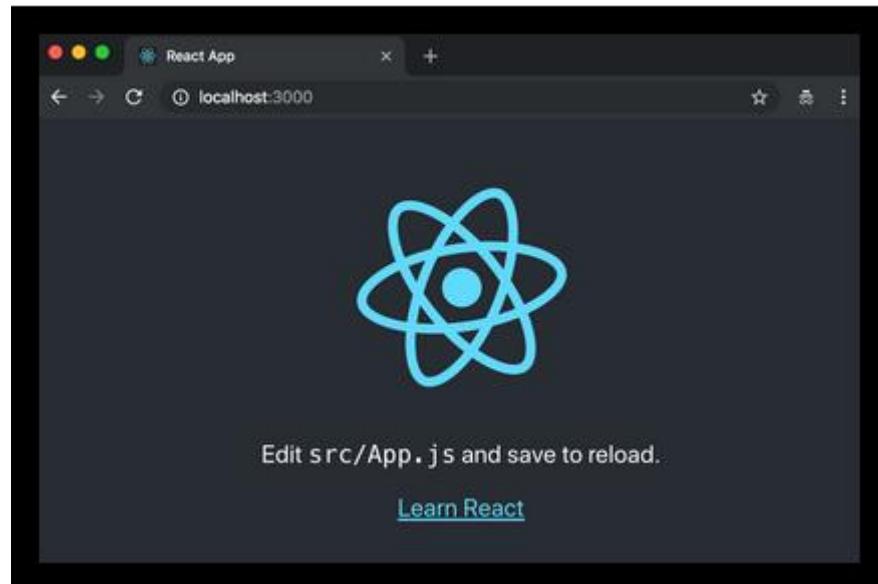


Chapter 01: Taking your first steps with React



```
console.log(isPalindrome(123)) // Argument of type 'number' is not assignable to parameter of type 'string'. ts(2345)
console.log(isPalindrome("123"))
console.log(isPalindrome("123321")) Peek Problem (⌞F8) No quick fixes available
console.log(isPalindrome([10])) // TS Error
console.log(isPalindrome(true)) // TS Error
console.log(isPalindrome(false)) // TS Error
```

```
type User = {
  username: string
  email: string
  name: string
  age: number
}
we ac const user: User
}   Property 'age' is missing in type '{ username: string; email: string; name: string; website: string; active: true; }' but required in type 'User'. ts(2741)
    user.ts(19, 5): 'age' is declared here.
    Peek Problem (⌞F8) No quick fixes available
const user: User = {
  username: 'czantany',
  email: 'carlos@milksoft.com',
  name: 'Carlos Santana',
  website: 'http://www.js.education',
  active: true
}
```

```
// You can't implement a union type
type TWork2 = { company: string; position: string } | { name: string; age: number }

class Person3 implements TWork2 {
  company: 'Google'
  position: 'Senior Softw
}

type TWork2 = {
  company: string;
  position: string;
} | {
  name: string;
  age: number;
}

A class can only implement an object type or intersection of object types with statically
known members. ts(2422)
Peek Problem (⌘F8) No quick fixes available
```

Chapter 02: Cleaning Up Your Code

The image shows the top navigation bar of the React.js official website. It includes the React logo, links for 'Docs', 'Tutorial', 'Blog', and 'Community', a search bar with the placeholder 'Search', and a version indicator 'v17.0.2'. There are also links for 'Languages' and 'GitHub'.

A Simple Component

React components implement a `render()` method that takes input data and returns what to display. This example uses an XML-like syntax called JSX. Input data that is passed into the component can be accessed by `render()` via `this.props`.

JSX is optional and not required to use React. Try the [Babel REPL](#) to see the raw JavaScript code produced by the JSX compilation step.

A screenshot of the 'LIVE JSX EDITOR' tool. On the left, the JSX code for a 'HelloMessage' component is shown. It contains a class definition with a render method that outputs a single-line JSX string. Below that is a call to ReactDOM.render with the component and a target element. On the right, under the 'RESULT' tab, the output is displayed as 'Hello Taylor'. A 'JSX?' checkbox is checked at the top right of the editor area.

A screenshot of the Prettier extension page on the Visual Studio Code Marketplace. The extension has over 9,000 reviews and a 5-star rating. It is described as a 'Code formatter using prettier'. A 'Reload Required' button and an 'Install' button are visible. A note at the bottom says 'Please reload Visual Studio Code to complete the uninstallation of this extension.' and 'Please reload Visual Studio Code to complete the uninstallation of this extension.'

A screenshot of the VS Code settings interface. The title bar says 'Settings'. The main area shows a 'Format on Save' configuration under the 'User' tab. It lists two settings: 'Text Editor (2)' and 'Formatting (2)'. Under 'Formatting (2)', there is a section for 'Editor: Format On Save' with a checked checkbox and a descriptive tooltip: 'Format a file on save. A formatter must be available, the file must not be saved after delay, and the editor must not be shutting down.'

Chapter 03: React Hooks

Counter: 1

+ Add - Subtract

Counter: -1

+ Add - Subtract

ContentPI Issues

- #99 [Fix Playground](#) open
- #97 [CPI-35 - Added Drag-n-Drop Functionality to sort fields](#) open
- #81 [Edit Reference Field](#) open
- #80 [Edit Dropdown Field](#) open
- #75 [Page for empty Content \(when you don't have any model\)](#) open
- #74 [Page for empty Schema \(create your first model\)](#) open
- #73 [Remove all any on ContentPI](#) open
- #71 [Remove all any in @contentpi/ui](#) open
- #69 [Create a Toast Alert](#) open
- #62 [Removing a reference field should also remove the reference and its values](#) open
- #61 [When a user removes a field we need to make sure we are removing all the related values first](#) open
- #60 [Validate that a model does not have content before delete it](#) open
- #52 [Add Italian Translations](#) open
- #51 [Add Deutsch Translation](#) open
- #50 [Add Chinese Translation](#) open
- #49 [Add French Translations](#) open
- #48 [Settings: User profile](#) open
- #47 [Settings: Analytics \(Limits\)](#) open
- #46 [Settings: Stages \(Environments\)](#) open
- #45 [Settings: Teams](#) open
- #44 [Settings: Create roles for users](#) open
- #43 [Settings: Users page \(list all registered users\)](#) open
- #42 [Settings: Danger Zone page to delete an Application](#) open
- #41 [Add Settings page](#) open
- #40 [Remove Publish and Unpublish options for I18n entries, just Delete option should be there](#) open
- #39 [Edit I18n entry](#) open
- #38 [Create new I18n entry](#) open
- #35 [Order fields by drag and drop](#) open
- #28 [Fix Breadcrumbs](#) open
- #26 [Docker implementation](#) open



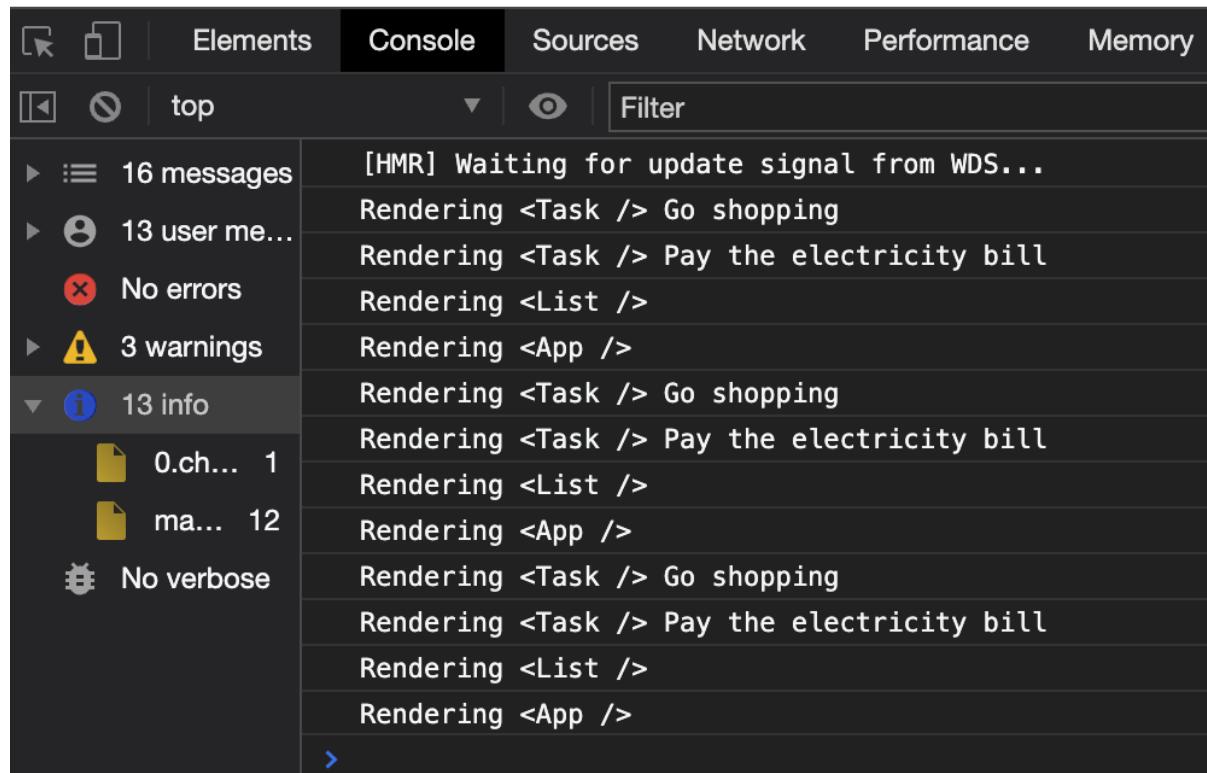
- Go shopping
- Pay the electricity bill

```
[HMR] Waiting for update signal from WDS...
Rendering <Task /> Go shopping
Rendering <Task /> Pay the electricity bill
Rendering <List />
Rendering <App />
```

Go

Create

- Go shopping
- Pay the electricity bill



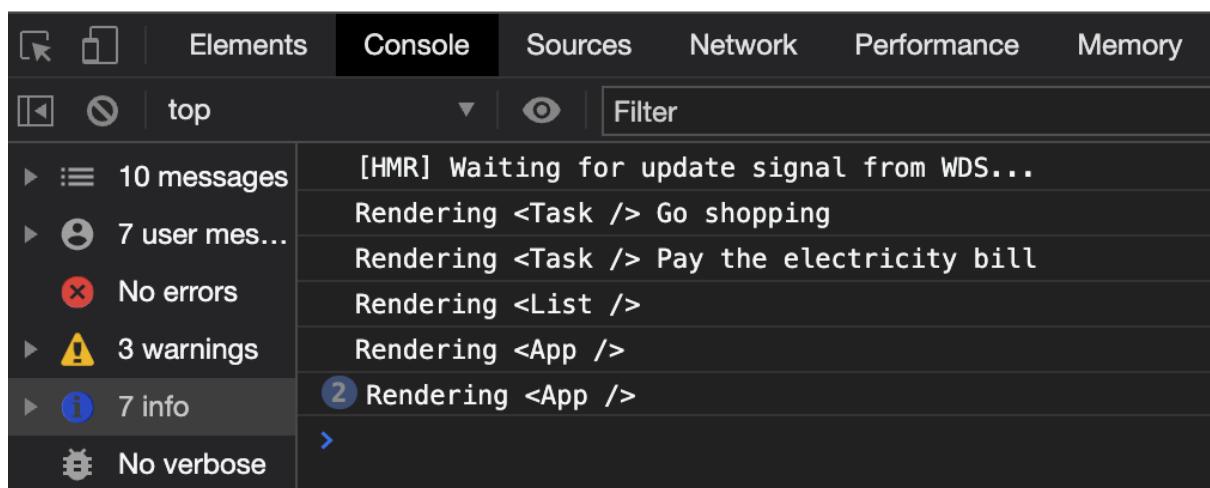
The screenshot shows the Chrome DevTools interface with the 'Console' tab selected. The left sidebar displays log levels: messages (16), user messages (13), errors (0), warnings (3), and info (13). The 'Info' section is expanded, showing logs for '0.ch...' (1 entry) and 'ma...' (12 entries). The main area lists the following log entries:

- [HMR] Waiting for update signal from WDS...
- Rendering <Task /> Go shopping
- Rendering <Task /> Pay the electricity bill
- Rendering <List />
- Rendering <App />
- Rendering <Task /> Go shopping
- Rendering <Task /> Pay the electricity bill
- Rendering <List />
- Rendering <App />
- Rendering <Task /> Go shopping
- Rendering <Task /> Pay the electricity bill
- Rendering <List />
- Rendering <App />

Go

Create

- Go shopping
- Pay the electricity bill

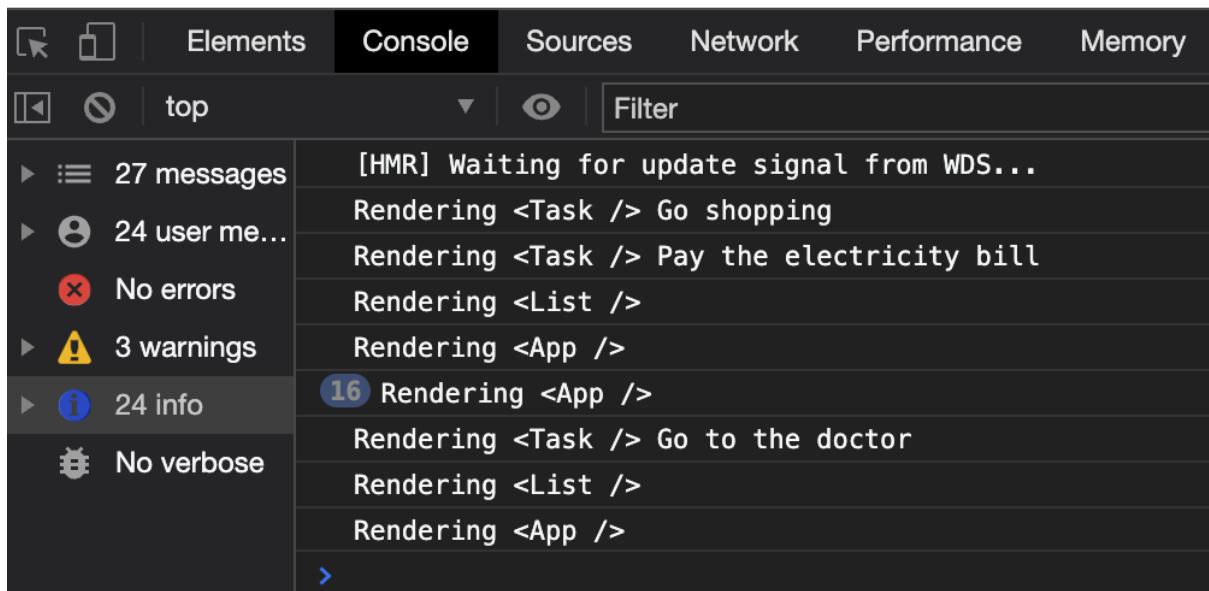


The screenshot shows the Chrome DevTools interface with the 'Console' tab selected. The left sidebar displays various log levels: 10 messages, 7 user messages, 0 errors, 3 warnings, 7 info, and 0 verbose. The main console area shows the following log entries:

- [HMR] Waiting for update signal from WDS...
- Rendering <Task /> Go shopping
- Rendering <Task /> Pay the electricity bill
- Rendering <List />
- Rendering <App />
- 2 Rendering <App />
- >

Create

- Go shopping
- Pay the electricity bill
- Go to the doctor

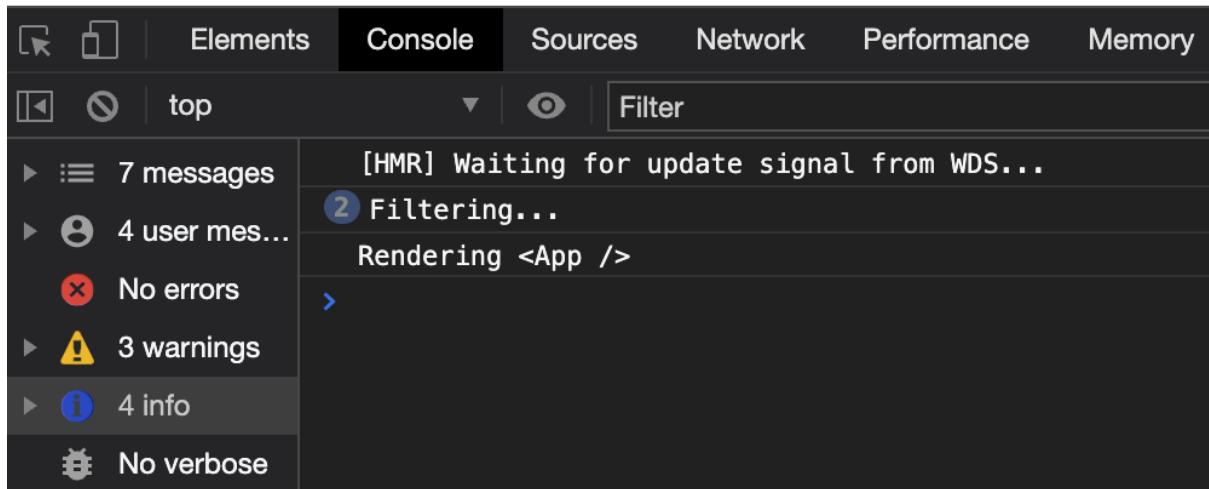


The screenshot shows the Chrome DevTools interface with the 'Console' tab selected. The left sidebar displays log levels: 27 messages, 24 user me..., No errors, 3 warnings, 24 info, and No verbose. The main area shows the following log entries:

- [HMR] Waiting for update signal from WDS...
- Rendering <Task /> Go shopping
- Rendering <Task /> Pay the electricity bill
- Rendering <List />
- Rendering <App />
- 16 Rendering <App />
- Rendering <Task /> Go to the doctor
- Rendering <List />
- Rendering <App />

Create Search

- Go shopping
- Pay the electricity bill

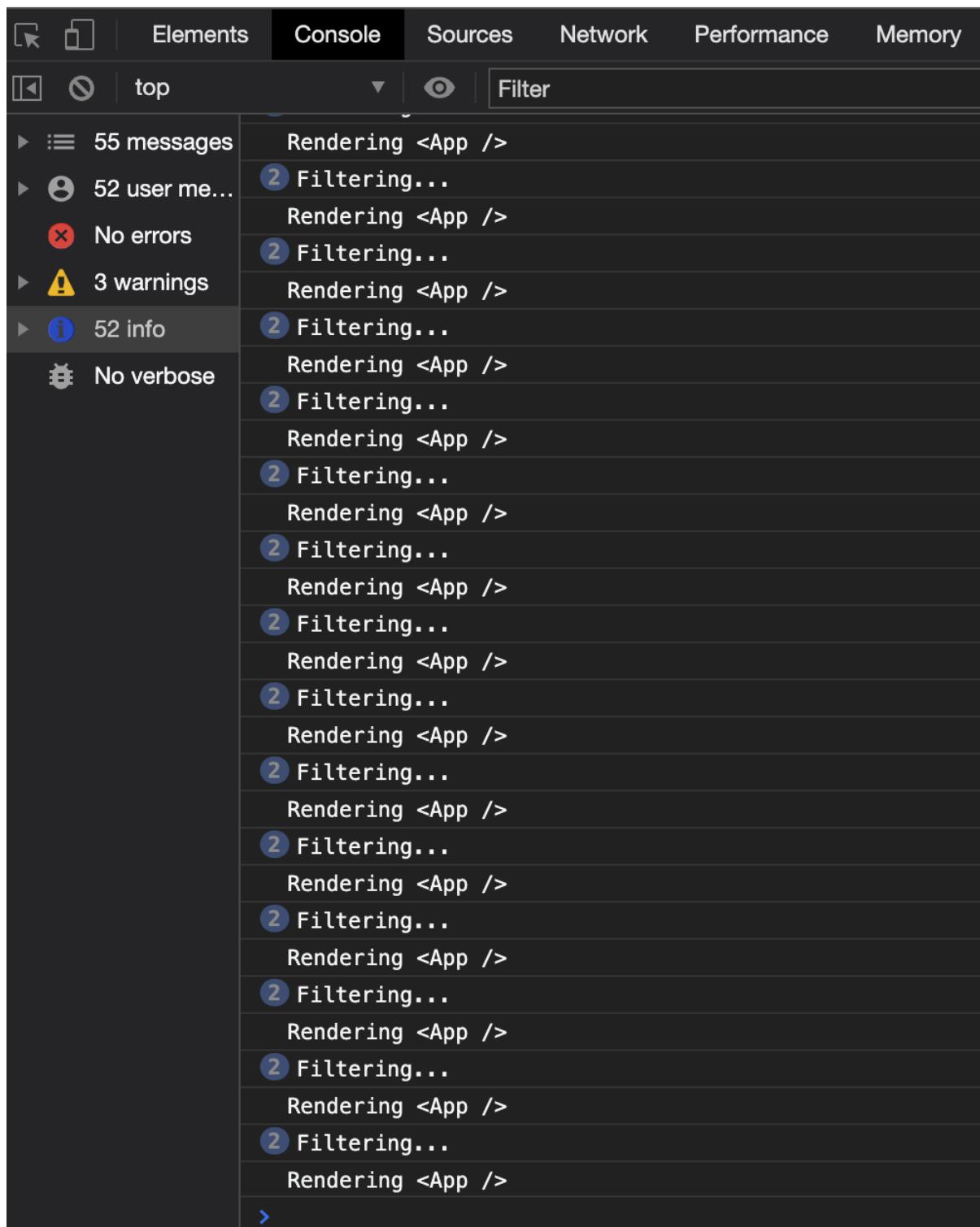


Go to the doctor

Create

Search

- Go shopping
 - Pay the electricity bill



Go Create Search

- Go shopping
- Pay the electricity bill

The screenshot shows the Chrome DevTools interface with the 'Console' tab selected. On the left, a sidebar lists log levels: 10 messages, 7 user mes..., No errors, 4 warnings, 6 info, and No verbose. The main area displays developer logs:

- [HMR] Waiting for update signal from WDS...
- 2 Filtering...
- Rendering <App />
- 2 Rendering <App />
- >

A specific warning is highlighted in yellow:

⚠ ▶ src/App.tsx webpackHotDevClient.js:138
Line 38:7: React Hook useMemo has missing dependencies: 'term' and 'todoList'. Either include them or remove the dependency array react-hooks/exhaustive-deps

>

Go Create Search

- Go shopping

The screenshot shows the Chrome DevTools interface with the 'Console' tab selected. On the left, a sidebar lists log levels: 12 messages, 9 user mes..., No errors, 3 warnings, 9 info, and No verbose. The main area displays developer logs:

- [HMR] Waiting for update signal from WDS...
- 2 Filtering...
- Rendering <App />
- 2 Rendering <App />
- 2 Filtering...
- Rendering <App />
- >



- Go shopping X
- Pay the electricity bill X

The screenshot shows the Chrome DevTools Console tab. The sidebar on the left lists log levels: 10 messages, 7 user mes..., No errors, 3 warnings, 7 info (which is selected), and No verbose. The main area displays the following log entries:

- [HMR] Waiting for update signal from WDS...
- ② Filtering...
- Rendering <Task /> Go shopping
- Rendering <Task /> Pay the electricity bill
- Rendering <List />
- Rendering <App />



- Pay the electricity bill X

The screenshot shows the Chrome DevTools Console tab. The sidebar on the left lists log levels: 14 messages, 11 user me..., No errors, 3 warnings, 11 info (which is selected), and No verbose. The main area displays the following log entries:

- [HMR] Waiting for update signal from WDS...
- ② Filtering...
- Rendering <Task /> Go shopping
- Rendering <Task /> Pay the electricity bill
- Rendering <List />
- Rendering <App />
- Filtering...
- Rendering <Task /> Pay the electricity bill
- Rendering <List />
- Rendering <App />

Go to the doctor Create Search

- Go shopping X
- Pay the electricity bill X

The screenshot shows the Chrome DevTools interface with the 'Console' tab selected. The left sidebar lists log levels: messages (74), user messages (71), errors (No errors), warnings (3), info (71), and verbose (No verbose). The main area displays the following log entries:

```
Rendering <List />
Rendering <App />
Rendering <Task /> Go shopping
Rendering <Task /> Pay the electricity bill
Rendering <List />
Rendering <App />
Rendering <Task /> Go shopping
Rendering <Task /> Pay the electricity bill
Rendering <List />
Rendering <App />
Rendering <Task /> Go shopping
Rendering <Task /> Pay the electricity bill
Rendering <List />
Rendering <App />
```

Go to the doctor Create Search

- Go shopping X
- Pay the electricity bill X

The screenshot shows the Chrome DevTools interface with the 'Console' tab selected. The sidebar on the left lists various log levels: 26 messages, 23 user me..., No errors, 3 warnings, 23 info (which is highlighted), and No verbose. The main area displays the following log entries:

- [HMR] Waiting for update signal from WDS...
- ② Filtering...
- Rendering <Task /> Go shopping
- Rendering <Task /> Pay the electricity bill
- Rendering <List />
- Rendering <App />
- ⑯ Rendering <App />
- >



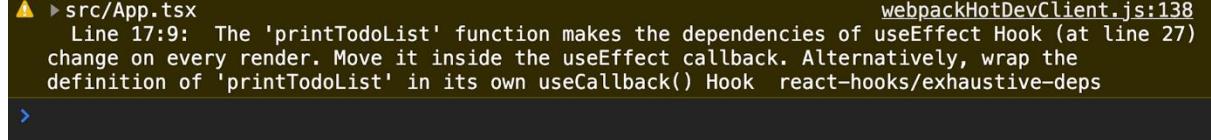
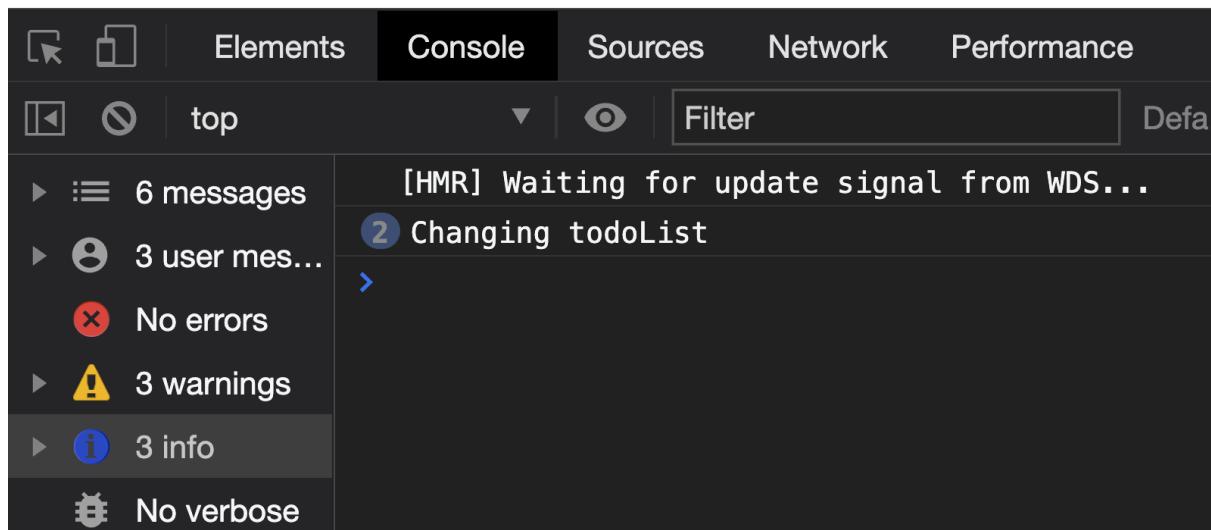
- Pay the electricity bill X

The screenshot shows the Chrome DevTools Console tab. On the left, there's a sidebar with various log levels: 14 messages, 11 user me..., No errors, 3 warnings, 11 info, and No verbose. The 'Info' section is currently selected. The main area displays log messages:

- [HMR] Waiting for update signal from WDS...
- 2 Filtering...
- Rendering <Task /> Go shopping
- Rendering <Task /> Pay the electricity bill
- Rendering <List />
- Rendering <App />
- Filtering...
- Rendering <Task /> Pay the electricity bill
- Rendering <List />
- Rendering <App />

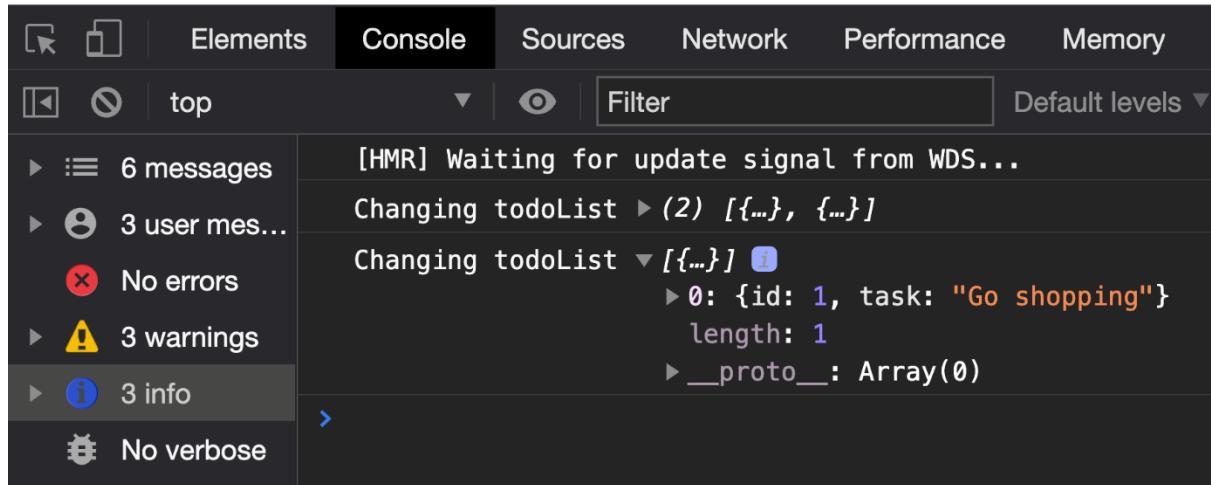


- Go shopping X
- Pay the electricity bill X
- Go to the doctor X





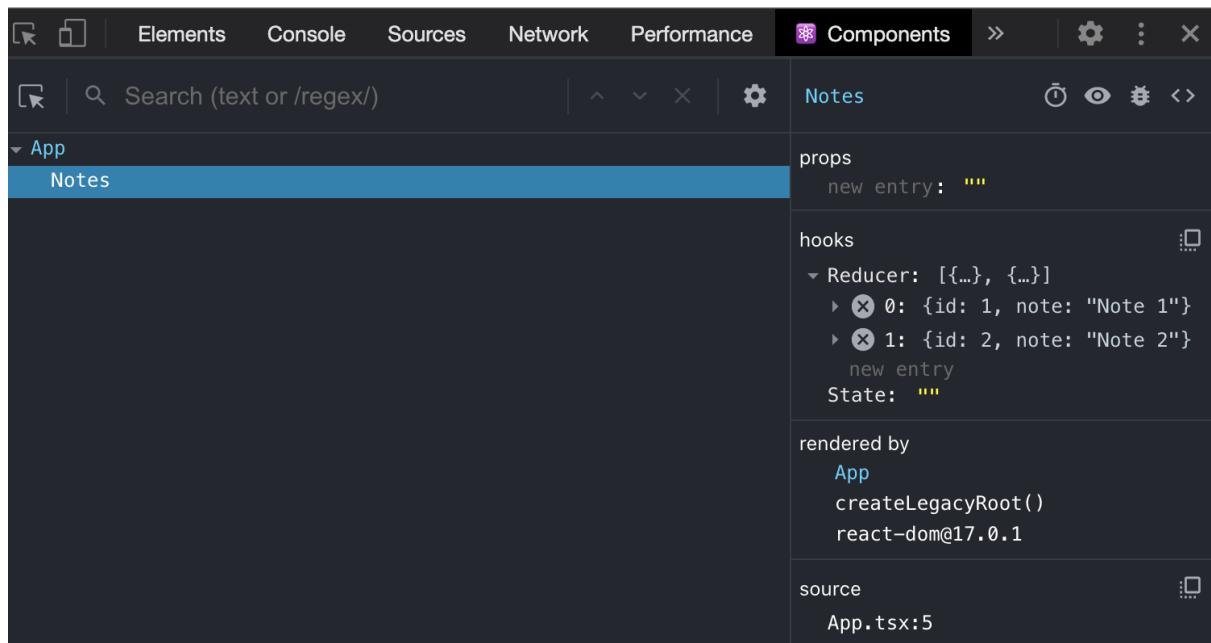
- Go shopping X



Notes

- Note 1 X Update
- Note 2 X Update

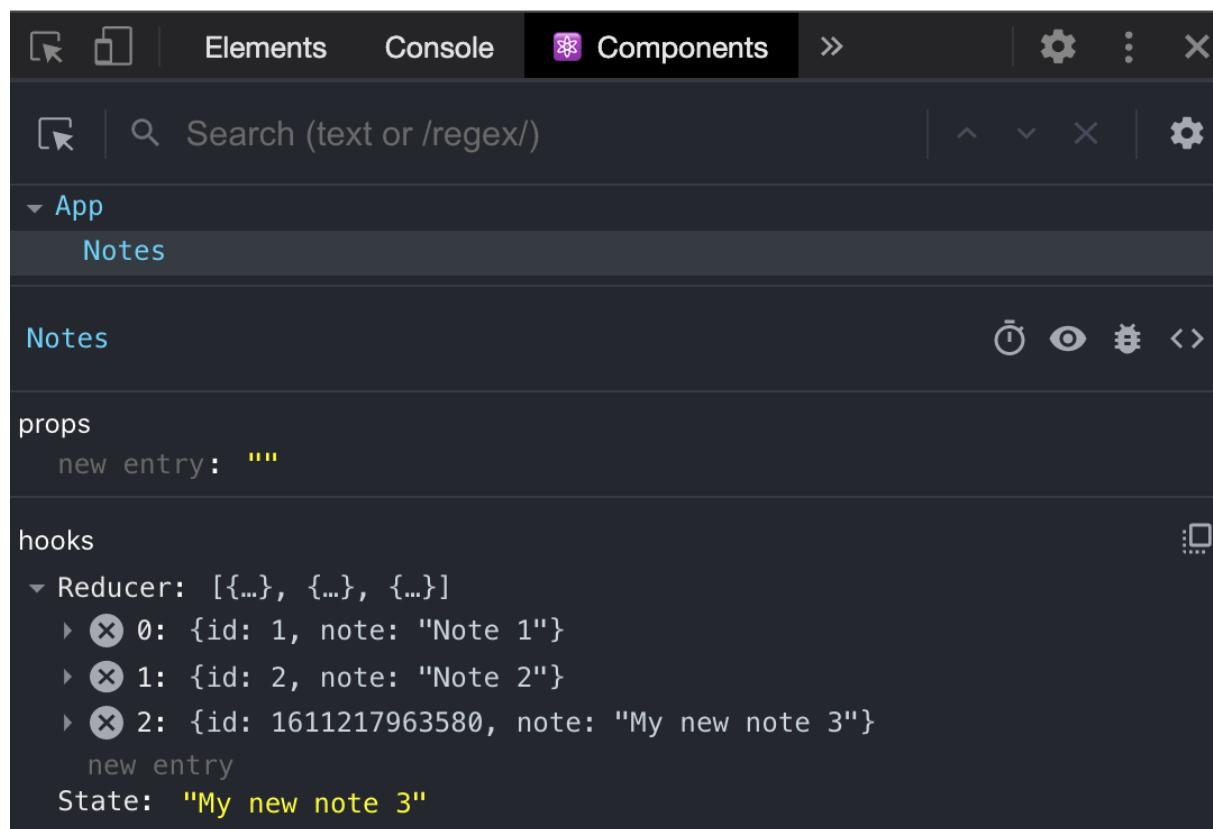
New note



Notes

- Note 1 X Update
- Note 2 X Update
- My new note 3 X Update

My new note 3



The screenshot shows the React DevTools Components tab for a component named "Notes". The component tree is as follows:

- App
 - Notes

Under the "Notes" component, the "props" section shows:

```
props
new entry: ""
```

The "hooks" section shows:

- Reducer: [{}]
- ↳ 0: {id: 1, note: "Note 1"}
- ↳ 1: {id: 2, note: "Note 2"}
- ↳ 2: {id: 1611217963580, note: "My new note 3"}

Under the "2" entry, there is a "new entry" field containing "My new note 3". The "State" field also displays "My new note 3".

Notes

- Note 1 X Update
- My new note 3 X Update

My new note 3

The screenshot shows the React DevTools interface with the "Components" tab selected. The tree view shows the "Notes" component with its props and state.

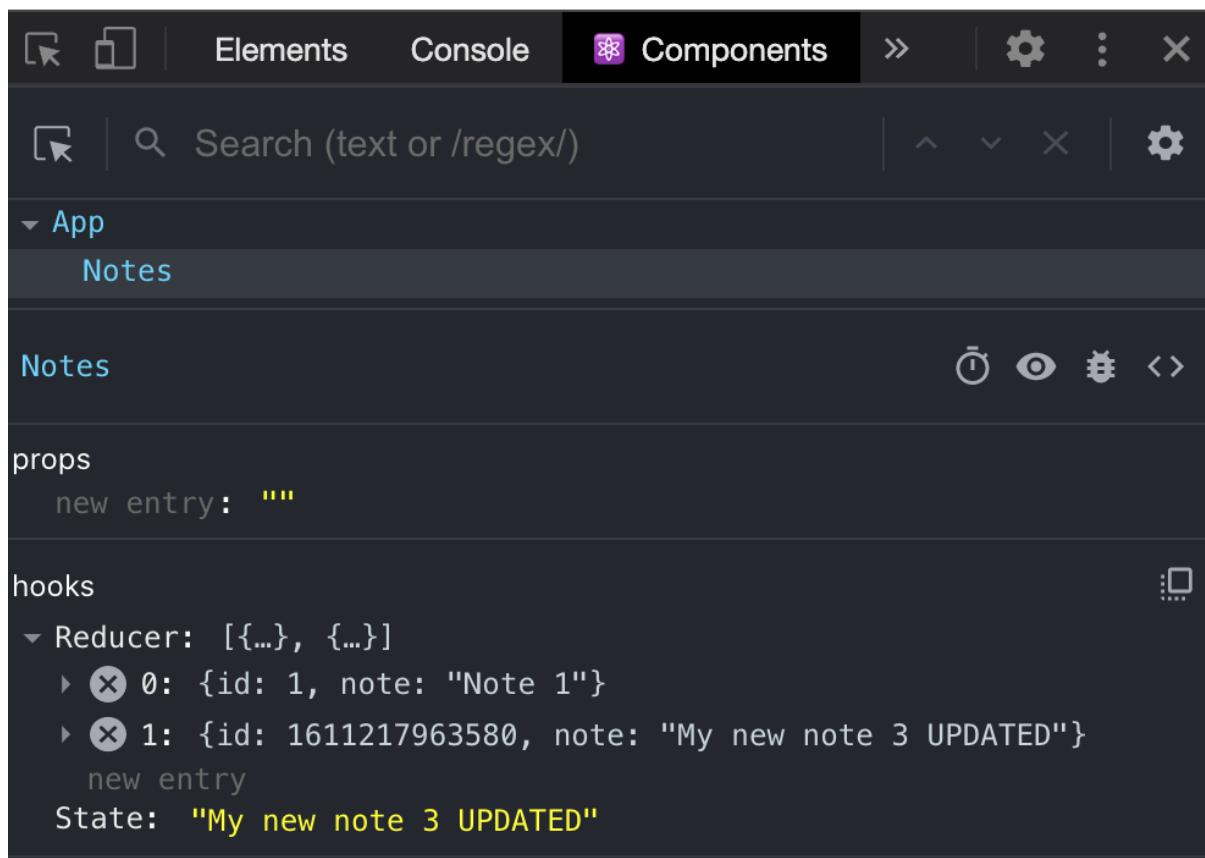
```
Props:
  newEntry: ""

State:
  Reducer: [{}]
    0: {id: 1, note: "Note 1"}
    1: {id: 1611217963580, note: "My new note 3"}
  newEntry
  State: "My new note 3"
```

Notes

- Note 1 X Update
- My new note 3 UPDATED X Update

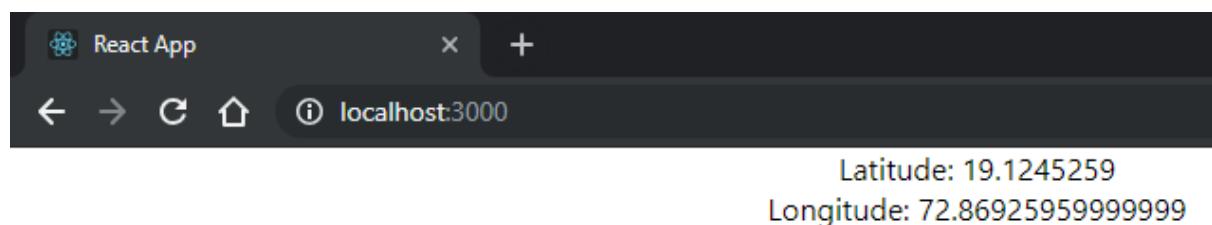
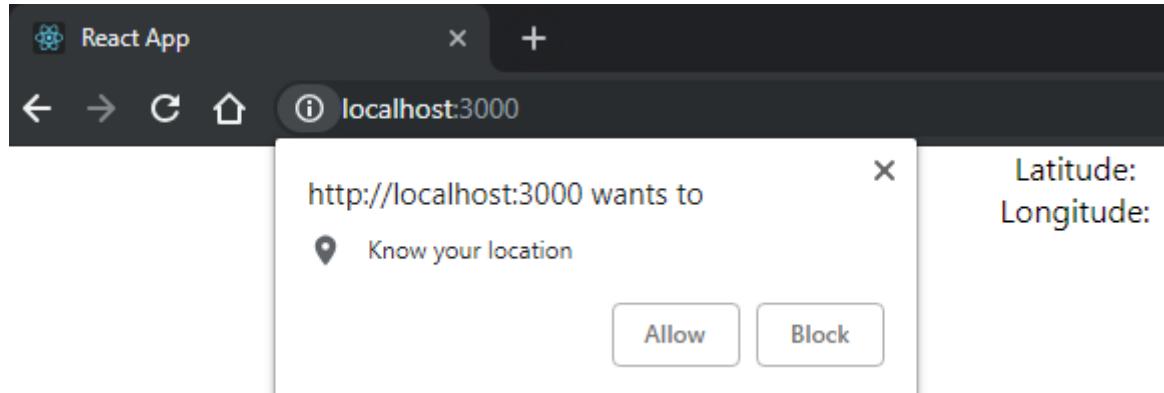
My new note 3 UPDATED



The screenshot shows the React DevTools Components tab. The search bar at the top has "Search (text or /regex/)" entered. Below it, the tree view shows the "App" component, which contains a "Notes" component. The "Notes" component has the following state:

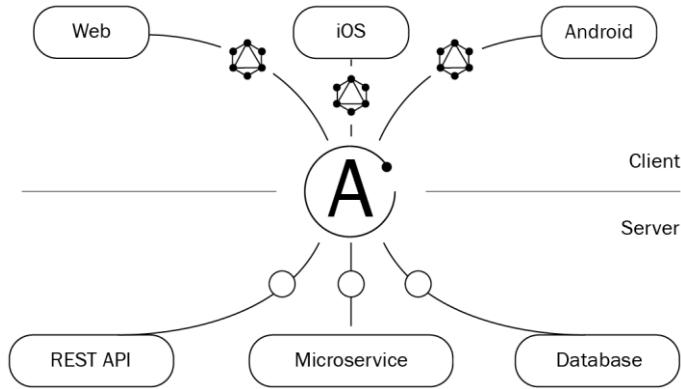
- props**:
new entry: ""
- hooks**:
 - Reducer**: [{}]
 - 0: {id: 1, note: "Note 1"}
 - 1: {id: 1611217963580, note: "My new note 3 UPDATED"}
 - new entry
- State**: "My new note 3 UPDATED"

Chapter 04: Exploring Popular Composition Patterns



Chapter 05: Understanding GraphQL With a Real Project

```
→ backend git:(main) psql  
psql (13.2)  
Type "help" for help.  
  
czantany=#
```



```
b$ backend git:(main) ✘ npm run dev
> contentful@0.0.0 dev
> ts-node-dev src/index.ts
[Execution] 00:23:11 ts-node-dev ver. 0.1.6 (Using tsc-compile ver. 9.1.1, typescript ver. 4.2.3)
[Execution] 00:23:11 CREATE TABLE IF NOT EXISTS "Users" ("id" UUID NOT NULL, "username" VARCHAR(255) NOT NULL UNIQUE, "password" VARCHAR(255) NOT NULL, "email" VARCHAR(255) NOT NULL UNIQUE, "privilege" VARCHAR(255) NOT NULL DEFAULT 'US' WITH CHECK ((active = true) OR (privilege = 'US')) NOT NULL, "createdAt" TIMESTAMP WITH TIME ZONE NOT NULL, "updatedAt" TIMESTAMP WITH TIME ZONE NOT NULL, PRIMARY KEY ("id"));
Executing (default): psql_constraint_type AS 'Constraint', c.column_name AS 'Field', c.column_default AS 'Default', c.is_nullable AS 'Null', (CASE WHEN c.udt_name = 'host' THEN c.udt_name ELSE c.data_type END) || CASE WHEN c.character_maximum_length IS NOT NULL THEN c.character_maximum_length || ' ELSE 'END' || (SELECT array_agg(c.enumlabel) FROM pg_catalog.pg_enum t JOIN pg_catalog.pg_enum e ON t.oid=e.enumtypid WHERE t.typname=c.udt_name) AS 'EnumList';
Executing (default): ALTER TABLE "Users" ADD CONSTRAINT "UQ_Users_email" UNIQUE("email");
Executing (default): SELECT pg_constraint_name AS constraint_name, pg_constraint_type AS type, pg_constraint_colname AS column_name, pg_constraint_index AS index_name, pg_constraint_schema AS schema_name, pg_constraint_table AS table_name, pg_constraint_name::text || pg_constraint_type::text AS constraint_name::text;
Executing (default): SELECT DISTINCT tc.constraint_name AS constraint_name, tc.constraint_schema AS constraint_schema, tc.constraint_catalog AS constraint_catalog, tc.table_name AS table_name, tc.table_schema AS table_schema, tc.table_cat AS table_catalog, tcu.column_name AS column_name, cu.table_schema AS referenced_table_schema, cu.table_catalog AS referenced_table_catalog, cu.table_name AS referenced_table_name, cu.column_name AS referenced_column_name FROM information_schema.table_constraints AS tcu ON tcu.constraint_name = kcu.constraint_name JOIN information_schema.constraints AS kcu ON kcu.constraint_name = tc.constraint_name WHERE tc.constraint_type = 'FOREIGN' AND tc.constraint_name = tcu.constraint_name;
Executing (default): ALTER TABLE "Users" ADD CONSTRAINT "UQ_Users_username" UNIQUE("username");
Executing (default): ALTER TABLE "Users" ALTER COLUMN "username" DROP DEFAULT,ALTER TABLE "Users" ADD UNIQUE ("username");
Executing (default): ALTER TABLE "Users" ALTER COLUMN "password" DROP DEFAULT,ALTER TABLE "Users" ALTER COLUMN "password" TYPE VARCHAR(65);
Executing (default): ALTER TABLE "Users" ALTER COLUMN "email" SET NOT NULL,ALTER TABLE "Users" ALTER COLUMN "email" SET DEFAULT 'User';
Executing (default): ALTER TABLE "Users" ALTER COLUMN "privilege" SET NOT NULL,ALTER TABLE "Users" ALTER COLUMN "privilege" SET DEFAULT 'User';
Executing (default): ALTER TABLE "Users" ALTER COLUMN "active" SET NOT NULL,ALTER TABLE "Users" ALTER COLUMN "active" SET DEFAULT false;
Executing (default): ALTER TABLE "Users" ALTER COLUMN "createdAt" SET NOT NULL,ALTER TABLE "Users" ALTER COLUMN "createdAt" SET DEFAULT now();
Executing (default): ALTER TABLE "Users" ALTER COLUMN "updatedAt" SET NOT NULL,ALTER TABLE "Users" ALTER COLUMN "updatedAt" SET DEFAULT now();
Executing (default): SELECT i.relename AS name, ix.indisprimary AS primary, ix.indisunique AS unique, ix.indkey AS indkey, array_agg(a.attname) AS column_names, pg_get_indexdef(ix.indexrelid) AS def FROM pg_class t, pg_class i, pg_index ix, pg_attribute a WHERE t.oid = ix.indrelid AND a.oid = ix.indexrelid AND a.attrelid = t.oid AND t.rekind = 'r' AND i.relname = 'Users' GROUP BY i.relename, ix.indexrelid, ix.indisprimary, ix.indisunique;
Running on http://localhost:5009
```

```
Running http://localhost:5000/
[INFO] 00:27:46 Restarting /Users/czantay/projects/React-Design-Patterns-and-Best-Practices-Third-Edition/Chapter05/graphql/backend/src/index.ts has been modified
Executing (default): DROP TABLE IF EXISTS "Users" CASCADE
Executing (default): CREATE TABLE IF NOT EXISTS "Users" ("id" UUID NOT NULL , "username" VARCHAR(255) NOT NULL UNIQUE, "password" VARCHAR(255) NOT NULL, "email" VARCHAR(255) NOT NULL UNIQUE, "privilege" VARCHAR(255) NOT NULL DEFAULT 'user', "active" BOOLEAN NOT NULL DEFAULT false, "createdAt" TIMESTAMP WITH TIME ZONE NOT NULL, "updatedAt" TIMESTAMP WITH TIME ZONE NOT NULL, PRIMARY KEY ("id"));

```

A screenshot of a GraphQL playground interface. The top bar shows the title "Playground - http://localhost:5000" and the URL "localhost:5000". The main area has tabs for "PRETTIFY" and "HISTORY", and a "COPY CURL" button. A large, semi-transparent play button covers most of the screen. Below it, text reads "Hit the Play Button to get a response here". On the right side, there are links for "DOCS" and "SCHEMA". At the bottom, there are buttons for "QUERY VARIABLES", "HTTP HEADERS", "TRACING", and "QUERY PLAN".

```
1 # Write your query or mutation here
```

A screenshot of a GraphQL playground interface. The top bar shows the query name "getUsers" and the URL "localhost:5000". The main area has tabs for "PRETTIFY" and "HISTORY", and a "COPY CURL" button. The query code is displayed:

```
1 ▶ query {
2   ▶ getUsers {
3     id
4     username
5     email
6     privilege
7   }
8 }
```

The results pane shows the JSON response from the server:

```
▼ {
  "data": {
    "getUsers": []
  }
}
```

The screenshot shows a GraphQL schema documentation interface. On the left, there's a dark sidebar with a green vertical bar containing the word "SCHEMA". Below it, there are two tabs: "DOCS" (which is selected) and "SCHEMA". The main content area has a search bar at the top with the placeholder "Search the docs ...".

QUERIES

- getUsers: [User!]
- getUserData(...): User!

MUTATIONS

- createUser(...): User!
- login(...): AuthPayload!

TYPE DETAILS

createUser(
 input: CreateUserInput
): User!

type User {

- id: UUID!**
- username: String!**
- password: String!**
- email: String!**
- privilege: String!**
- active: Boolean!**
- createdAt: Datetime!**
- updatedAt: Datetime!**

}

ARGUMENTS

- input: CreateUserInput**

Search the docs ...

QUERIES

- getUsers: [User!]
- getUserData(...): User!

MUTATIONS

- createUser(...): User!
- login(...): AuthPayload!

createUser
input: CreateUserInput
): User!

TYPE DETAILS

```
type User {  
    id: UUID!  
    username: String!  
    password: String!  
    email: String!  
    privilege: String!  
    active: Boolean!  
    createdAt: Datetime!  
    updatedAt: Datetime!  
}
```

ARGUMENTS

input: CreateUserInput

input: CreateUserInput

TYPE DETAILS

```
type CreateUserInput {  
    username: String!  
    password: String!  
    email: String!  
    privilege: String!  
    active: Boolean!  
}
```

```
mutation {  
  createUser(  
    input: {  
      username: "admin",  
      email: "admin@js.education",  
      password: "123456",  
      privilege: "god",  
      active: false  
    }  
  ) {  
    id  
    username  
    email  
    password  
    privilege  
    active  
  }  
}
```



```
{  
  "data": {  
    "createUser": {  
      "id": "4779b306-e82c-4ed1-aec7-b0e2224b547e",  
      "username": "admin",  
      "email": "admin@js.education",  
      "password": "7c4a8d09ca3762af61e59520943dc26494f8941b",  
      "privilege": "god",  
      "active": false  
    }  
  }  
}
```

Q getUsers X M createUser +

PRETTIFY HISTORY http://localhost:5000/

```
1 ▼ query {
2 ▼   getUsers {
3     id
4     username
5     email
6     privilege
7   }
8 }
```

▼ {
 ▼ "data": {
 ▼ "getUsers": [
 {
 "id": "b594b32a-61a4-44ef-9003-45b306c54c02",
 "username": "admin",
 "email": "admin@js.education",
 "privilege": "god"
 }
]
 }
}

public."Users"

```
1 SELECT t.id
2   , t.username
3   , t.password
4   , t.email
5   , t.privilege
6   , t.active
7   , t."createdAt"
8   , t."updatedAt"
9 FROM public."Users" t
10 ORDER BY t.id
```

1 rows in 6.457 ms
Autocommit Idle Start time: 04/06/2021 01:25:25

Data Messages Explain

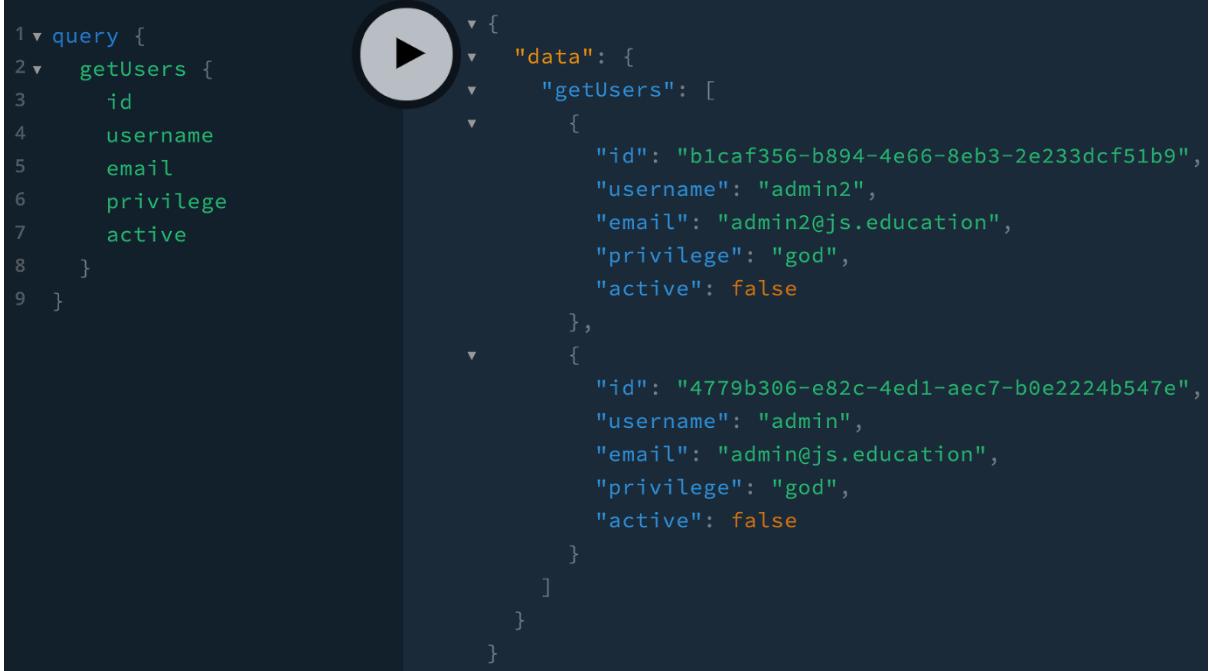
	id	username	password	email	privilege	active	createdAt	updatedAt
1	4779b306-e82c-4ed1-aec7-b0e2224b547e	admin	7c4a8d09ca3762af61e59520943dc26494f8941b	admin@js.education	god	False	2021-04-06 01:24:10.001-07	2021-04-06 01:24:10.001-07

```
{
  "errors": [
    {
      "message": "Validation error",
      "locations": [
        {
          "line": 2,
          "column": 3
        }
      ],
      "path": [
        "createUser"
      ],
      "extensions": {
        "code": "INTERNAL_SERVER_ERROR",
        "exception": {
          "name": "SequelizeUniqueConstraintError",
          "errors": [
            {
              "message": "username must be unique",
              "type": "unique violation",
              "path": "username",
              "value": "admin",
              "origin": "DB",
              "instance": {
                "id": "7011d5b9-be54-4a59-9767-3a77396fd7db",
                "username": "admin",
                "password": "7c4a8d09ca3762af61e59520943dc26494f8941b",
                "email": "admin@js.education",
                "privilege": "god",
                "active": true,
                "updatedAt": "2021-04-06T08:04:57.856Z",
                "createdAt": "2021-04-06T08:04:57.856Z"
              },
              "validatorKey": "not_unique",
              "validatorName": null,
              "validatorArgs": []
            }
          ]
        }
      }
    }
  ]
}
```

```
"errors": [
  {
    "message": "Validation error",
    "locations": [
      {
        "line": 2,
        "column": 3
      }
    ],
    "path": [
      "createUser"
    ],
    "extensions": {
      "code": "INTERNAL_SERVER_ERROR",
      "exception": {
        "name": "SequelizeUniqueConstraintError",
        "errors": [
          {
            "message": "email must be unique",
            "type": "unique violation",
            "path": "email",
            "value": "admin@js.education",
            "origin": "DB",
            "instance": {
              "id": "df8fc316-e2a8-4a16-b4a0-754908128e13",
              "username": "admin2",
              "password": "7c4a8d09ca3762af61e59520943dc26494f8941b",
              "email": "admin@js.education",
              "privilege": "god",
              "active": true,
              "updatedAt": "2021-04-06T08:09:10.308Z",
              "createdAt": "2021-04-06T08:09:10.308Z"
            },
            "validatorKey": "not_unique",
            "validatorName": null,
            "validatorArgs": []
          }
        ]
      }
    }
  }
]
```

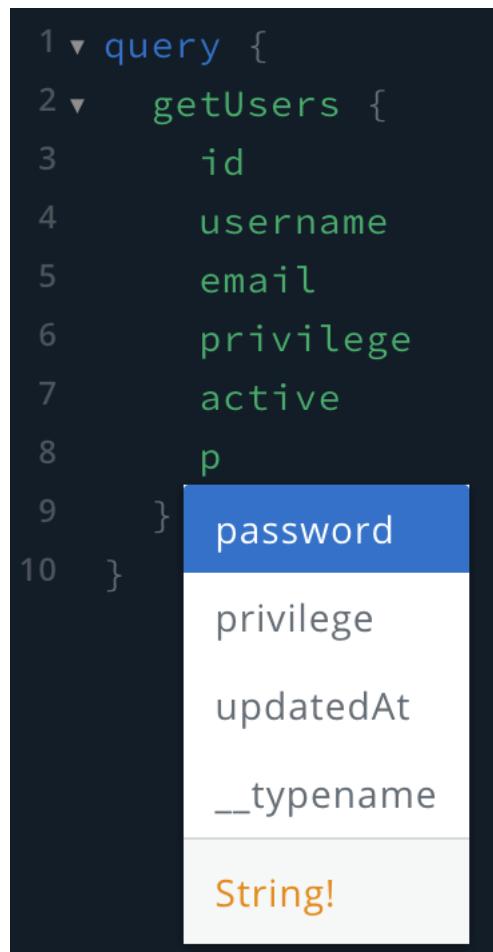
```
"errors": [
  {
    "message": "Validation error: Invalid email",
    "locations": [
      {
        "line": 2,
        "column": 3
      }
    ],
    "path": [
      "createUser"
    ],
    "extensions": {
      "code": "INTERNAL_SERVER_ERROR",
      "exception": {
        "name": "SequelizeValidationError",
        "errors": [
          {
            "message": "Invalid email",
            "type": "Validation error",
            "path": "email",
            "value": "admin@myfakedomain",
            "origin": "FUNCTION",
            "instance": {
              "id": "c4445ca7-cae1-442b-a777-f058674ba48d",
              "username": "admin2",
              "password": "123456",
              "email": "admin@myfakedomain",
              "privilege": "god",
              "active": true,
              "updatedAt": "2021-04-06T08:10:49.060Z",
              "createdAt": "2021-04-06T08:10:49.060Z"
            },
            "validatorKey": "isEmail",
            "validatorName": "isEmail",
            "validatorArgs": [
              {
                "value": "admin@myfakedomain"
              }
            ]
          }
        ]
      }
    }
  }
]
```

```
1 ▼ query {  
2   ▼ getUsers {  
3     id  
4     username  
5     email  
6     privilege  
7     active  
8   }  
9 }
```



```
{  
  "data": {  
    "getUsers": [  
      {  
        "id": "b1caf356-b894-4e66-8eb3-2e233dcf51b9",  
        "username": "admin2",  
        "email": "admin2@js.education",  
        "privilege": "god",  
        "active": false  
      },  
      {  
        "id": "4779b306-e82c-4ed1-aec7-b0e2224b547e",  
        "username": "admin",  
        "email": "admin@js.education",  
        "privilege": "god",  
        "active": false  
      }  
    ]  
  }  
}
```

```
1 ▼ query {  
2   ▼ getUsers {  
3     id  
4     username  
5     email  
6     privilege  
7     active  
8     p  
9     }  
10 }
```



```
password  
privilege  
updatedAt  
__typename  
String!
```

```
mutation {
  login(
    input: {
      email: "fake@email.com",
      password: "123456"
    }
  ) {
    token
  }
}

{
  "errors": [
    {
      "message": "Invalid Login",
      "locations": [
        {
          "line": 2,
          "column": 3
        }
      ],
      "path": [
        "login"
      ],
      "extensions": {
        "code": "UNAUTHENTICATED",
        "exception": {
          "stacktrace": [
            "AuthenticationError: Invalid Login",
            "    at /Users/czantany/projects/React-Design-Patterns-and-Best-Practices-Third-Edition/Chapter05/graphql/backend/src/lib/auth.ts:36:11",
            "    at Generator.next (<anonymous>)",
            "    at fulfilled (/Users/czantany/projects/React-Design-Patterns-and-Best-Practices-Third-Edition/Chapter05/graphql/backend/src/lib/auth.ts:5:58)",
            "    at processTicksAndRejections (node:internal/process/task_queues:94:5)"
          ]
        }
      }
    ],
    "data": null
}
```

```
mutation {
  login(
    input: {
      email: "admin@js.education",
      password: "fakepassword"
    }
  ) {
    token
  }
}

{
  "errors": [
    {
      "message": "Invalid Login",
      "locations": [
        {
          "line": 2,
          "column": 3
        }
      ],
      "path": [
        "login"
      ],
      "extensions": {
        "code": "UNAUTHENTICATED",
        "exception": {
          "stacktrace": [
            "AuthenticationError: Invalid Login",
            "    at /Users/czantany/projects/React-Design-Patterns-and-Best-Practices-Third-Edition/Chapter05/graphql/backend/src/lib/auth.ts:47:11",
            "    at Generator.next (<anonymous>)",
            "    at fulfilled (/Users/czantany/projects/React-Design-Patterns-and-Best-Practices-Third-Edition/Chapter05/graphql/backend/src/lib/auth.ts:5:58)",
            "    at processTicksAndRejections (node:internal/process/task_queues:94:5)"
          ]
        }
      }
    ],
    "data": null
}
```

```
mutation {
  login(
    input: {
      email: "admin@js.education",
      password: "123456"
    }
  ) {
    token
  }
}

{
  "errors": [
    {
      "message": "Your account is not activated yet",
      "locations": [
        {
          "line": 2,
          "column": 3
        }
      ],
      "path": [
        "login"
      ],
    }
  ],
  "data": null
}
```

public."Users" Query +

1 UPDATE public."Users" SET active = True WHERE email = 'admin@js.education'

Autocommit Idle Start time: 04/06/2021 01:43:54 Duration: 14.69 ms

Data Messages Explain

UPDATE 1

```
{  
  "data": {  
    "login": {  
      "token":  
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJkYXRhIjoiZXlKcFpDSTZJalEzTnpsaU16QTJMV1U0TW1NdE5HVmtNUz  
F0WldNM0xXSXdaVe15TWpSaU5UUTNaU0lzSW5WelpYSnVZvzFsSwpvaVlXUnRhVzRpTENkbGJXRnBiQ0k2Sw1Ga2JXbHVRR3  
B6TG1Wa2RXTmhkR2x2YmlJc0luQnlhWFpwYkdWblpTSTZJbWR2WkNJc0ltRmpkR2wyWlNjNmRISjFaU3dpZEc5clpXNGlPaU  
pOUkdjeldWUKZNMXBVwjNwTmJWVjVXV3BWTWs1SFJtMWFivTB6V21wTk5GbFVRWGxhVkdSb1RVUm9iVTFIVlROTmJWa3dXVl  
JrYws1SFJUUmFSRUUxV1RKrmVrNTZXWGxaVjFreVRWZFZNVTlVVlhsTlJHc3dUVEpTYWsxcdUqlBWRkp0VDBSck1FMVhTVd  
BpZLE9PSIsImlhCI6MTYxNzY50DY40SwizXhwIjoaNjE4MzAzNDg5fQ.6icaBFibjEOICUt5QQ0OPAoDsb7_ohb8W10JzHn  
bf7k"  
    }  
  }  
}
```



```
{  
  "data": {  
    "getUserData": {  
      "id": "4779b306-e82c-4ed1-aec7-b0e2224b547e",  
      "email": "admin@js.education",  
      "privilege": "god",  
      "active": true  
    }  
  }  
}
```

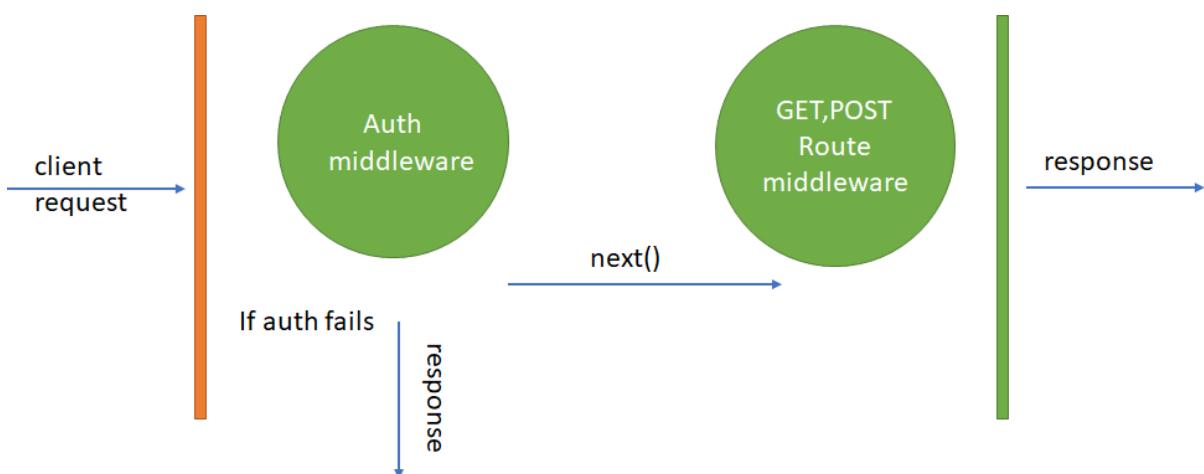
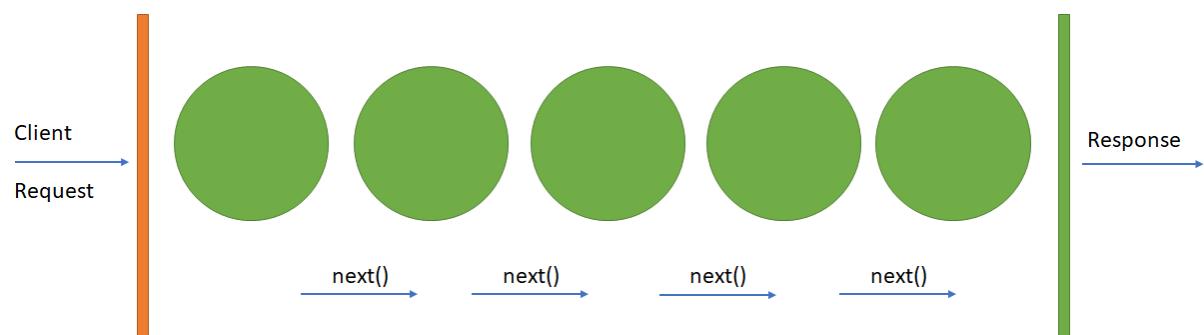
```
{
  "data": {
    "getUserData": {
      "id": "",
      "email": "",
      "privilege": "",
      "active": false
    }
  }
}
```

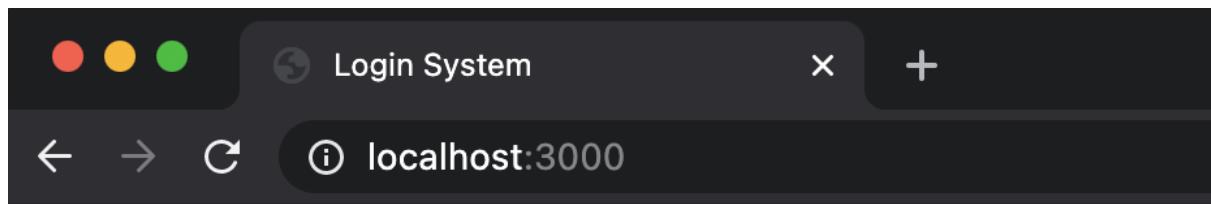
```
ERROR in ./node_modules/@contentpi/lib/dist/security/index.js 8:33-50
Module not found: Error: Can't resolve 'crypto' in '/Users/czantany/projects/React-Design-Patterns-and-Best-Practices-Third-Edition/Chapter05/graphql/frontend/node_modules/@contentpi/lib/dist/security'

BREAKING CHANGE: webpack < 5 used to include polyfills for node.js core modules by default.
This is no longer the case. Verify if you need this module and configure a polyfill for it.

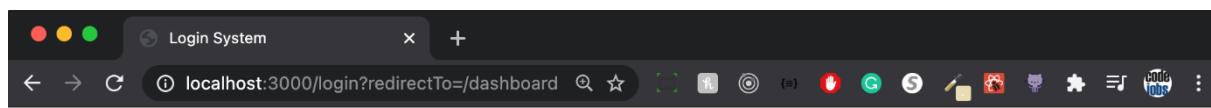
If you want to include a polyfill, you need to:
  - add a fallback 'resolve.fallback: { "crypto": require.resolve("crypto-browserify") }'
  - install 'crypto-browserify'
If you don't want to include a polyfill, you can use an empty module like this:
  resolve.fallback: { "crypto": false }
```

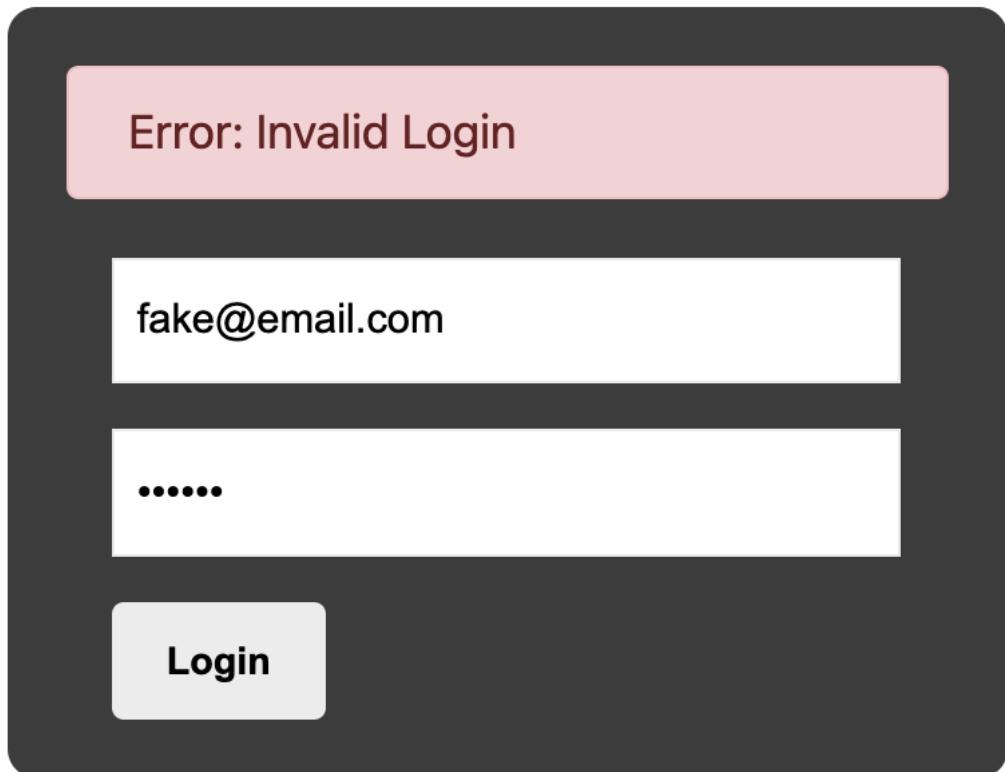
All middleware has access to req,res and next





- [Go to Dashboard](#)

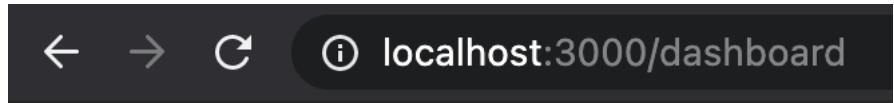




Name	Headers	Preview	Response	Initiator	Timing
graphql	<pre>Referer: http://localhost:3000/ sec-ch-ua: "Google Chrome";v="89", "Chromium";v="89", ";Not A Brand";v="99" sec-ch-ua-mobile: ?0 Sec-Fetch-Dest: empty Sec-Fetch-Mode: cors Sec-Fetch-Site: same-site User-Agent: Mozilla/5.0 (Macintosh; Intel Mac OS X 11_2_1) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/89.0.4389.114 Safari/537.36</pre>				
	Request Payload	view source			
	▼ {operationName: "login", variables: {email: "fake@email.com", password: "123456"},...}				
	operationName: "login"				
	query: "mutation login(\$email: String!, \$password: String!) {__login(input: {email: \$email, password: \$password}) {__token __type}}				
	variables: {email: "fake@email.com", password: "123456"}				
	email: "fake@email.com"				
	password: "123456"				

1 / 2 requests 857

Name	Headers	Preview	Response	Initiator	Timing
graphql	▼ {errors: [{message: "Invalid Login", locations: [{line: 2, column: 3}], path: ["login"]}],...}				
	data: null				
	▼ errors: [{message: "Invalid Login", locations: [{line: 2, column: 3}], path: ["login"]}]				
	▼ 0: {message: "Invalid Login", locations: [{line: 2, column: 3}], path: ["login"]}				
	▼ extensions: {code: "UNAUTHENTICATED", exception: {stacktrace: ["AuthenticationError: Invalid Login"]}}				
	code: "UNAUTHENTICATED"				
	▼ exception: {stacktrace: ["AuthenticationError: Invalid Login"]}				
	► stacktrace: ["AuthenticationError: Invalid Login"]				
	► locations: [{line: 2, column: 3}]				
	► message: "Invalid Login"				
	► path: ["login"]				



Welcome, admin!

- [Logout](#)

```
▼ Request Payload    view source
▼ {operationName: "getUserData", variables: {...}, ...}
  operationName: "getUserData"
  query: "query getUserData($at: String!) {__getUserData(at: $at) {id, email, username, privilege, active, __typename}}
  ▼variables: {...}
    at: "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJkYXRhIjoiZXIKcFpDSTZJalEzTnpсаU16QTJMV1U0TW1NdE5HVmtNUzFoWldNM0xXSXdaVE15TwрSaU5UUTNaU01zs"
```

Headers	Preview	Response	Initiator	Timing
▼ {data: {...}}	▼ data: {...}	▼ getUserData: {id: "4779b306-e82c-4ed1-aec7-b0e2224b547e", email: "admin@js.education", username: "admin", ...}		
		active: true		
		email: "admin@js.education"		
		id: "4779b306-e82c-4ed1-aec7-b0e2224b547e"		
		privilege: "god"		
		username: "admin"		
		__typename: "User"		

IndexedDB	Name	Value	Do...	Path	Expi...	Size	Http...	Sec...	Sa...	Prio...
Web SQL	at	eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJkYXRhIjoiZXIKcFpDSTZJalEzTnpсаU16QTJMV1U0TW1NdE5HVmtNUzFoWldNM0xXSXdaVE15TwрSaU5UUTNaU01zs	loc...	/	Ses...	581				Med.
Cookies	connect.sid	s%3ASJand4WbwVRe05_XGBYJm4...	loc...	/	Ses...	95	✓			Med.

Cookie Value Show URL decoded

eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJkYXRhIjoiZXIKcFpDSTZJalEzTnpсаU16QTJMV1U0TW1NdE5HVmtNUzFoWldNM0xXSXdaVE15TwрSaU5UUTNaU01zsFwJNzNMXBWVjNwTmJWmlJc0luQnlhWFpwYkdWbIpTSTZJbWR2WkNjcl0lRmpkR2wyWINJNmRISjFaU3dpZEc5clpXNGIPaUpOUkdjejdWUkZNMMXBWVjNwTmJWVjVXv3BWTWs1SFJtMWFvTB6v21wTk5GbFVRWGXhVkdSb1RVUm9iVTFIVROTrmJWa3dXVIJrYWs1SFJUUmFSRUUxV1RKRmVrNTZXWGxaViFreVRWZFZNVTIVlhsTlJHc3dUVEpTYWsxcVdUOjBWRkp0VDBSck1FMWhTVDBpZlE9PSlsmIhdCl6MTYxODA0NjE1MiwiZXhwljoxNjE4NjUwOTUyfQ.dHQOX2nNdU25dNXhq1FO22YqHLAW0zDxvtAApKCZN4

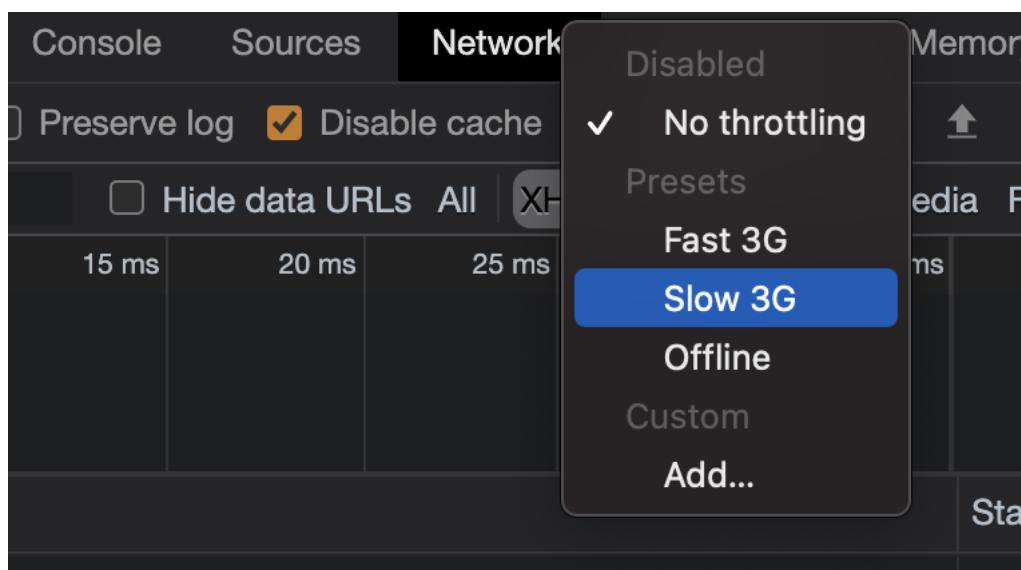
Name	Value
at	XXJhbGciOiJIUzI1
connect.sid	s%3ASJand4Wb

```
x Headers Preview Response Initiator Timing
▼{,...}
  ▼data: {getUserData: {id: "", email: "", username: "", privilege: "", active: false, __typename: "User"}}
    ▼getUserData: {id: "", email: "", username: "", privilege: "", active: false, __typename: "User"}
      active: false
      email: ""
      id: ""
      privilege: ""
      username: ""
      __typename: "User"
```

Chapter 06: Managing Data

ContentPI Issues from Context

- #112 [Creating new backend using tinyhttp](#) open
- #111 [Evaluate if we need to get rid of Next](#) open
- #110 [Remove and evaluate if a component actually needs React.memo](#) open
- #109 [Options when you create a new app](#) open
- #99 [Fix Playground](#) open
- #97 [CPI-35 - Added Drag-n-Drop Functionality to sort fields](#) open
- #81 [Edit Reference Field](#) open
- #80 [Edit Dropdown Field](#) open
- #75 [Page for empty Content \(when you don't have any model\)](#) open
- #74 [Page for empty Schema \(create your first model\)](#) open
- #73 [Remove all any on ContentPI](#) open
- #71 [Remove all any in @contentpi/ui](#) open
- #69 [Create a Toast Alert](#) open
- #62 [Removing a reference field should also remove the reference and its values](#) open
- #61 [When a user removes a field we need to make sure we are removing all the related values first](#) open
- #60 [Validate that a model does not have content before delete it](#) open



← → × ⌂ localhost:3000

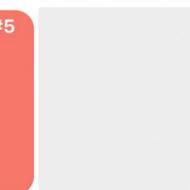
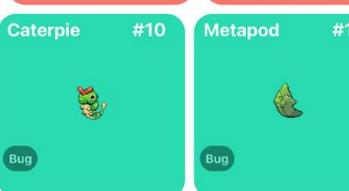
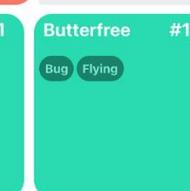
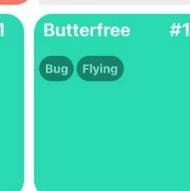
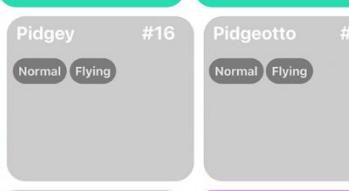
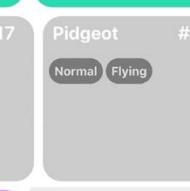
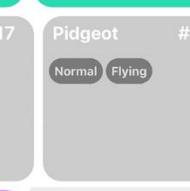
Pokedex

Loading Pokedex...

← → ⌂ localhost:3000

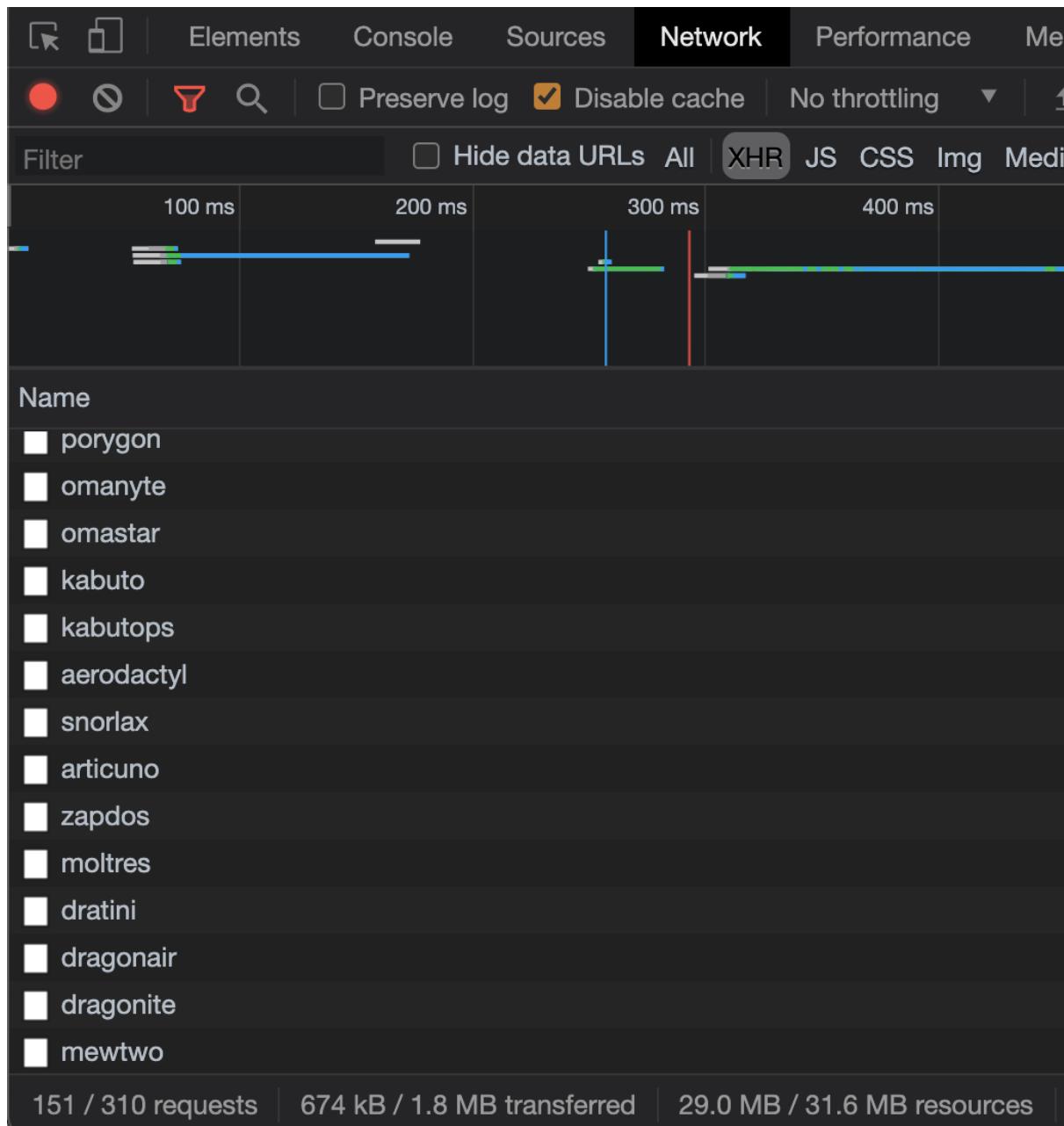
Pokedex

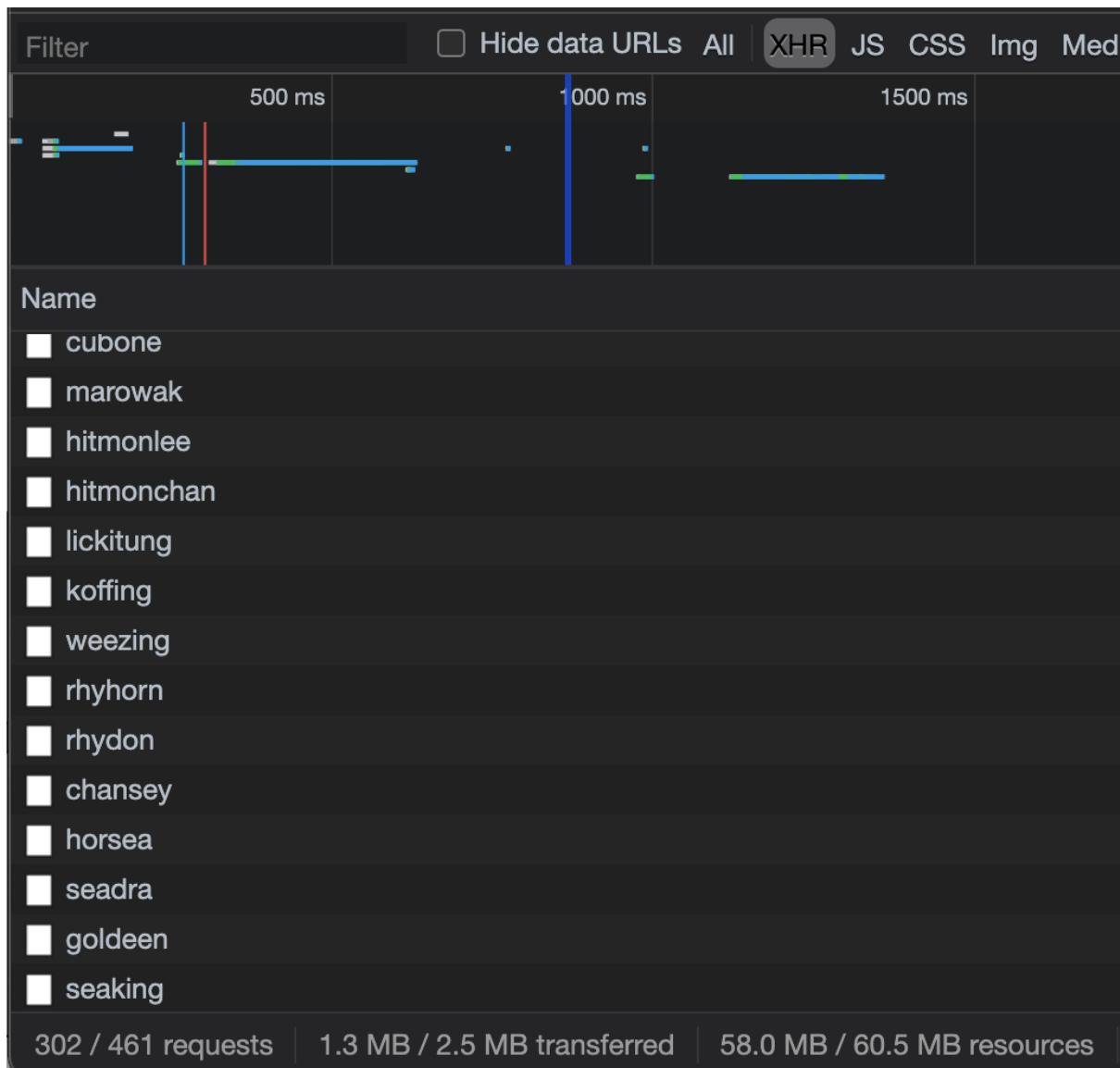
Pokedex

Bulbasaur #1  Grass Poison	Ivysaur #2  Grass Poison	Venusaur #3  Grass Poison	Charmander #4  Fire	Charmeleon #5  Fire	
	Wartortle #8  Water		Caterpie #10  Bug	Metapod #11  Bug	Butterfree #12  Bug Flying
Weedle #13  Bug Poison	Kakuna #14  Bug Poison	Beedrill #15  Bug Poison	Pidgey #16  Normal Flying	Pidgeotto #17  Normal Flying	Pidgeot #18  Normal Flying
	Spearow #21		Fearow #22	Ekans #23	

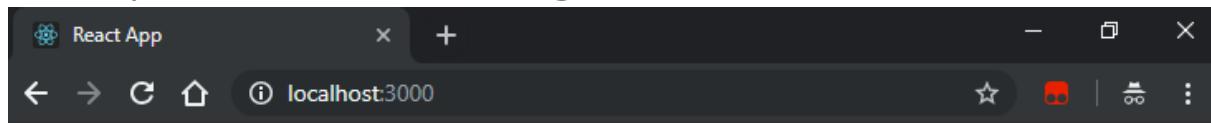
Pokedex

Bulbasaur #1  Grass Poison	Ivysaur #2  Grass Poison	Venusaur #3  Grass Poison	Charmander #4  Fire	Charmeleon #5  Fire	Squirtle #7  Water	Wartortle #8  Water	Blastoise #9  Water	Caterpie #10  Bug	Metapod #11  Bug	Butterfree #12  Bug Flying	Weedle #13  Bug Poison	Kakuna #14  Bug Poison	Beedrill #15  Bug Poison	
Pidgey #16  Normal Flying	Pidgeotto #17  Normal Flying	Pidgeot #18  Normal Flying	Rattata #19  Normal	Raticate #20  Normal	Spearow #21  Normal Flying	Fearow #22  Normal Flying	Eevee #23  Normal	Arbok #24  Poison	Jiglypuff #39  Electric	Zubat #40  Dark	Golbat #41  Dark Flying	Oddish #43  Poison Grass	Gloom #44  Poison Grass	
Heldqueren #31  Poison	Nidoran-M #32  Poison	Nidorina #33  Poison	Jellicent #34  Poison Water	Ditto #50  Normal	Clefairy #51  Normal	Mewtwo #52  Normal	Persian #53  Normal	Psyduck #54  Water	Goldeen #55  Water	Mankey #56  Normal	Primeape #57  Normal	Growlithe #58  Normal	Arcanine #59  Normal	
Paras #46  Bug Parasitic	Parasect #47  Bug Parasitic	Venonat #48  Bug Parasitic	Venomoth #49  Bug Parasitic	Digitoad #60  Normal	Dugtrio #51  Normal	Mheet #52  Normal	Persian #53  Normal	Psyduck #54  Water	Goldeen #55  Water	Mankey #56  Normal	Primeape #57  Normal	Growlithe #58  Normal	Arcanine #59  Normal	
Poliwhirl #61  Water	Poliwrath #62  Water Fighting	Abra #63  Psychic	Kadabra #64  Psychic	Alakazam #65  Psychic	Machop #66  Fighting	Machoke #67  Fighting	Machamp #68  Fighting	Bellsprout #69  Grass Poison	Weepinbell #70  Grass Poison	Victreebel #71  Grass Fighting	Tentacool #72  Water Dark	Tentacruel #73  Water Dark	Geodude #74  Ground	Graveler #75  Ground
Delorm #76  Rock Ground	Ponyta #77  Fire	Rapidash #78  Fire	Slowpoke #79  Water Psychic	Slowbro #80  Water Psychic	Magnemite #81  Electric Steel	Magneton #82  Electric Steel	Farfetch'd #83  Normal Flying	Doduo #84  Normal Flying	Dodino #85  Normal Flying	Seel #86  Water	Dewgong #87  Water Ice	Grimer #88  Poison	Muk #89  Poison	Shellder #90  Water
Cloyster #91  Water Rock	Gastly #92  Ghost Poison	Haunter #93  Ghost Poison	Oengar #94  Rock Poison	Onix #95  Rock	Drowzee #96  Psychic	Hypno #97  Psychic	Krabby #98  Water	Kingler #99  Water Water	Likewise #100  Water Water	Ampharos #101  Water Water	Espeon #102  Psychic Fairy	Umbreon #103  Psychic Fairy	Custine #104  Ground	Marowak #105  Ground
Hilmonke #106  Fighting	Hilmonchan #107  Fighting	Likking #108  Normal	Weezing #109  Poison	Rhyhorn #110  Rock Normal	Rhydon #111  Rock Normal	Alomomory #112  Rock Normal	Camerupt #113  Rock Normal	Tangela #114  Grass	Kangaskhan #115  Normal	Norsea #116  Water	Seadra #117  Water	Goldsean #118  Water	Seaking #119  Water	Staryu #120  Water
Starbie #121  Water Fishtastic	Mr.-Mime #122  Psychic Fairy	Scyther #123  Bug Flying	Cyndaquil #124  Electric	Kabutops #140  Rock Water	Aerodactyl #142  Rock Flying	Snorlax #163  Normal	Articuno #174  Ice Flying	Cyndaquil #175  Electric Flying	Ho-Oh #176  Fire Flying	Moltres #160  Fire Flying	Dratini #147  Dragon	Dragonair #148  Dragon	Dragonite #149  Dragon	Mewtwo #150  Psychic





Chapter 07: Writing Code for the Browser



Chapter 09: Server-Side Rendering for Fun and Profit



A screenshot of a browser window titled "view-source:localhost:3000". The page content is the raw HTML source code of a React application. The code includes a DOCTYPE declaration, an HTML element with a head and body section, and a script tag pointing to "/bundle.js". The script tag contains the string "Hello React".

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <meta charset="UTF-8">
5   </head>
6   <body>
7     <div id="app"><div data-reactroot="" data-reactid="1" data-react-checksum="982061917">Hello
8 React</div></div>
9   <script src="/bundle.js"></script>
10  </body>
11 </html>
12
```

Chapter 11: Testing and Debugging

```
→ testing git:(main) ✘ npm test

> css-modules@1.0.0 test
> jest

PASS  src/components/Hello/index.test.tsx
Hello Component
  ✓ should render Hello World (21 ms)
  ✓ should render the name prop (3 ms)
  ✓ should has .Home classname (2 ms)

Test Suites: 1 passed, 1 total
Tests:       3 passed, 3 total
Snapshots:   0 total
Time:        2.652 s, estimated 3 s
Ran all test suites.
```

```
→ testing git:(main) ✘ npm test

> css-modules@1.0.0 test
> jest

FAIL  src/components/Hello/index.test.tsx
Hello Component
  ✓ should render Hello World (27 ms)
  ✗ should render the name prop (6 ms)
  ✓ should has .Home classname (3 ms)

● Hello Component > should render the name prop
TestingLibraryElementError: Unable to find an element with the text: Hello World. This could be because the text is broken up by multiple elements. In this case, you can provide a function for your text matcher to make your matcher more flexible.

<body>
  <div>
    <h1
      class="Hello"
    >
      Hello
      Carlos
    </h1>
  </div>
</body>

11 |   it('should render the name prop', () => {
12 |     const wrapper = render(<Hello name="Carlos" />)
13 |     expect(wrapper.getByText('Hello World')).toBeInTheDocument()
14 |
15 |
16 |   it('should has .Home classname', () => {

at Object.getElementError (node_modules/@testing-library/dom/dist/config.js:37:19)
at node_modules/@testing-library/dom/dist/query-helpers.js:90:38
at node_modules/@testing-library/dom/dist/query-helpers.js:62:17
at node_modules/@testing-library/dom/dist/query-helpers.js:111:19
at Object.<anonymous> (src/components/Hello/index.test.tsx:13:20)

Test Suites: 1 failed, 1 total
Tests:       1 failed, 2 passed, 3 total
Snapshots:   0 total
Time:        2.817 s, estimated 3 s
Ran all test suites.
```

```

→ testing git:(main) ✘ npm run test:coverage

> css-modules@1.0.0 test:coverage
> jest --coverage

[PASS] src/components/Hello/index.test.tsx
Hello Component
  ✓ should render Hello World (22 ms)
  ✓ should render the name prop (3 ms)
  ✓ should has .Home classname (2 ms)

-----|-----|-----|-----|-----|-----|
File    | % Stmtts | % Branch | % Funcs | % Lines | Uncovered Line #s
-----|-----|-----|-----|-----|-----|
All files |   100  |   100  |   100  |   100  |
index.tsx |   100  |   100  |   100  |   100  |
-----|-----|-----|-----|-----|-----|
Test Suites: 1 passed, 1 total
Tests:       3 passed, 3 total
Snapshots:   0 total
Time:        1.431 s, estimated 3 s
Ran all test suites.

```

All files

100% Statements 4/4 100% Branches 2/2 100% Functions 1/1 100% Lines 3/3

Press *n* or *j* to go to the next uncovered block, *b*, *p* or *k* for the previous block.



```

→ events git:(main) ✘ npm test

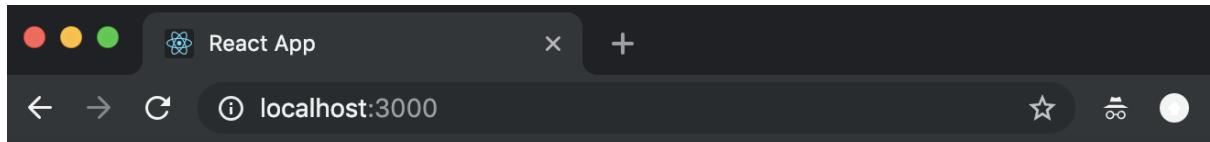
> css-modules@1.0.0 test
> jest

[PASS] src/components>ShowInformation/index.test.tsx
Show Information Component
  ✓ should modify the name (33 ms)
  ✓ should show the personal information when user clicks on the button (8 ms)

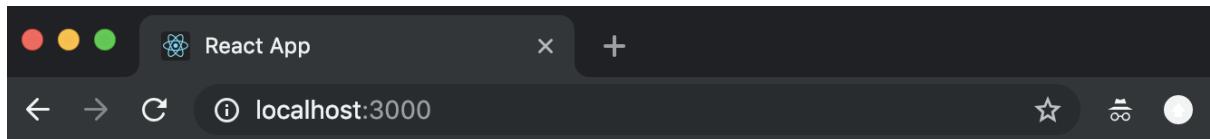
Test Suites: 1 passed, 1 total
Tests:       2 passed, 2 total
Snapshots:   0 total
Time:        2.499 s, estimated 3 s
Ran all test suites.

```

Chapter 12: React Router

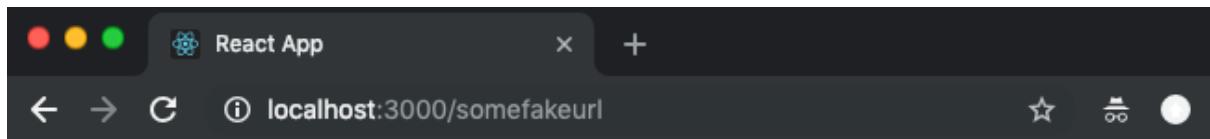


Home

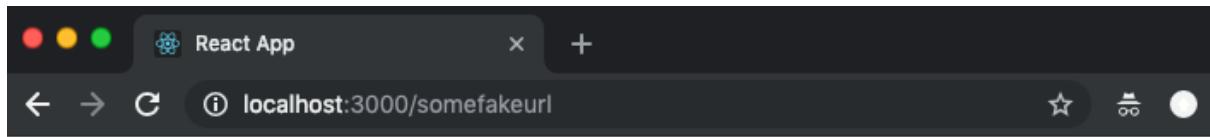


Home

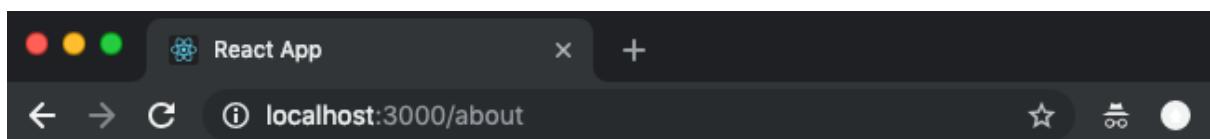
Error404



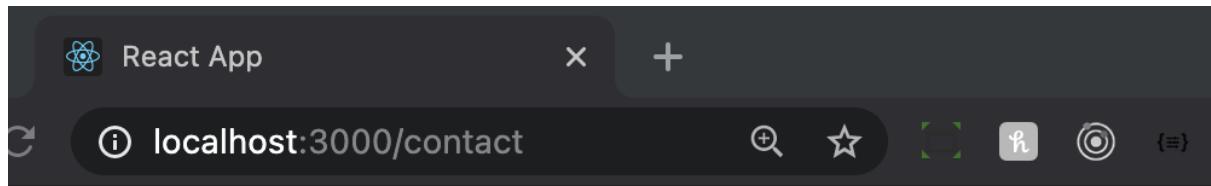
Home



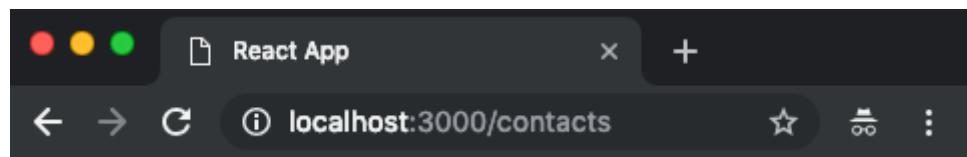
Error404



About

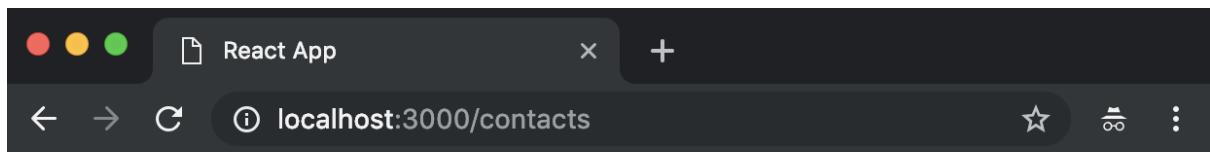


Contact



Contacts

```
▼ {match: {...}, location: {...}, history: {...}, staticContext: undefined} ⓘ
  ► history: {length: 3, action: "POP", location: {...}, createHref: f, push: f, ...}
  ► location: {pathname: "/contacts/2", search: "", hash: "", state: undefined, key: "3c5xbh"}
  ▼ match:
    isExact: true
    ► params: {contactId: "2"}
    path: "/contacts/:contactId"
    url: "/contacts/2"
    ► __proto__: Object
    staticContext: undefined
    ► __proto__: Object
```

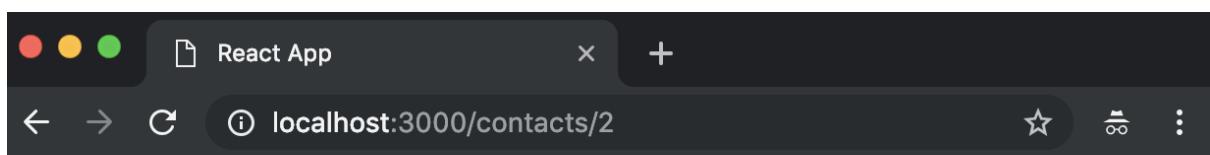


Contacts

Carlos Santana

John Smith

Alexis Nelson

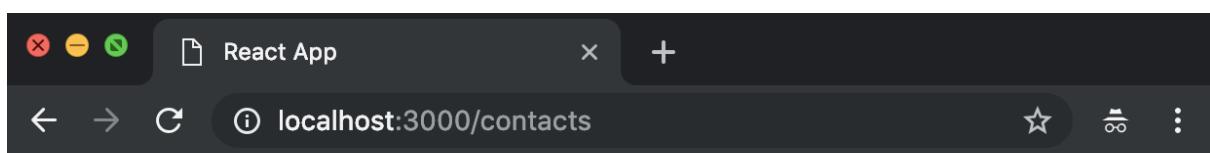


Contacts

John Smith

john.smith@dev.education

223-344-5122



Home About Contacts Contact

Contacts

Carlos Santana

John Smith

Alexis Nelson

Chapter 13: Anti-Patterns to be Avoided



Welcome to React

baz	foo
foo	bar
bar	



Chapter 14: Deploying to Production

1 Confirm email

2 Verification

3 Project Goals

Billing Info

Add a payment method to your account. You will not be charged until you start using services.

[Learn more about billing.](#)

Credit / Debit Card PayPal

ENTER CARD DETAILS

Card number

MM / YY CVC

BILLING ADDRESS

First Name

Last Name

Street Address

City

State / Region

Postal Code

Country / Territory

Phone Number

Save Card

* All Fields Required

You may see a temporary authorization hold on your card, which your bank should release soon.

1 Confirm email

2 Verification

3 Project Goals

Welcome, Carlos Santana!

To begin, let's create a new project. Projects help you organize your resources by environment, workload, client - however you or your team like to work.

Note: You can change the name, redefine the purpose, and move resources between projects as your needs change.

Create your first project

Enter project name

Dev



What is your project for?

This information will help us improve the projects experience, based on what you're building.

Website or blog



Tell us which tools and technologies you plan to use on DigitalOcean

CONFIGURATION MANAGEMENT

Ansible

Chef

Docker

Kubernetes

Puppet

DEPLOYMENT

Dokku

Gitlab

Jenkins

DEV TOOLS

Django

Elasticsearch

Github

Go

HAProxy

Hadoop

Java

Kafka

MEAN

MongoDB

MySQL

Nginx

NodeJS

PHP

PhpMyAdmin

PostgreSQL

Python

RabbitMQ

React

Redis

Ruby

Slack

Tomcat

MONITORING

Grafana

Nagios

Statsd

OTHER CLOUD PROVIDERS

AWS

Azure

GCP

Heroku

PUBLISHING

Discourse

Ghost

WordPress

Do you plan to use key technologies or services not listed above?

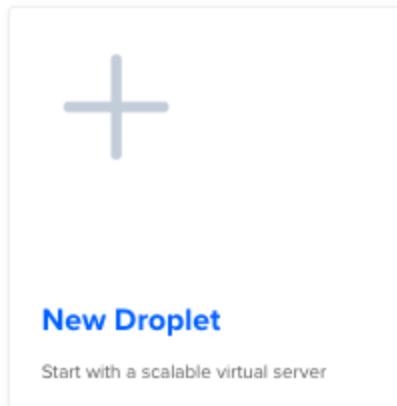
Enter any other technologies you plan to use
React

How many people are in your organization?



Start

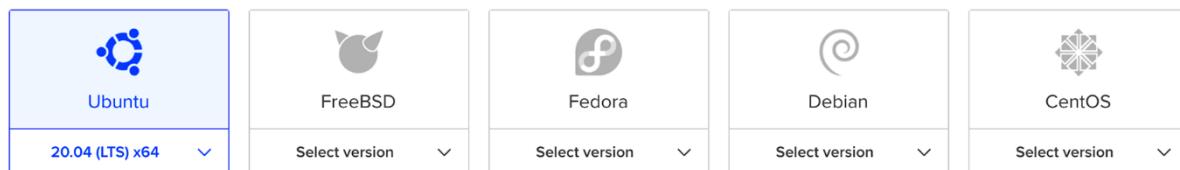
Create a Droplet



Create Droplets

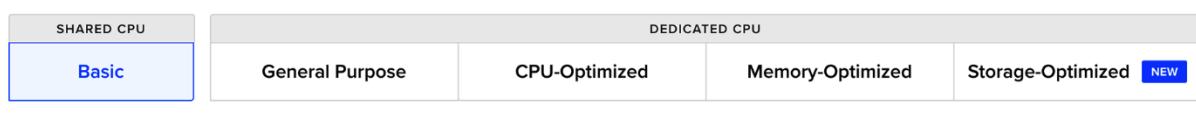
Choose an image [?](#)

Distributions Container distributions Marketplace Snapshots Custom images



Choose a plan

[Help me choose ↗](#)



CPU options: Regular Intel with SSD

Premium Intel with NVMe SSD [NEW](#)

Premium AMD with NVMe SSD [NEW](#)

\$5/mo \$0.007/hour
1 GB / 1 CPU 25 GB SSD Disk 1000 GB transfer

\$10/mo \$0.015/hour
2 GB / 1 CPU 50 GB SSD Disk 2 TB transfer

\$15/mo \$0.022/hour
2 GB / 2 CPUs 60 GB SSD Disk 3 TB transfer

\$20/mo \$0.030/hour
4 GB / 2 CPUs 80 GB SSD Disk 4 TB transfer

\$40/mo \$0.060/hour
8 GB / 4 CPUs 160 GB SSD Disk 5 TB transfer

\$80/mo \$0.119/hour
16 GB / 8 CPUs 320 GB SSD Disk 6 TB transfer

ⓘ Our Basic Droplet plans, formerly called Standard Droplet plans, range from 1 GB of RAM to 16 GB of RAM. [General Purpose Droplets](#) have more overall resources and are best for production environment, and [Memory-Optimized Droplets](#) have more RAM and disk options for RAM intensive applications.

Choose a datacenter region

 New York	 Amsterdam	 San Francisco	 Singapore	 London	 Frankfurt
1 2 3	1 2 3	1 2 3	1	1	1
 Toronto	 Bangalore	1	1		

Authentication ?

SSH keys
A more secure authentication method

Password
Create a root password to access Droplet (less secure)

Create root password *

 (copy)

PASSWORD REQUIREMENTS

- ✓ Must be at least 8 characters long
- ✓ Must contain 1 uppercase letter (cannot be first or last character)
- ✓ Must contain 1 number
- ✓ Cannot end in a number or special character

⚠ Please store your password securely. You will not be sent an email containing the Droplet's details or password.

Finalize and create

How many Droplets?

Deploy multiple Droplets with the same [configuration](#).

—	1 Droplet	+
---	-----------	---

Choose a hostname

Give your Droplets an identifying name you will remember them by. Your Droplet name can only contain alphanumeric characters, dashes, and periods.

 (copy)

Create Droplet

DROPLETS (1)

●  my-first-droplet	144.126.222.17		...
-----------------------------------------------------------------------------------------------------------------------------------------------------------	----------------	---------------------------------------------------------------------------------------	--------------------------------------------

```
~ ssh root@144.126.222.17
The authenticity of host '144.126.222.17 (144.126.222.17)' can't be established.
ECDSA key fingerprint is SHA256:j/SZ4/nXy9t5yD9VnC3fC4mqaFdgKZbKQCvpKQopOgA.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '144.126.222.17' (ECDSA) to the list of known hosts.
root@144.126.222.17's password:
Welcome to Ubuntu 20.04.1 LTS (GNU/Linux 5.4.0-51-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

 System information as of Tue May 11 06:31:54 UTC 2021

 System load:  0.0          Users logged in:      0
 Usage of /:   5.1% of 24.06GB  IPv4 address for eth0: 144.126.222.17
 Memory usage: 18%          IPv4 address for eth0: 10.48.0.5
 Swap usage:   0%          IPv4 address for eth1: 10.124.0.2
 Processes:    98

1 update can be installed immediately.
0 of these updates are security updates.
To see these additional updates run: apt list --upgradable

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

root@my-first-droplet:~#
```

```

root@my-first-droplet:~# ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/root/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /root/.ssh/id_rsa
Your public key has been saved in /root/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:FzejHaIZaY88/wlVUDocpeEjV+wjwY/RfBowIQenWts root@my-first-droplet
The key's randomart image is:
+---[RSA 3072]---+
|      ooX0+ |
|      . B+O= . |
|      + * &*.+ |
|      o O @oB= |
|      S = E. . |
|      + .       |
|      o         |
|      o .       |
|      o         |
+---[SHA256]---+
root@my-first-droplet:~#

```

```

ssh-rsa AAAAB3NzaC1yc2EAAAQABAAQgQCzz49rPKe+dctYr3UG8F+vr3uKZS
rqVKbJjypIzOc20rrEPyjuL0GEYBRLYNDFHjmhAhQo45Y86x1IfQn4aC9QODiDcj
sDJZwc+bQ91NqvhP4q5+RHK/yizlcVBZKCw5RIx9AzpQt8bFRWWlP188cnvXhH1BxL
b0eej5xtaL6afdAEUh5z/kIXGQO6kIzZlnyEnvqqKfUmUHDyLOyqB1xjkY/Shgf5o1
YdNk2hAFFC4r96mIyfVRR23tYPPE060qZ1M= root@my-first-droplet

```

SSH keys / Add new

Title

Droplet

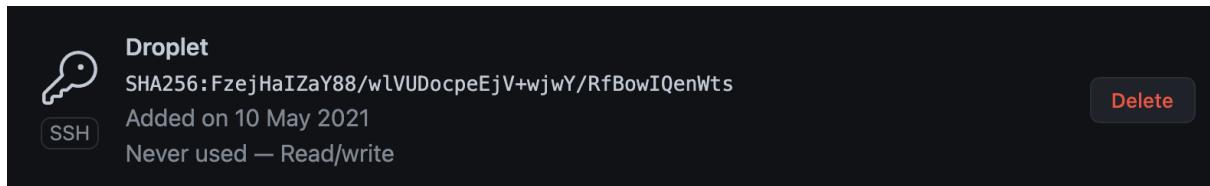
Key

```

ssh-rsa
AAAAB3NzaC1yc2EAAAQABAAQgQCzz49rPKe+dctYr3UG8F+vr3uKZSSQ99N5JtPMpHV9M9JfLuSH63
MKrXHWt6uBJqojdFTNB0TGd7o3rTcMcguiyOC2LrqVKbJjyplzOc2OrrEPyjuL0GEYBRLYNDFHjmhAhQo45Y86
x1IfQn4aC9QODiDcj5JEUnT1cVZ9plMgNKjPhtSQsW0Jm2+a0BUpGJu3KdZL1vK7TTfSzOnUaLyoZw3VsDJZwc+
bQ91NqvhP4q5+RHK/yizlcVBZKCw5RIx9AzpQt8bFRWWlP188cnvXhH1BxLOm4xUWlo+mdklHmlYIC73f/UBqah
UR30yopNn/ycRtReXsnDN0KgWJoLs13xsZbb0eej5xtaL6afdAEUh5z/kIXGQO6kIzZlnyEnvqqKfUmUHDyLOyqB1
xjkY/Shgf5o1jA8xCwyBRXHwqq7Q/wt5jfVJkaJXdEHYty7RQNuMb/zGD80bA6PqTgCzQDV0va7YdNk2hAFFC4r9
6mlyfVRR23tYPPE060qZ1M= root@my-first-droplet

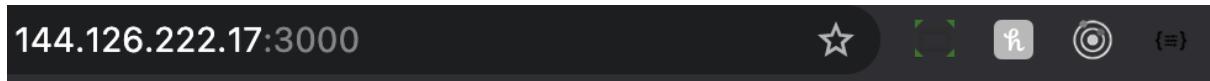
```

Add SSH key



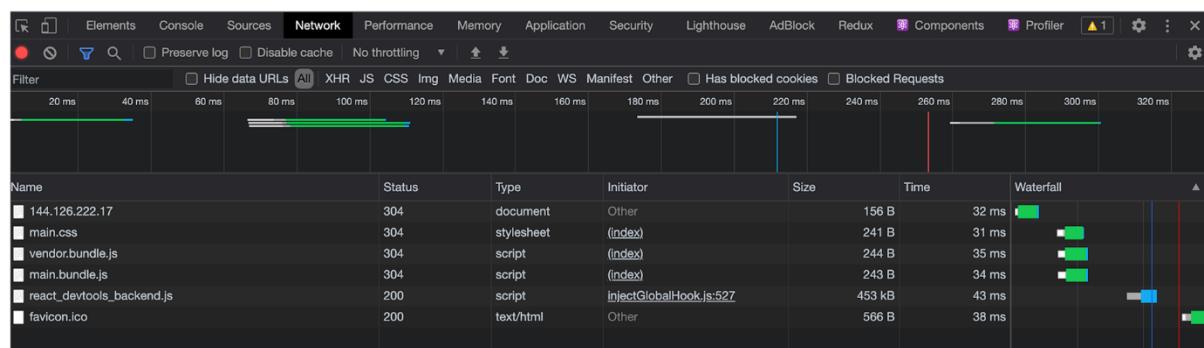
```
root@my-first-droplet:~# git clone git@github.com:D3vEducation/production.git
Cloning into 'production'...
The authenticity of host 'github.com (192.30.255.113)' can't be established.
RSA key fingerprint is SHA256:nThbg6kXUpJWG17E1IGOCspRomTxdCARLviKw6E5SY8.
Are you sure you want to continue connecting (yes/no/[fingerprint])? █
```

```
Warning: Permanently added 'github.com,192.30.255.113' (RSA) to the list of known hosts.
remote: Enumerating objects: 188, done.
remote: Total 188 (delta 0), reused 0 (delta 0), pack-reused 188
Receiving objects: 100% (188/188), 217.06 KiB | 1.07 MiB/s, done.
Resolving deltas: 100% (61/61), done.
root@my-first-droplet:~# █
```



Hello Everyone

Hello Everyone



my-first-droplet

in carlos / 1 GB Memory / 25 GB Disk / SFO3 - Ubuntu 20.04 (LTS) x64

ON

ipv4: 144.126.222.17

ipv6: [Enable now](#)

Private IP: 10.124.0.2

Floating IP: [Enable now](#)

Console:

X

Turn off Droplet

This shutdown process takes a few minutes to complete because it makes two attempts.

First, we try to shut down your Droplet gracefully. If this fails because your Droplet is unresponsive, we power the Droplet off.

A hard shutdown can cause data corruption, so we recommend turning off your Droplet from the command line when possible.

You will still be billed for Droplets that are turned off because your disk space, CPU, RAM, and IP address will still be reserved.



Don't show me this message again.

Cancel

Turn off

144.126.222.17



Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.

```
[root@my-first-droplet:~# sudo nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
root@my-first-droplet:~# ]
```

144.126.222.17



Hello Everyone

Nameservers

Last updated 4/5/2018 12:27 AM

Using default nameservers

[Change](#)

Nameserver

ns15.domaincontrol.com

ns16.domaincontrol.com

Nameservers

Last updated 4/5/2018 12:27 AM

Choose your new nameserver type

Custom



Nameserver

ns1.digitalocean.com

ns2.digitalocean.com

ns3.digitalocean.com



[Save](#)

[Cancel](#)

[Add Nameserver](#)

 Dev DEFAULT
Website or blog

→ Move Resources

Resources Activity Settings

DROPLETS (1)

 dev-education	159.65.102.222	Add tags
-------------------------------------------------------------------------------------------------	----------------	----------

Create something new

-  Start using Spaces
Deliver data with scalable object storage
-  Spin up a Load Balancer
Distribute traffic between multiple Droplets

Build on what you have

-  Build a Node.js application
Set up a Node.js application for production on Ubuntu
-  Go containerized with Docker
Install and use Docker containers to build containerized applications
-  Build a PHP web application
Install Linux, Apache, MySQL, PHP (LAMP) on DigitalOcean one click

Learning materials

- NodeJS
- [How To Install Node.js on Production on Ubuntu 18.](#)
- [How To Set Up a Node.js Application on Ubuntu 18.](#)
- [How To Use Winston to Log Applications](#)

More options

- Add a domain
- Access console
- Resize droplet
- View usage
- Enable backups
- Add tags
- Move to...
- Destroy

Networking

Domains Floating IPs Load Balancers Firewalls PTR records



Looks like there are no domains here.

You can add one easily, though. Enter a domain below and start managing your DNS with DigitalOcean.

Enter domain
bixyn.com



dev-education
SFO2 / Floating IP

Add Domain

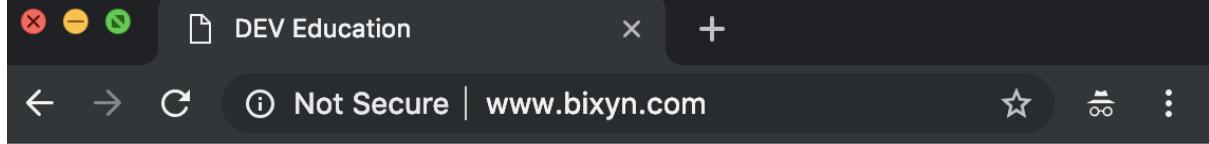
Create new record

A AAAA **CNAME** MX TXT NS SRV CAA

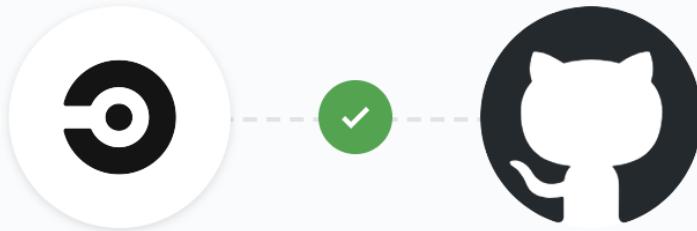
CNAME records act as an alias by mapping a hostname to another hostname.

HOSTNAME	IS AN ALIAS OF	TTL (SECONDS)
Enter hostname WWW	Enter @ or hostname @	Enter TTL 43200

www.bixyn.com



Hello Everyone



Authorize CircleCI



CircleCI by circleci
wants to access your D3vEducation account



Personal user data

Email addresses (read-only)



Repositories

Public and private



Authorize circleci

Authorizing will redirect to

<https://circleci.com>

Not owned or
operated by GitHub

Created
8 years ago

More than 1K
GitHub users

[Learn more about OAuth](#)

Overview

Advanced

Environment Variables

SSH Keys

API Permissions

Jira Integration

Slack Integration

Overview

FoggDev / production 

By default, you will receive build notifications and email notifications for projects that you follow. You can update your notification preferences for this project from the [User Settings page](#).

[Follow Project](#)

How to configure your project

To get the most out of CircleCI, each of your projects should have a config file. If you haven't done so, add `.circleci/config.yml` to your project repo. Once you've set up your config file, read about how to use advanced features to speed up your builds:

- [Parallelism](#)
- [Configurable resource classes](#)
- [Workflows](#)
- [Caching](#)

Overview

Advanced

Environment Variables

SSH Keys

API Permissions

Jira Integration

Slack Integration

A deploy key is a repo-specific SSH key. GitHub has the public key, and we store the private key on your machine so you can push to GitHub without having to enter it manually.

Add an SSH Key

Hostname

Private Key*

If a deployment needs to use an SSH key, you'll need to add it here.

Cancel **Add SSH Key**

In order to do so, you'll need to grant authorization from GitHub to the "admin:public_key" scope. This will allow us to add a new authorized public key to your GitHub account.

Additional SSH Keys

Add keys to the build VMs that you need to deploy to your machines. If the hostname field is blank, the key will be used for all hosts.

Add SSH Key

app.circleci.com/settings/project/github/FoggDev/production/environment-variables?return-to=%2F

Project Settings

production

- Overview
- Advanced
- Environment Variables**
- SSH Keys
- API Permissions
- Jira Integration
- Slack Integration

Environment Variables

Environment variables are key-value pairs that you can define and reference in your app once they are set.

If you're looking to add a new environment variable, click "Add Environment Variable".

Add Environment Variable

To disable string substitution, you will need to escape the \$ characters by prefixing them with \. For example, a value like **usd\$** should be entered as **usd\\$**.

Name*

Value*

Cancel **Add Environment Variable**

Add Environment Variable

To disable string substitution, you will need to escape the \$characters by prefixing them with \. For example, a value like **usd\$** should be entered as **usd\\$**.

Name*

Value*

Cancel **Add Environment Variable**

production 2	<ul style="list-style-type: none"> ⌚ Job may be a string reference to another job ▶ 2. [#/jobs/build] expected type: String, found: Mapping <ul style="list-style-type: none"> - steps - docker - working_directory 	⌚ master 1fcc22e Update README.md	17m ago	9s	C_i	C_d	X	...
Jobs	! Build Error 2			6s				

Pipeline	Status	Workflow	Branch / Commit	Start	Duration	Actions			
production 3	Success	build-deploy	⌚ master aa0219b Update config.yml	8m ago	1m 3s	C_i	C_d	X	...
Jobs	Build 3				51s				

STEPS	TESTS	ARTIFACTS
Spin up environment		2s ↗ ↘
Preparing environment variables		0s ↗ ↘
Checkout code		0s ↗ ↘
npm install		17s ↗ ↘
npm run lint		0s ↗ ↘
npm test		3s ↗ ↘
ssh -o StrictHostKeyChecking=no \$DROPLET_USER@\$DROPLET_IP 'cd production; git checkout master; git pull; npm install; npm run start:production;'		23s ↗ ↘

```
npm run lint
#!/bin/bash -eo pipefail
npm run lint

> production@1.0.0 lint /home/circleci/tmp
> eslint --ext .jsx,.js src
CircleCI received exit code 0

npm test
#!/bin/bash -eo pipefail
npm test

> production@1.0.0 test /home/circleci/tmp
> jest --no-cache

Browserslist: caniuse-lite is outdated. Please run next command `npm update caniuse-lite browserslist`
PASS  src/frontend/components/Hello/index.test.jsx
Hello
  ✓ should render Hello component (1ms)
  ✓ should render by default Hello World
  ✓ should render the name prop
  ✓ should has .Hello class (3ms)

Test Suites: 1 passed, 1 total
Tests:       4 passed, 4 total
Snapshots:   0 total
Time:        1.455s
Ran all test suites.
CircleCI received exit code 0
```

▷ Spin up Environment	00:02
▷ Checkout code	00:00
▷ npm install	00:13
▽ npm run lint	00:00

```
$ #!/bin/bash -eo pipefail
npm run lint

> production@1.0.0 lint /home/circleci/tmp
> eslint --ext .jsx,.js src

/home/circleci/tmp/src/frontend/components/Hello/index.jsx
 13:58  error  Missing semicolon  semi

✖ 1 problem (1 error, 0 warnings)
 1 error and 0 warnings potentially fixable with the '--fix' option.

[ERR! code ELIFECYCLE
[ERR! errno 1
[ERR! production@1.0.0 lint: `eslint --ext .jsx,.js src`
[ERR! Exit status 1
[ERR!
[ERR! Failed at the production@1.0.0 lint script.
[ERR! This is probably not a problem with npm. There is likely additional logging output above.

[ERR! A complete log of this run can be found in:
[ERR!   /home/circleci/.npm/_logs/2019-03-13T08_08_25_812Z-debug.log
Exited with code 1
```

-o- Commits on May 12, 2021

Update config.yml
FoggDev committed 16 minutes ago ✓

Update README.md
FoggDev committed 24 minutes ago ✗

Update config.yml
FoggDev committed 26 minutes ago

Chapter 15: Next Steps

