Lightning Web Components
&
User Interface API

Christian Menzinger - Salesforce Developer Group - October 2020

"Please allow me to introduce myself"

Sympathy for the Devil - Rolling Stones

Independent Salesforce Developer & Trainer

6+ years Salesforce addicted

Munich Developer Group Co-Leader

2x Salesforce MVP

Salesforce Certified

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Poll: Lightning Web Components
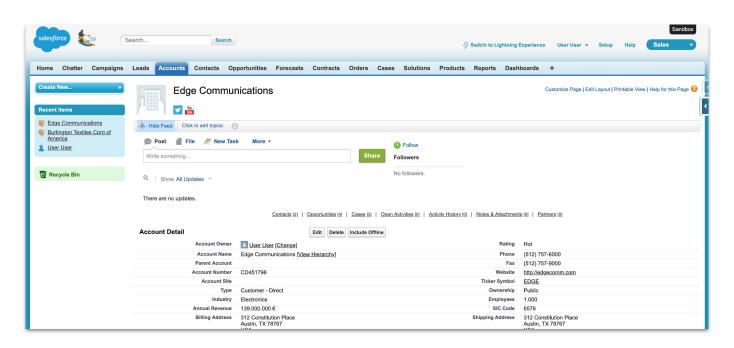
Lightning Web Components

Benefits

- lightweight and performant
- designed to build complex, sophisticated components & single page applications
- based on state-of-the-art web standards: ES8+, CSS3
- for building a GUI practically no specific Salesforce knowledge is required
  (as long as you don't display Salesforce data ;-)

A skilled web developer can build enthusiastic user interfaces!

Security
Lightning Data Service
Base Lightning Components

Lightning
Web Components

Web Components
Templates
Custom elements
Shadow DOM
Modules
ECMAScript 7
Events
Standard Elements
Rendering

Web Standards

But how can a skilled web developer build enthusiastic user interfaces which incorporate in Salesforce?

He should learn Visualforce! ;-)

What is Lightning?

*When we decided to rebuild our UI,
we didn't reskin it,
we built a powerful platform
that gives you even more access to customize Salesforce.
That's Lightning.*

source: https://trailhead.salesforce.com/en/content/learn/modules/user-interface-api/get-started-with-user-interface-api
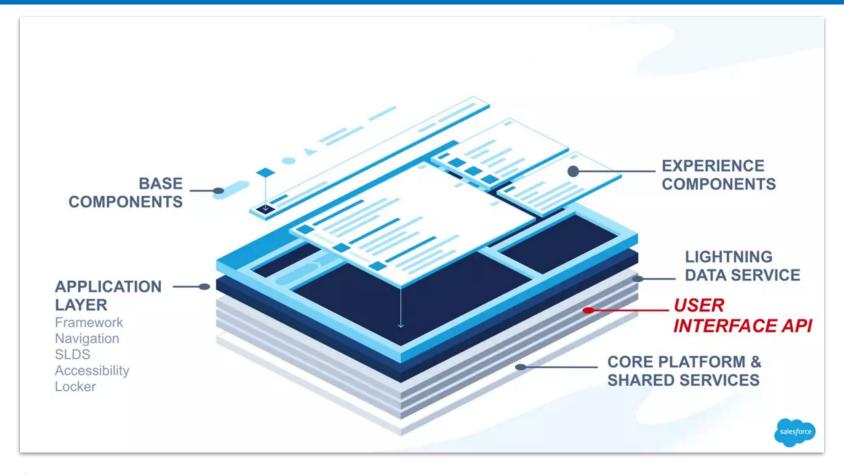
Image source: https://trailhead.salesforce.com/en/content/learn/modules/user-interface-api/get-started-with-user-interface-api

Poll: User Interface API

User Interface API

Overview

- REST API which returns data AND metadata
- designed to build custom applications like iOS apps
- responses from a request are in the context of the running user
- respects:
  - object permission (CRUD)
  - field level security (FSL)
  - sharing settings
  - localization

DEMO: sample request using Postman

```
1 | GET /ui-api/record-ui/001R0000003GeJ1IAK
```

Lightning Data Service (LDS)

Overview

- implementation of the User Interface API
- ground layer for Base Lightning Components
- adds caching, synchronization and error handling behaviors

Base Lightning Components

Easiest way to leverage LDS and UI-API

`<lightning-record-form>`
out-of-the-box form with support of view, edit, read-only for compact or full page layout or specific fields

`<lightning-record-edit-form>`
displays an editable form with a custom layout of fields

`<lightning-record-view-form>`
displays a read-only form with a custom layout of fields

whenever possible use Base Lightning Components!

Wire Adapter

Using prebuilt hooks into UI-API

use the @wire adapter to access User Interface API hooks:

```
import { adapterId } from 'adapterModule';

@wire(adapterId, adapterConfig)
propertyOrFunction;
```

https://developer.salesforce.com/docs/component-library/documentation/en/lwc/lwc.reference_ui_api

> ∨ lightning/ui*Api Wire Adapters and Functions
>
>   Supported Objects
>
> ∨ lightning/uiListApi (Beta)
>
>   getListUi (Beta)
>
> ∨ lightning/uiObjectInfoApi
>
>   getObjectInfo
>
>   getPicklistValues
>
>   getPicklistValuesByRecordType
>
> ∨ lightning/uiRecordApi
>
>   createRecord(recordInput)
>
>   createRecordInputFilteredByEditedFields(rec...
>
>   deleteRecord(recordId)
>
>   generateRecordInputForCreate(record,objec...
>
>   generateRecordInputForUpdate(record, obj...
>
>   getFieldValue(record, field)
>
>   getFieldDisplayValue(record, field)
>
>   getRecord
>
>   getRecordCreateDefaults
>
>   getRecordUi
>
>   updateRecord(recordInput, clientOptions)

DEMO: create an own picklist field visualization

DEMO: create an own list view visualization

Conclusion

review the prebuilt Base Lightning Components when working with data

review the prebuilt hooks into User Interface API

be aware not all SObjects supported by the UI-API (like Activity, Event, Task)

Build sophisticated interfaces to thrill your users!

Resources

Wire Adapters and Functions for UI-API

https://developer.salesforce.com/docs/component-library/documentation/en/lwc/lwc.reference_ui_api

Base Lightning Components

https://developer.salesforce.com/docs/component-library/bundle/lightning-record-edit-form/documentation
https://developer.salesforce.com/docs/component-library/bundle/lightning-record-form/documentation
https://developer.salesforce.com/docs/component-library/bundle/lightning-record-view-form/documentation

Explore the Salesforce APIs with a Postman Collection

https://developer.salesforce.com/blogs/2020/03/explore-the-salesforce-apis-with-a-postman-collection.html

Sample Code and Presentation

https://github.com/ChristianMenzinger?tab=repositories
https://github.com/pozil/ui-api-playground

Winter '21 Release Notes

https://releasenotes.docs.salesforce.com/en-us/winter21/release-notes/rn_lwc_modules.htm?edition=&impact=

THANK YOU