

# UI5 Tooling 2020

Matthias Oßwald, Merlin Beutlberger  
UI5 Core Foundation  
July 9<sup>th</sup>, 2020

ON AIR   
**UI5con**



**Matthias Oßwald**  
Developer @ UI5 Core Foundation

 @matthiaso  
 @matz3



**Merlin Beutlberger**  
Development Architect @ UI5 Core Foundation

  @RandomByte



# Recap: Tooling Evolution



## Maven Tooling

- Based on Maven (Java)
- Full-fledged feature-set (/w legacy)
- Proprietary / SAP internal

## Grunt Tooling

- Based on the Grunt Task Runner
- Limited feature-set
- Open Source (Apache 2.0)

## Node.js Tooling

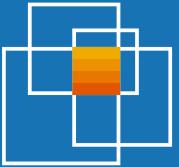
- Based on Node.js (JavaScript)
- Full-fledged feature-set (w/o legacy)
- Open Source (Apache 2.0)



# Motivation



**Future Tooling**  
For Building the UI5 Framework



**Covers Basic Use Cases**  
For Application & Library Development



**Foundation**  
For More Advanced Tools

# Get Started



[sap.github.io/ui5-tooling](https://sap.github.io/ui5-tooling)



## UI5 Tooling

An open and modular toolchain to develop state-of-the-art applications based on the [UI5](#) framework.

[Get Started](#)

### Features

UI5 CLI

*Also see the [CLI Documentation](#)*

```
npm install --global @ui5/cli
```



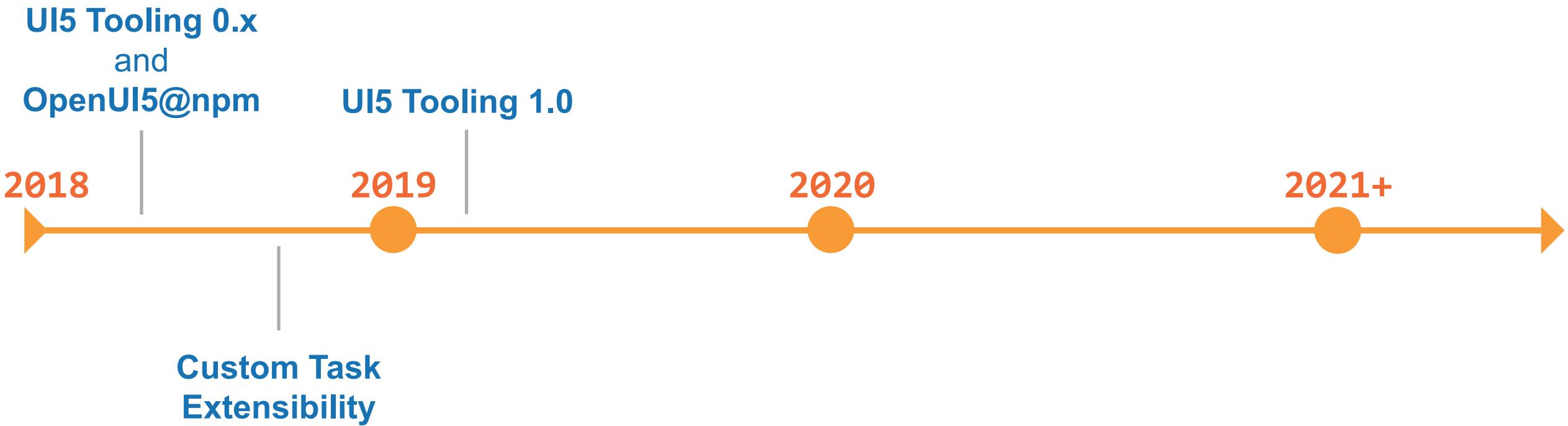
[Setup Project](#)

Configure your project for use with the UI5 Tooling.

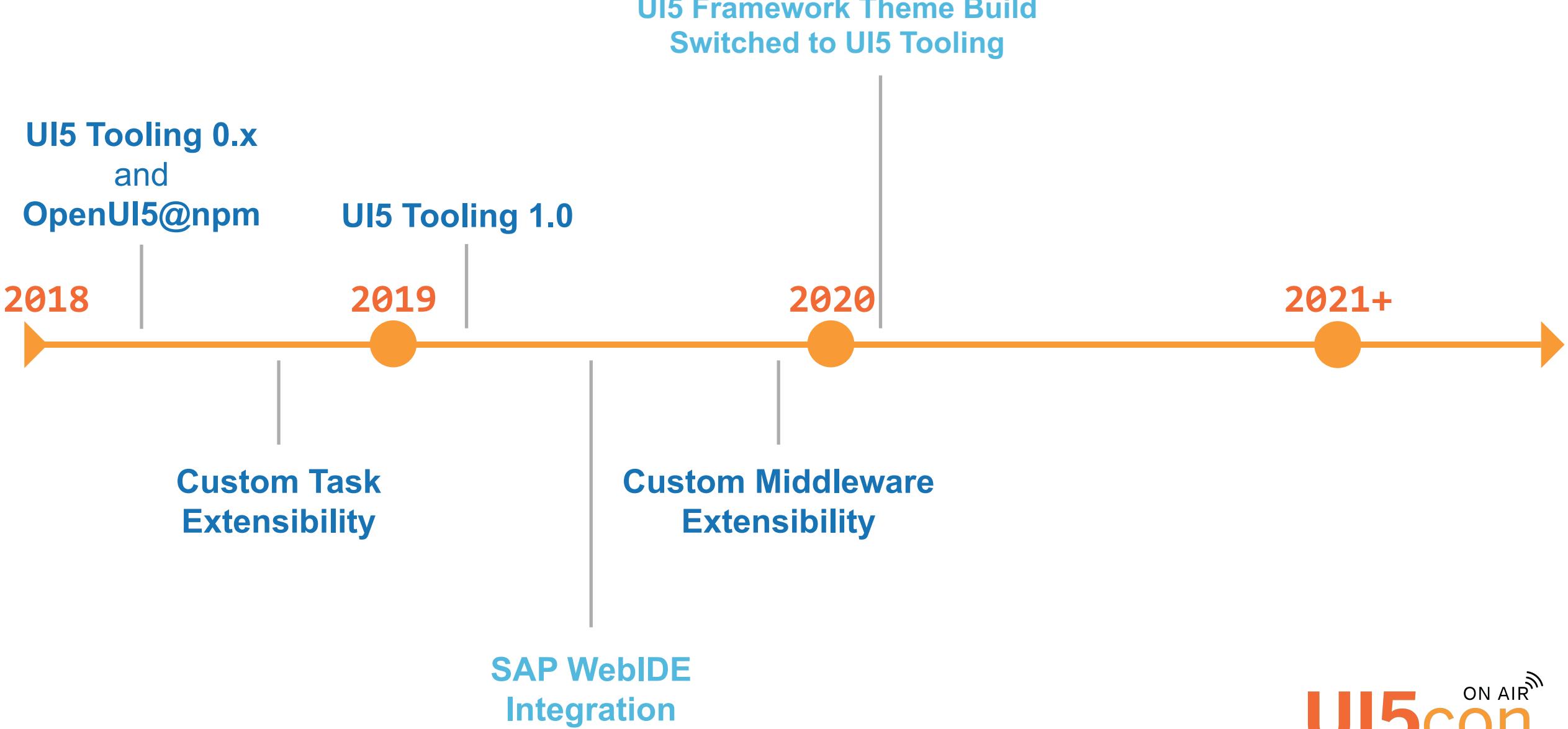
*Also see the [Configuration Documentation](#)*

**ON AIR**  
**UI5con**

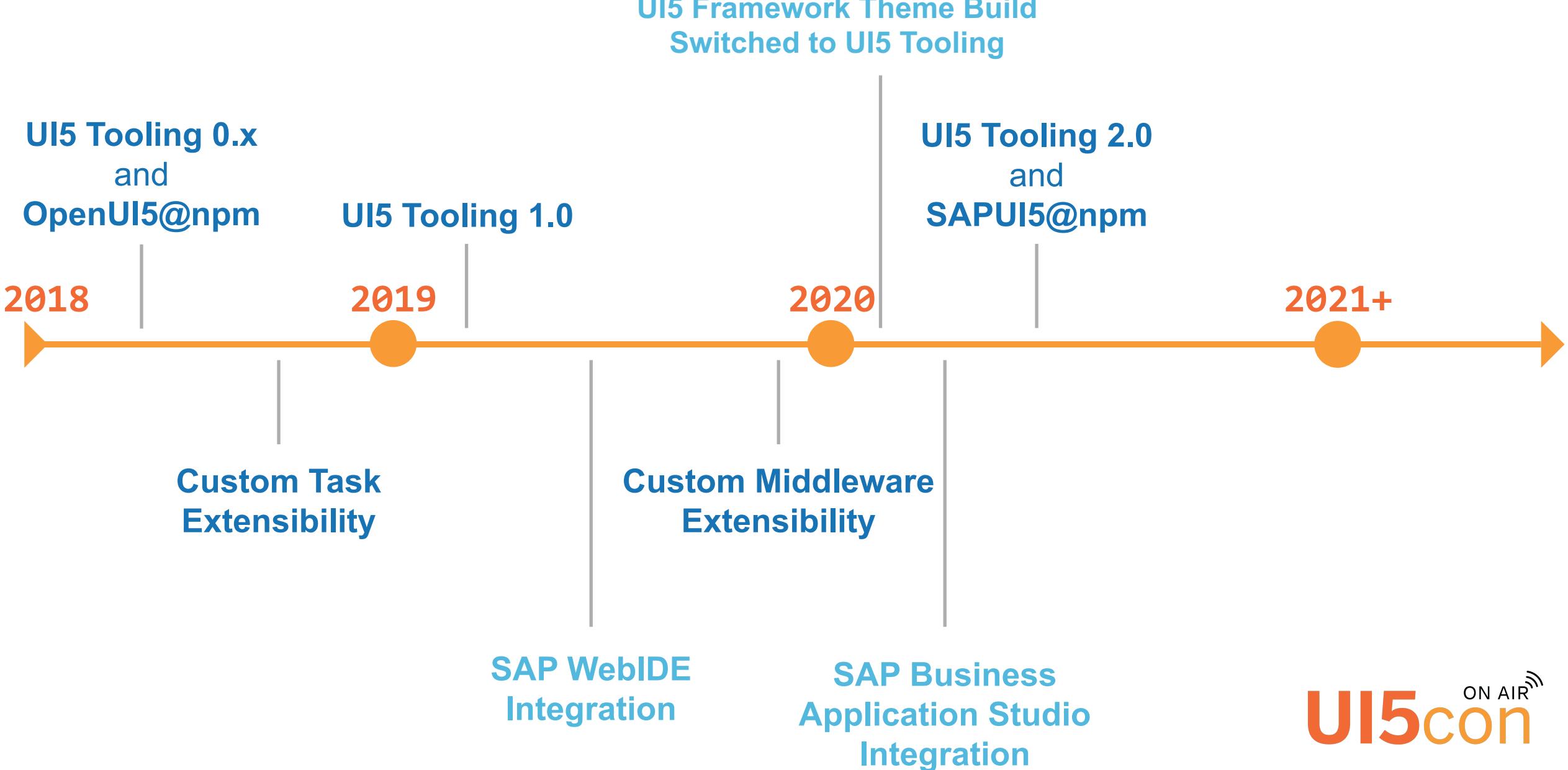
# Where Are We Today?



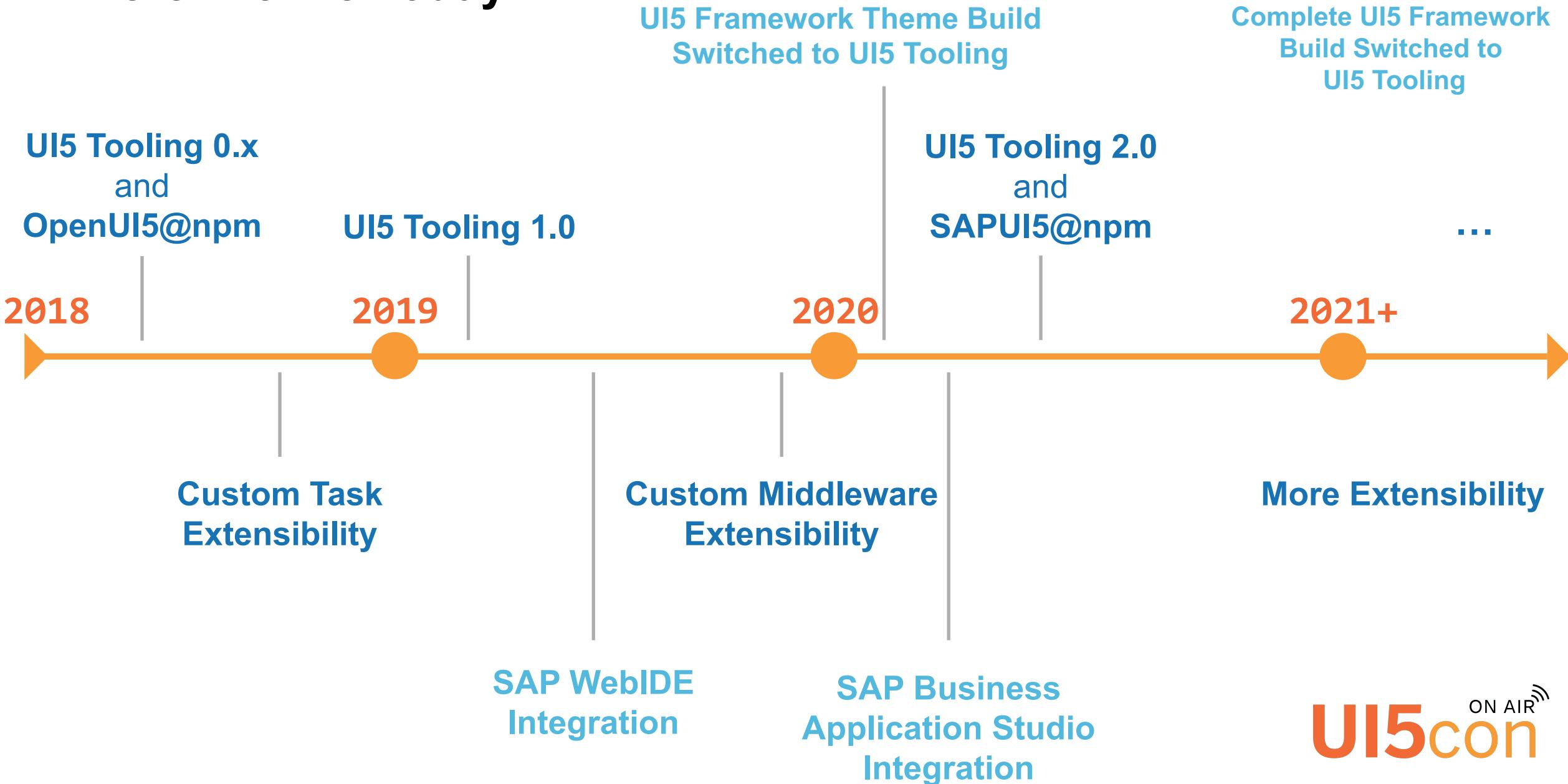
# Where Are We Today?



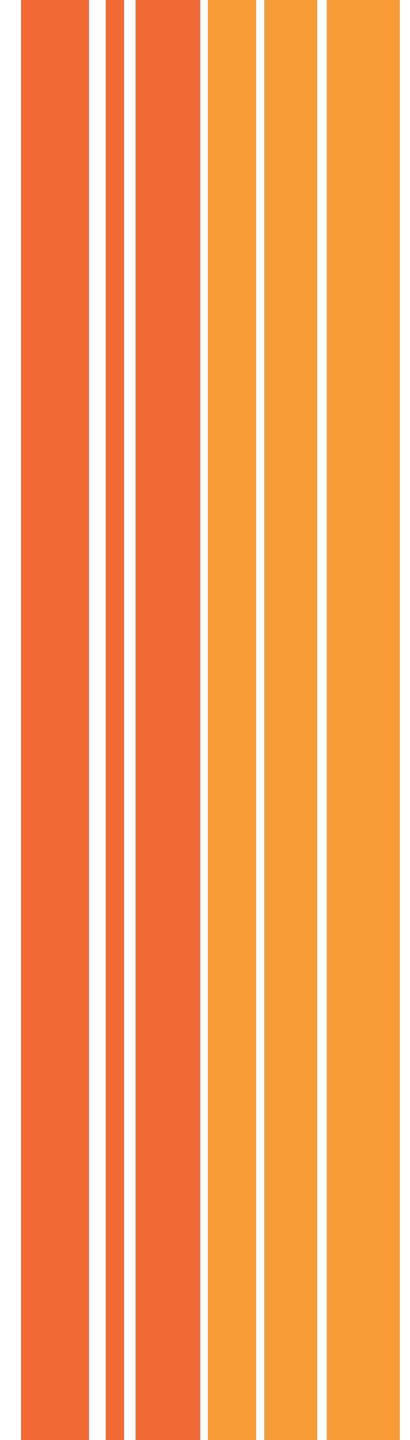
# Where Are We Today?



# Where Are We Today?



# UI5 Tooling 2.0



# Important Changes

## ■ ui5-cli

- Add "ui5 use/add" commands ([#315](#))
- Add "--framework-version" option ([#306](#))

## ■ ui5-project

- Add **ui5Framework Translator** and Resolvers ([#265](#))
- Add Configuration **Schema** ([#274](#))
- Support for **Spec Version 2.0** ([#277](#))

## ■ ui5-server

- serveResources Middleware: **Expect \*.properties files in UTF-8 by default** ([#303](#))
- Add **Test Runner Middleware** ([#293](#))

## ■ ui5-builder

- Add new **theme-library type** ([#285](#)) (*actually in v1.9.0*)

# Important Changes

## ■ ui5-cli

- Add "ui5 use/add" commands ([#315](#)) 
- Add "--framework-version" option ([#306](#)) 

## ■ ui5-project

- Add **ui5Framework Translator** and Resolvers ([#265](#)) 
- Add Configuration **Schema** ([#274](#))
- Support for **Spec Version 2.0** ([#277](#))

## ■ ui5-server

- serveResources Middleware: **Expect \*.properties files in UTF-8 by default** ([#303](#))
- Add **Test Runner Middleware** ([#293](#))

## ■ ui5-builder

- Add new **theme-library type** ([#285](#)) (*actually in v1.9.0*)



SAPUI5@npm

ON AIR  
UI5con

# Demo: UI5 Tooling 2.0



**Merlin Beutlberger**  
Development Architect @ UI5 Core Foundation

[Twitter](#) [GitHub](#) [@RandomByte](#)

# Benefits of Running Our Own Package Management



Seamless Integration Into the UI5 Tooling



A Project Defines One „UI5 Version“



Shared Local Caching Makes Things Go Fast



UI5ers Buzz #49: The UI5 Tooling and SAPUI5 – The Next Step

# Specification Version



```
specVersion: '2.0'  
metadata:  
  name: myapp  
type: application
```



```
specVersion: '2.1'  
metadata:  
  name: mytask  
  kind: extension  
type: task
```



```
specVersion: '1.0'  
metadata:  
  name: mymiddleware  
  kind: extension  
type: server-middleware
```

# Specification Version

```
● ● ●  
specVersion: '2.0'  
metadata:  
  name: myapp  
  type: application
```



```
● ● ●  
specVersion: '2.1'  
metadata:  
  name: mytask  
  kind: extension  
  type: task
```

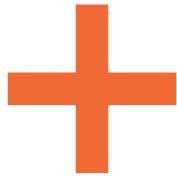


```
● ● ●  
specVersion: '1.0'  
metadata:  
  name: mymiddleware  
  kind: extension  
  type: server-middleware
```

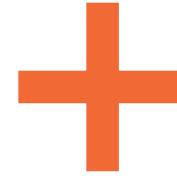
@ui5/cli  
v2.2.0+

# Specification Version

```
● ● ●  
specVersion: '2.0'  
metadata:  
  name: myapp  
  type: application
```

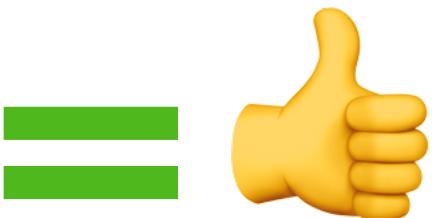


```
● ● ●  
specVersion: '2.1'  
metadata:  
  name: mytask  
  kind: extension  
  type: task
```



```
● ● ●  
specVersion: '1.0'  
metadata:  
  name: mymiddleware  
  kind: extension  
  type: server-middleware
```

@ui5/cli  
v2.2.0+



# Specification Version

## Compatibility Matrix

Specification Version	UI5 CLI Release
2.1	v2.2.0+
2.0	v2.0.0+
1.1	v1.13.0+
1.0	v1.0.0+
0.1	v0.0.1+



[sap.github.io/ui5-tooling/pages/Configuration/#specification-versions](https://sap.github.io/ui5-tooling/pages/Configuration/#specification-versions)

# Demo: Project Structure Example



**Matthias Oßwald**  
Developer @ UI5 Core Foundation

 @mathiaso

 @matz3

# Demo: Node.js API



**Matthias Oßwald**  
Developer @ UI5 Core Foundation

 @mathiaso

 @matz3

# Examples for Use in Other Projects

## OpenUI5

- Custom Server / Dependency Management
  - [github.com/SAP/openui5/blob/master/lib/server/server.js](https://github.com/SAP/openui5/blob/master/lib/server/server.js)
  - Possible "built-in" solution via [RFC 0006 Local Dependency Resolution](#)

## karma-ui5

- Use ui5-server Middleware in Custom Express Server
  - [github.com/SAP/karma-ui5/blob/master/lib/framework.js#L431-L438](https://github.com/SAP/karma-ui5/blob/master/lib/framework.js#L431-L438)

## SAP Fiori Tools

- Talk coming right up!
  - [blogs.sap.com/2020/06/22/sap-fiori-tools-is-generally-available](https://blogs.sap.com/2020/06/22/sap-fiori-tools-is-generally-available)

# Examples for Use in Other Projects

## OpenUI5 / SAPUI5

- Theme build uses ui5-builder task
  - [sap.github.io/ui5-tooling/api/module-@ui5\\_builder.tasks.html#.buildThemes](https://sap.github.io/ui5-tooling/api/module-@ui5_builder.tasks.html#.buildThemes)

## Other Projects

- Integration in Gulp and other task runners

```
async function buildApplication(project, distPath) {  
  const tree = await normalizer.generateProjectTree({ cwd: project.path });  
  await builder.build({  
    tree, destPath: distPath, selfContained: true, excludedTasks: ["transformBootstrapHtml"],  
    buildDependencies: true  
  });  
}
```

# Where Are We Heading?



Openness &  
Extensibility



Performance



Improve  
Documentation



Reduce build  
result size



Basic  
Scaffolding



Improve  
Bundling

# Thank you.

**Matthias Oßwald**

Developer @ UI5 Core Foundation

 @matthiaso

 @matz3

**Merlin Beutlberger**

Development Architect @ UI5 Core Foundation

  @RandomByte



slack [join](#)

#tooling Channel

ON AIR  
**UI5con**