



UI5con

UI5 Web Components Table

Unlocking the Power of the New UI5 Web Components Table



8. July 2025



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The Table Web Component is Now Productive - Here's What's New

May 15, 2025 · 7 min read

After its half-year tenure as an experimental component since the release of UI5 Web Components 2.0, allowing us to gather feedback and improve the API, the Table component will finally leave its experimental state!

This blog will update you on why we've decided to take this path, the improvements and new features of the `ui5-table`.

Going from Old to New

Back in UI5 Web Components 1.x, the library already offered a Table component, which provided developers with capabilities to display data in a tabular structure.

Upgrading to a new version gave us the chance to reassess and reimagine the Table component, allowing us to focus on three core points:

- Improved accessibility
- Harmonization between the Web Component Table and UI5 Tables
- Enhancements to existing APIs and incorporation of new ideas

Agenda



01

Old To New

02

What's New?

03

Extending the Table – The Feature Concept

04

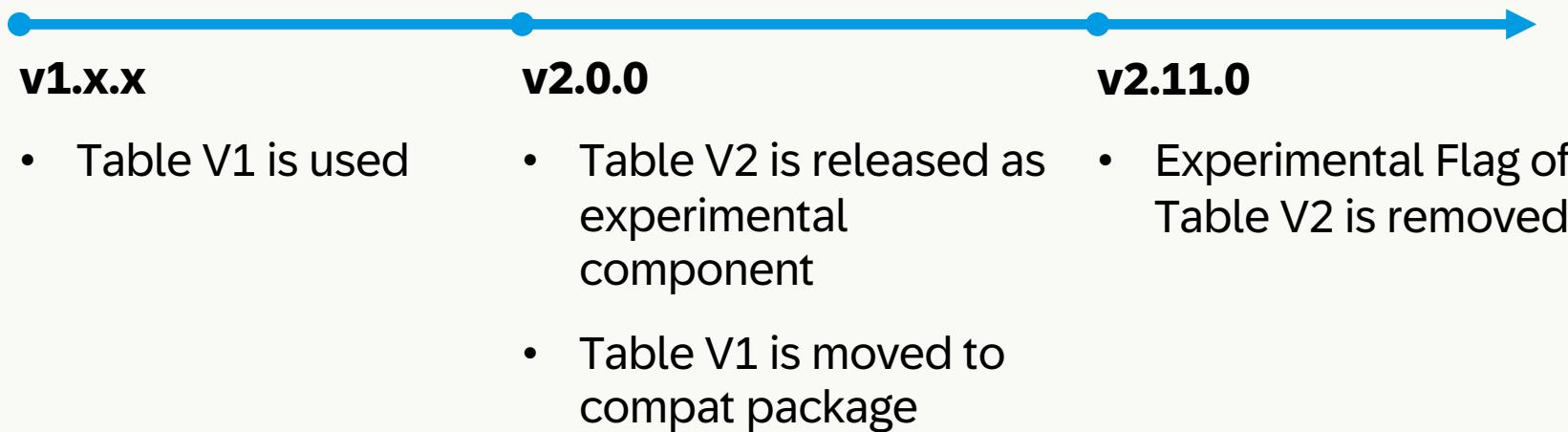
How To? – A Migration Guide



Old To New

Motivation and Reason behind the New
Web Component Table

Timeline



Our 3 Core Reasons

01

Accessibility

- Apply Learnings from previous Tables to better align with our accessibility standards
- Motto: "Accessibility first"
- Incorporate Accessibility into design and architecture decisions

02

Harmonization

- Bridge the Gap between UI5 Web Components and UI5 Tables
- Harmonize APIs and Functionalities across Frameworks
- Ensure a consistent UX across Table components

03

Innovation

- Incorporate new and fresh ideas
- Improve upon existing APIs and features
- Leverage past findings into new and existing features



What's New?

Introducing changes and new functionalities

Table Structure

Keeping Accessibility Simple

- New Table Structure is inspired by HTML Table
- No more `<ui5-column>`, instead use `<ui5-table-header-row>` and `<ui5-table-header-cell>`
- ARIA roles are applied directly to the components not hidden in the shadow DOM

```
<table>
  <tr>
    <th>Column A</th>
    <th>Column B</th>
  </tr>
  <tr>
    <td>Cell 1</td>
    <td>Cell 2</td>
  </tr>
</table>
```

```
<ui5-table>
  <ui5-table-header-row slot="headerRow">
    <ui5-table-header-cell>Column A</ui5-table-header-cell>
    <ui5-table-header-cell>Column B</ui5-table-header-cell>
  </ui5-table-header-row>
  <ui5-table-row>
    <ui5-table-cell>Cell 1</ui5-table-cell>
    <ui5-table-cell>Cell 2</ui5-table-cell>
  </ui5-table-row>
</ui5-table>
```

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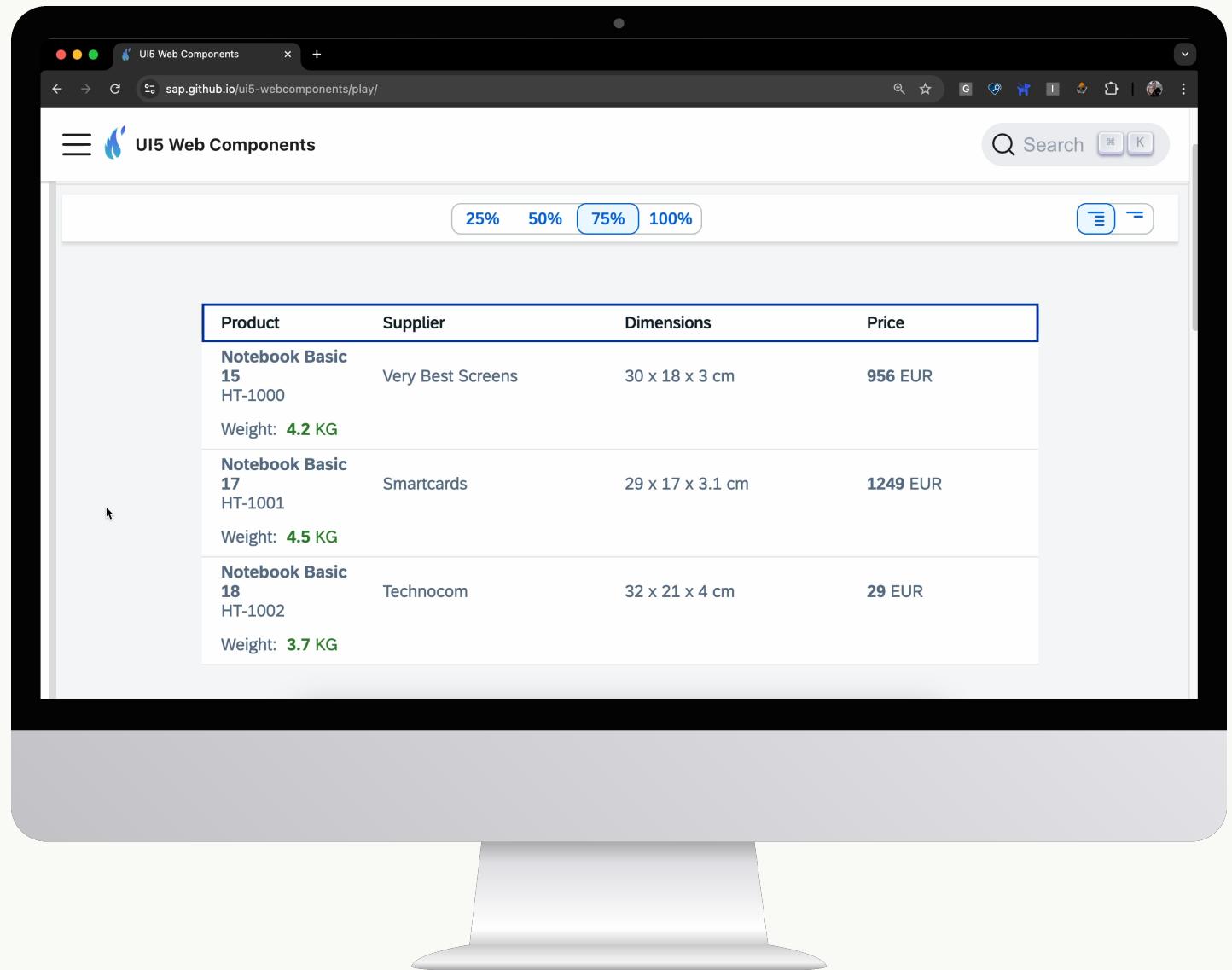
```
<table>
  <tr>
    <th>Column A</th>
    <th>Column B</th>
  </tr>
  <tr>
    <td>Cell 1</td>
    <td>Cell 2</td>
  </tr>
</table>
```

```
<ui5-table role="grid">
  <ui5-table-header-row slot="headerRow" role="row">
    <ui5-table-header-cell role="columnheader">Column A</ui5-table-header-cell>
    <ui5-table-header-cell role="columnheader">Column B</ui5-table-header-cell>
  </ui5-table-header-row>
  <ui5-table-row role="row">
    <ui5-table-cell role="gridcell">Cell 1</ui5-table-cell>
    <ui5-table-cell role="gridcell">Cell 2</ui5-table-cell>
  </ui5-table-row>
</ui5-table>
```

Keyboard Handling

Harmonizing Experiences

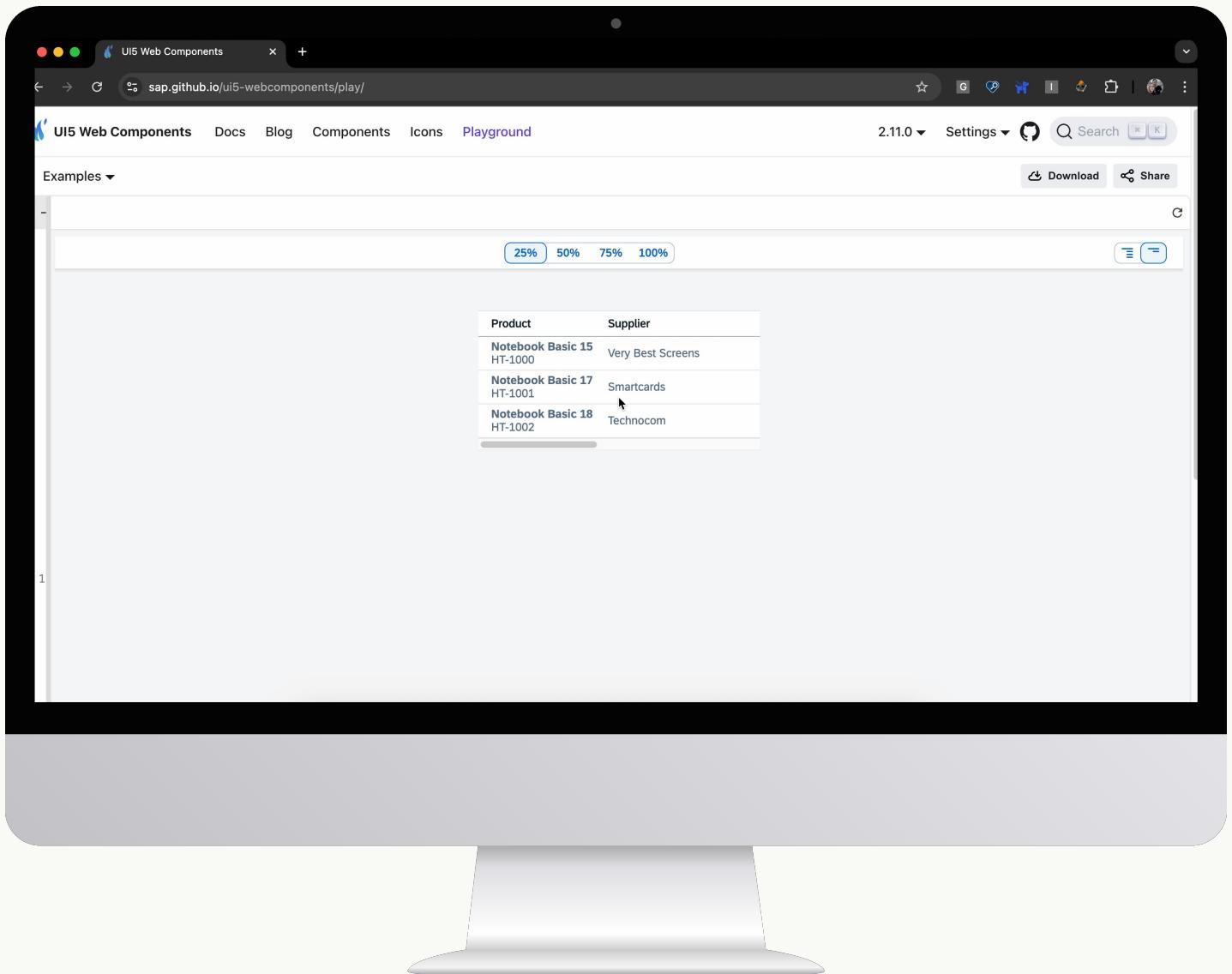
- Keyboard Interaction has been aligned with UI5 ResponsiveTable and GridTable
- Navigate to rows, cells and pop-ins via the arrow keys
- Check [SAPUI5 Accessibility for End Users](#) for more info



Overflow Mode

Innovating Old Concepts

- Switch between two *overflow* modes for horizontal overflow handling
- **Scroll Mode:** If the table overflows horizontally, a scrollbar is rendered



Overflow Mode

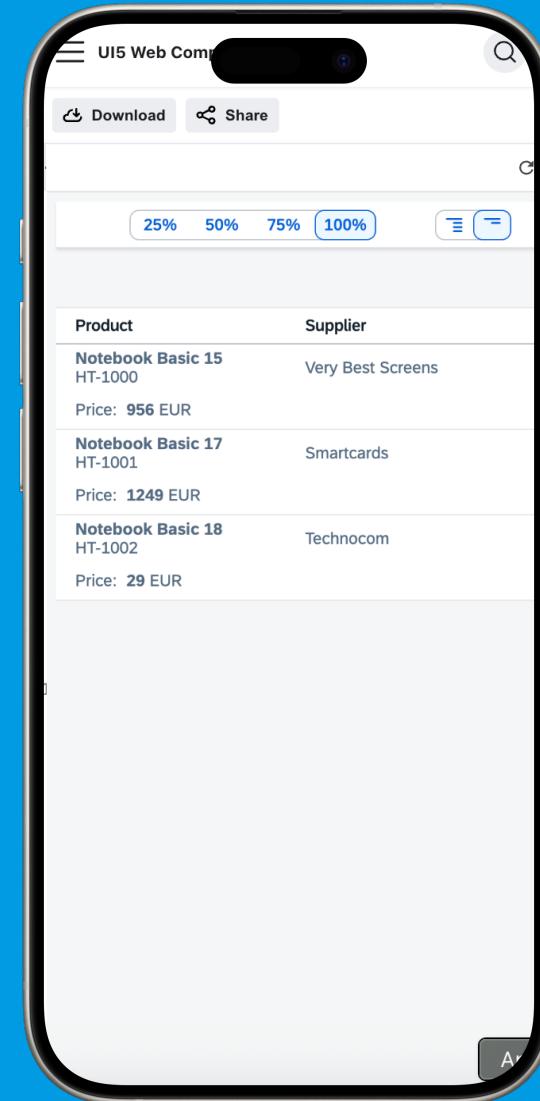
Innovating Old Concepts

- Switch between two *overflow* modes for horizontal overflow handling
- **Scroll Mode:** If the table overflows horizontally, a scrollbar is rendered

```
<ui5-table overflow-mode="Scroll">
```

- **Popin Mode:** Responsive mode, which moves "overflowing" columns into the *popin area*

```
<ui5-table overflow-mode="Popin">
```

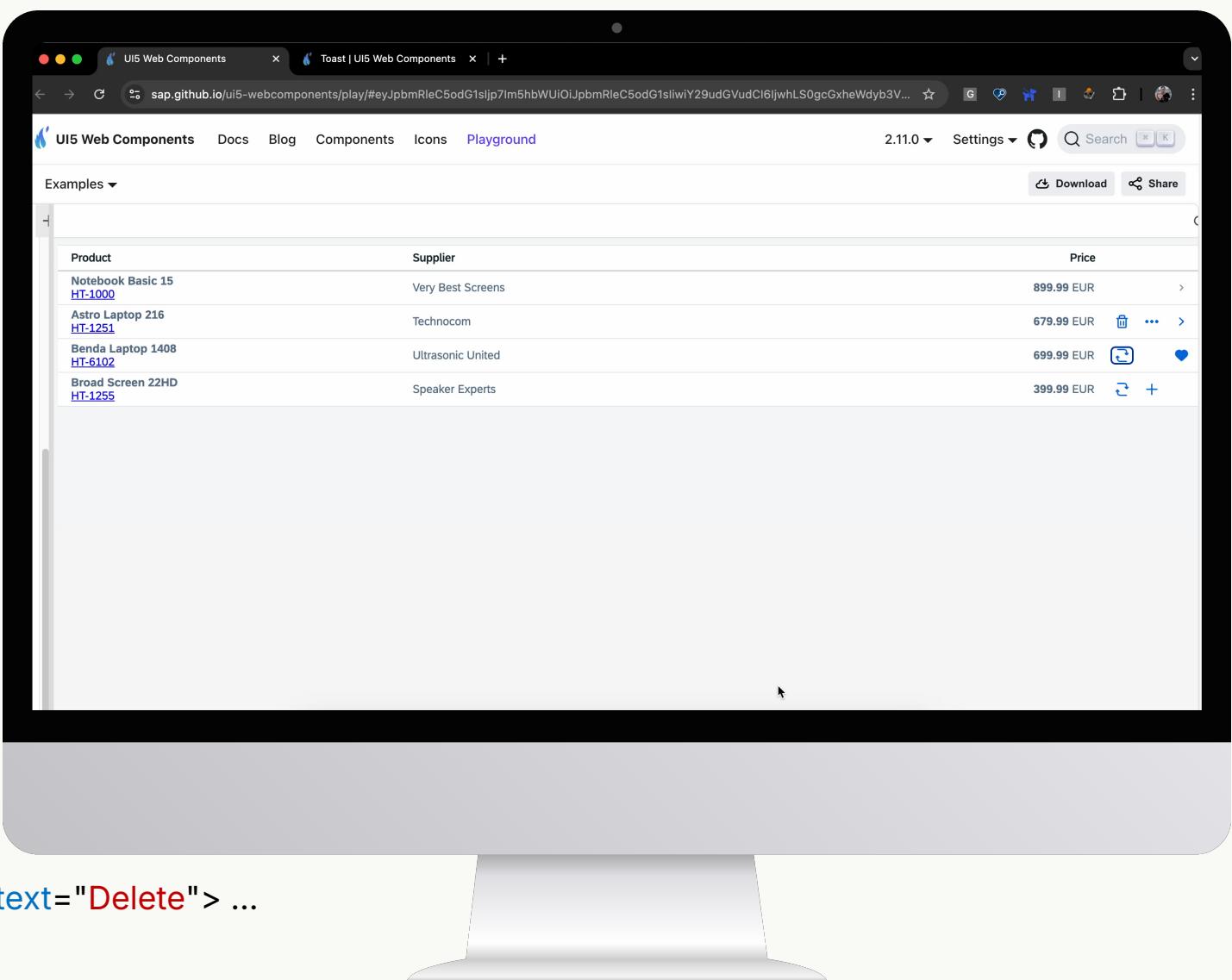


Row Actions

Bringing in New Functionalities

- Create an interactive table with the new Row Actions
- **TableRowAction** to define any custom row action providing text and icon
- **TableRowActionNavigation** to define a dedicated navigation action

```
<ui5-table row-action-count="3">  
...  
<ui5-table-row>  
  <ui5-table-row-action slot="actions" icon="delete" text="Delete"> ...  
  <ui5-table-row-action-navigation slot="actions"> ...  
...  
...
```

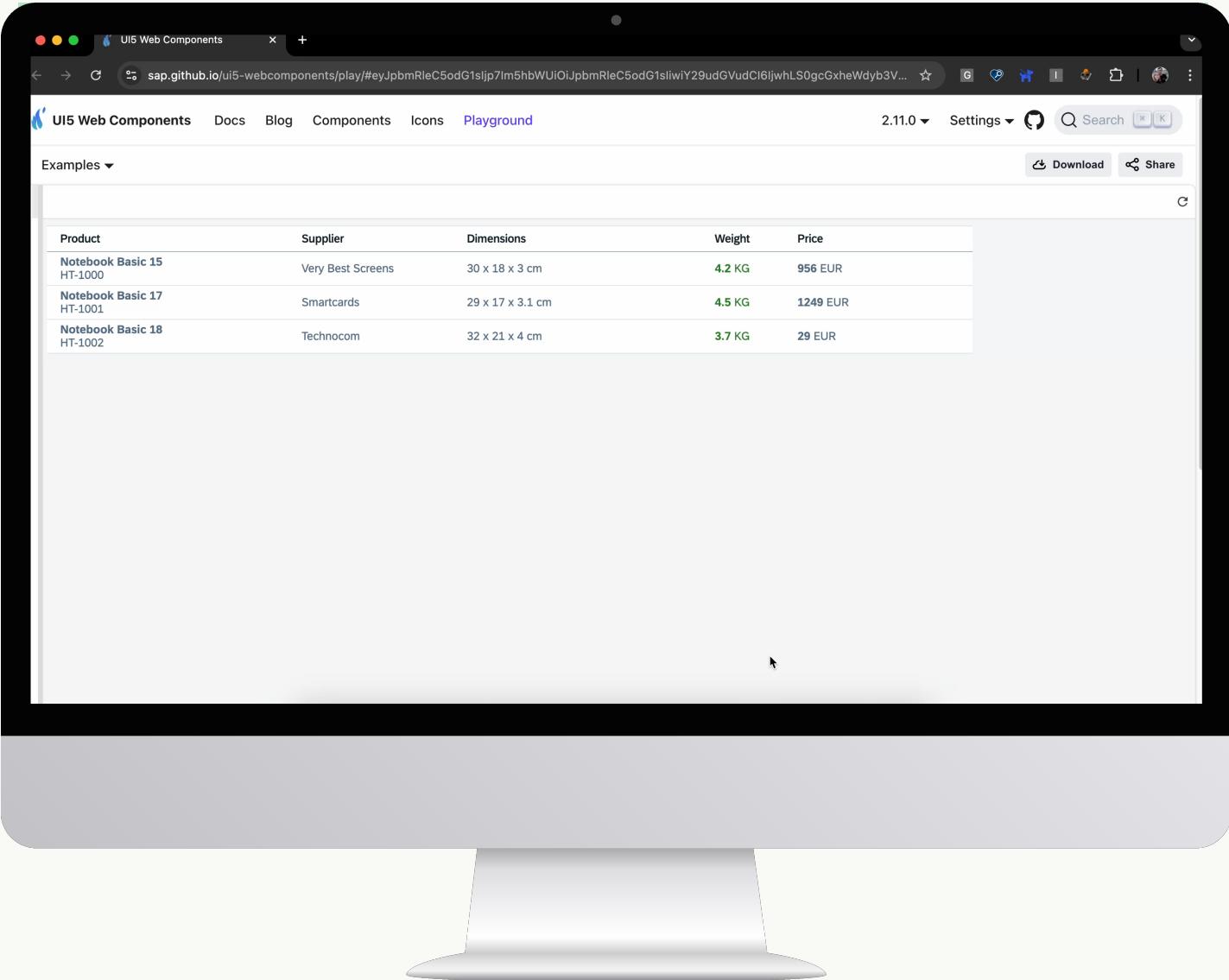


Drag And Drop

Long Requested Features

- The Table component is now drag-and-drop enabled
- Use **move** and **move-over** events to move table rows around, allowing reordering or even dropping into other components

```
<ui5-table move-over="onMoveOver" move="onMove">  
  ...  
  <ui5-table-row movable> ...  
  <ui5-table-row movable> ...  
  ...
```





Extending the Table

Introducing the Feature concept to enhance the table component

Lessons From The Past

Simple, but too complex

- Tables offer immense amounts of features
- **Pro:** diverse set of features for any use case
- **Contra:** bloated and complex table control for "simple" use cases

Feature Concept

```
<ui5-table>  
  <ui5-table-selection-single slot="features"  
    behavior="RowOnly" />  
  
  <ui5-table-growing slot="features"  
    mode="Button" />  
  
  ...  
  
</ui5-table>
```

Build only what you need – nothing more, nothing less.

01

Use a **Feature** to enhance your table with additional functionalities

02

Put the **Feature** into the dedicated **features** slot of your table.

03

Configure the **Feature** to your needs, that's it!

Lean by default, powerful by choice



Improve Performance
with a smaller
component footprint



Better control over
what functionalities
can be used by users



Better Developer
Experience, by having
smaller and concise
APIs.



Stay flexible by easily
adding and removing
features

Selection Capabilities

TableSingleSelection

- Enhance Table with single selection functionality
- Switch between selection **behavior**: *Row* or *RowOnly*
- Listen to changes via **change** event

TableMultiSelection

- Enhance Table with multi-row selection capability
- Select rows programmatically by providing the **row-key** in **selected** property
- Listen to changes via **change** event

The screenshot shows a browser window for the UI5 Web Components playground at sap.github.io/ui5-webcomponents/playground/#. The page displays a code editor with two files: index.html and main.js. The index.html file contains the HTML structure for a table with a single selection component. The main.js file contains the corresponding JavaScript logic. To the right of the code editor is a table component with three data rows. A radio button labeled "RowSelector" is selected under the heading "Selection Behavior". The table has columns for Product, Supplier, Dimensions, Weight, and Price. The first row is selected.

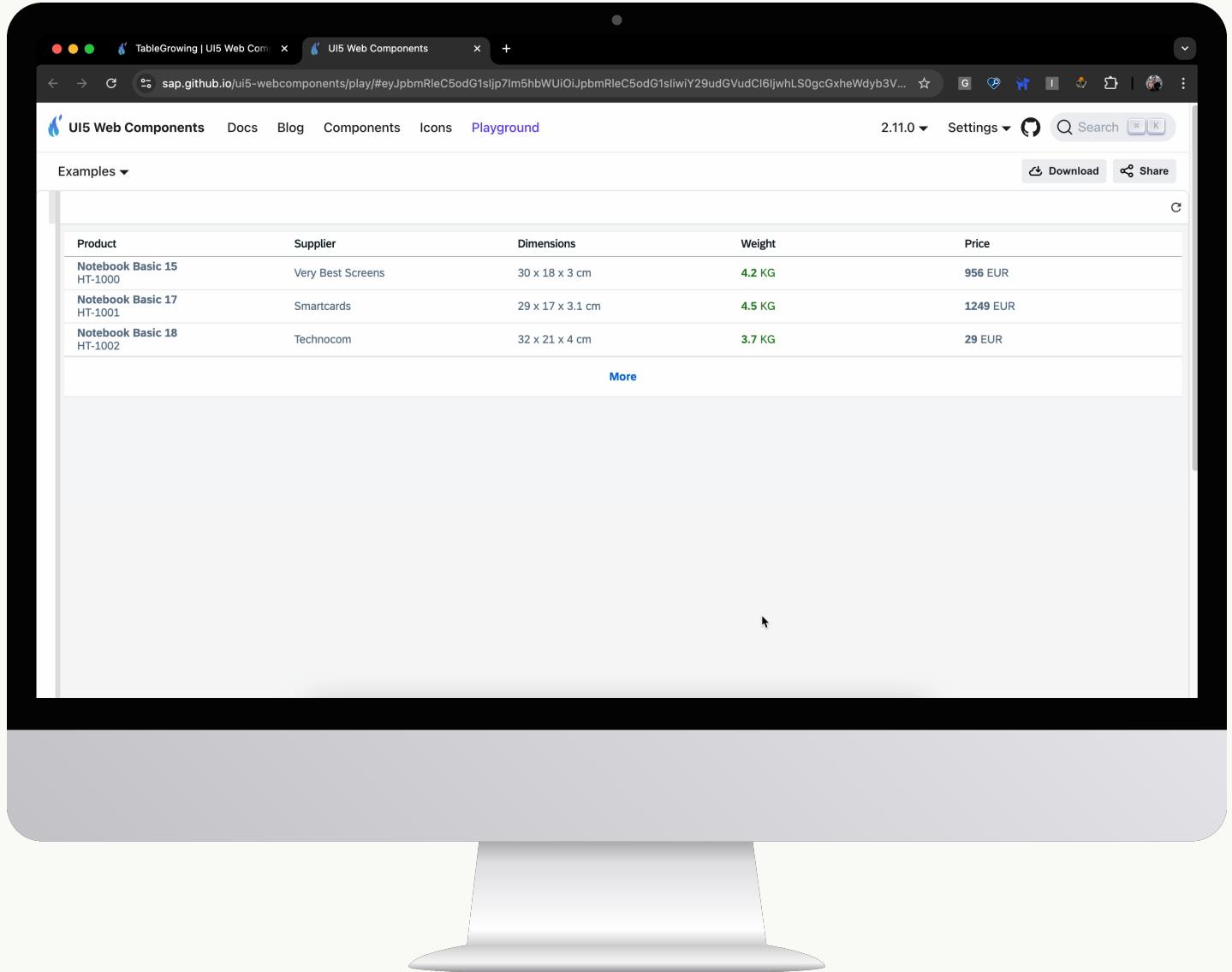
Product	Supplier	Dimensions	Weight	Price
Notebook Basic 15 HT-1000	Very Best Screens	30 x 18 x 3 cm	4.2 KG	
Notebook Basic 17 HT-1001	Smartcards	29 x 17 x 3.1 cm	4.5 KG	1249 EUR
Notebook Basic 18 HT-1002	Technocom	32 x 21 x 4 cm	3.7 KG	29 EUR

Growing Capabilities

TableGrowing

- Offers similar API like previous Table version
- Choose a *mode*, either **Button** or **Scroll**
- Add more rows by using **load-more** event

```
<ui5-table>
  ...
  <ui5-table-growing slot="features"
    mode="Button" load-more="onLoadMore"/>
  ...
</ui5-table>
```



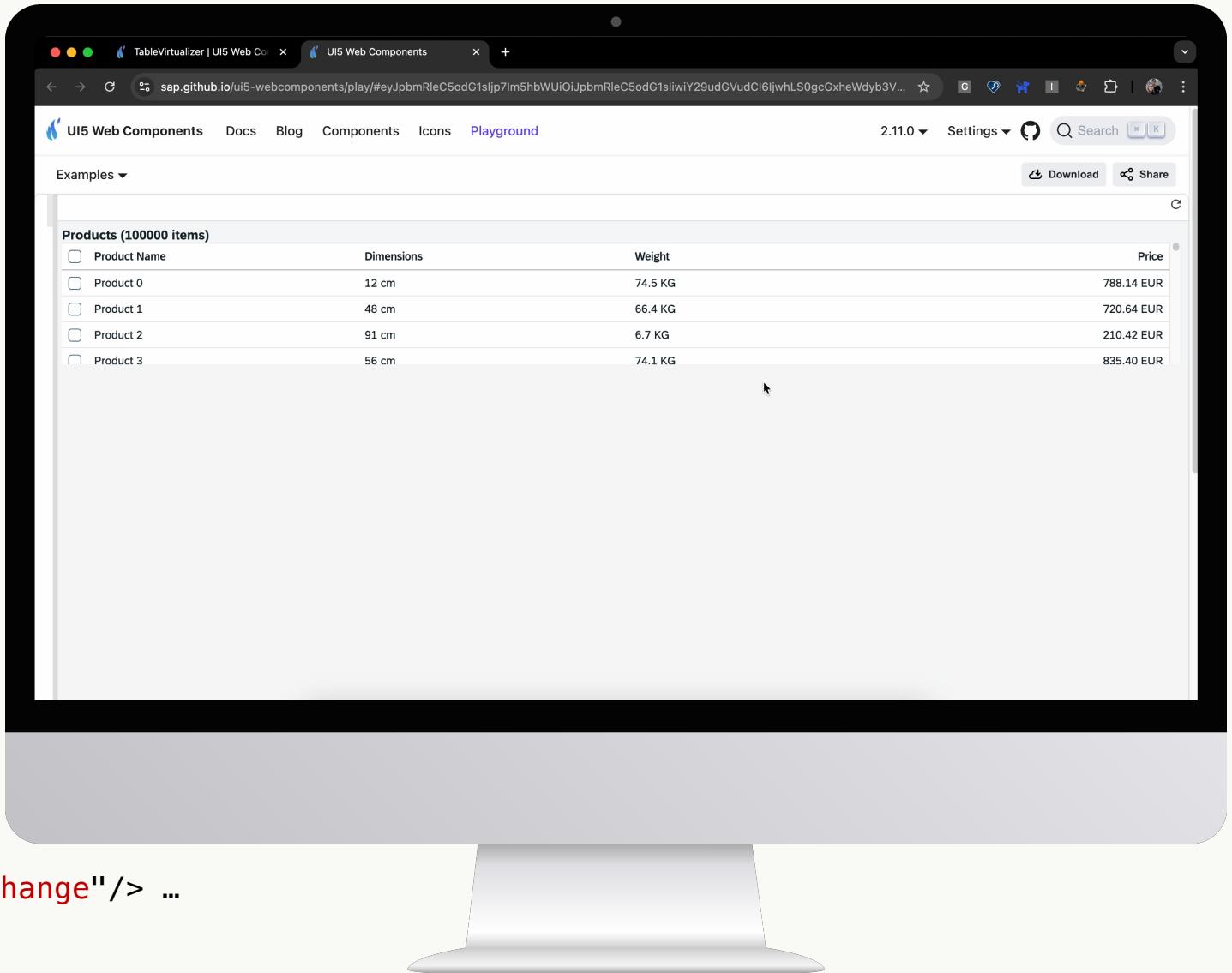
Virtualization

(Experimental)

TableVirtualizer

- Virtualize table rows, allowing you to display huge amounts of data
- Provides better performance by only rendering a small part of the actual rows
- Use the **range-change** event to react to scrollport changes effectively

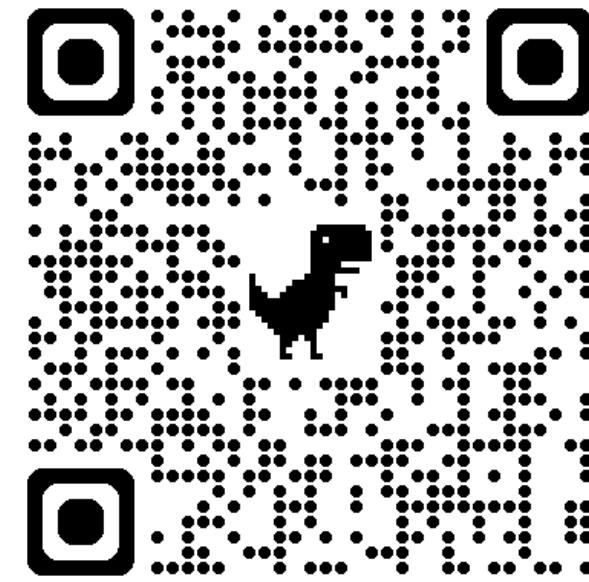
```
<ui5-table>
  ...
  <ui5-table-virtualizer slot="features"
    row-count="100000" range-change="onRangeChange"/> ...
  ...
  <ui5-table-row position="20005"> ...
  ...
```





Bringing It All Together

A demo showing all the capabilities of the new Web Component Table



<https://github.com/DonkeyCo/ui5component-wct-employees>



Riddle Me This – Any Questions?

Any other open questions? Want another demo?

Visit our Table Expert Corner and ask away!



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Got feedback? Let's hear it!



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