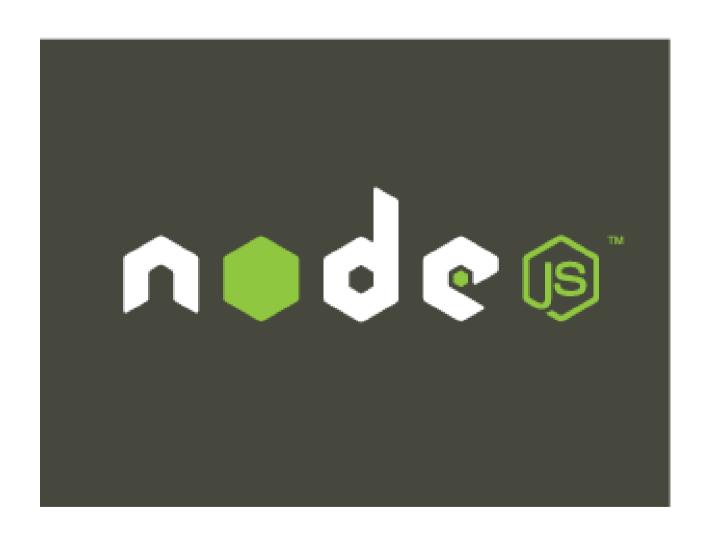
# Server-Side JS using Node.js



### Non-blocking IO

#### Example 1 – Building non-blocks

```
/* Blocking/synchronous web servers (pseudo-code) */
roomName = request.roomName
roomInfo = request.roomInfo
if roomExists(roomName): //roomExists checks the rooms DB
 makeRoom(roomName, roomInfo) //writes to the DB
 return "{\"room\": \"+ roomName +\"}"
else:
 return "{\"error\": \"room exists\"}"
/* Node.js: non-blocking/asynchronous web server */
var roomName = request.roomName;
roomExists(roomName, function(exists) {
 if(exists) {
    response.send({ error: "room exists" });
 } else {
   makeRoom(roomName, function(room) {
      room.roomInfo = request.roomInfo;
    });
    //response is sent before the room is fully created
   response.send({ room: roomName });
});
```

## Ping-pong server

#### Example 2 – Ping pong

```
var http = require('http');
//Makes a 6 second long page loop
http.createServer(function (req, res) {
  if(req.url === "ping") {
    res.writeHead(200, {'Refresh': '3; url=/pong.html'});
    res.end("Ping"); //Sends the text "Ping"
  } else if(req.url === "pong") {
    res.writeHead(200, {'Refresh': '3; url=/ping.html'});
    res.write("Pong"); //Writes "Pong"
    res.end(); //Sends the response
  } else {
    res.writeHead(200, {'Location': '1; url=/ping.html'});
    res.end();
}).listen(4242, '127.0.0.1');
console.log('Navigate to http://127.0.0.1:4242/');
```

# A slightly less boring "Hello world"

#### Example 3 - GET me a variable

```
var express = require("express");
var app = express(); //Creates a new Express app
//These includes are run when a request is received
//These includes are known as "middleware"
var __dirname = "/home/nhynes"
app.configure(function () {
  app.use(express.static(__dirname + '/static'));
 //serves resources not matched by a route
});
app.get("/", function(req, res) {
  var name = req.param("name"); //like /?name=Nick
  res.send("Hello" + name); //headers are auto-set
});
app.listen(4242); //starts the server
```

# Routing using Express

```
//In general,
app.VERB("route", function(request, response) { });
//if the HTTP method is VERB and the request URL
//matches route, then the function will be called
```

### Example 4 - GET me a variable

### Informal form input

### Example 5 – Forming a form of form processing

```
var express = require("express");
var app = express(); //Creates a new Express app
var clothes = {};
app.post("/:clothingArticle", function(req, res) {
  var article = req.params.clothingArticle;
  if(clothes[article] === undefined) {
    clothes[article] = [];
  }
 var articleType = req.param("type");
 var clothes[article].append(articleType);
 res.status(200).end(); //Shorthand way to respond
});
app.listen(4242); //starts the server
```

## New clothes by POST (client-side)

### Example 6 – Clothes by POST

```
//This is called when a form containing an input for
//article of clothing and the article type is submitted
function makeClothing() {
 var article = $("#newClothingArticle").val();
 var articleType = $("#newClothingArticleType").val();
 $.post("/"+article, "type="+articleType)
    .done(function() {
      console.log("Enjoy your new clothes!");
    })
    .fail(function() {
      console.log("Unable to make your clothing.
                   This is probably for the best.");
   });
```

#### Example 7 – Putting it all together

```
var app = require("express")(); //Make a new Express app
var clothes = {};
app.get("/:clothingArticle", function(req, res) {
  //return a JSON Array of current types of this article
  var article = req.params.clothingArticle || [];
  res.send(clothes[article]);
});
app.get("/:clothingArticle/:type", function(req, res) {
  //Given both article and type, print a silly message
                                                         if(clothes[article] === undefined) {
  var article = req.params.clothingArticle;
                                                           res.status(400).end("No such article of clothing");
  var type = req.params.type;
                                                         } else if(clothes[article].indexOf(type) === -1) {
                                                           res.status(400).end("No such type of "+article);
                                                         } else {
                                                           res.send("Your " + type + " " + article +
                                                                    " looks ridiculous."):
                                                       });
                                                       app.post("/:clothingArticle", function(req, res) {
                                                         var article = req.params.clothingArticle;
                                                         if(clothes[article] === undefined) {
                                                           clothes[article] = [];
                                                         clothes[article].append(req.param("type"));
                                                         res.status(200).end(); //Shorthand way to respond
                                                       });
                                                       app.listen(4242); //starts the server
```