



Node Revolution

ImprovingU

Kris McGinnes Sr. Software Consultant at WatchGuard Video
<https://github.com/kmcginnes/ImprovingU.NodeRevolution>

Agenda

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What is Node

When is Node

Why to Node

How to Node



What is Node

What is Node

Node.js® is a JavaScript runtime built on Chrome's V8 JavaScript engine. Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient. Node.js' package ecosystem, npm, is the largest ecosystem of open source libraries in the world.

What is Node

Google's V8 JavaScript engine

Event driven

Non-blocking standard libraries

Extensible via C/C++ add-ons

Provides a package manager and module system for JS/native extensions

EcmaScript 6

What is Node

A runtime environment

A set of libraries

What is Node

IIS	→	Node.exe
C#/VB	→	JavaScript
EF/SQL Server	→	MongoDB or other database
ASP.Net Web Forms	→	Express + EJS
ASP.Net MVC/Razor	→	Express + Jade/Razor
ASP.Net Web API	→	Express
Angular/Ember/KnockoutJS	→	Angular/Ember/KnockoutJS
SignalR	→	WebSockets/Socket.io

What is Node

NOT a framework like Asp.net MVC/Web Forms

NOT a new programming language

When is Node

When is Node

2008 Google releases V8 JavaScript engine

2009 Ryan Dahl starts Node.js

2011 NPM introduced

2014 Node.js forked and IO.js created

2015 EcmaScript 6 finalized

2015 IO.js merges back into Node.js

Why to Node

Why to Node

JavaScript is everywhere

Code reuse

Same programming culture on client and server

Lots of JavaScript programmers

Why to Node

Vibrant community

190,000+ packages on npmjs.com

Top corporate sponsors

Huge wealth of JavaScript code

Why to Node

Sweet Spots

Real-time/high concurrency apps (I/O bound)

API tier for single page apps and rich clients (iOS/Android)

Service orchestration

Working with document (JSON-style) databases

Why to Node

NOT SO Sweet Spots

Simple CRUD apps (lack of frameworks)

Not as fast as some for CPU-intensive stuff

How to Node

How to Node

Standard Libraries

Async by default

Low level

HTTP is first class citizen

How to Node

DEMO

How to Node

Developing & Debugging

Lots of different choices

Use nodemon (nodemon.io) for save, refresh browser workflow

Use node-inspector (github.com/node-inspector/node-inspector) allows debugging in Chrome

IDEs (WebStorm, Eclipse, Visual Studio [Code], etc)

How to Node

DEMO

How to Node

CommonJS Modules

Prevents pollution of the global scope

Explicit public interface

How to Node

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How to Node

Async callbacks and error handling

Any async function allows you to pass a callback

Callback parameters include an Error parameter

Errors will bring down the process if not handled

How to Node

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How to Node

Node Package Manager

Many sources supported (npmjs.com, github.com, etc.)

Manages dependencies

Handles floating versions

Installs modules locally or globally

How to Node

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Questions

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