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# Express Lecture 3

## Overview of Different Response Types


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# Agenda

- Router & routes
- JSON Response
- Files Response
- HTML Response
- Server-side vs Client-side Rendering


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# Router & Routes

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# Starter Template

/routes/index.js

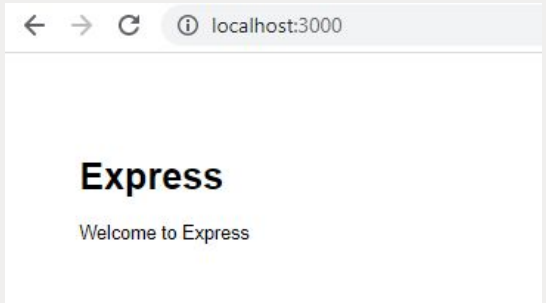
```
var express = require("express");
var router = express.Router();

/* GET home page. */
router.get("/", function (req, res, next) {
  res.render("index", { title: "Express" });
});

module.exports = router;
```

Each file in the **"/routes"** folder actually contains an **Express Router**.

Then we are adding routes to this router.



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# Adding more routes to the router

/routes/index.js

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var express = require("express");
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router.get("/", function (req, res, next) {
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});

router.get("/1", function (req, res, next) {
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});

router.get("/another", function (req, res,
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3 Routes doing the same things
GET "/"
GET "/1"
GET "/another"

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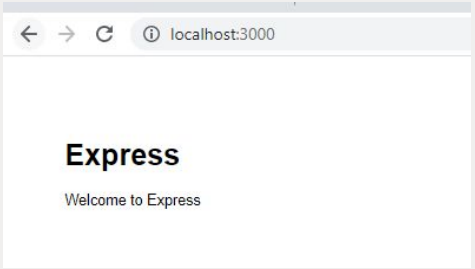


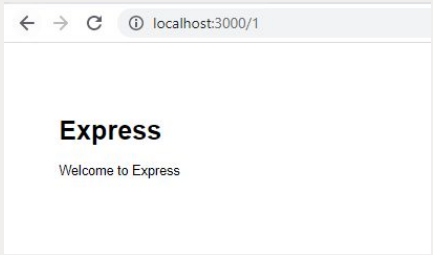


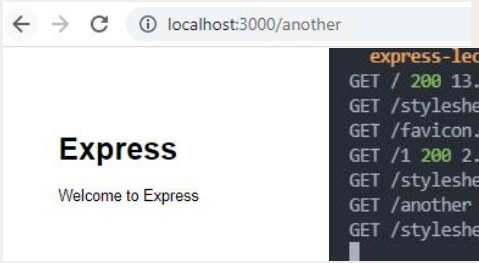


```
express-lecture-3-demo:server Listening on port 3000 +0ms
GET / 200 13.803 ms - 207
GET /stylesheets/style.css 200 3.482 ms - 111
GET /favicon.ico 404 2.079 ms - 1243
GET /1 200 2.205 ms - 207
GET /stylesheets/style.css 304 1.143 ms - -
GET /another 200 1.667 ms - 207
GET /stylesheets/style.css 304 0.682 ms - -
```



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# Duplicate routes

/routes/index.js

```
var express = require("express");
var router = express.Router();

router.get("/", function (req, res, next) {
  res.render("index", { title: "Express" });
});

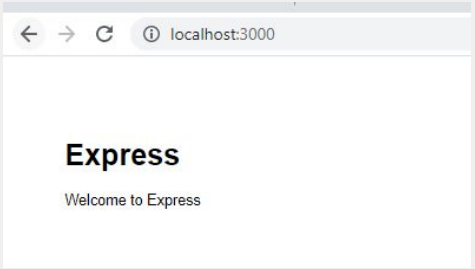
….

router.get("/", function (req, res, next) {
  res.render("index", { title: "HI!!!" });
});

module.exports = router;
```

Each file in the **"/routes"** folder actually contains an **Express Router**.

If the **HTTP method** and the **HTTP Path** of a route of 2 routes are the same, the **first one** will be used.



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# JSON Response

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# JSON

- JSON response is the most common kind of response for an API server.
- JSON is not a HTML page. JSON is a data structure containing the data the user requested.
- The requester usually is a Frontend Application.

# JSON Response

```
router.get("/json1", function (req, res,
next) {
  res.json({
    name: "Peter",
    gender: "Male",
  });
});

router.get("/json2", function (req, res,
next) {
  res.json({
    name: "Amy",
    gender: "Female",
  });
});
```





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# More Complicated JSON Response

GET https://api.thecatapi.com/v1/images/search?breed_id=beng




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# JSON Response Summary

- JSON is not a HTML page. JSON is a data structure containing the data the user requested.
- It is about the data, not about the UI.
- The **frontend applications can have different UI designs to display the data**.
    - Mobile application...
    - Website application...

# Files Response

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# Static Files

In Express, we will organize files into a static resource folder.
You can find this configuration in the /app.js file.

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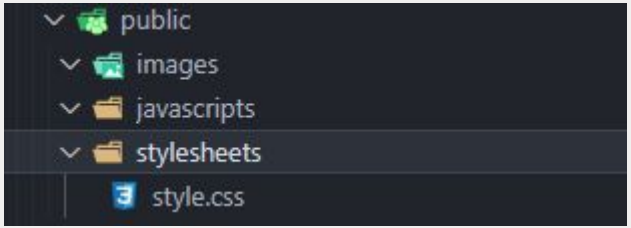


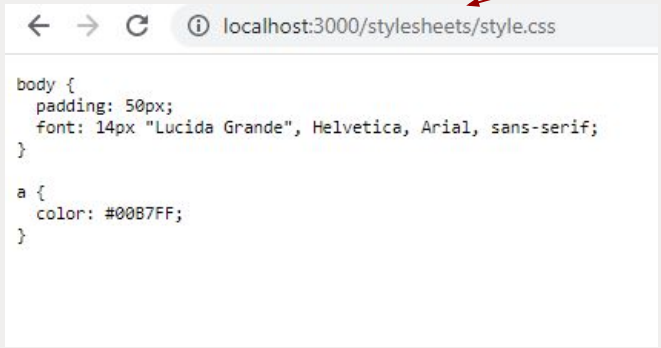




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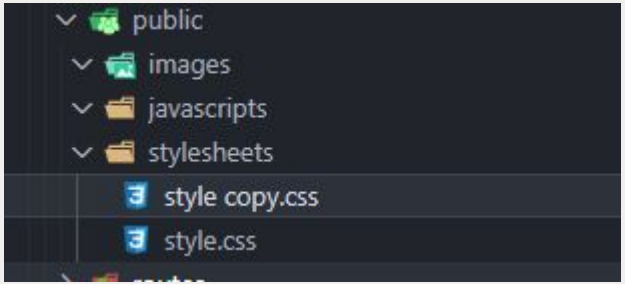



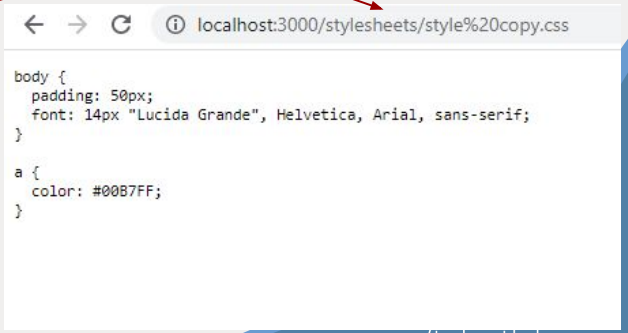

# HTML Response

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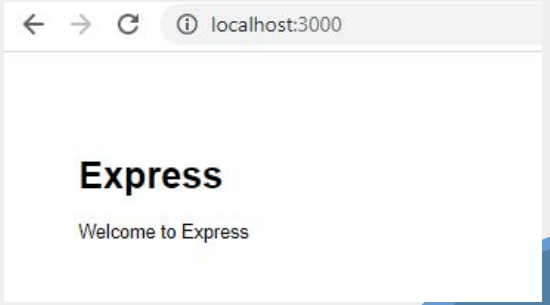
# HTML Templates

```
router.get("/", function (req, res, next) {
  res.render("index",
    { title: "Express" });
});
```

Template name,
index -> **/views/index.ejs**

```
<!DOCTYPE html>
<html>
  <head>
    <title><%= title %></title>
    <link rel='stylesheet'
href='/stylesheets/style.css' />
  </head>
  <body>
    <h1><%= title %></h1>
    <p>Welcome to <%= title %></p>
  </body>
</html>
```

Rendering Context,
We will replace the “title” placeholder in the template with the value “Express”



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# HTML Templates

```
router.get("/", function (req, res, next) {
  res.render("index",
    { title: "My Website" });
});
```

Template name,
index -> **/views/index.ejs**

```
<!DOCTYPE html>
<html>
  <head>
    <title><%= title %></title>
    <link rel='stylesheet'
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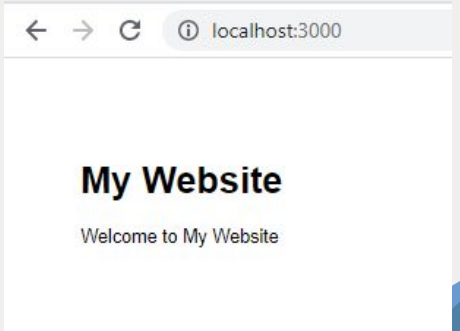




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# Server-side vs Client-side Rendering

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# Rendering (Rendering the UI)

**Client-side Rendering**
In the JSON Response section, we talked about a JSON Response is only returning the data. **We have some other frontend code to handle the rendering**.

**Server-side Rendering**
In the HTML Template section, you can also **define the UI with Express**.

# Rendering (Rendering the UI)

Server-side rendering is easier, you only need backend developers to build a web application.

However, Client-side rendering is the trend nowadays. Because the clients are not just browser (reading HTML files). Many clients don't understand HTML file such as Mobile Apps.

```
/* GET home page. */
router.get('/', function(req, res, next) {
  res.render('index', {
    title: 'Express App',
    message: "I am here!!!!!",
  });
});
```

```
ReactDOM.render(
  <React.StrictMode>
    <App />
  </React.StrictMode>,
  document.getElementById('root')
);
```



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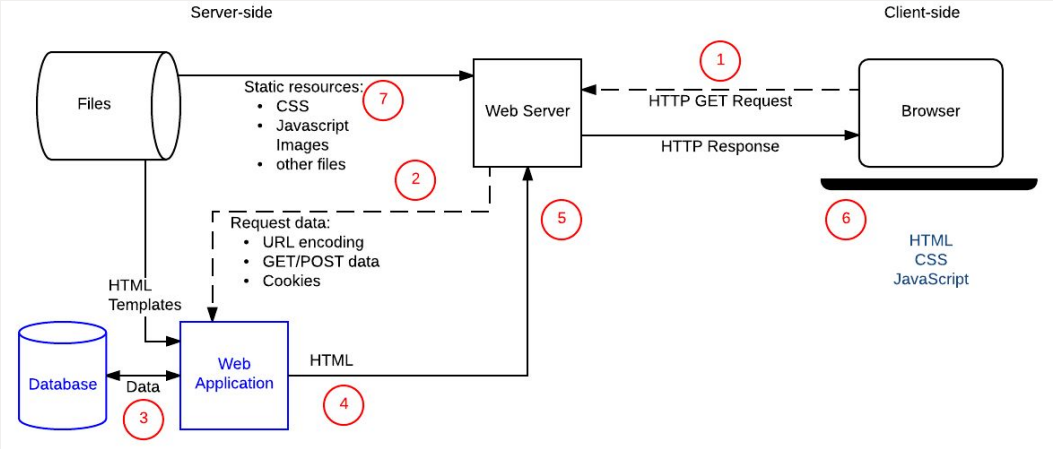
# Server-side Rendering Overview

We will talk about this in the coming lectures



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