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Web and Database Computing •

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Client-Server Basics: Node.js Express Server

Setting up our own server

Introduction to the HTTP server side

So far we have only been using the client

- All our files have been local and accessed directly
- All our code has run in the browser

We'll now start using a server

We will be using

Node.js

in this course

(NOT php)



Building a server with Express/Node.js

Node.js is becoming increasingly popular for web applications

- Javascript
 - One language client and server
 - Event driven
 - Familiar programming style
- Asynchronous
 - Performance (does not have to wait for slow operations to complete)
 - Using 'call back' functions (called when the operation completes, this allows the server to deal with other tasks until the call back is triggered.)

Express

Express is a web applications framework for Node.js

- Its purpose is to make it easy to write web applications in Node.js

Setting up a basic Express server is easy!

- The express generator will set up your Node.js directory structure for you
 - Run the command **express**
- We can then modify the files that the express generator created for us.

Setting up a basic webserver using Express

Demo

- Use the `express` command to setup our basic server

What has express created for us?

- **bin** contains program files used to run our server
- **public** contains files we can serve statically
- **routes** contains Node.js code files for serving dynamic content
- **app.js** is the main Node.js application file
- **package.json** contains a metadata about our app

Preparing our basic Express server

Demo

- Use the `npm install` command to install needed files for our basic server

What has npm created for us?

- `node_modules` contains library files used to run our server
- `package-lock.json` locks the versions of libraires used

Serving files statically

Demo

- Start the server with `npm start`
 - Select **Web Server** from the **CS50 IDE** menu.
 - Or go to <http://localhost:3000> if you're running node locally
- Place files in the public folder to make them available

What was being served?

- Files placed in the public folder would be available at the corresponding path
 - A file created at **public/test.html** will be available at <http://hostname/test.html>
 - A file created at **public/css/test.css** will be available at <http://hostname/css/test.css>



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