

# Node.js and npm

## Node.js

- platform for building fast, scalable network applications
- published 2009 by Ryan Dahl
- built on Chrome's V8 JavaScript runtime
- applications are written in JavaScript
- uses event-driven, non-blocking I/O model

## npm

- package manager of Node.js
- bundled with Node.js as of version 0.6.3
- important commands: npm install, npm publish

<i>When to use</i>	<i>When not to use</i>
<ul style="list-style-type: none"><li>• lots of concurrent requests with few CPU cycles</li><li>• JSON-based REST services</li><li>• push-based data connections</li><li>• streaming</li></ul>	<ul style="list-style-type: none"><li>• CPU-intensive tasks</li><li>• few interaction with external resources</li><li>• classical CRUD operations</li></ul>

## Build a simple HTTP web server

1. Create helloworld.js:

```
1 var http = require('http');
2
3 http.createServer(function (req, res) {
4     res.writeHead(200, {'Content-Type': 'text/plain'});
5     res.end('Hello World\n');
6 }).listen(1337, '127.0.0.1');
7
8 console.log('Server running at http://127.0.0.1:1337/');
```

The web server at <http://127.0.0.1:1337/> responds with "Hello World" for every request.

2. Run helloworld.js:

```
> node helloworld.js
```

## Build a simple TCP web server

```
1 var net = require('net');
2
3 var server = net.createServer(function (socket) {
4     socket.write('Echo server\r\n');
5     socket.pipe(socket);
6 });
7
8 server.listen(1337, '127.0.0.1');
```

The server at <http://127.0.0.1:1337/> echoes whatever you send it.