

CTeSP

CURSOS TÉCNICOS SUPERIORES PROFISSIONAIS

Tecnologias e Programação de Sistemas de Informação

ROUTING & FILE HANDLING

Desenvolvimento Web - Back-End | David Jardim

Cofinanciado por:









API: A SET OF TOOLS FOR BUILDING A SOFTWARE APPLICATION.

Stands for 'Application Programming Interface'. On the web the tools are usually made available via a set of URLs which accept and send only data via HTTP and TCP/IP.



ROUTING

- Routing refers to determining how an application responds to a client request to a particular endpoint
- An endpoint is a URI (or path) and a specific HTTP request method (GET, POST, and so on).

app.METHOD(PATH, HANDLER)

ENDPOINT: ONE URL IN A WEB API.

Sometimes that endpoint (URL) does multiple thing by making choices based on the HTTP request headers.

ROUTING

- app is an instance of express
- METHOD is an HTTP request method, in lowercase
- PATH is a path on the server
- HANDLER is the function executed when the route is matched

app.METHOD(PATH, HANDLER)



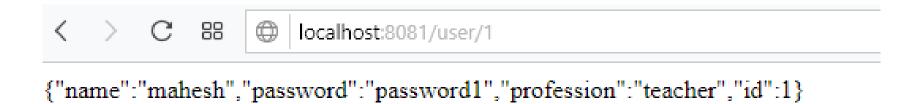
Route Paths

- Route paths, in combination with a request method, define the endpoints at which requests can be made
- Route paths can be strings, string patterns, or regular expressions

```
app.get('/', function (req, res) {
  res.send('root')
})
```

Route Parameters

Route parameters are named URL segments that are used to capture the values specified at their position in the URL





Route Parameters

 The captured values are populated in the request.params object, with the name of the route parameter specified in the path

```
app.get('/user/:id', function(request, response){
    var userId = request.params.id;
    response.send(userId);
});
```





Query Parameters

```
app.get('/search', (req, res, next) => {
  res.send(req.query)
})
```

On query strings, the URL we create does not include the params

```
GET v http://localhost:3000/search?name=David&age=27
```



Files and expressions

```
app.get('/random.text', function (req, res) {
   res.send('random.text')
})
```

Will match anything with an "a"

```
app.get(/a/, function (req, res) {
  res.send('/a/')
})
```



Response Header

- The status code is a 3-digit HTTP status code, like 404. The last argument, headers, are the response headers
- Optionally one can give a human-readable statusMessage as the second argument

```
const body = 'hello world';
response.writeHead(200, {
   'Content-Length': Buffer.byteLength(body),
   'Content-Type': 'text/plain' });
```



HTTP Response Codes

Code	Description	Meaning
200	OK	Standard success response.
201	Created	New resource created.
301	Moved permanently	Permanent redirect to new URI.
304	Not modified	Safe to use page stored in cache.
307	Temporary redirect	Use new URI now; try old later.
401	Unauthorized	Authentication failed.
403	Forbidden	Disallowed, auth will not help.
404	Not found	Resource was not found.
405	Method not allowed	Used GET when should use POST.
500	Internal server error	Internal server error.





Response Methods

Method	Description	
res.download()	Prompt a file to be downloaded.	
res.end()	End the response process.	
res.json()	Send a JSON response.	
res.jsonp()	Send a JSON response with JSONP support.	
res.redirect()	Redirect a request.	
res.render()	Render a view template.	
res.send()	Send a response of various types.	
res.sendFile()	Send a file as an octet stream.	
res.sendStatus()	Set the response status code and send its string representation as the response body.	



Express Application Generator

- Use the application generator tool, express-generator, to quickly create an application skeleton
- Install the application generator globally

```
PS C:\Users\David.JARDIM\Documents\AxiansLabs\ml-serving> npm install express-generator -global C:\Users\David.JARDIM\AppData\Roaming\npm\express -> C:\Users\David.JARDIM\AppData\Roaming\npm\no de_modules\express-generator\bin\express-cli.js + express-generator@4.16.1 updated 1 package in 0.989s
```



Express Application Generator

create: myapp/bin/www

```
express --view=pug myapp
 create : myapp
 create: myapp/package.json
 create : myapp/app.js
 create : myapp/public
 create : myapp/public/javascripts
 create : myapp/public/images
 create : myapp/routes
 create : myapp/routes/index.js
 create : myapp/routes/users.js
 create : myapp/public/stylesheets
 create : myapp/public/stylesheets/style.css
 create : myapp/views
 create : myapp/views/index.pug
 create: myapp/views/layout.pug
 create : myapp/views/error.pug
 create : myapp/bin
                                Desenvolvimento WEB - Backend
```



Express Application Generator

```
app.js
 bin
   - www
- package.json
                    Navigate to the app folder:
- public
                    $ cd myapp
   - images
                    Then install dependencies from the package.json:
   - javascripts
   - stylesheets
                    $ npm install
     └─ style.css
                    Run the application:
 routes
                    $ npm start
    index.js
   - users.js
 views
    error.pug
   - index.pug
    layout.pug
```





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