

How we develop a state-of-the-art SAP Portal using UI5 and more!

Kristian Kraljić, SAP SE
Samer Aldefai, SAP SE
July 10th, 2020

ON AIR 
UI5con



Kristian Kraljić
Lead Architect SAP for Me
kristian.kraljic@sap.com



Samer Aldefai
Developer SAP for Me
samer.aldefai@sap.com

Agenda

Our Mission and the Journey to UI5

How we (re-)imagined modern UI development

Improvise. Adapt. Overcome: Open Source!

Optimize, Optimize, Optimize! A Deep Dive into UI5

From Local Development Zero to Cloud Foundry Hero

Modern?! SAP?! Yes! ... Demo Time!

Our Mission and the Journey to UI5

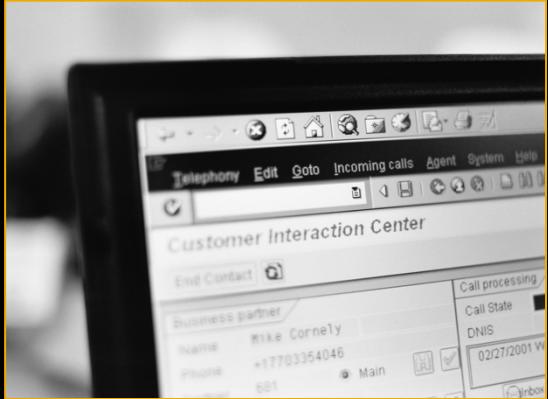
Where we came from, a little history:

“The past is where **you learned** the lesson. The future is where **you apply** the lesson.”

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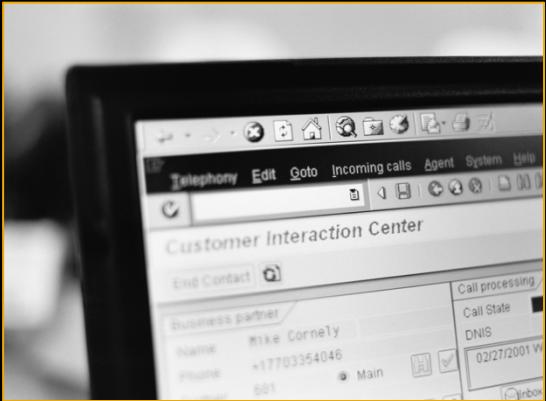
SAPGUI 4.0B

UI5con ON AIR

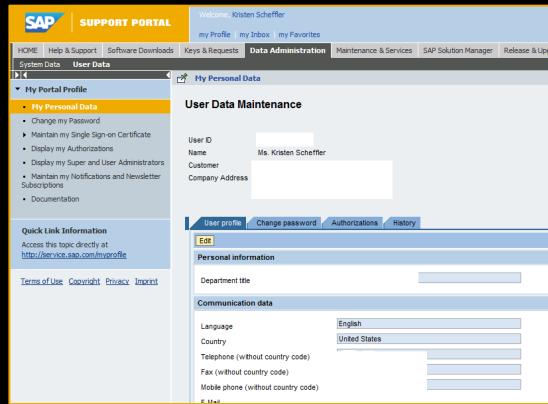
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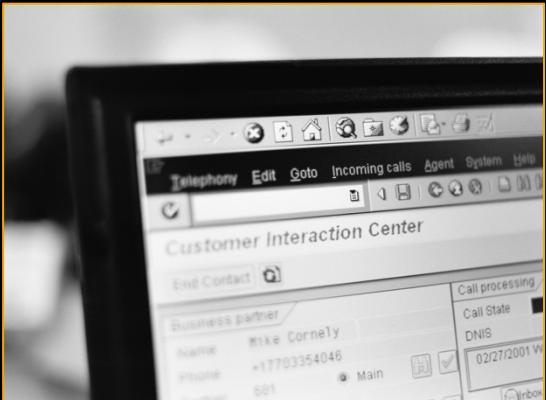


SAP SMP
SAP BSP

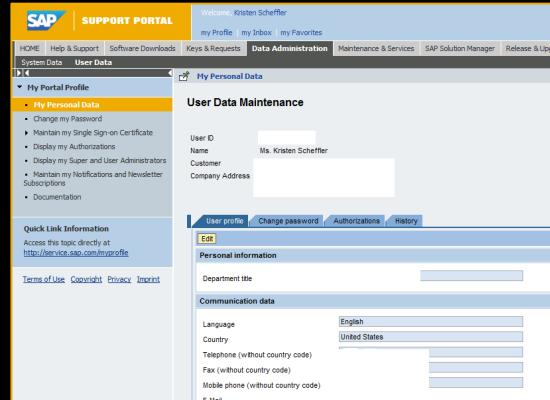
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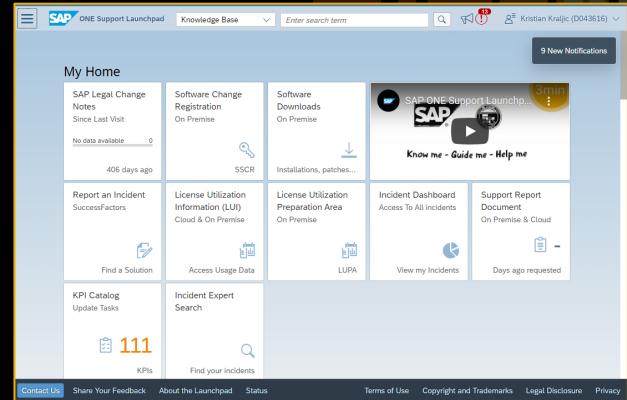
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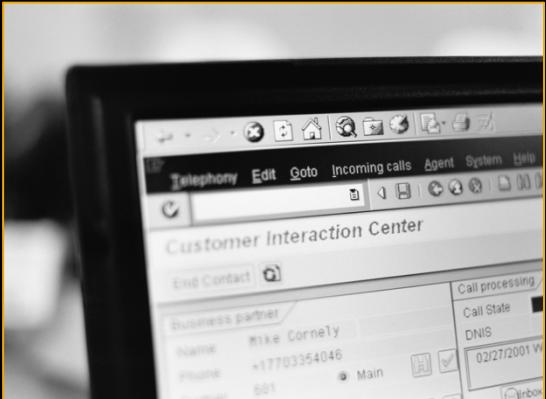
SAP OSLP
SAPUI5 1.28+

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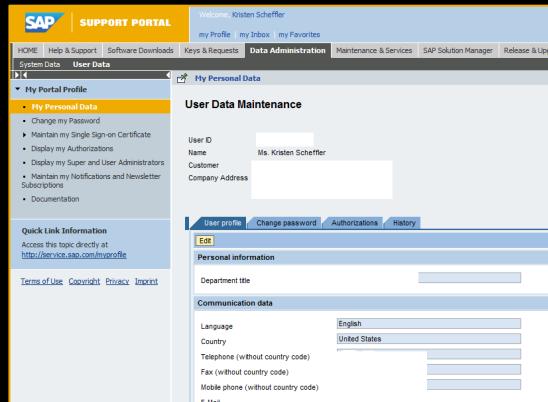
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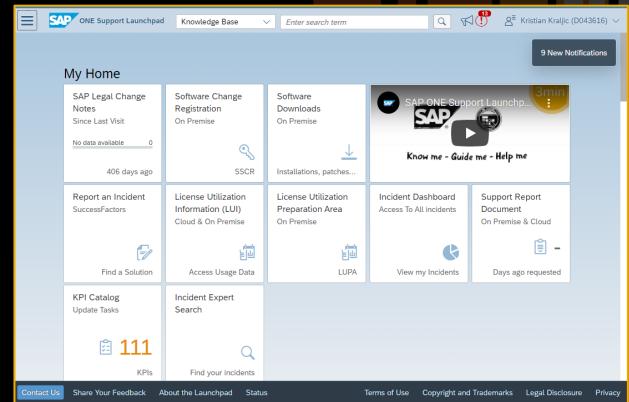
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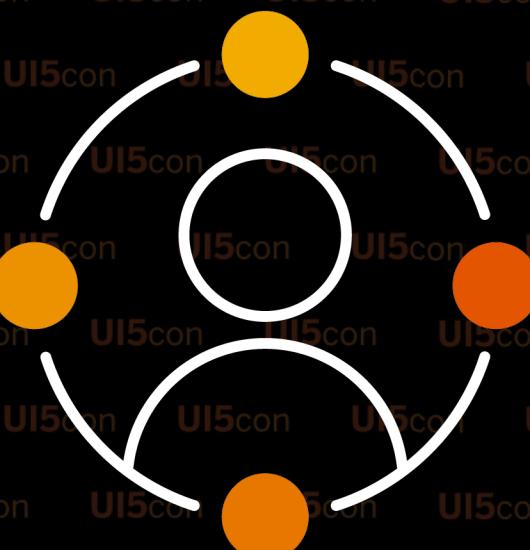


SAP OSLP
SAPUI5 1.28+

Boy! We had quite some time **to learn** and even more to **make up for!**

Our Mission and the Journey to UI5

What we where tasked to achieve ...



We build and operate ...

SAP for Me



How did we do? What will await you?
Demo Time!



Kristian Kraljić
Lead Architect SAP for Me
kristian.kraljic@sap.com

me.sap.com
try us at: try-me.sap.com



(it's not so nice on mobile yet! Please give us some time! ;)

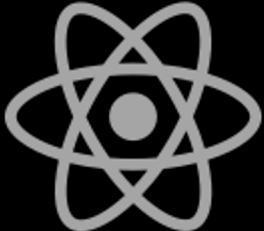
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Our Mission and the Journey to UI5

Why did we settle on UI5?

We had no constraints... Go wild!

Got started with a evaluation phase!



And went for the best fit for us!

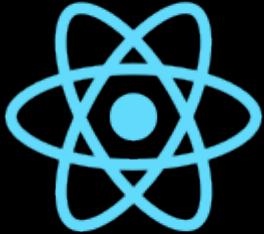
Enterprise Ready, Fast, Easy to Understand,
Controls, Translation, Event Bus, Fiori 3 ...

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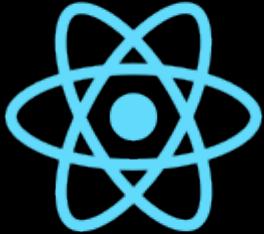
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How we (re-)imagined modern UI development

The key to the kingdom is *local* development!

But first there was light local development!

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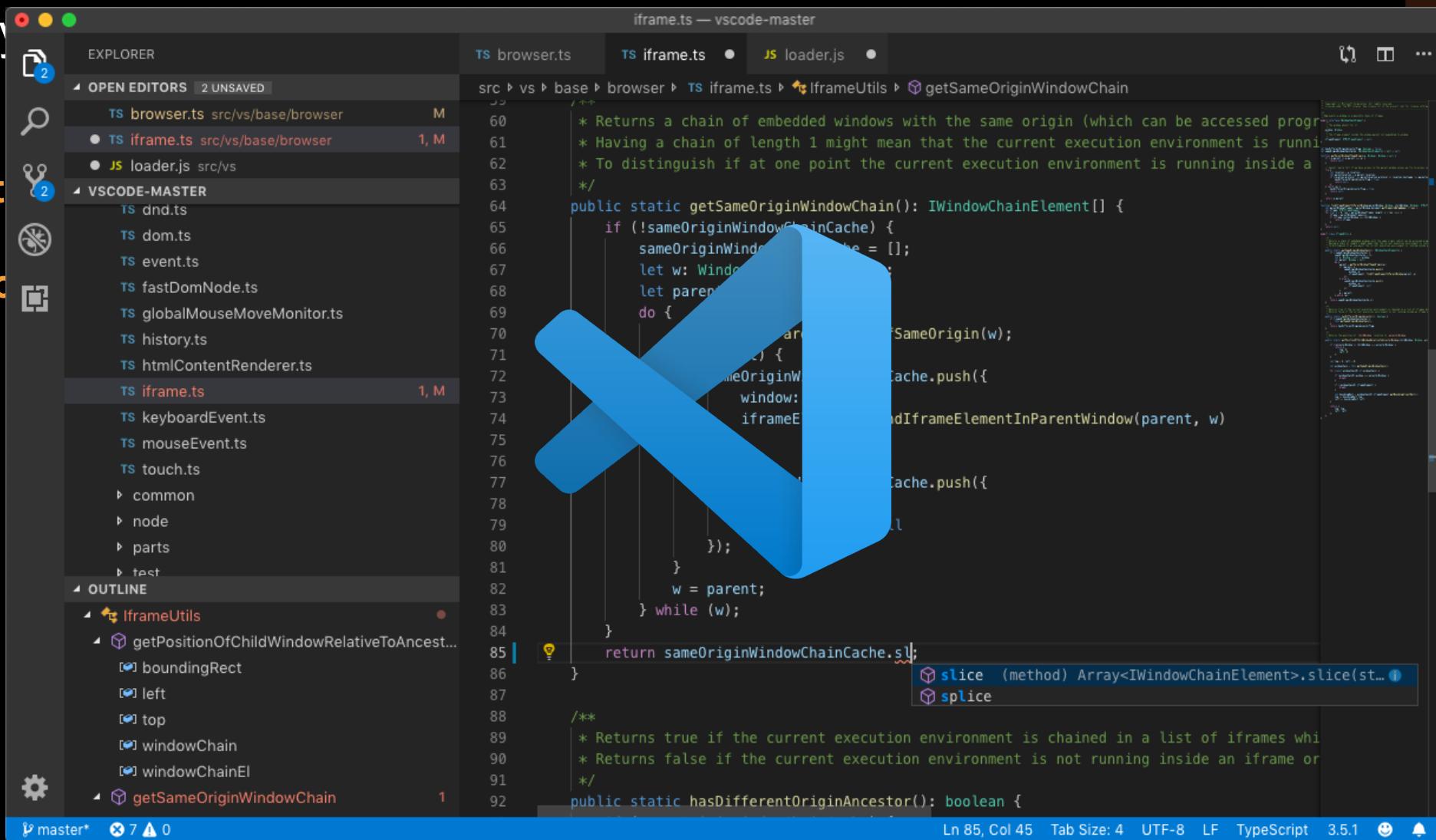
1. Choose any IDE you'd like!

How we (re-)imagined modern UI development

The key

But first

1. Choose



A screenshot of the Visual Studio Code interface. The title bar says "iframe.ts — vscode-master". The left sidebar shows the "EXPLORER" view with several files listed under "OPEN EDITORS" and "VS CODE-MASTER". A large blue "X" is overlaid on the main code editor area, which contains TypeScript code for handling iframe windows. The code includes comments like "Returns a chain of embedded windows with the same origin" and "Returns true if the current execution environment is chained in a list of iframes". The status bar at the bottom shows "master*" and "7 ▲ 0".

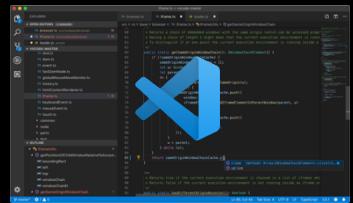
```
iframe.ts — vscode-master
src > vs > base > browser > TS iframe.ts > IFrameUtils > getSameOriginWindowChain
60  * Returns a chain of embedded windows with the same origin (which can be accessed programatically)
61  * Having a chain of length 1 might mean that the current execution environment is running inside a frame
62  * To distinguish if at one point the current execution environment is running inside a frame
63  */
64  public static getSameOriginWindowChain(): IWindowChainElement[] {
65      if (!sameOriginWindowChainCache) {
66          sameOriginWindowChainCache = [];
67          let w: Window;
68          let parent: Window;
69          do {
70              if (w === parent) {
71                  continue;
72              }
73              if (SameOrigin(w)) {
74                  sameOriginWindowChainCache.push({
75                      window: w,
76                      iframeElement: IFrameElementInParentWindow(parent, w)
77                  });
78              }
79          } while (w);
80      }
81      return sameOriginWindowChainCache.slice();
82  }
83  /**
84   * Returns true if the current execution environment is chained in a list of iframes which
85   * Returns false if the current execution environment is not running inside an iframe or
86   */
87  public static hasDifferentOriginAncestor(): boolean {
```

How we (re-)imagined modern UI development

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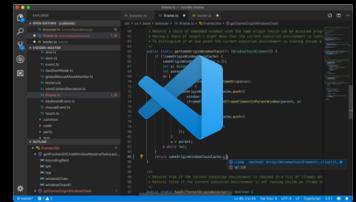
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2. Mock all the data!!1eleven

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3  service Service {
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5      entity Trees as projection on Example.Trees;
6  }
7
8  entity Birds {
9      key ID : Integer;
10     name : String;
11     family : String;
12 }
13
14 entity Trees {
15     key ID : Integer;
16     name : String;
17     height : Decimal(4,1);
18 }
```

models > data >  Example.Birds.csv

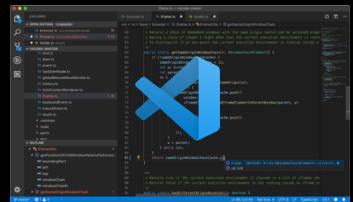
| | |
|---|-------------------------------|
| 1 | ID;name;family |
| 2 | 1;Blackbird; <u>Turdidae</u> |
| 3 | 2;Warbler; <u>Sylviidae</u> |
| 4 | 3;Dove; <u>Columbidae</u> |
| 5 | 4;Junco; <u>Passerellidae</u> |
| 6 | 5;Robin; <u>Muscicapidae</u> |
| 7 | 6;Starling; <u>Sturnidae</u> |

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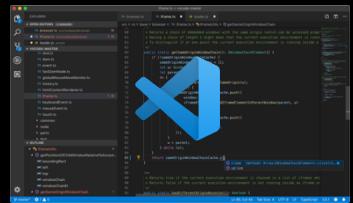
| models > data > Example.Birds.csv | | |
|-----------------------------------|-----|---------------------|
| 1 | ID; | name;family |
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3. Now you just need a *little* Open Source to enable your development workflow!

Improvise. Adapt. Overcome: Open Source!

And boy...

1. **There is A TON of Open Source out there!**

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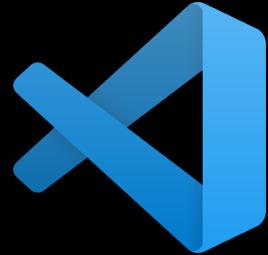


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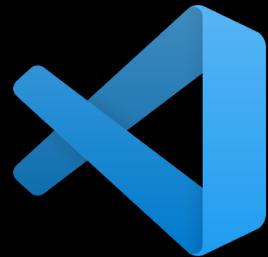


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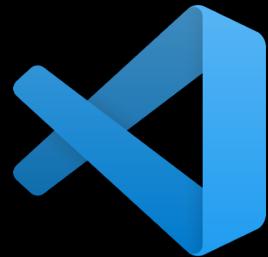


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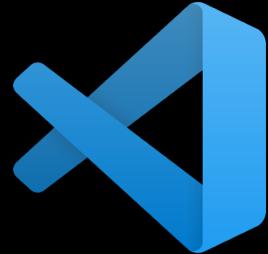


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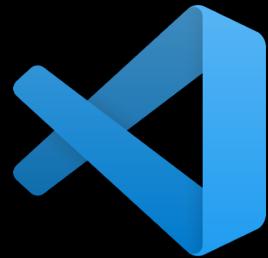
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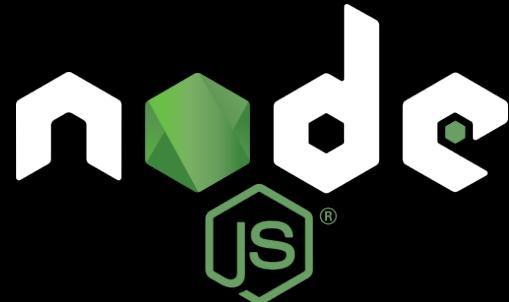
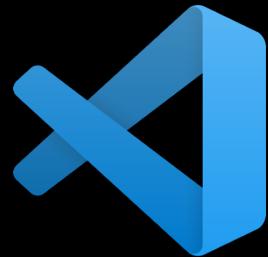


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And boy...

1. There is A TON of Open Source out there!

(somewhere ...)



Improvise. Adapt. Overcome: Open Source!

2. It's free!

Improvise. Adapt. Overcome: Open Source!

2. **It's free!** ... Learning, choosing & connecting it is not though!



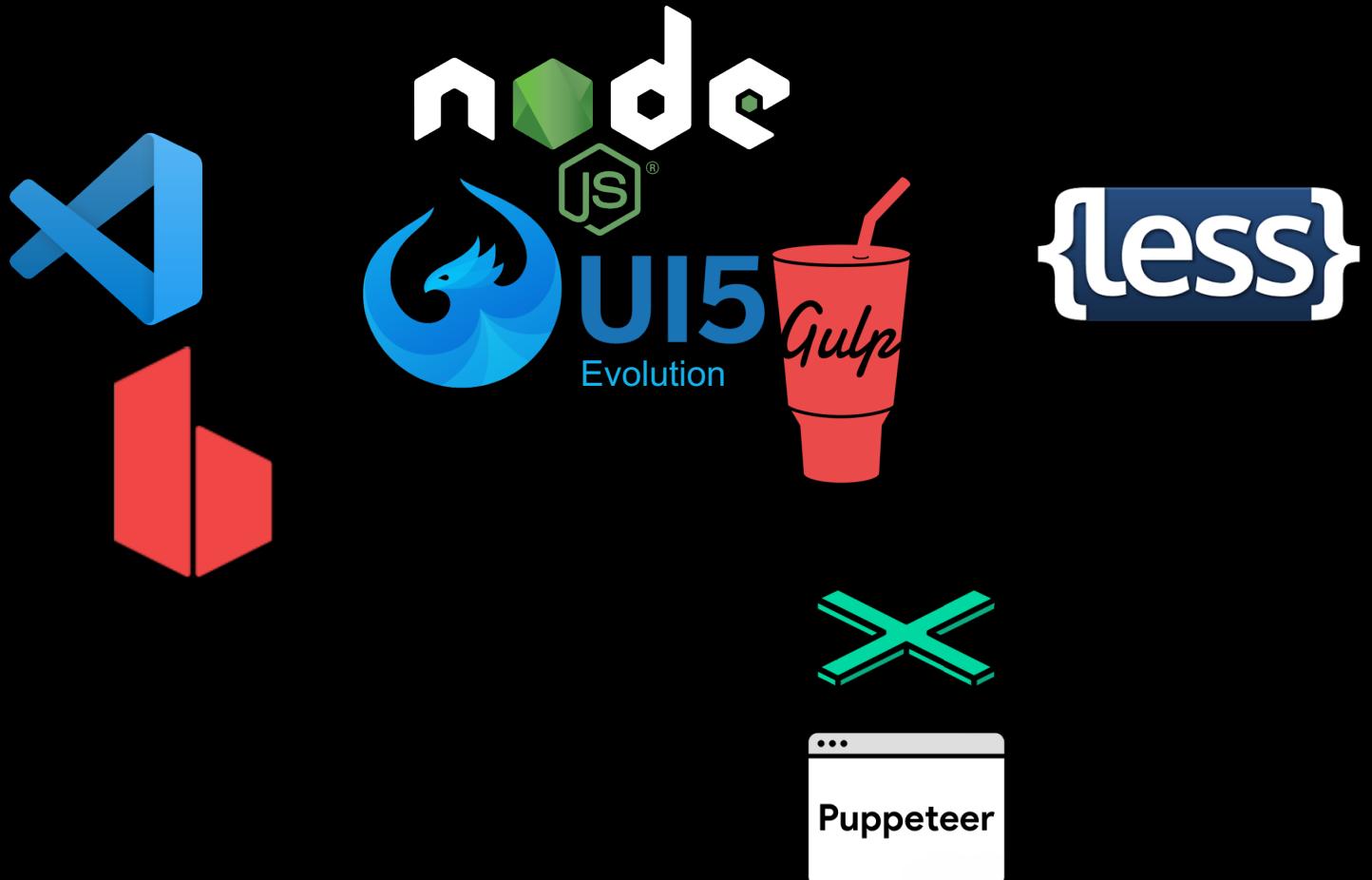
octodex.github.com

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Improvise. Adapt. Overcome: Open Source!

3. Try to connect the dots!

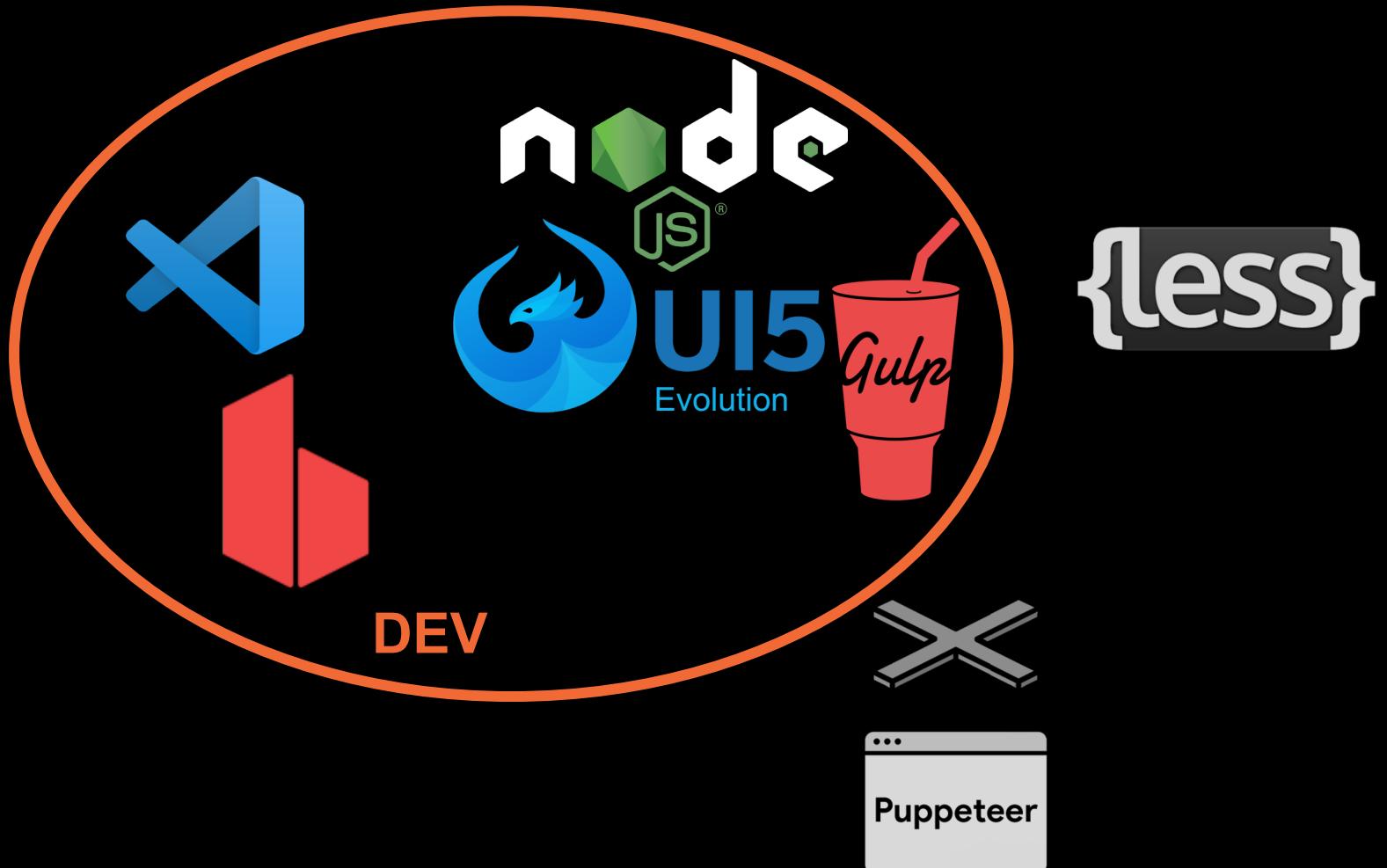
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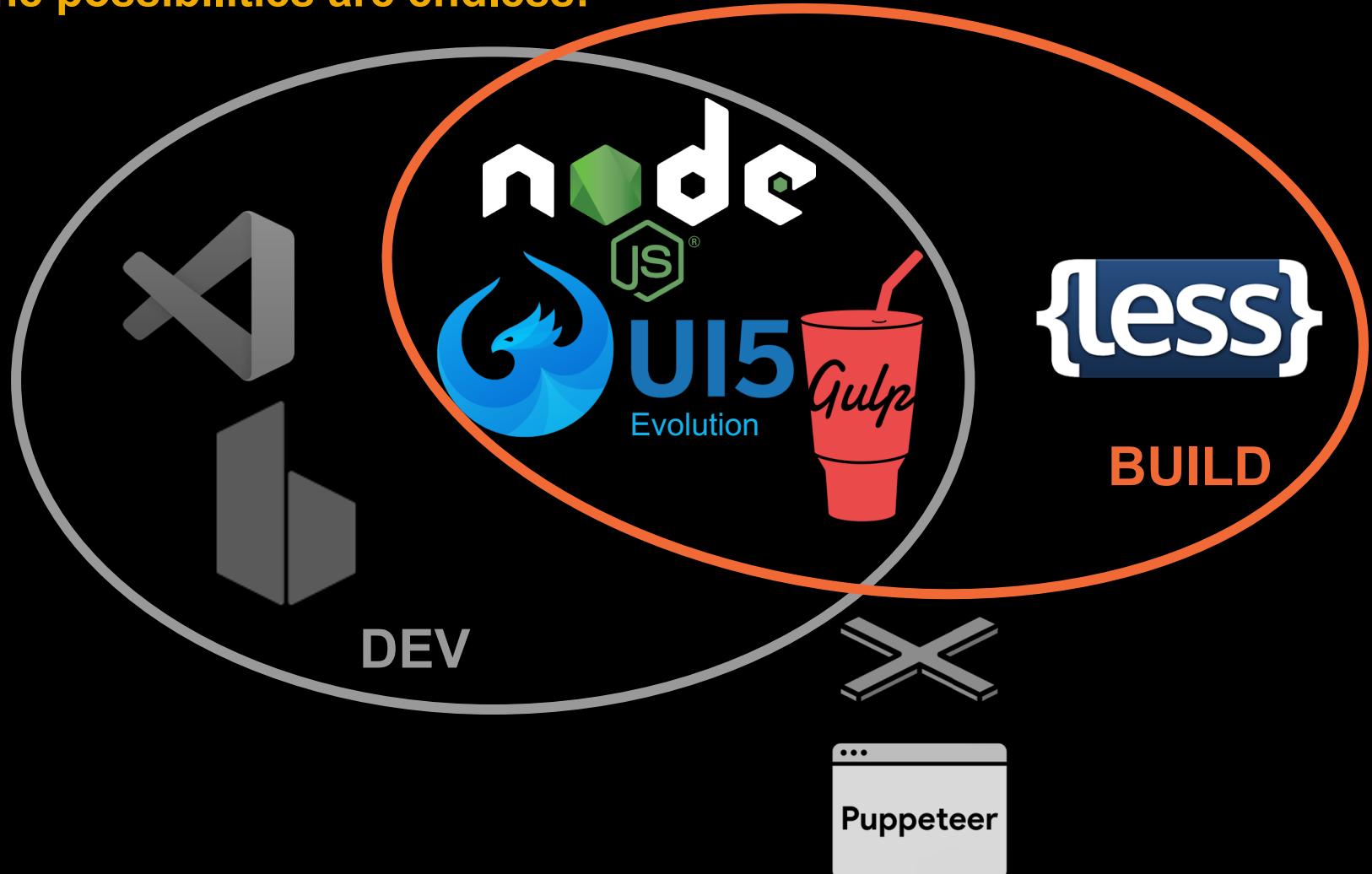
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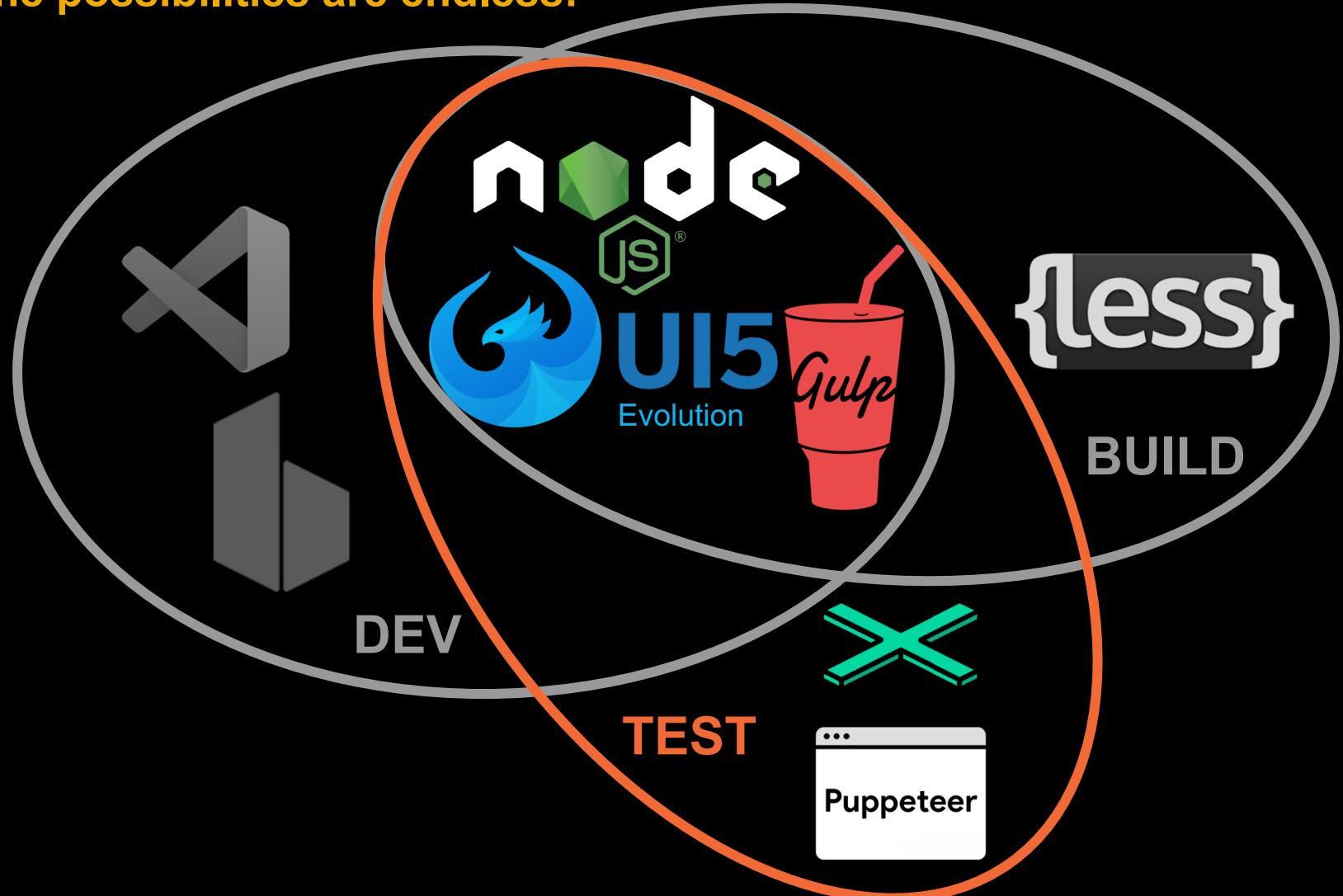
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Improvise. Adapt. Overcome: Open Source!

4. It is neither Rocket Science nor Magic!

We made it, why shouldn't you?

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Improvise. Adapt. Overcome: Open Source!

4. It is neither Rocket Science nor Magic!

... but we needed quite some *code* to connect the dots.

Improvise. Adapt. Overcome: Open Source!

4. It is neither Rocket Science nor Magic!

... but we needed quite some *code* to connect the dots and task runners are your friend!



- NodeJS Only
- Tasks are Plain JS Code
- Transform your Code!

We made it, why shouldn't you?

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4. It is neither Rocket Science nor Magic!

... but we needed quite some *code* to connect the dots and task runners are your friend!



- NodeJS Only
- Tasks are Plain JS Code
- Transform your Code!



- For everything else! Java / Cross
- Behold of the “Magic” within!

We made it, why shouldn't you?

Optimize, Optimize, Optimize! A Deep Dive into UI5

Let's treat that as tale of another time!

Optimize, Optimize, Optimize! A Deep Dive into UI5

Optimizing the
Bootstrap

Let's treat that as tale of another time!

Optimize, Optimize, Optimize! A Deep Dive into UI5

Optimizing the
Bootstrap

*From Application
to Framework*

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Splash
Screens

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CSS Loading
Optimization

Let's treat that as tale of another time!



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samer.aldefai@sap.com

Connecting the Dots .. End-to-End

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From Local Development Zero to Cloud Foundry Hero

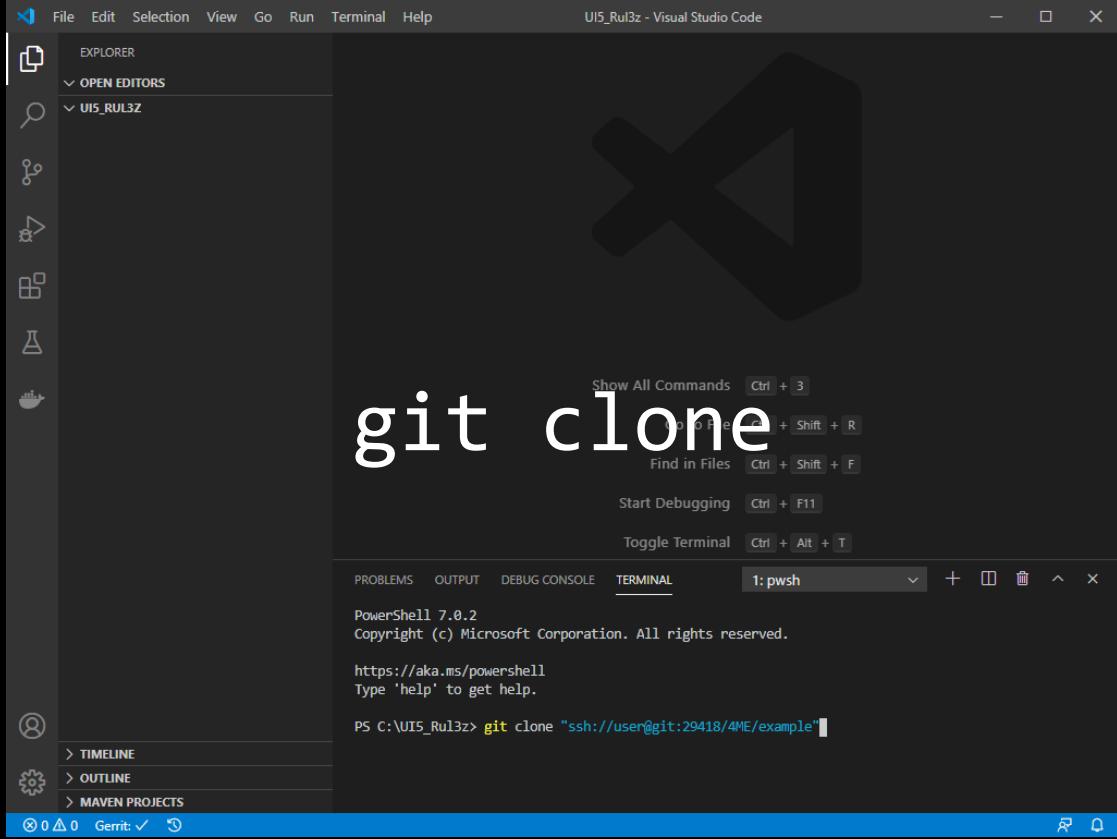
Develop, Mock, Test, Optimize, Deploy, Repeat!



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From Local Development Zero to Cloud Foundry Hero

Develop, Mock, Test, Optimize, Deploy, Repeat!



UI5con ON AIR

From Local Development Zero to Cloud Foundry Hero

Develop, Mock, Test, Optimize, Deploy, Repeat!

The image shows two instances of Visual Studio Code side-by-side, illustrating the workflow from local development to deployment.

Left Instance (Local Development):

- File Explorer:** Shows the project structure for "ClockCardjs - UI5_Rul3z".
- Editor:** Displays the file "ClockCard.js" with code related to SAPUI5 components like "sap.ui.define", "sap/ui/core/Fragment", and "sap/ui/Device".
- Terminal:** Shows the command "cd .\example\" being run in a PowerShell terminal.
- Status Bar:** Shows the commit "master" and other repository details.

Right Instance (Deployment):

- File Explorer:** Shows the project structure for "Example.Trees.json - UI5_Rul3z - Visual Studio Code".
- Editor:** Displays the file "Example.Trees.json" containing a JSON array of tree objects with fields "ID", "name", and "height".
- Terminal:** Shows the command "cd .\example\" being run in a PowerShell terminal.
- Status Bar:** Shows the commit "master" and other repository details.

Central Labels:

js/less/... is positioned between the two VS Code instances.

CSV or json is positioned below the right VS Code instance.



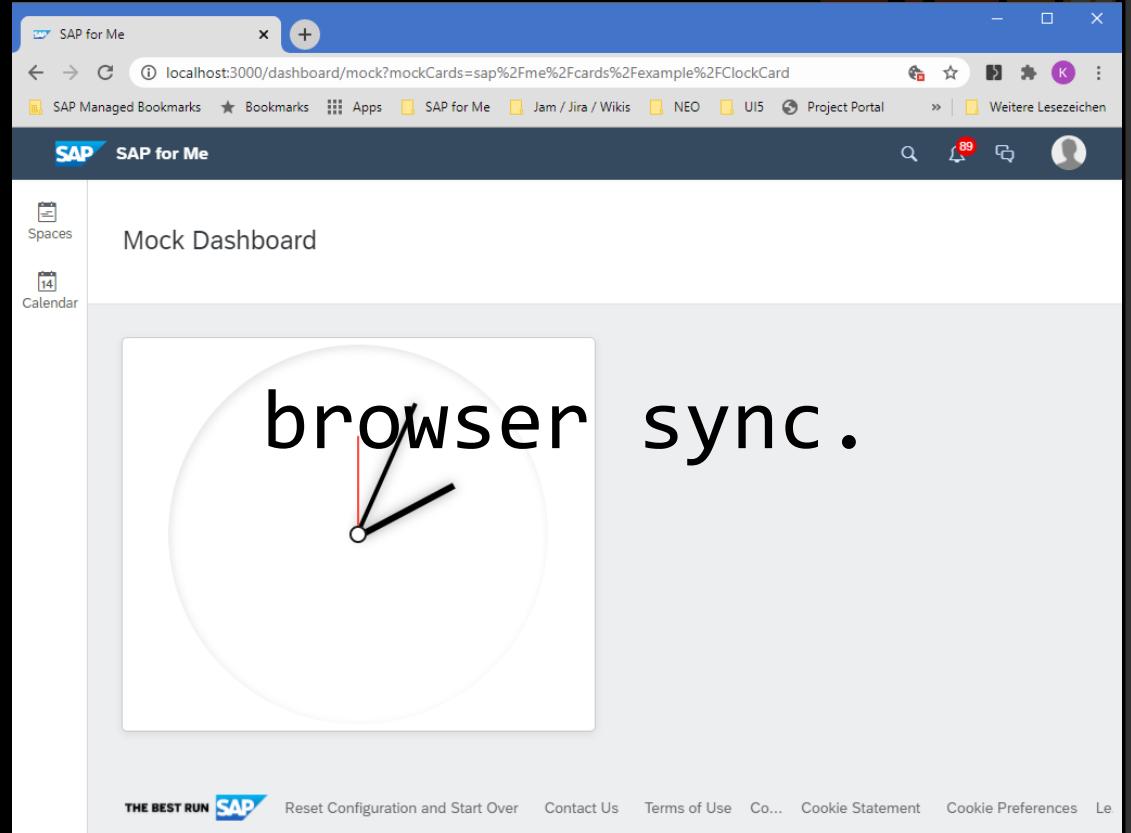
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From Local Development Zero to Cloud Foundry Hero

Develop, Mock, Test, Optimize, Deploy, Repeat!

The screenshot shows a Visual Studio Code interface with the following details:

- File Explorer:** On the left, it lists files and folders. A large watermark "gradlew dev" is overlaid across the center of the screen.
- Code Editor:** The main area displays a JavaScript file named `ClockCard.js`. The code defines a class `ClockCard` extending `CardComposite`, with methods for rendering and tick handling.
- Terminal:** At the bottom, the terminal window shows the command `./gradlew dev` being run in a directory `C:\UI5_Ru13\example`. It also displays the output of the Gradle daemon starting.
- Status Bar:** The status bar at the bottom shows the current file is `ClockCard.js`, and other details like line 16, column 48, and file encoding.

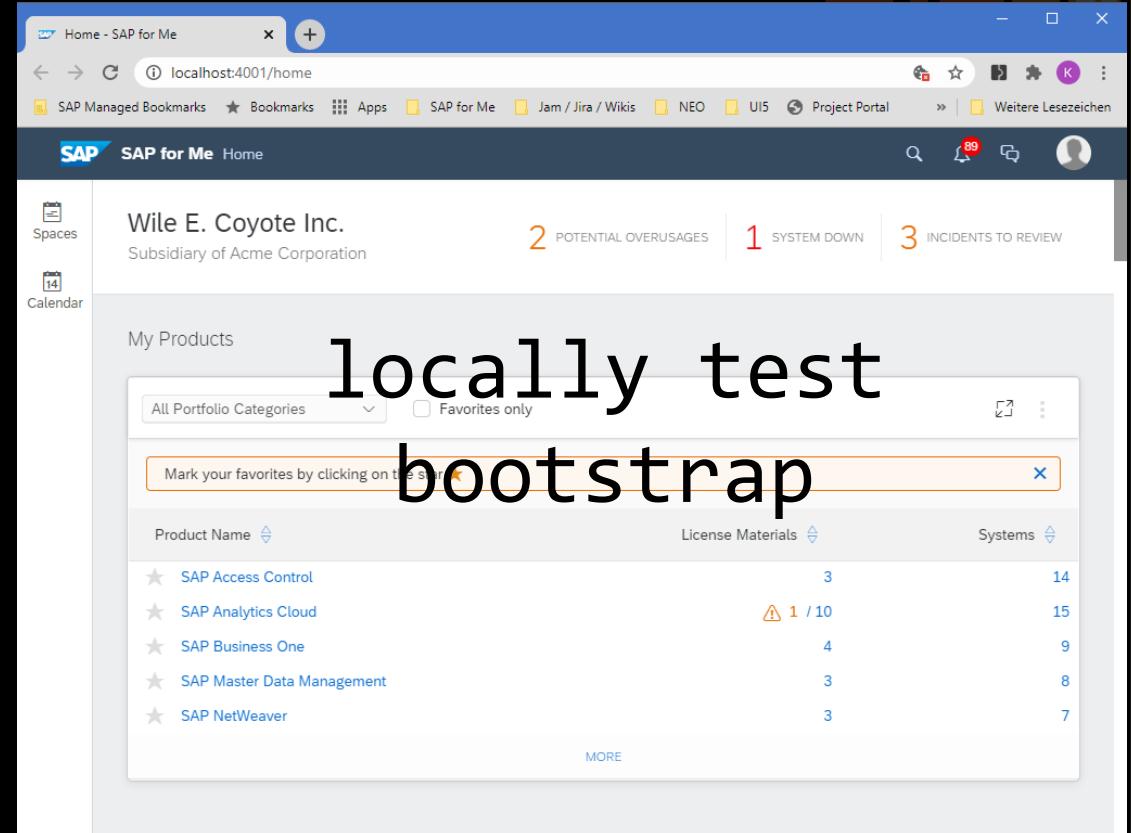


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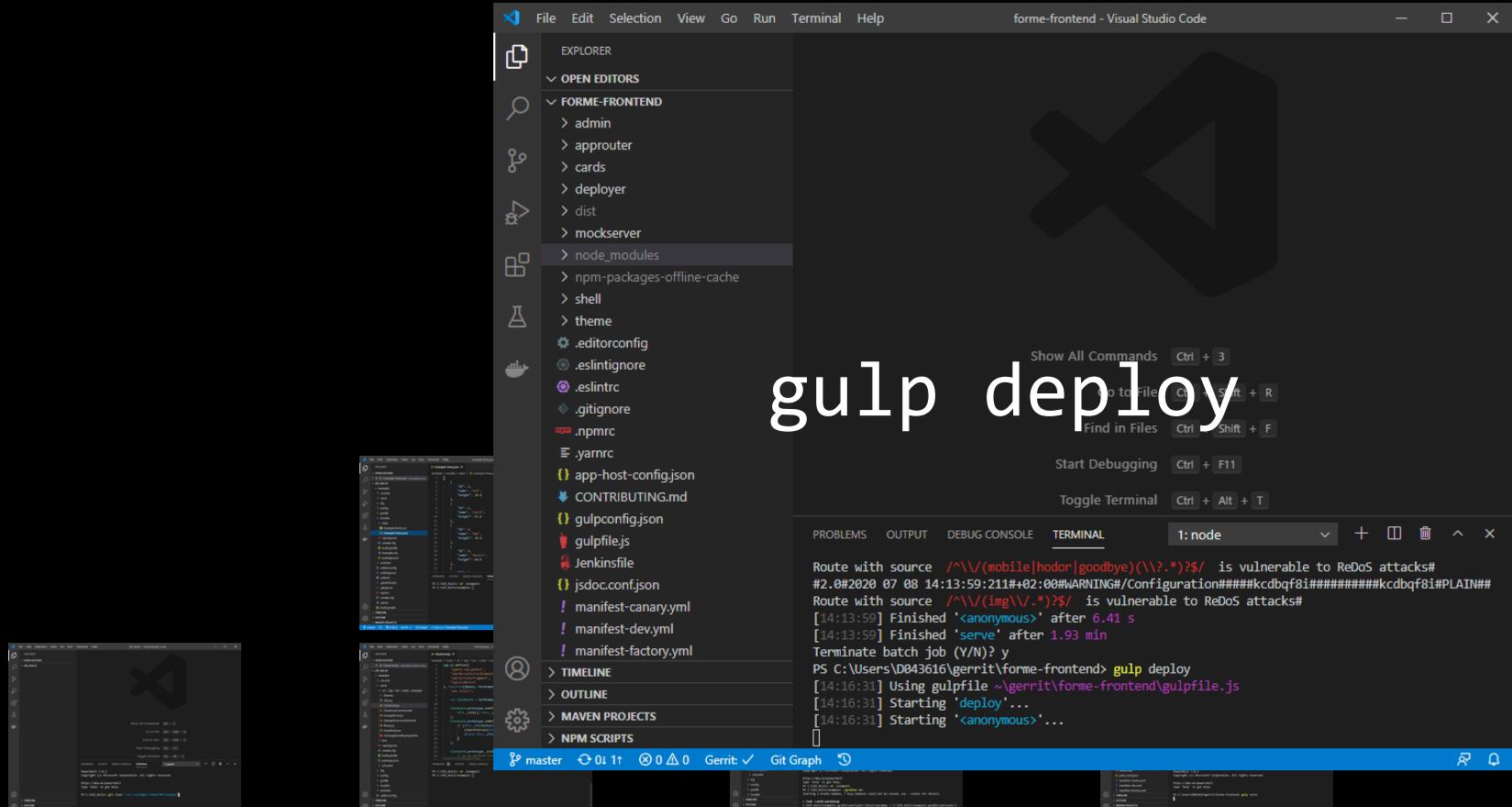
A screenshot of the Visual Studio Code interface. The title bar says "forme-frontend - Visual Studio Code". The left sidebar shows the file structure with "OPEN EDITORS" expanded, listing files like "admin", "approuter", "cards", "deployer", "dist", "mockserver", "node_modules", "npm-packages-offline-cache", "shell", "theme", ".editorconfig", ".eslintrc", ".gitignore", ".npmrc", ".yaml", "app-host-config.json", "CONTRIBUTING.md", "gulpconfig.json", "gulpfile.js", "Jenkinsfile", "jsdoc.conf.json", "manifest-canary.yml", "manifest-dev.yml", "manifest-factory.yml", "TIMELINE", "OUTLINE", "MAVEN PROJECTS", and "NPM SCRIPTS". The main editor area has a large "X" logo. The terminal tab is active, showing the command "gulp serve" being typed. The status bar at the bottom shows "master" and other repository details.



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From Local Development Zero to Cloud Foundry Hero

Develop, Mock, Test, Optimize, Deploy, Repeat!



Clone
Repo.

Dev. &
Mock

Local
Test

Optimize

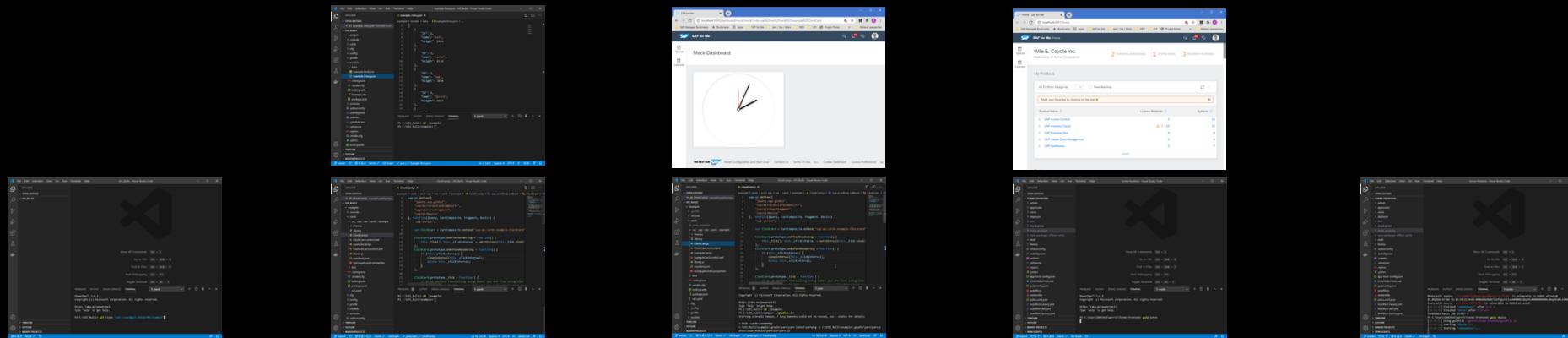
Deploy
1:1

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From Local Development Zero to Cloud Foundry Hero

Develop, Mock, Test, Optimize, Deploy, Repeat!

End-to-→End
Local Development Lifecycle



Clone
Repo.

Dev. &
Mock

Local
Test

Optimize

Deploy
1:1

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Modern?! SAP?! Yes!
Demo Time!



Samer Aldefai
Developer SAP for Me
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Thank you.

Contact information:

Kristian Kraljić 
Lead Architect SAP for Me

kristian.kraljic@sap.com

Samer Aldefai 
Developer SAP for Me

samer.aldefai@sap.com



Reach out to us via Microsoft Teams

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