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# Building Single Page Applications with ASP.NET Core

DDD Melbourne 2017

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# Jason Taylor

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Master of Information Technology

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 @JasonGtAu

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Slides & Code - bit.ly/spa-aspnetcore

README.md



# Agenda

Creating a SPA

Working with Data

Building a Web API

Automated Testing

Resources

# ASP.NET Core JavaScript Services

ASP.NET Core has built-in support for SPA

Supports all major client-side frameworks

Cross-platform Windows, Mac, or Linux

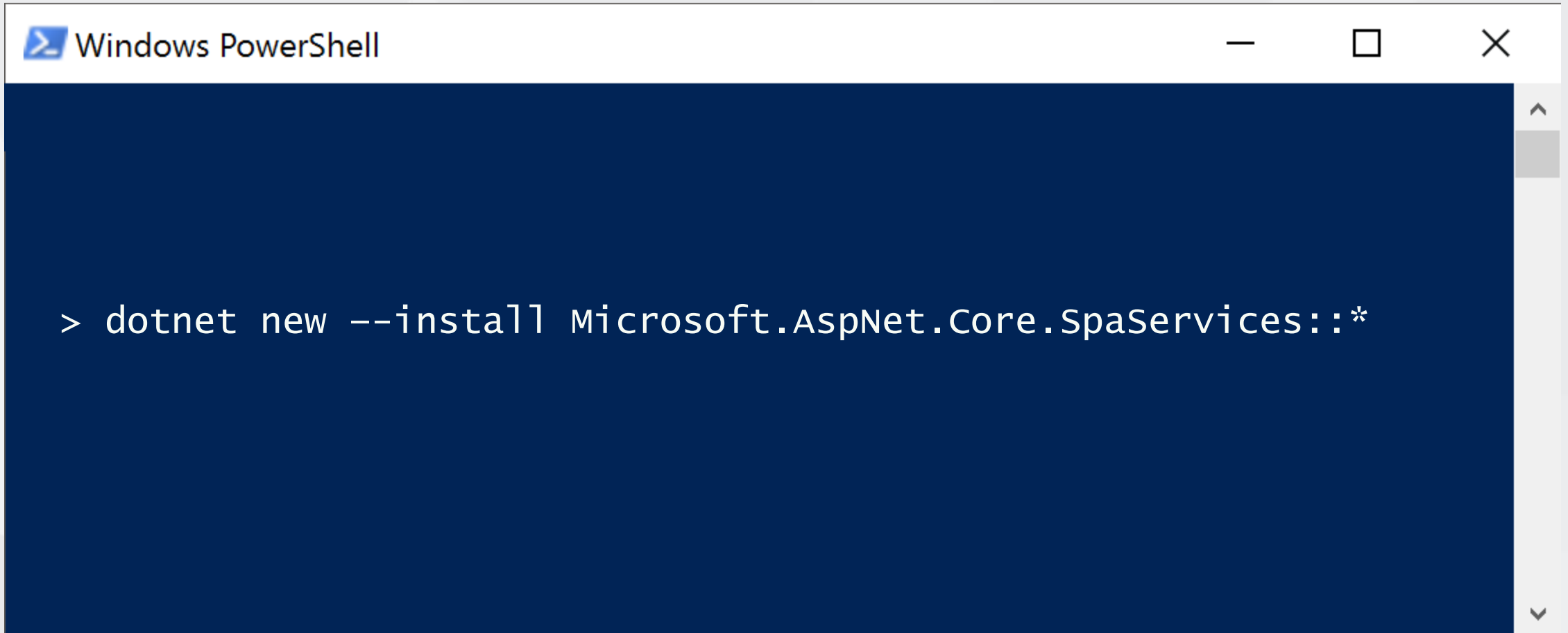
Use your preferred IDE or code editor

# Prerequisites

Node.js (version 6 or later) with npm

.NET Core SDK

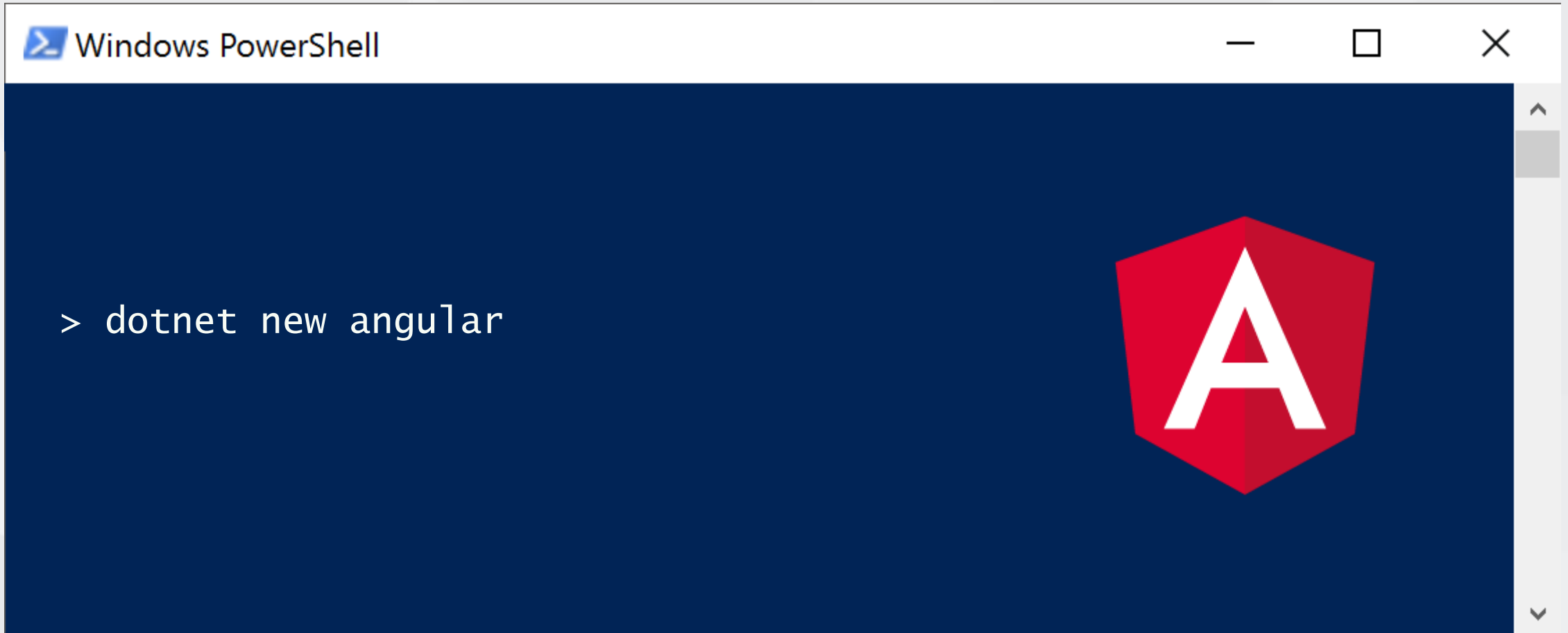
# Installation

A screenshot of a Windows PowerShell window. The title bar at the top says "Windows PowerShell" with a blue icon on the left and standard window controls (minimize, maximize, close) on the right. The main area has a dark blue background with white text. A single command is entered: "> dotnet new --install Microsoft.AspNetCore.SpaServices::\*".

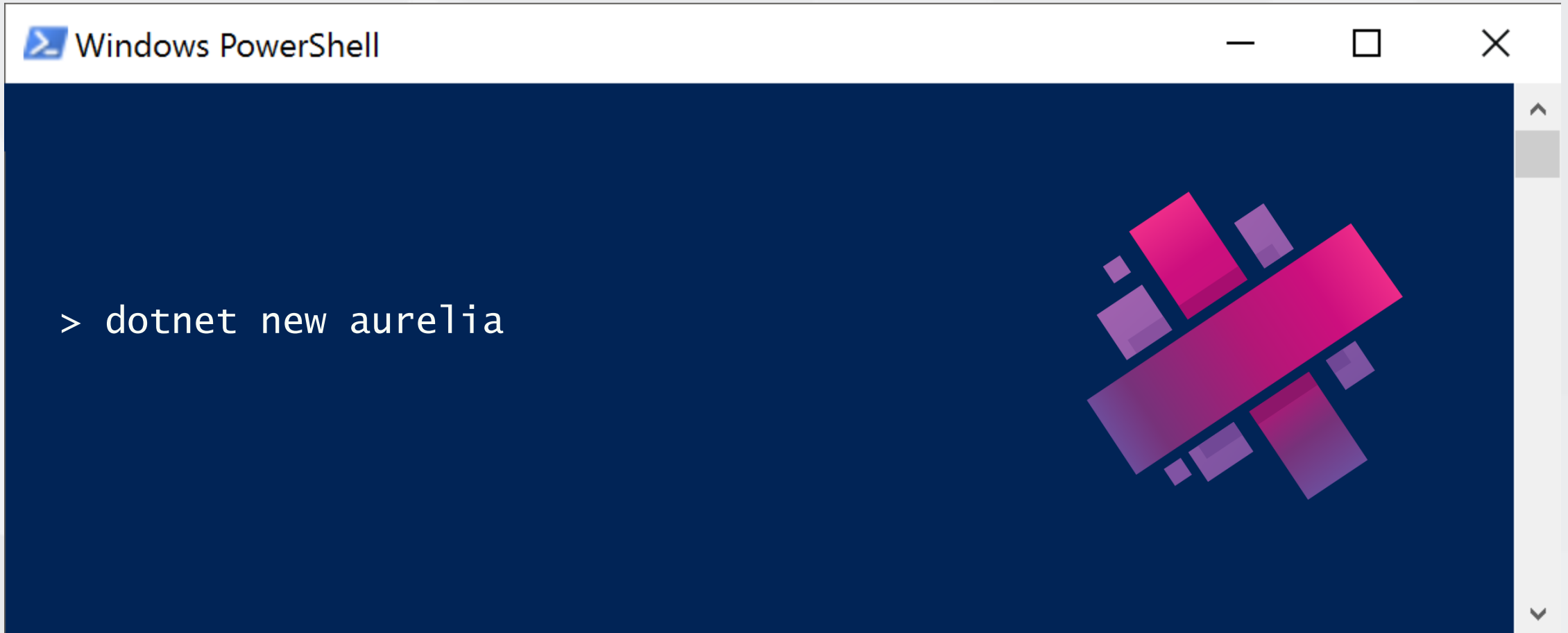
```
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```



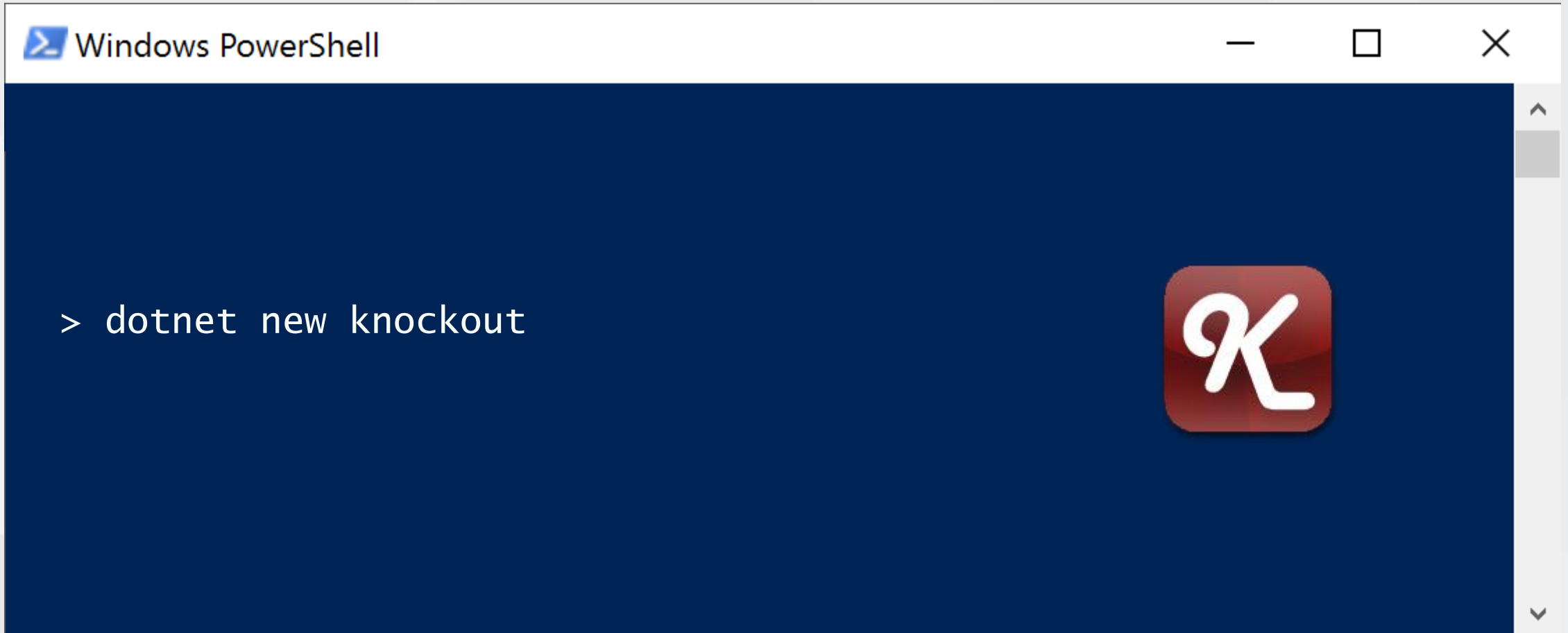
# Angular + ASP.NET Core



# Aurelia + ASP.NET Core



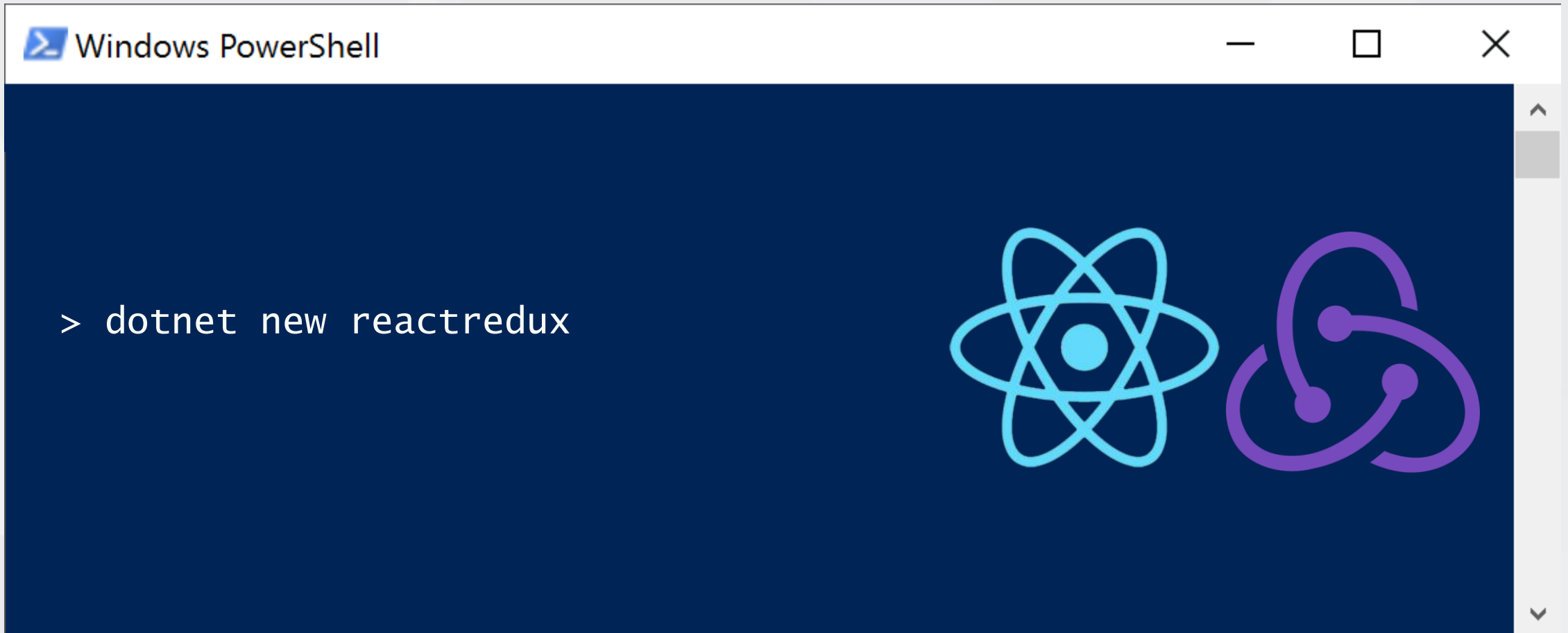
# Knockout + ASP.NET Core



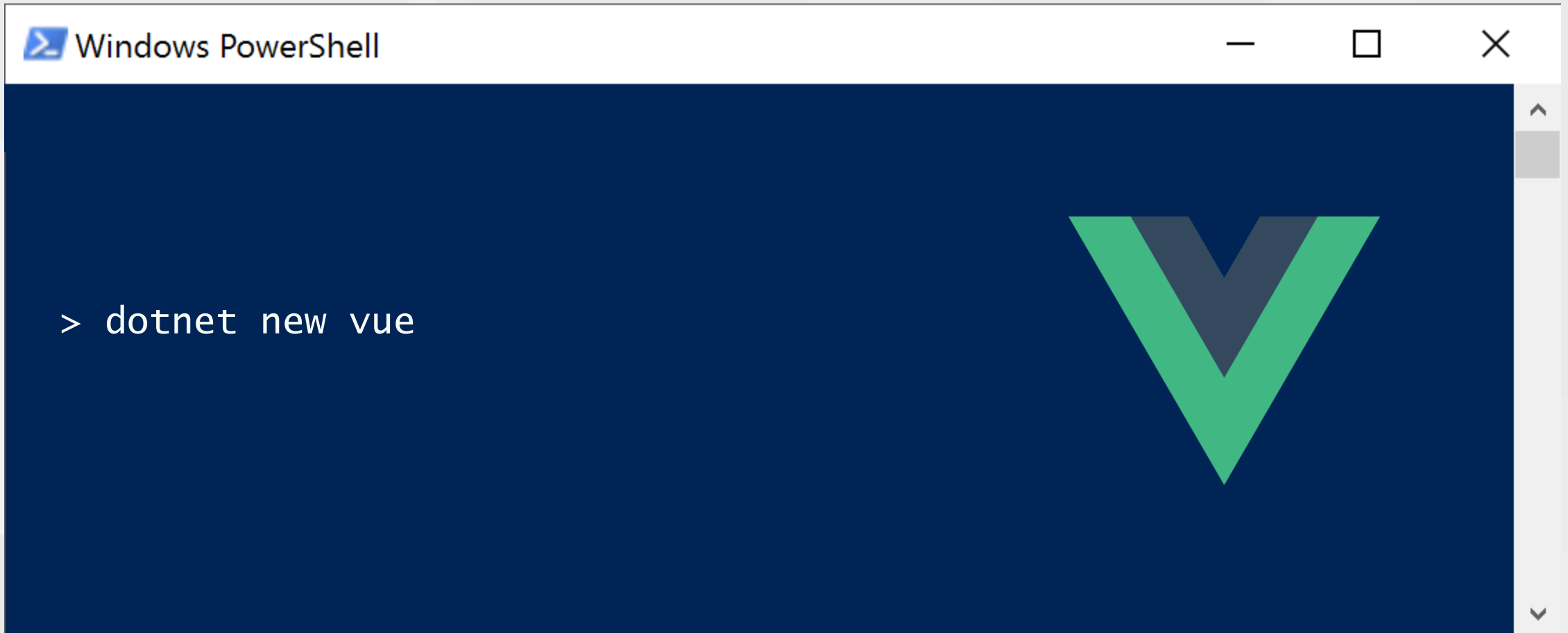
# React + ASP.NET Core



# React + Redux + ASP.NET Core



# Vue + ASP.NET Core





# Demo: Creating a SPA

Building single page applications with ASP.NET Core

# Summary

Creating a SPA using .NET Core CLI

Server-side + client-side navigation

Webpack dev middleware

Hot module replacement (HMR)

.NET Core Watcher tool

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# Entity Framework Core

Lightweight, extensible, and cross-platform

Runs on .NET Core or .NET Framework

Choosing between EF6.x and EF Core ([bit.ly/ef6-vs-core](http://bit.ly/ef6-vs-core))

Porting from EF6.x to EF Core ([bit.ly/ef6-to-core](http://bit.ly/ef6-to-core))

EF Core Roadmap ([bit.ly/efcore-roadmap](http://bit.ly/efcore-roadmap))

# Demo: Working with Data

Create and managing databases using EF Core and .NET  
Core CLI

# Summary

Requirements for the EF Core / .NET Core CLI tools

Creating an initial migration

Updating the database

Seeding the database



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# Demo: Building a Web API

Creating awesome ASP.NET Core Web API

# Summary

Using CQRS to improve separation of concerns

Using filters to manage cross-cutting concerns

Documenting your API using NSwag

Generating client-side code with the NSwag CLI

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# EF Core InMemory Provider

Just a database provider

Uses in-memory database

Built for testing purposes

No overhead of I/O operations

Lightweight with minimal dependencies

# Demo: Unit Testing

Creating simple unit tests using the EF Core InMemory provider.



# Summary

Using the EF Core InMemory provider

A simple approach for testing commands

A simple approach for testing queries

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Jason is a passionate solution architect with over 16 years professional experience.

He has worked with .NET since 2001, and currently specialises in teaching and developing enterprise applications utilising .NET Core, ASP.NET Core, EF Core and Angular. He achieved a Master of Innovation Technology (Software Architecture) in 2011 and Microsoft Certified Solutions Developer (Web Applications) in 2016. Jason loves a challenge and is skilled at progressing from a simple proposal into a well-

## SSW .NET Core Dev Superpowers Tour – Melbourne – Thursday, 19<sup>th</sup> October 2017

Hosted by SSW

.NET Core is out and it's the most powerful and flexible version ever!

Much of the day to day code you write will be the same, but much of the architecture and how your project fits together has changed



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Duncan Hunter a  
Software Architect at  
SSW. Making sustainable  
software that solves real

world issues is what makes Duncan tick.  
He is a full stack web developer  
specialising in making responsive  
frontend applications with AngularJS and  
TypeScript.

With the current speed of change in  
frontend best practices Duncan helps  
teams learn and implement modern  
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