

DOTVVM
Hands-on Workshop
JUNE 11

Modernize your Web Forms app using DotVVM

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DOTVVM

What is DotVVM

- 🌿 Open-source web UI framework
- 🌿 Member of the .NET Foundation
- 🌿 Model-View-ViewModel approach
- 🌿 Supports ASP.NET Core and “old” ASP.NET
 - 🌿 `Dotvvm.Owin`
 - 🌿 `Dotvvm.AspNetCore`



BUILD
new web apps

with
MVVM approach

MODERNIZE
Web Forms apps

and migrate them
to .NET Core

This Hands-on Workshop

🌿 The plan

- 🌿 Clone our sample repository with ASP.NET Web Forms app
- 🌿 Follow the steps to integrate DotVVM in the project
- 🌿 Build your first page in DotVVM

🌿 Feel free to unmute yourself and ask at any time!



Prerequisites

🌿 Visual Studio 2019

- 🌿 Ideally with latest updates

🌿 DotVVM for Visual Studio

- 🌿 Free edition is sufficient
- 🌿 <https://dotvvm.com/install>
- 🌿 You can request 30-days trial to try out all the features
 - 🌿 Sign up for an account at <https://dotvvm.com>



There are many old apps...

- 🍃 Still actively developed and maintained
- 🍃 Often involve 10+ years of development
- 🍃 A complete rewrite is a long-term task
 - 🍃 No quick solutions



Moving to .NET Core

🍀 You need to replace ASPX pages with **something else**

REWRITE

Angular

React

Blazor

MODERNIZE

DotVVM

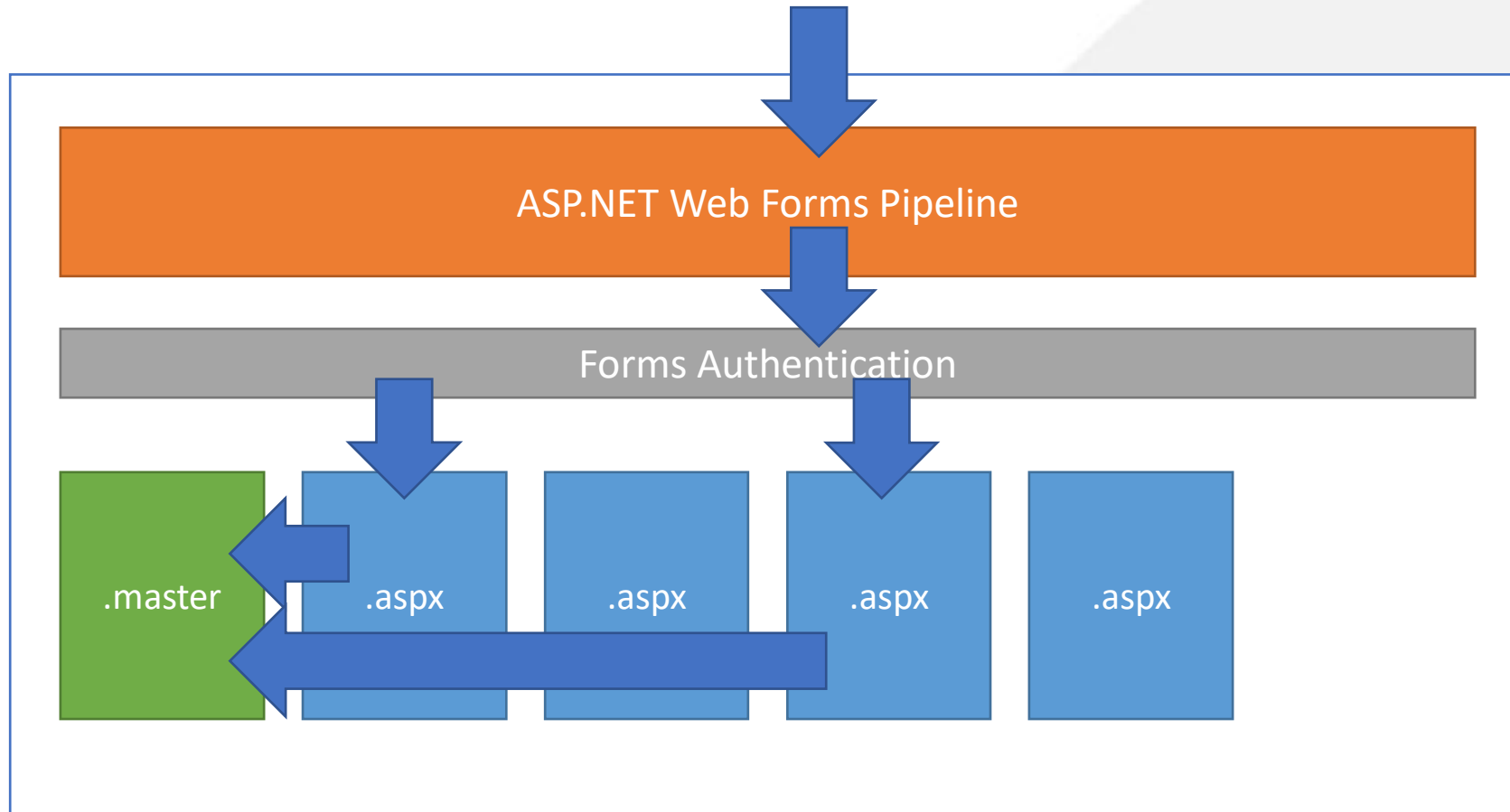


How can DotVVM help?

- Transition between .NET Framework and .NET Core
 - DotVVM.AspNetCore vs DotVVM.Owin NuGet packages
- Views and ViewModels unchanged
 - The framework itself supports .NET Standard
- Most changes are in Startup.cs

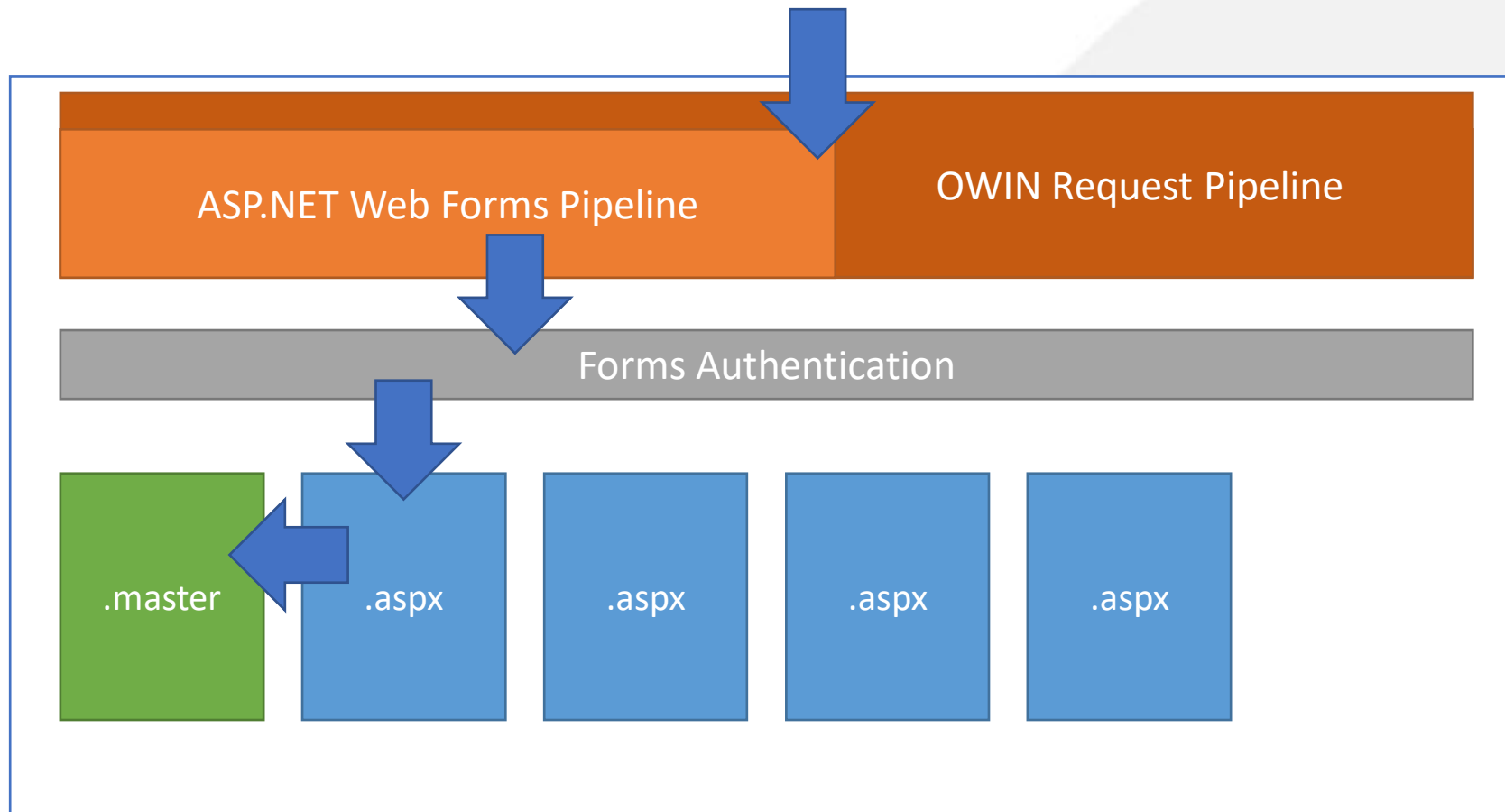


Modernization: Initial State



.NET Framework

Modernization: Add OWIN & DotVVM

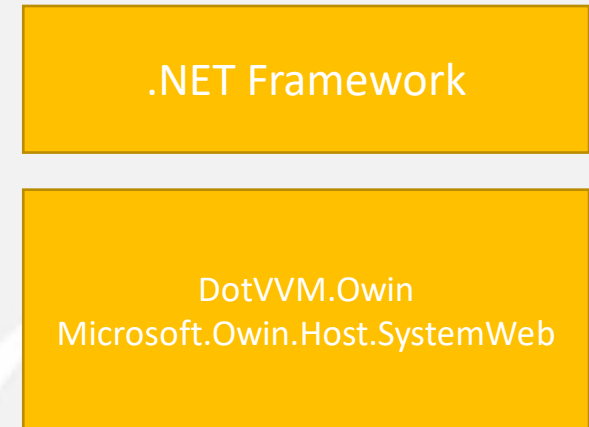
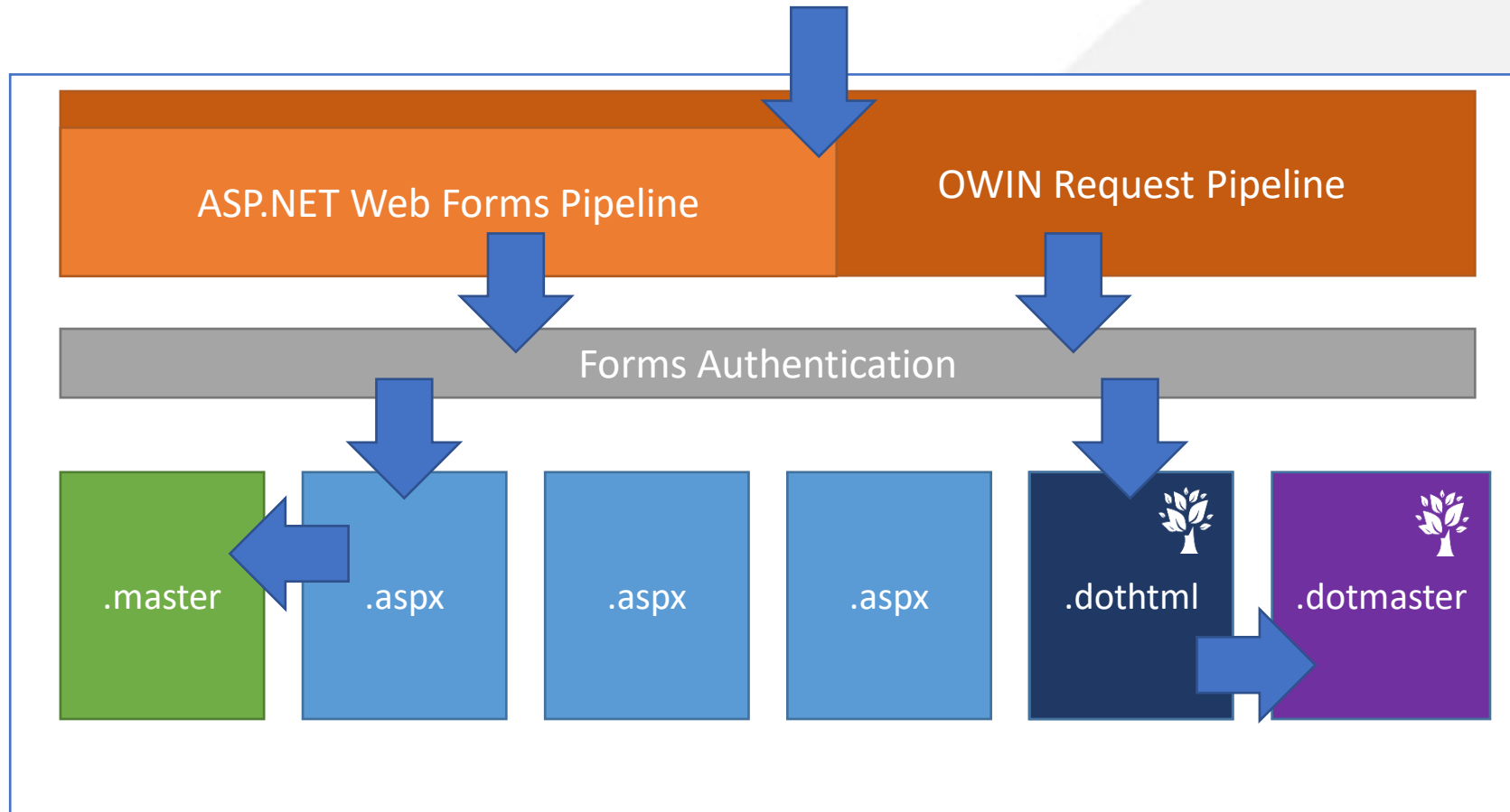


.NET Framework

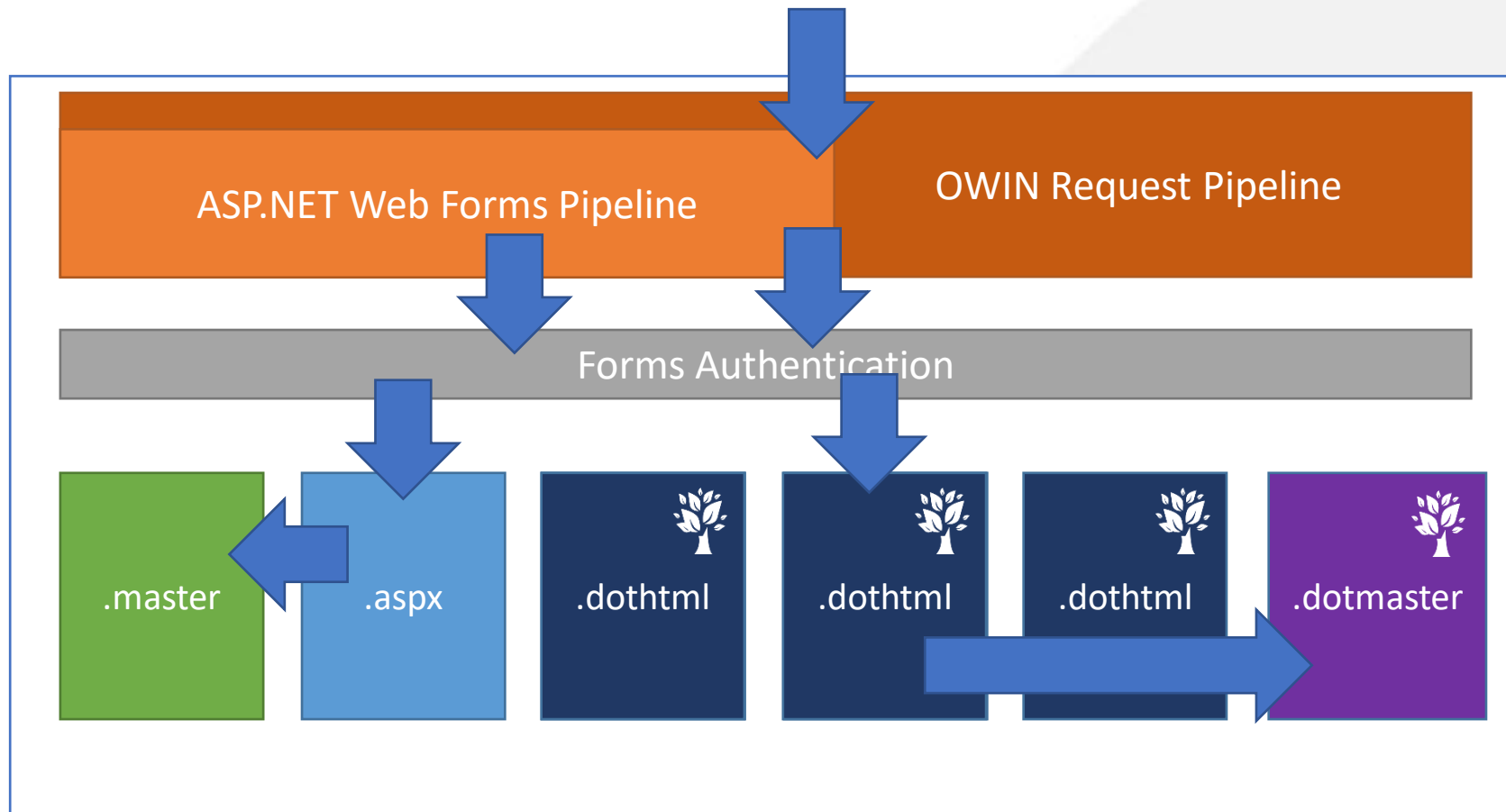
DotVVM.Owin
Microsoft.Owin.Host.SystemWeb



Modernization: First DotVVM Page



Modernization: In Progress...

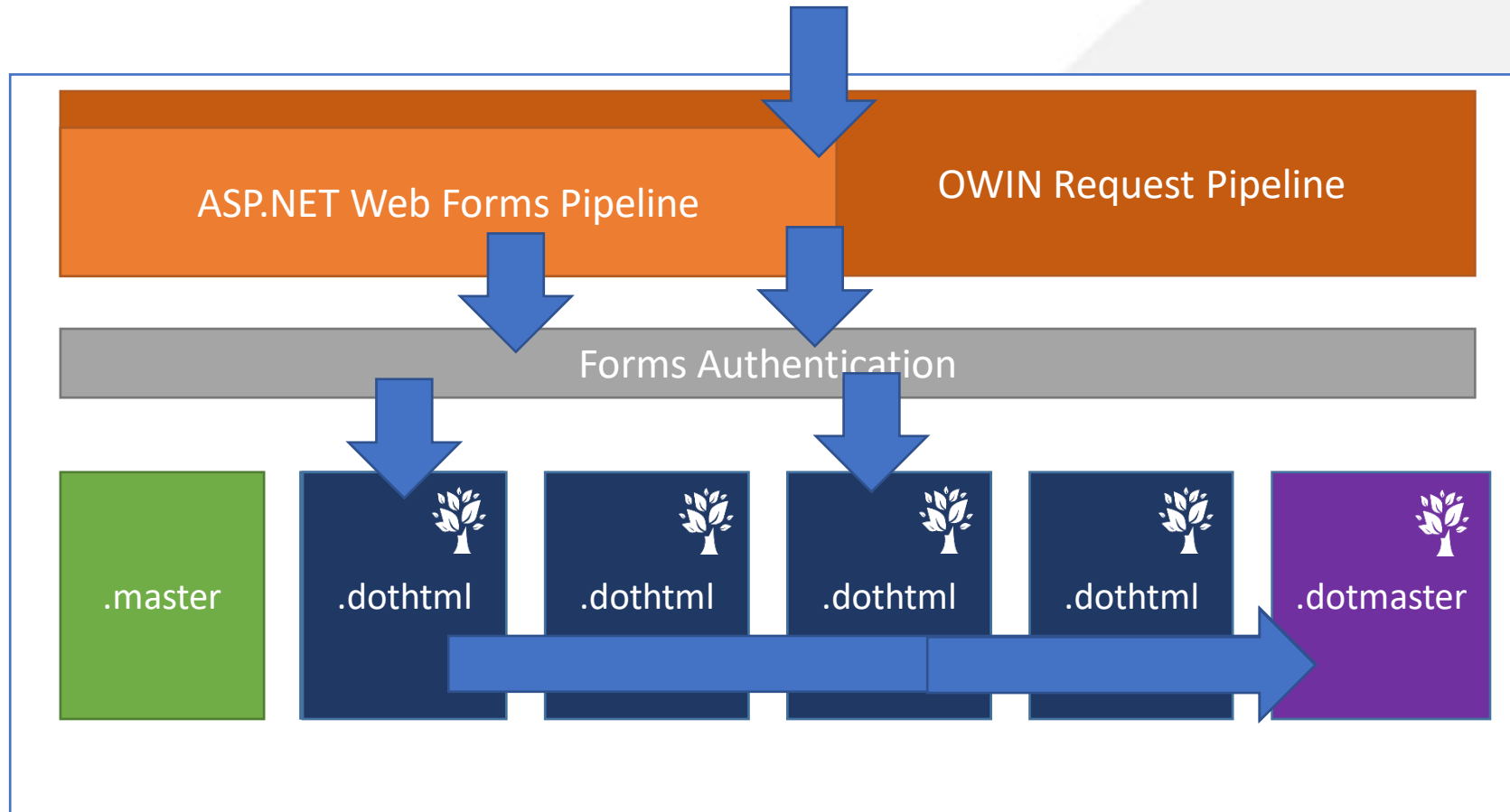


.NET Framework

DotVVM.Owin
Microsoft.Owin.Host.SystemWeb



Modernization: Almost there...

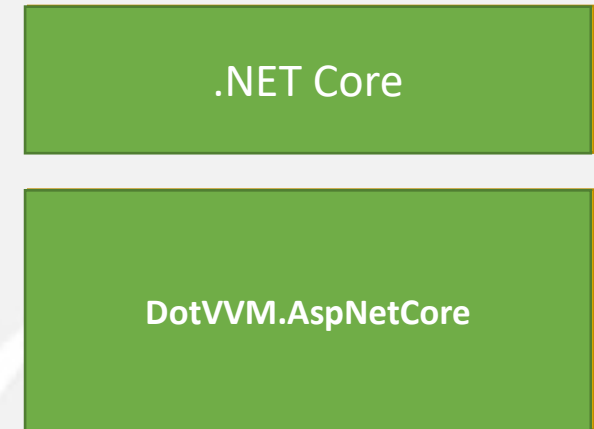
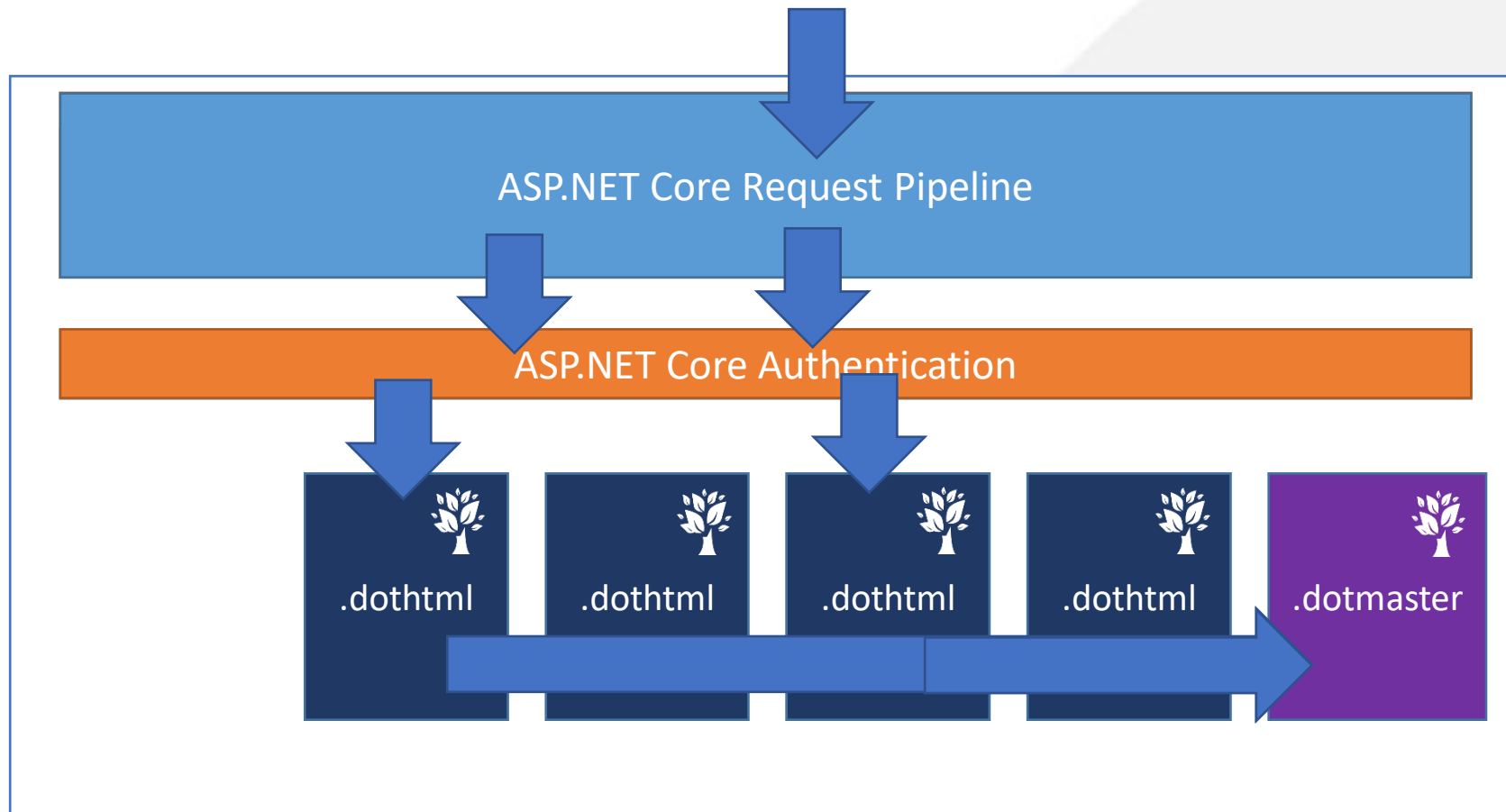


.NET Framework

DotVVM.Owin
Microsoft.Owin.Host.SystemWeb



Modernization: Moving to .NET Core



Considerations

- ✦ Rewriting the front-end

- ✦ .aspx, .ascx, .master

- ✦ Refactoring code-behind files into ViewModels

- ✦ Can help with testability

- ✦ DataSource controls and business logic in UI is not ideal

- ✦ Separate business logic from the presentation



Hands-on Workshop



bit.ly/37mEcqG



Step 1: Clone the project

🍃 Start **Visual Studio 2019**

🍃 Select **Clone a repository** and use the following URL:

<https://github.com/riganti/dotvvm-samples-wingtip-toys>

🍃 Open this Gist in browser

<https://gist.github.com/tomasherceg/be18a56ddd1d4974bbb09d0b92bb3710>



Step 2: Make sure SQL LocalDB is running

- 🍃 Search for **Developer Command Prompt for VS 2019** in the Start menu

- 🍃 Run the following command:

```
sqllocaldb start
```



Step 3: Run the project

- 🍃 Press **F5** and make sure that the application is running
- 🍃 Click through the pages
- 🍃 Add some product to the cart
- 🍃 ...



Step 4: Install NuGet Packages

🍃 Open the **Package Manager Console** pane

🍃 View > Other Windows > Package Manager Console

🍃 Run the following commands:

```
Install-Package Microsoft.Owin.Host.SystemWeb
```

```
Install-Package DotVVM.Owin
```



Step 5: Configure DotVVM

- 🍃 Add a folder named DotvvmSite
- 🍃 Create DotvvmStartup.cs file in this folder
 - 🍃 Use [Gist 01](#)
- 🍃 Open Startup.cs
 - 🍃 Place [Gist 02](#) after ConfigureAuth call



Step 6: Create DotVVM folders

🍃 Create two folders in the DotvvmSite folder

DotvvmSite/Views

DotvvmSite/ViewModels



Step 7: Create a DotVVM master page

- Right-click the DotvvmSite/Views folder
- Select **Add > New Item > DotVVM > Master Page**
 - Name: Site.dotmaster



Step 8: Copy and adjust code

- ✦ Copy the markup from the original Web Forms master page (`Site.master`)
- ✦ Open <https://dotvvm.com/webforms/convert>
- ✦ Fix all issues and copy the output to `Site.dotmaster`
 - ✦ **IMPORTANT:** Keep the first line (`@viewmodel`) as is
- ✦ The page should look like [Gist 03](#)



Step 9: Adjust code for DotVVM

- Remove `<asp:Placeholder>` element
- Replace `<webopt:BundleReference>` with `<link>`
 - See [Gist 04](#)
- Remove `<form>` and `</form>`
 - Keep contents of the form
- Remove entire `<asp:ScriptManager>` element
- The result should be [Gist 05](#)



Step 10: Adjust code for DotVVM

Find ``
and replace it with `<dot:RoleView>` control
See [Gist 06](#)

Replace `<asp:LoginView>` with
`<dot:AuthenticatedView>` control
See [Gist 07](#)

Replace `<asp:ListView>`
with `<dot:Repeater>` control
See [Gist 08](#)



Step 11: Adjust code for DotVVM

🍃 Replace `<%#: Page.Title %>`
with `{{resource: PageTitle}}`

🍃 See [Gist 09](#)

🍃 Replace `<%#: DateTime.Now.Year %>`
with `{{resource: DateTime.Now.Year}}`

🍃 See [Gist 10](#)

🍃 Replace `` content
with `{{value: CartCount}}`

🍃 See [Gist 11](#)



Checkpoint

🍃 The Site.dotmaster should now look like [Gist 12](#)



Step 12: Implement SiteViewModel

- 🍃 Use [Gist 13](#) for SiteViewModel.cs
- 🍃 Right-click the DotvvmSite/Views folder and select **Add > New Item > DotVVM > Page**
 - 🍃 Name: Test.dohtml
 - 🍃 Select Embed in master page



Step 13: Register route for the test page

- 🍃 Open `DotvvmStartup.cs`
 - 🍃 Paste [Gist 14](#) into `ConfigureRoutes`
- 🍃 Run the app and try navigate to `/test`
 - 🍃 You'll see the issue with session
- 🍃 Update `Startup.cs` by using [Gist 15](#)



Current state

- Now you have a DotVVM page running inside a Web Forms app
 - Try to log in (**Admin** : Pa\$\$word)
 - The Admin link will appear in the menu
 - Try to put something in the cart
 - Visit **/test**
 - Make sure the number of items is reflected in the menu



What's next

- ✦ Rewrite page by page from ASPX to DotHTML
 - ✦ Use <https://dotvvm.com/webforms/convert> to start
 - ✦ See <https://dotvvm.com/webforms> cheat sheet
- ✦ After your pages are ported, you can go to .NET Core
 - ✦ Change `.csproj` to the new format
 - ✦ Change the authentication from OWIN to ASP.NET Core
 - ✦ Use `Dotvvm.AspNetCore` instead of `Dotvvm.Owin`



Need help?

🌿 Ask us anything!

- 🌿 <https://gitter.im/riganti/dotvvm>
- 🌿 info@dotvvm.com

🌿 We can help you

- 🌿 Set up the integration
- 🌿 Re-implement some parts of the app (specific components etc.)
- 🌿 Skype / Teams / Zoom / whatever else 😊



Join us!

🌿 We'd be happy to welcome new contributors

- 🌿 Issues
- 🌿 Pull requests
- 🌿 Improvements to the docs
 - 🌿 <https://github.com/riganti/dotvvm-docs>
- 🌿 Spread the word

🌿 Talk to us on Gitter

- 🌿 <https://gitter.im/riganti/dotvvm>



Q&A

