

UI5 Spreadsheet Importer V1

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Initial Situation

- **Challenge:** Need for an Excel upload function in a UI5 application for a client
- It should be integrated into several apps
- From the very beginning, it was planned as an open-source project

Development Goals

- Easy integration into UI5 applications (like "out-of-the-box" solutions).
- Compatibility with various UI5/Fiori scenarios, SAP platforms, and OData versions.
- Flexibility and extensive customization options.
- Comprehensive documentation and testing.

Motivation: Increase efficiency for developers through reusability and easy integration.

UI5 Spreadsheet Importer

Apache-2.0 license

Landing Page: <https://spreadsheet-importer.com/>

Live Demo: <https://livedemo.spreadsheet-importer.com/>

Dokumentation: <https://docs.spreadsheet-importer.com/>

GitHub:

<https://github.com/spreadsheetimporter/ui5-cc-spreadsheetimporter>

npm: <https://www.npmjs.com/package/ui5-cc-spreadsheetimporter>

Use Cases

- Fiori elements (V2/V4)
- Freestyle (V2/V4)
- [SAP Standard UI5 Apps](#)
- OpenUI5

How Does It Work?

<  Orders V2 FE 120 ▾

DU

Standard ▾

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Editing Status:

All ▾

Created By:

📄

Go Adapt Filters



Orders (6)

Spreadsheet Upload

Create

Delete



OrderNo	Customer	Currency	Date	
<input type="radio"/> 2	jane.doe@test.com		Jan 30, 2019, 1:00:00AM	>
<input type="radio"/> 200	jane.doe2@test.com		Jan 29, 2019, 1:00:00AM	>
<input type="radio"/> 201	jane.doe4@test.com		Jan 28, 2019, 1:00:00AM	>
<input type="radio"/> 202	jane.doe4@test.com		Jan 28, 2019, 1:00:00AM	>
<input type="radio"/> 203	jane.doe4@test.com		Jan 28, 2019, 1:00:00AM	>
<input type="radio"/> 1	john.doe@test.com		Jan 31, 2019, 1:00:00AM	>

How Does It Work?

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Editing Status:

All ▾

Created By:



 Adapt Filters

Orders (6)

OrderNo	Customer	Currency	Date	
<input type="radio"/> 2	jane.doe@test.com		Jan 30, 2019, 1:00:00AM	>
<input type="radio"/> 200	jane.doe2@test.com		Jan 29, 2019, 1:00:00AM	>
<input type="radio"/> 201	jane.doe4@test.com		Jan 28, 2019, 1:00:00AM	>
<input type="radio"/> 202	jane.doe4@test.com		Jan 28, 2019, 1:00:00AM	>
<input type="radio"/> 203	jane.doe4@test.com		Jan 28, 2019, 1:00:00AM	>
<input type="radio"/> 1	john.doe@test.com		Jan 31, 2019, 1:00:00AM	>

[Spreadsheet Upload](#) [Create](#) [Delete](#)    | ▾

How Does It Work?

```
</AssociationSet>
</EntityContainer>
<EntityType Name="Orders">
  <Key>
    <PropertyRef Name="ID"/>
    <PropertyRef Name="IsActiveEntity"/>
  </Key>
  <Property Name="ID" Type="Edm.Guid" Nullable="false"/>
  <Property Name="createdAt" Type="Edm.DateTimeOffset" Precision="7"/>
  <Property Name="createdBy" Type="Edm.String" MaxLength="255"/>
  <Property Name="modifiedAt" Type="Edm.DateTimeOffset" Precision="7"/>
  <Property Name="modifiedBy" Type="Edm.String" MaxLength="255"/>
  <Property Name="OrderNo" Type="Edm.String" MaxLength="22"/>
  <NavigationProperty Name="Items" Relationship="OrdersService.OrderItems_order" FromRole="Orders" ToRole="OrderItems"/>
  <NavigationProperty Name="Shipping" Relationship="OrdersService.ShippingDetails_order" FromRole="Orders" ToRole="ShippingDetails"/>
  <Property Name="buyer" Type="Edm.String" MaxLength="255"/>
  <NavigationProperty Name="currency" Relationship="OrdersService.Orders_currency" FromRole="Orders" ToRole="Currencies"/>
  <Property Name="currency_code" Type="Edm.String" MaxLength="3"/>
  <Property Name="spreadsheetRow" Type="Edm.Int32"/>
  <Property Name="IsActiveEntity" Type="Edm.Boolean" Nullable="false"/>
  <Property Name="HasActiveEntity" Type="Edm.Boolean" Nullable="false"/>
  <Property Name="HasDraftEntity" Type="Edm.Boolean" Nullable="false"/>
  <NavigationProperty Name="DraftAdministrativeData" Relationship="OrdersService.Orders_DraftAdministrativeData" FromRole="Orders" ToRole="DraftAdministrativeData"/>
  <Property Name="DraftAdministrativeData_DraftUUID" Type="Edm.Guid"/>
  <NavigationProperty Name="SiblingEntity" Relationship="OrdersService.Orders_SiblingEntity" FromRole="Orders" ToRole="Orders1"/>
</EntityType>
<EntityType Name="OrderItems">
  <Key>
    <PropertyRef Name="ID"/>
    <PropertyRef Name="IsActiveEntity"/>
  </Key>
  <Property Name="ID" Type="Edm.Guid" Nullable="false"/>
  <NavigationProperty Name="order" Relationship="OrdersService.OrderItems_order" FromRole="OrderItems" ToRole="Orders"/>
</EntityType>
```

	A	B	C	D	E
1	Order Number[OrderNo]	User ID[buyer]			
2		3 test@test.de			
3		4 test@test.de			
4					

Jan 30, 2019, 1:00:00 AM

Spreadsheet Upload

Show preview

Download Template

0 records are ready for upload

Select file

Browse...

Upload

Cancel

upload

	A	B
1	Order Number[OrderNo]	User ID[buyer]
2		3 test@test.de
3		4 test@test.de
4		

extract (SheetJS)

Jan 30, 2019, 1:00:00 AM

Spreadsheet Upload

Show preview

Download Template

2 records are ready for upload

ListReportOrdersNoErrors.xlsx

Browse...

Upload

Cancel

validate

```
[
  {
    "OrderNo": "3",
    "buyer": "test@test.de"
  },
  {
    "OrderNo": "4",
    "buyer": "test@test.de"
  }
]
```

parse

```
{
  {
    "Order Number[OrderNo]": {
      "rawValue": 3,
      "sheetDataType": "n",
      "format": "General",
      "formattedValue": "3"
    },
    "User ID[buyer]": {
      "r": "<t>test@test.de</t>",
      "h": "test@test.de",
      "l": {
        "rawValue": "test@test.de",
        "sheetDataType": "s",
        "format": "General",
        "formattedValue": "test@test.de"
      }
    }
  },
  {
    "Order Number[OrderNo]": {
      "rawValue": 4,
      "sheetDataType": "n",
      "format": "General",
      "formattedValue": "4"
    },
    "User ID[buyer]": {
      "r": "<t>test@test.de</t>",
      "h": "test@test.de",
      "rawValue": "test@test.de",
      "sheetDataType": "s",
      "format": "General",
      "formattedValue": "test@test.de"
    }
  }
}
```

post

POST Orders HTTP/1.1

Content-Type: application/json

Content-ID: id-1725871991602-250

sap-contextid-accept: header

Accept: application/json

Accept-Language: de-DE

DataServiceVersion: 2.0

MaxDataServiceVersion: 2.0

X-Requested-With: XMLHttpRequest

Content-Length: 83

```
{
  "OrderNo": "3",
  "buyer": "test@test.de",
  "__metadata": {
    "type": "OrdersService.Orders"
  }
}
```

refresh

Suchen

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Orders (9)

OrderNo	Customer
test string	test string
4	test@test.de
3	test@test.de
203	jane.doe4@test.com
203	jane.doe4@test.com

Use Cases

- Fiori elements (V2/V4)
- Freestyle (V2/V4)
- [SAP Standard UI5 Apps](#)
- OpenUI5
- [Upload to any OData API](#)

Features

- Backend Agnostic
- All LTS UI5 Versions supported (from 1.71)
- Multi Language (DE, EN, ES, FR, HI, IT, JA, NL, PT, ZH)
- Template generation (include sample data)
- Preview upload data
- Validation for mandatory fields and plausible data
- Choose table of excel file

Goals Achieved?

All goals were achieved:

- Easy Integration ([negative Example](#))
- Integration possible everywhere
- Even more than originally anticipated

Goals Achieved?

Deployment possible everywhere

- Here, it was more difficult than expected
- The concept had to be revised
- Changes and bugs on SAP's side made it more challenging

Goals Achieved?

Comprehensive documentation and examples

End-to-end (E2E) tests implemented

- Due to complexity, fewer tests than desired

Between 200-300 weekly downloads on npmjs

Security

- Files are not sent to the backend.
- The file can be scanned before processing (e.g., with the SAP Malware Scanning Service).
- All parts are open source and visible.
- The only dependency is "SheetJS," which is always kept up to date.

Why Open Source?

Quick error detection and improvement due to broad usage.

Over 50 issues have led to improvements.

Collaboration and feedback from the developer community.

- Including help from SAP employees.

Flexibility to try out new ideas and benefit from community contributions.

Personal growth through managing the open-source project

Experiences and Lessons from Open-Source Work

Extensive usage across all SAP platforms and UI5 scenarios by external developers.

- However, this requires:
 - Actively requesting feedback.
 - Low entry barriers (easy installation, good documentation, easy debugging).
- This also results in many users without providing feedback.

Support is necessary and time-consuming.

Issue creation with a template:

[Issue Template](#)

Experiences and Lessons from Open-Source Work

Prototyping new features: Using the project as a "playground" for innovative ideas in collaboration with SAP

- This, in turn, supports open source.

Presentations (e.g., UI5con 2024):

- *Seamless Integration: Crafting the Perfect UI5 Development Environment*

Experiences and Lessons from Open-Source Work

Marketing is necessary:

- Landing page instead of just a README
- Blog articles
- Social media (Twitter, LinkedIn)
- [Best of UI5](#)
- [Best of CAP](#)
- [dotabap](#)

Insights

- A good open-source project requires time.
- Experience can be gained over time.
- Finding contributors is challenging.
- **A strong community is crucial!**

Thanks!

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Presentation:

