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The Microfrontend Revolution

Module Federation with Angular

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ManfredSteyer

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About me...



Manfred Steyer

Manfred Steyer, **ANGULAR**architects.io



(Remote) Angular Workshops
and Consulting

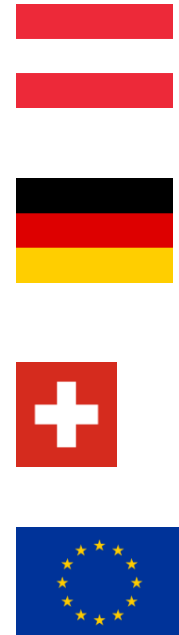
<http://angulararchitects.io>



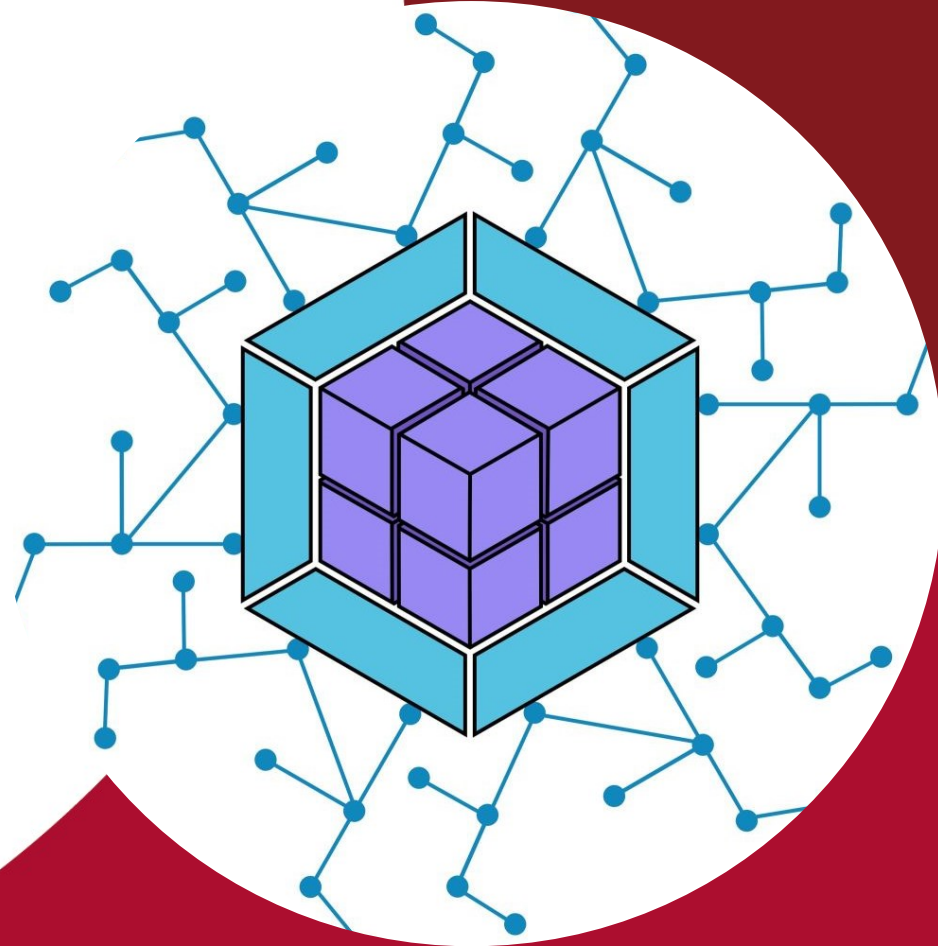
Google Developer Expert
for Angular



Trusted Collaborator
in the Angular Team



#1: Webpack 5 Module Federation



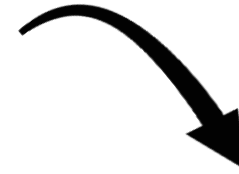
How to load separately compiled code?



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Idea

Does not work with
webpack/ Angular CLI



```
const Component = await import('http://other-app/xyz')
```

Even lazy parts must be
known at compile time!



Webpack 5 Module Federation

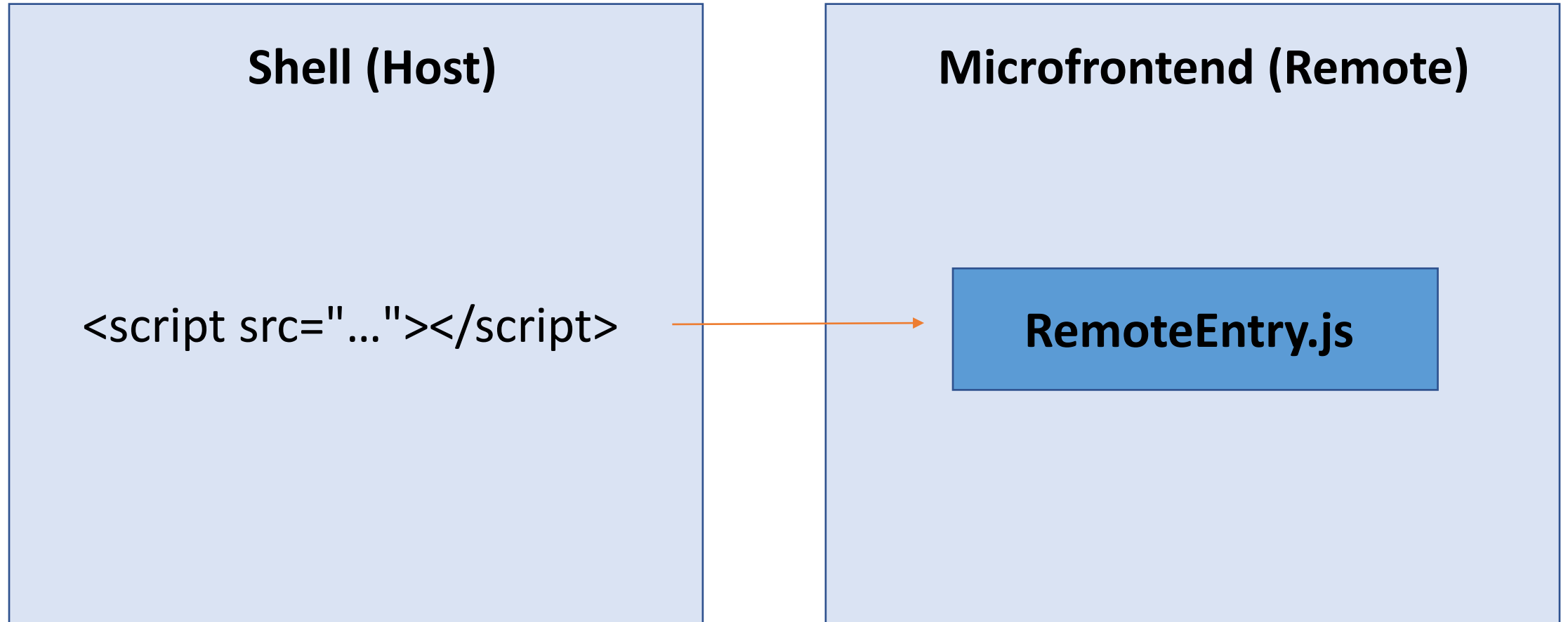
Shell (Host)

```
import('mfe1/Cmp')  
  
// Maps Urls in  
// webpack config  
remotes: {  
  mfe1: "mfe1"  
}
```

Microfrontend (Remote)

```
// Expose files in  
// webpack config  
exposes: {  
  './Cmp': './my.cmp.ts'  
}
```

How to Get the Microfrontend's URL?



How to Share Libs?

Shell (Host)

```
shared: [  
  "@angular/core", "..."  
]
```

Microfrontend (Remote)

```
shared: [  
  "@angular/core", "..."  
]
```

#2: Federated Angular: Angular, CLI, & Module Federation



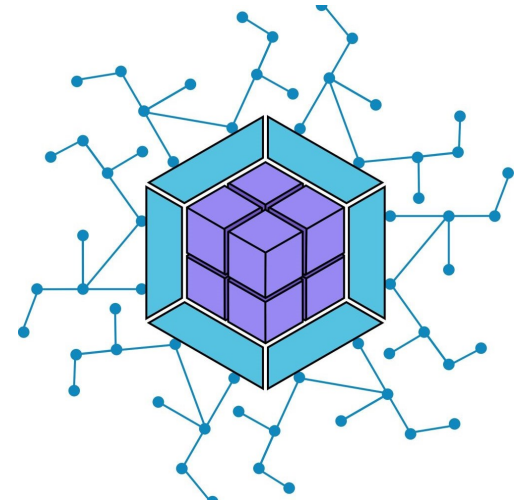
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webpack

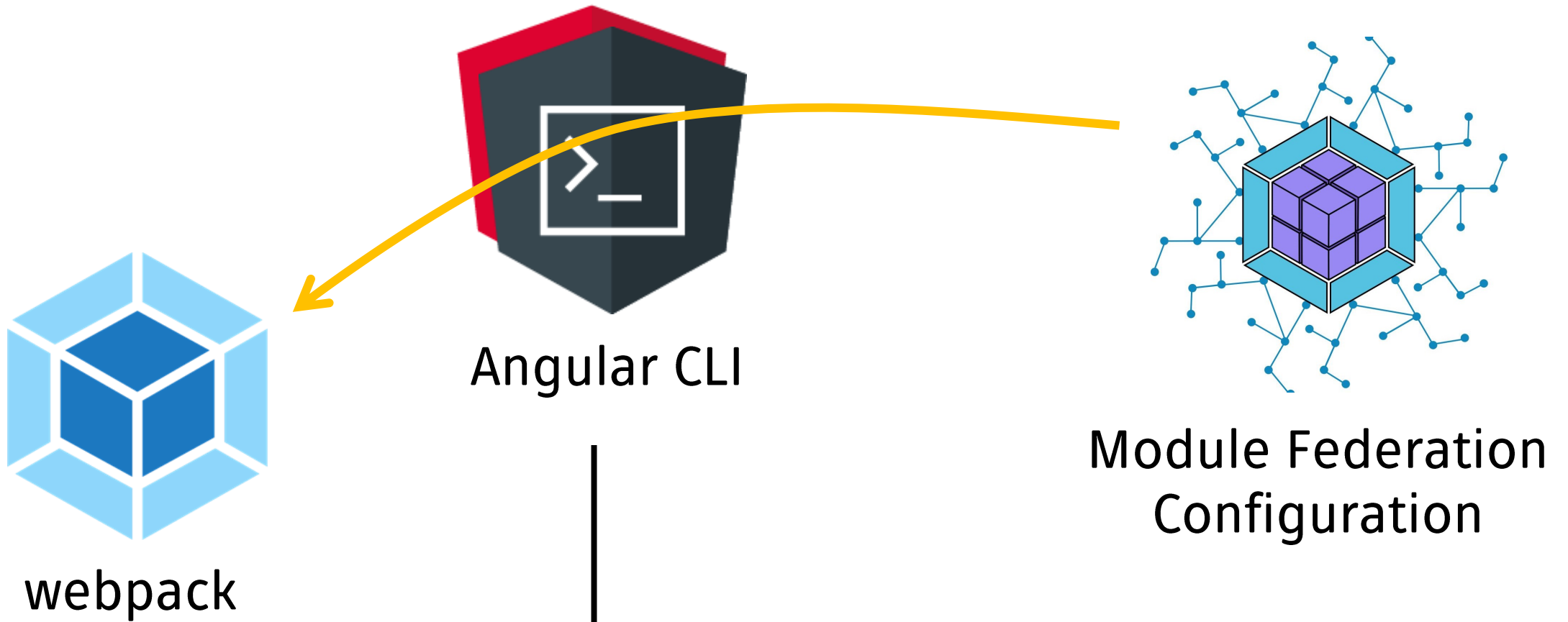


Angular CLI



Module Federation
Configuration

Custom Builder



@angular-architects/module-federation

1.0.2 • Public • Published 18 hours ago

 [Readme](#)

 [Explore](#) BETA

 [3 Dependencies](#)

Features

- ✓ Generates the skeleton for a Module Federation config.
- ✓ Installs a custom builder to enable Module Federation.
- ✓ Assigning a new port to serve (`ng serve`) several projects at once.

Usage

- 1) `ng add @angular-architects/module-federation`
- 2) Adjust generated configuration
- 3) `ng serve`

DEMO



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#3: Version Mismatch



Dealing with Version Mismatch

SemVer by Default: Highest compatible version

Fallback: Use own version

Relaxing: Configure a range of accepted versions

Singleton: Warning or error

Example for SemVer and Fallback

- Shell: my-lib: ^10.0.0
- MFE1: my-lib: ^10.1.1
- MFE2: my-lib: ^9.0.0

Result:

- Shell and MFE1 share ^10.1.1
- MFE2 falls back to its own version ^9.0.0

Configuring Singletons

```
shared: {  
  "my-lib": {  
    singleton: true,  
    strictVersion: true // Error instead of warning!  
  }  
}
```

Relaxing Version Requirements

```
shared: {  
  "my-lib": {  
    requiredVersion: ">=1.0.1 <11.1.1"  
  }  
}
```

Free eBook

Updated for Module Federation
and Alternatives

ANGULARarchitects.io/book

ENTERPRISE ANGULAR

DDD, Nx Monorepos,
and Micro Frontends



When can we have it?

Webpack 5 and Module Federation: final

Angular CLI must support webpack 5 too

Angular CLI 11 (Beta) allows to opt into webpack 5

Angular CLI 11 ? (fall 2020)

Conclusion

Module
Federation

Loading
Separately
Deployed Code

Federated
Angular

Version
Mismatch

Contact and Downloads

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Slides & Examples



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and Consulting

<http://angulararchitects.io>