SAP® PartnerEdge®

Partner Certification Academies for SAP BTP
Low-Code/No-Code Developer - SAP Build
Developing Apps with SAP Build Apps using Drag-and-Drop Simplicity

FOR INTERNAL SAP AND PARTNER USE ONLY

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THE BEST RUN SAP®

Intro of SAP Build Apps

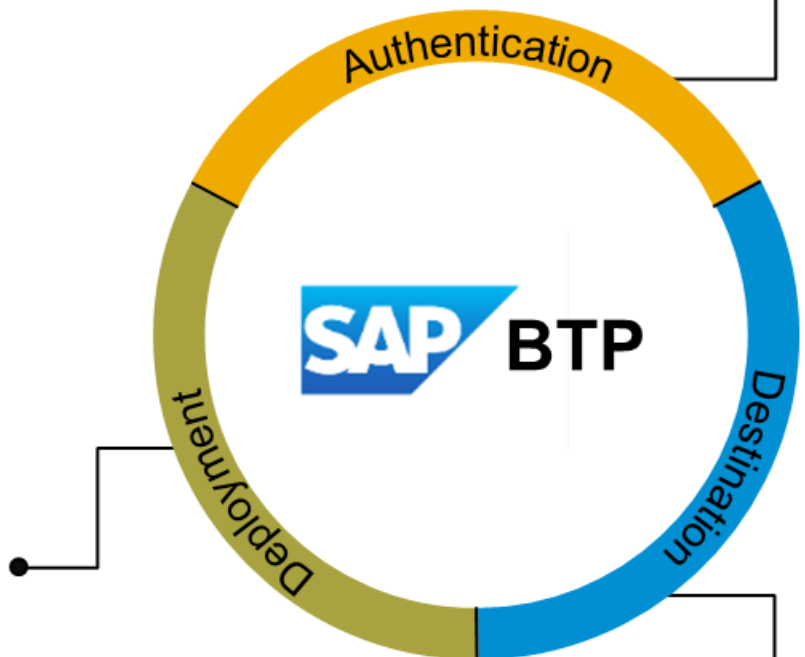
SAP Build

SAP Build Apps

SAP Build Process Automation

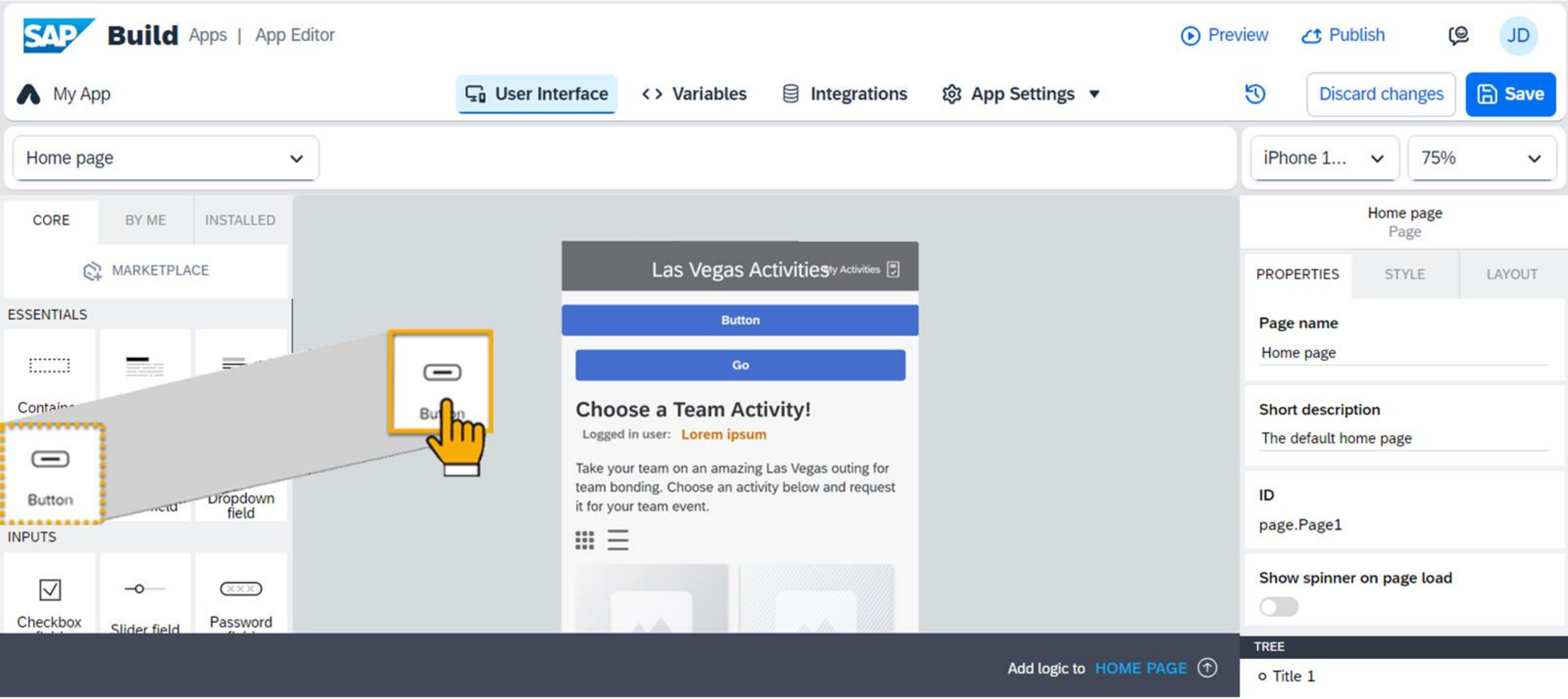
SAP Build Work Zone

Mandatory for the users to be authenticated with SAP BTP before using the app



SAP Build Apps lets you deploy the app to run on SAP BTP

Destinations are connections to backend systems defined within SAP BTP for use by SAP BTP services


SAP Build Apps | App Editor
Preview
Publish
JD
My App
User Interface
Variables
Integrations
App Settings
Discard changes
Save
Home page
iPhone 1...
75%
CORE
BY ME
INSTALLED
MARKETPLACE
ESSENTIALS
Button
Dropdown field
INPUTS
Checkbox
Slider field
Password
Las Vegas Activities
My Activities
Button
Go
Choose a Team Activity!
Logged in user: Lorem ipsum
Take your team on an amazing Las Vegas outing for team bonding. Choose an activity below and request it for your team event.
Add logic to HOME PAGE
Home page
Page
PROPERTIES
STYLE
LAYOUT
Page name
Home page
Short description
The default home page
ID
page.Page1
Show spinner on page load
TREE
Title 1

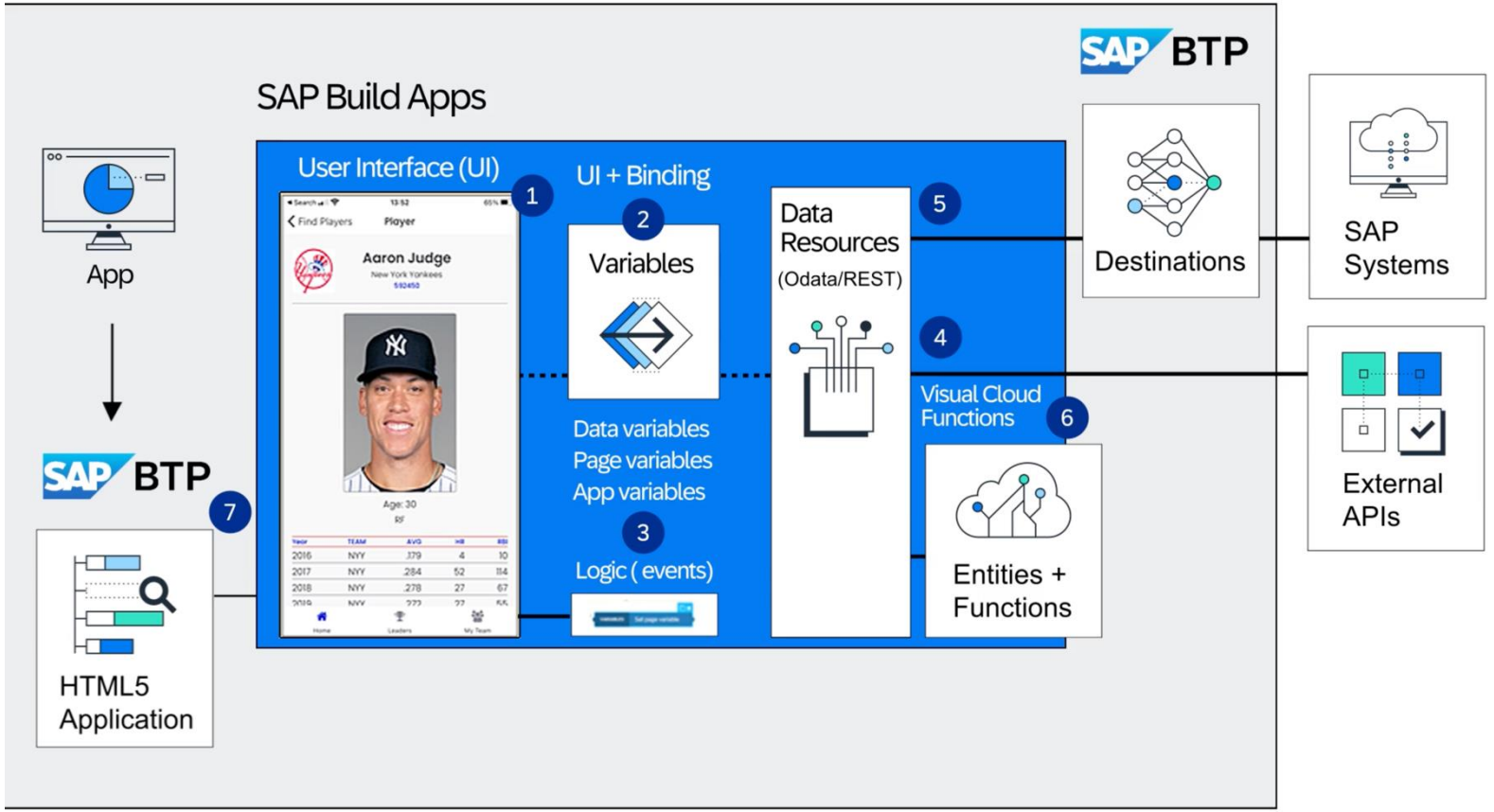
steps of building an app

The three main parts of an application are:

User Interface (UI) It refers to what the user sees on the screen and interacts with.

Data It refers to the information retrieved from back-end systems that generally displays in the UI.

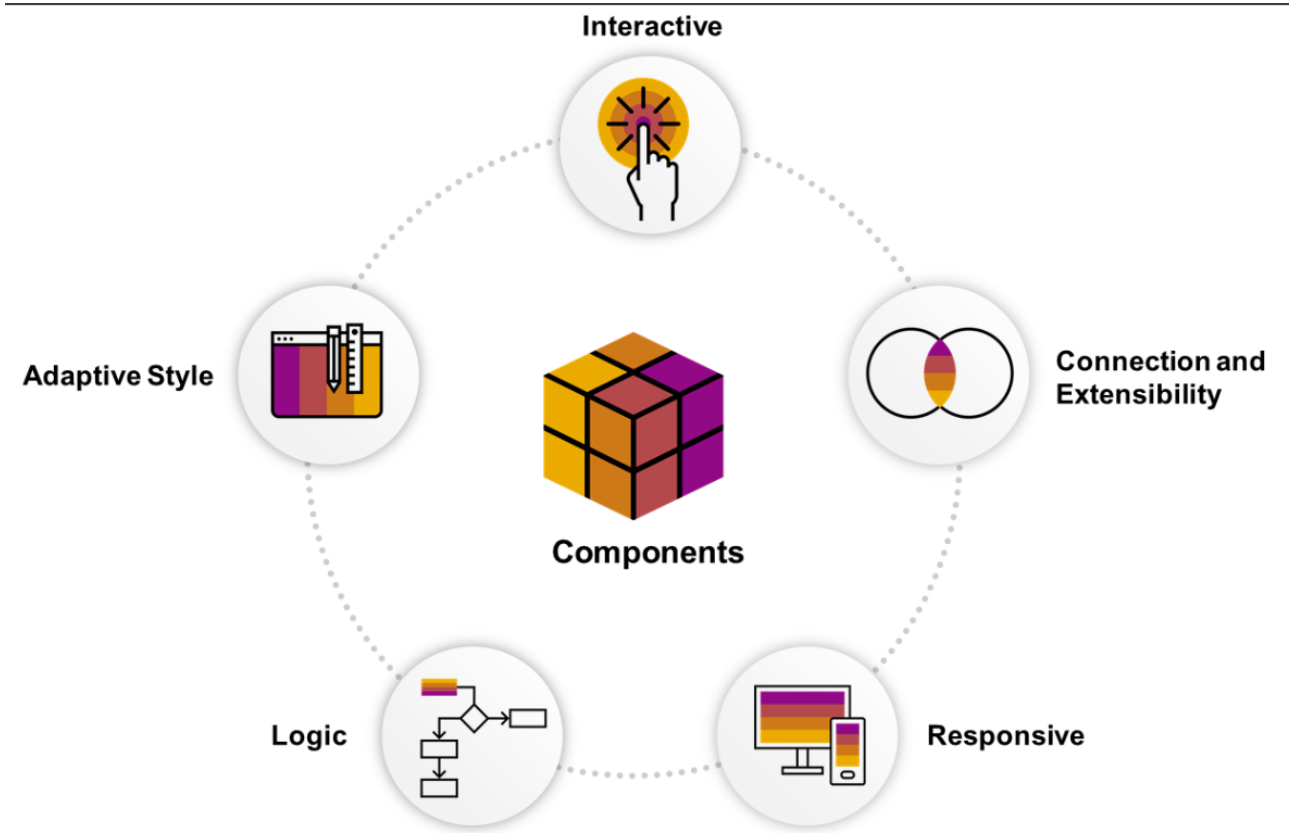
Logic It defines the actions performed in response to user interactions or application events.

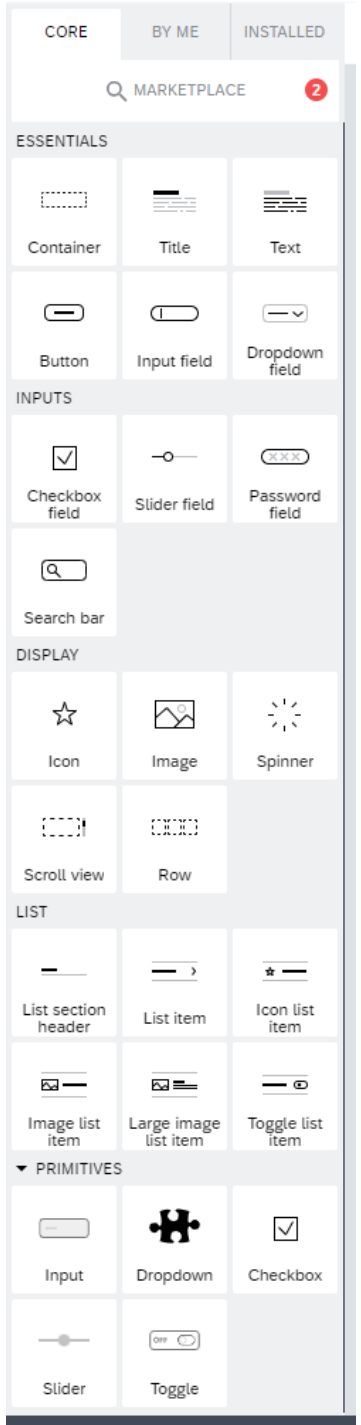


UI

Define Components

- Prefabricated code pieces that can be used as building blocks with pre-defined functions to design the UI and enable the bridge to use logic.
- Can be big or small... (For e.g. Icon, video, player
- Components are divided into several sections on the left side



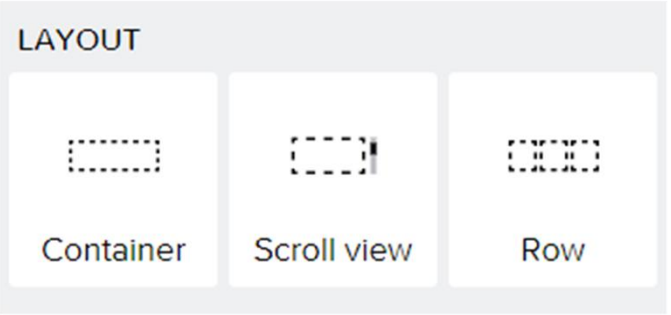


Layout Components

Defines how different UI elements, such as buttons, text fields, and images, are arranged on the screen

Common types of layout components in SAP Build Apps include

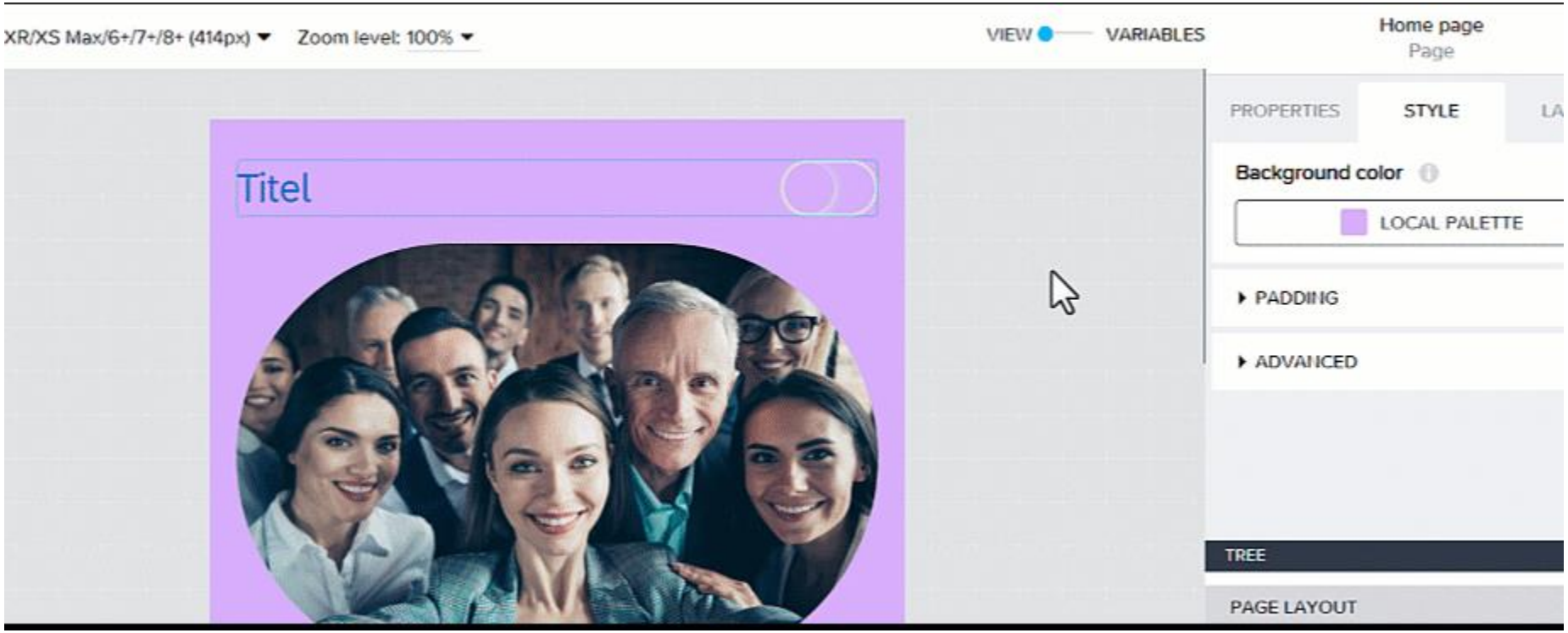
- Container
  - basic component that holds other UI elements and can be used to group elements together
- Row
  - layout component that arranges its child elements horizontally, placing them in a row
- Scroll View
  - place multiple UI elements inside it and enables scrolling



Layout Tree

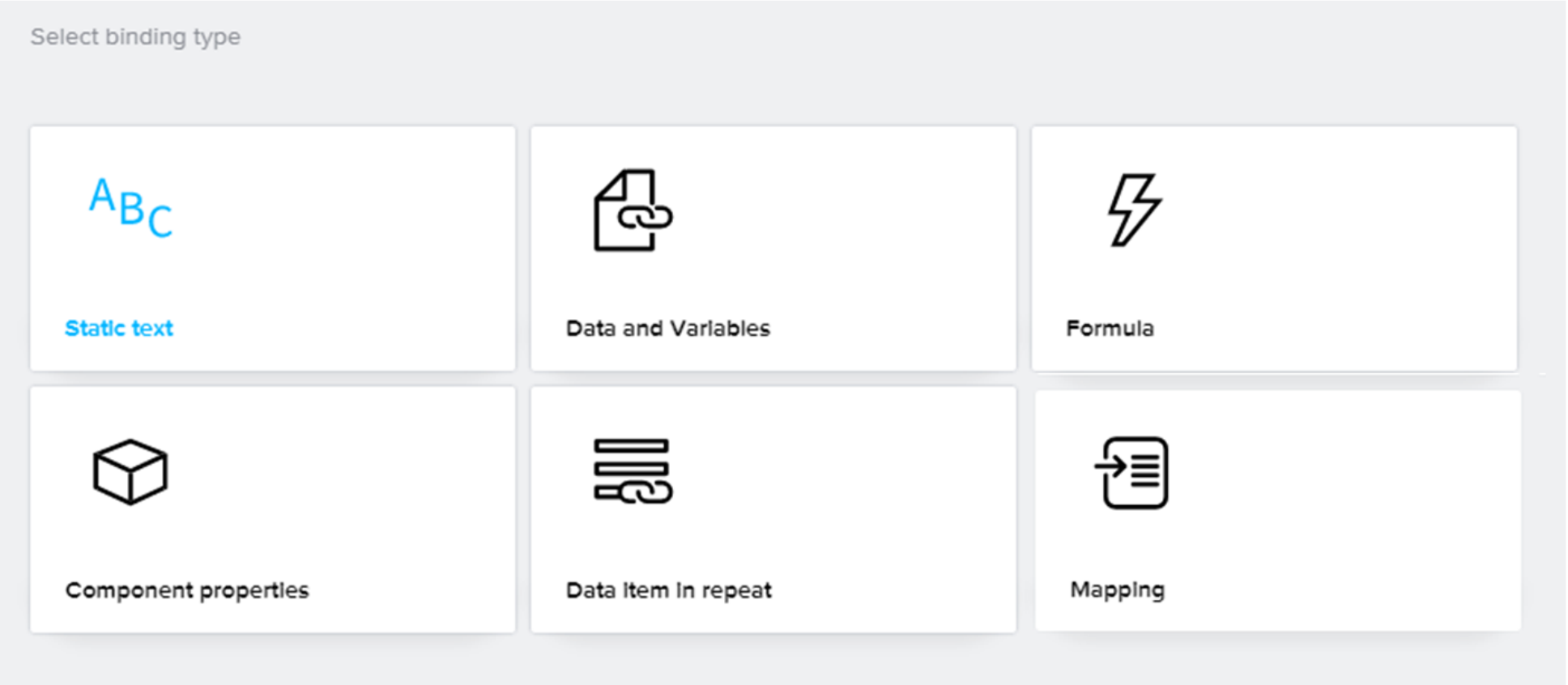

Customer Page
Lorem ipsum dolor sit amet
Value
No value
Placeholder text
TREE
PAGE LAYOUT
Welcome Title
News Text
Customer Section
Product View (Scroll)

Properties



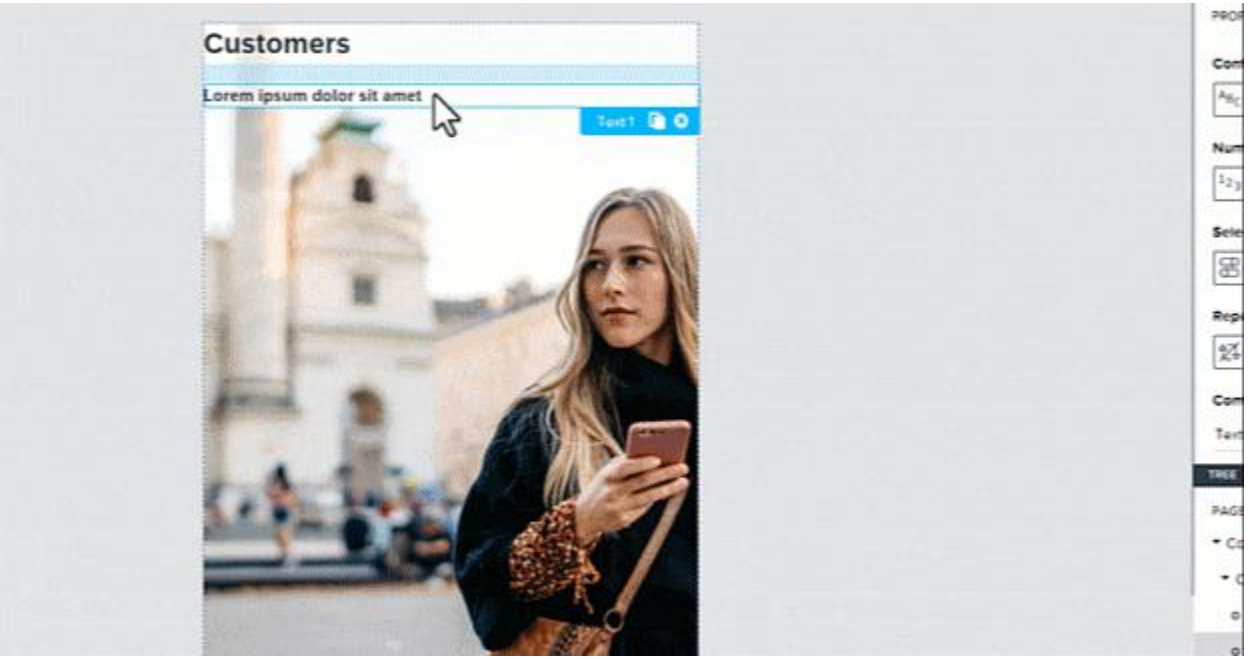
Components have properties that can be bound to static values, variables, formulas, and also other component properties

Bindings

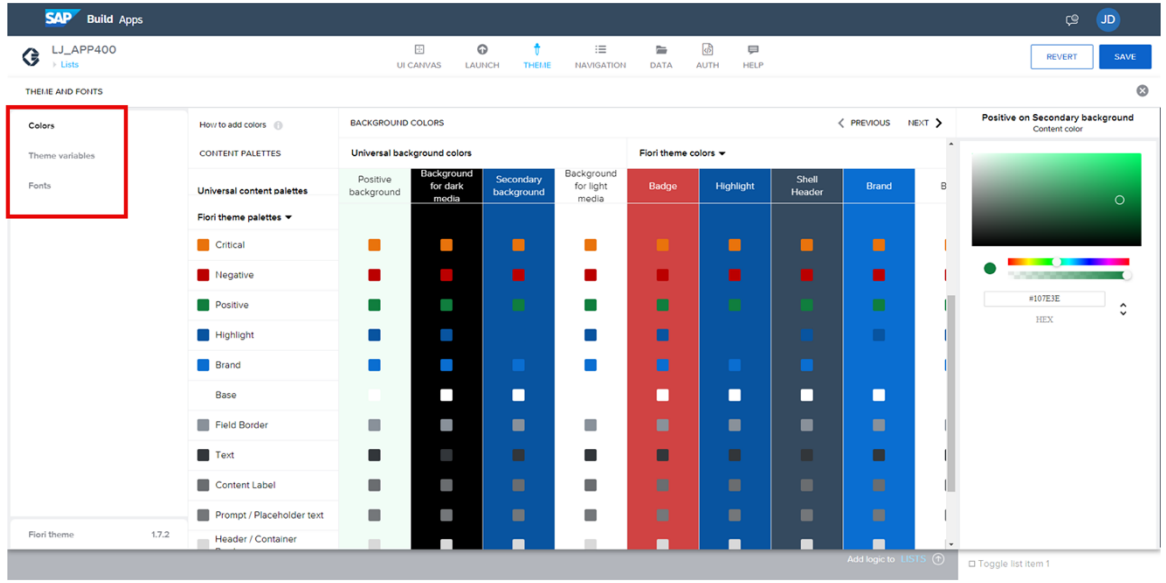


Repeating Components

- Create components automatically and dynamically with a simple binding
- Need a source for a list of objects
- Component will then be repeated for each single item in the list

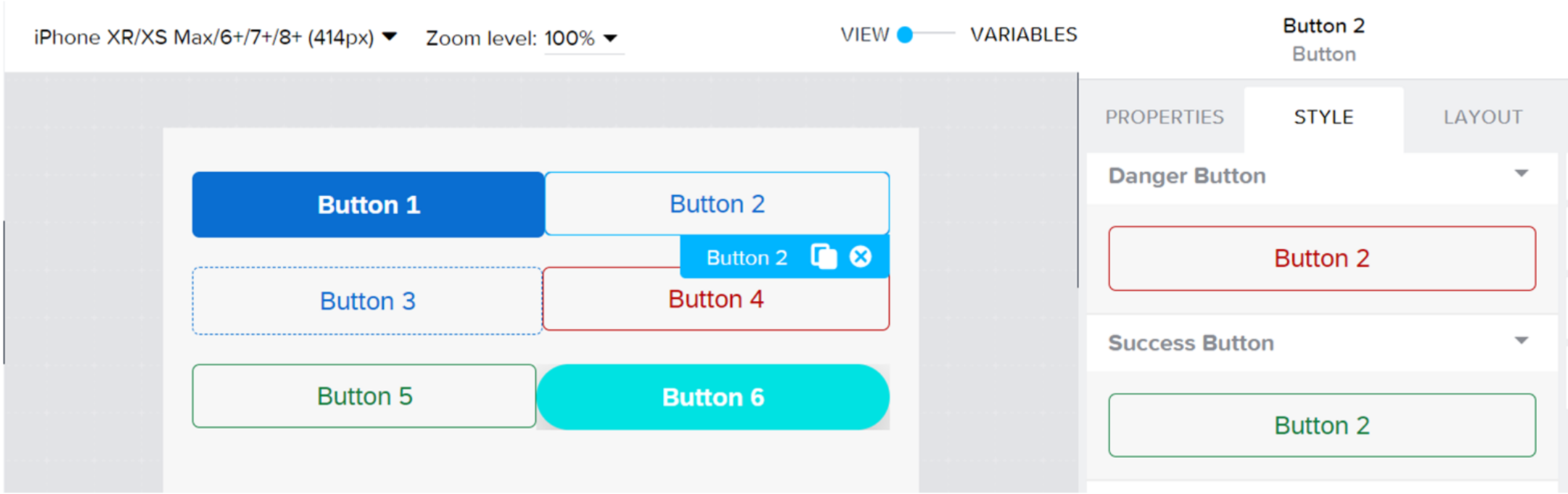


Themes

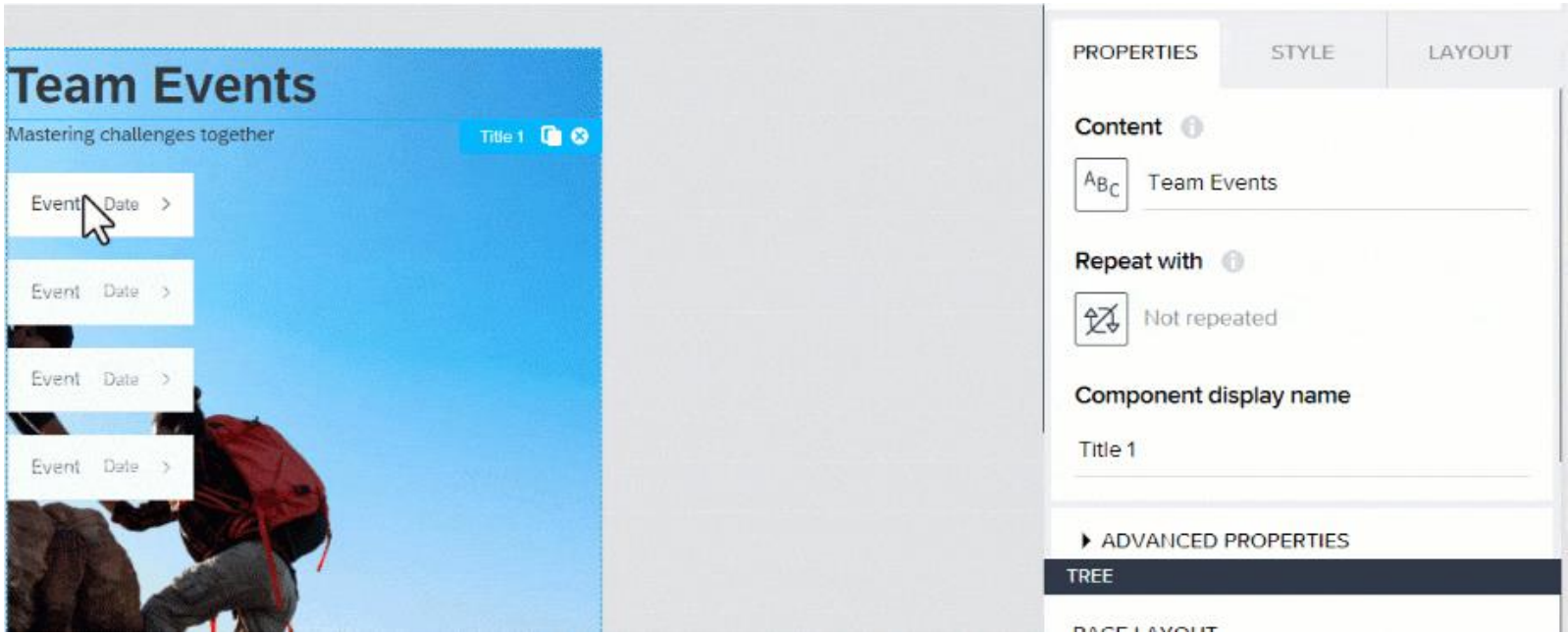


- Create applications that look appealing and user friendly
- Allow individual components to be visually adapted to the needs of the user and company
- SAP Build Apps benefits from smart colors
- If you want to use the default themes, there are two theme groups (Universal theme and Fiori theme) currently available

Styles

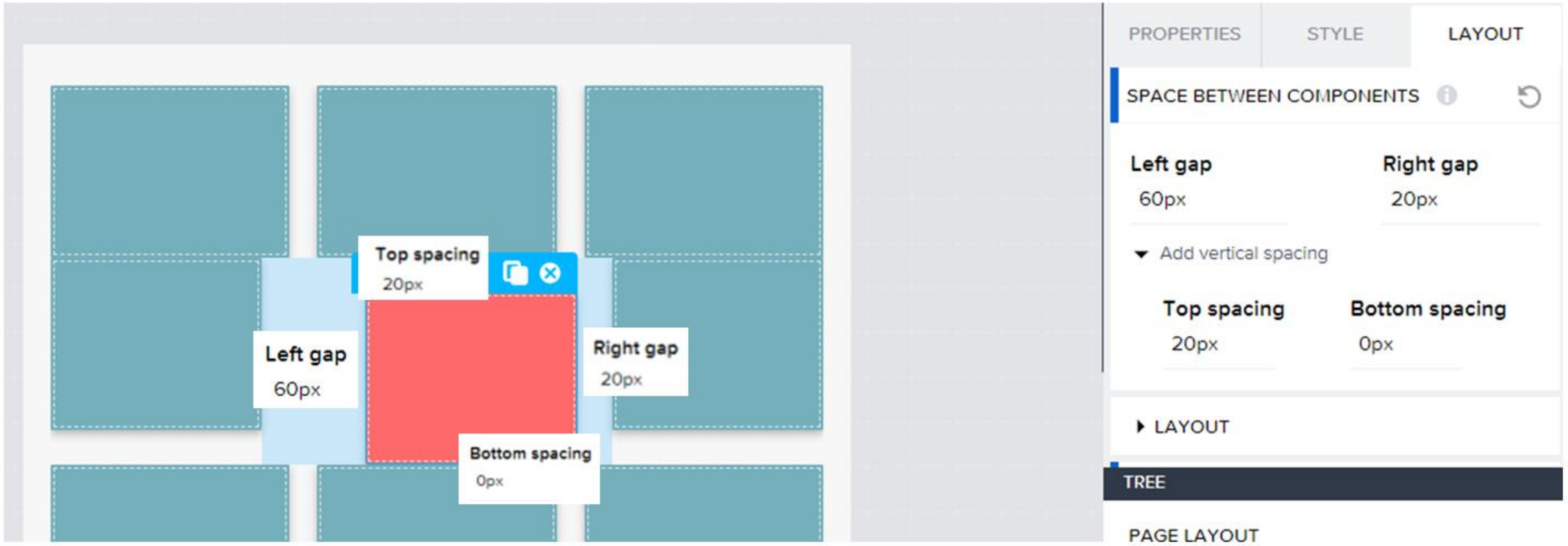

iPhone XR/XS Max/6+/7+/8+ (414px)
Zoom level: 100%
VIEW
VARIABLES
Button 1
Button 2
Button 2
Button 3
Button 4
Button 5
Button 6
Button 2
Button
PROPERTIES
STYLE
LAYOUT
Danger Button
Button 2
Success Button
Button 2

Page and Component Layout

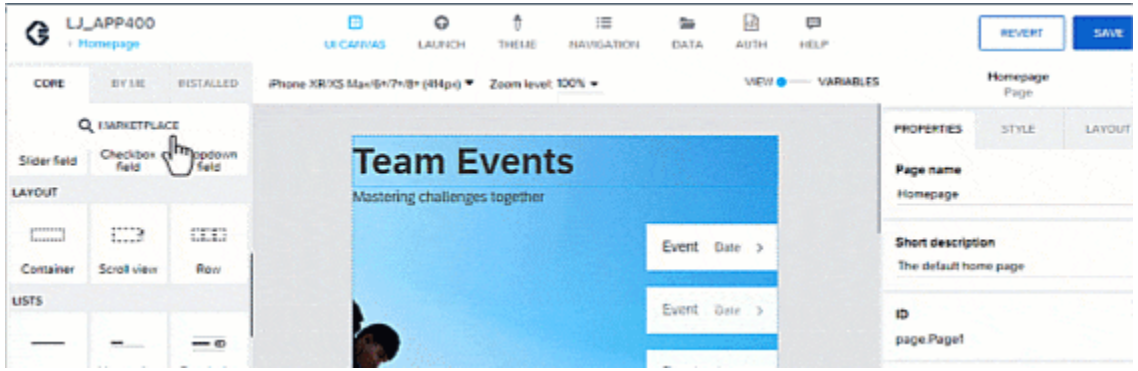


- Use the *Layout* tab to configure the layout of components and the layout of the selected page or component
- Manipulate your content there with the Z-index

Space between Components

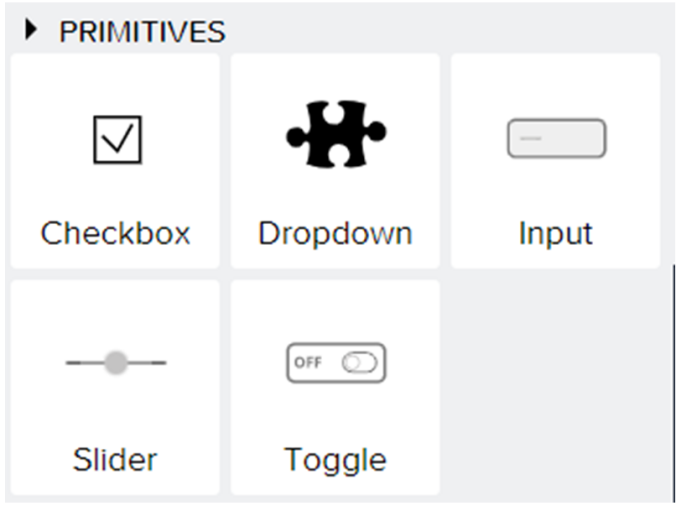


Components Marketplace



- If you want to develop a more customized app and add special components, you can use the Components Marketplace
- Component Marketplace is located in the *Core Component* tab at the top left above the *Component Library*
- An advantage of the component marketplace is that you receive decentralized information about the individual components

Custom Components

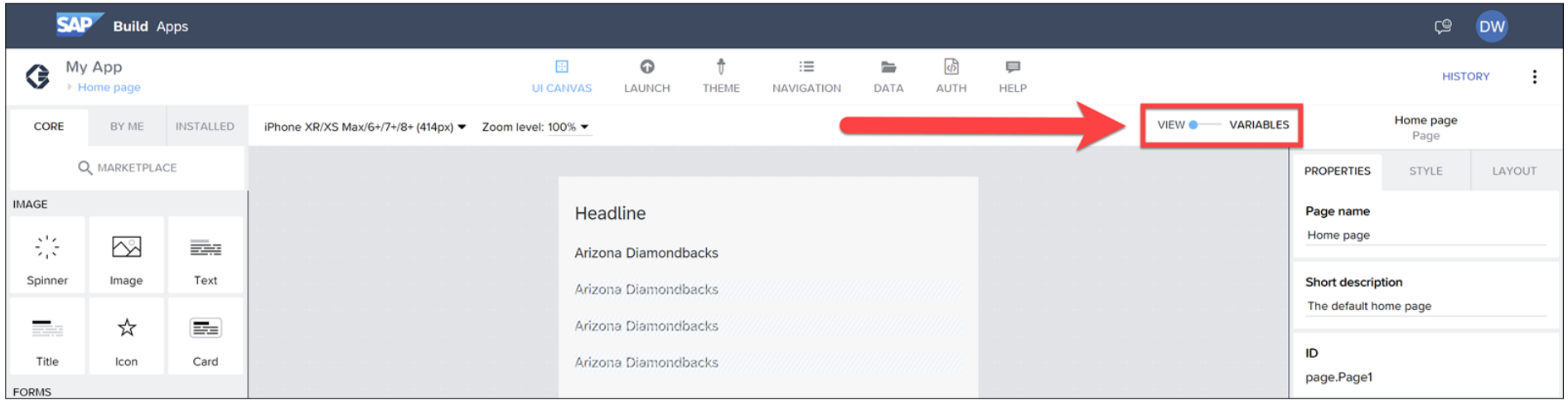


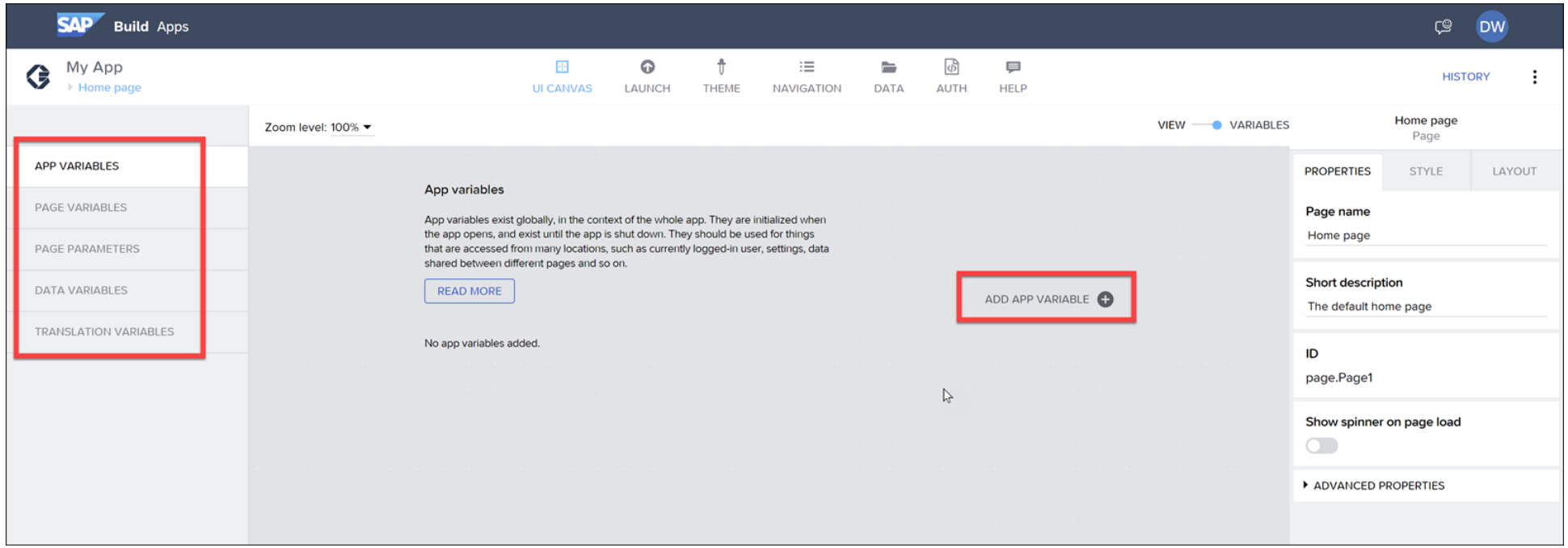
- Combine the basic components to create new, more sophisticated components
- For example, you can combine a basic image component and a list component to create a new image list component

Variables

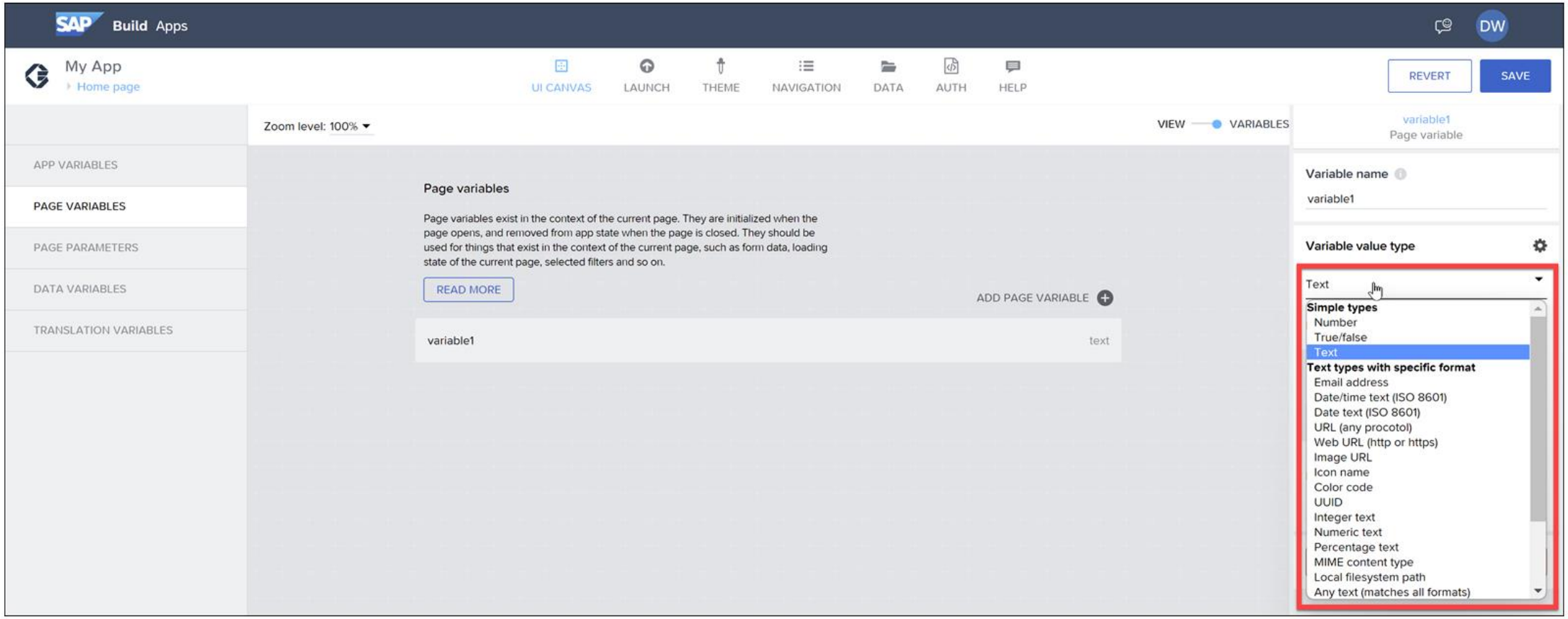
Types of variables

Type	Purpose
App Variable	It is used to store the information that needs to be accessible throughout the app.
Page Variable	It is used to store the information that needs to be accessible only for the current page.
Page Parameter	It is used to store the information that is required to open the current page. For example, if you have a product details page that displays information about the current product, the page requires an ID for the product to display its data.
Data Variable	It is used to store the information retrieved from an external data resource. A data variable can be configured to either store a single record or a list of records.


SAP Build Apps
DW
My App
Home page
UI CANVAS
LAUNCH
THEME
NAVIGATION
DATA
AUTH
HELP
HISTORY
CORE
BY ME
INSTALLED
iPhone XR/XS Max/6+/7+/8+ (414px)
Zoom level: 100%
VIEW
VARIABLES
MARKETPLACE
IMAGE
Spinner
Image
Text
Title
Icon
Card
FORMS
Headline
Arizona Diamondbacks
Arizona Diamondbacks
Arizona Diamondbacks
Arizona Diamondbacks
Home page
Page
PROPERTIES
STYLE
LAYOUT
Page name
Home page
Short description
The default home page
ID
page.Page1


SAP Build Apps
DW
My App
Home page
UI CANVAS
LAUNCH
THEME
NAVIGATION
DATA
AUTH
HELP
HISTORY
Zoom level: 100%
VIEW
VARIABLES
APP VARIABLES
PAGE VARIABLES
PAGE PARAMETERS
DATA VARIABLES
TRANSLATION VARIABLES
App variables
App variables exist globally, in the context of the whole app. They are initialized when the app opens, and exist until the app is shut down. They should be used for things that are accessed from many locations, such as currently logged-in user, settings, data shared between different pages and so on.
READ MORE
ADD APP VARIABLE
No app variables added.
Home page
Page
PROPERTIES
STYLE
LAYOUT
Page name
Home page
Short description
The default home page
ID
page.Page1
Show spinner on page load
ADVANCED PROPERTIES

Using Data Types



Different Data Types

Here are the currently supported data types divided into four groups:

- Simple Types
- Text Types with Specific Format
- Reference Types
- Complex Types

Examples of Simple Types

Type	Example
Number	123
Boolean	True
String	Tree

Text Types with Specific Format

Text Type	Specific Format
Email address	workshop@sap.com
Date/time (ISO 8601)	2023-05-14T07:08:05.671Z
Date text (ISO 8601)	2023-01-01

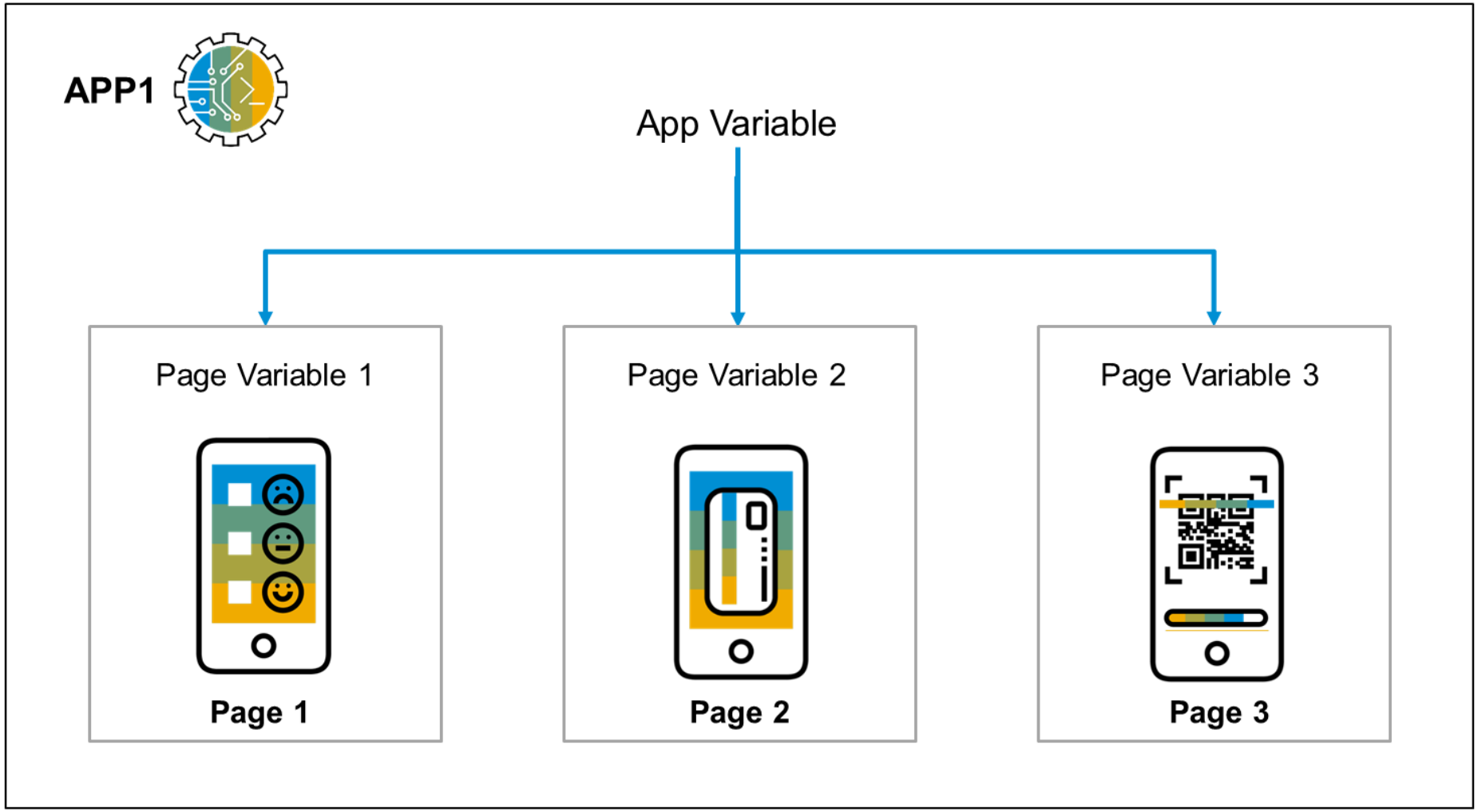
Reference Types

Reference Type	Specific Format
Icon	This is a JSON representation of an icon, including the icon set and icon. `{"set":"fiori","name":"windows-doors"}`

Complex Types

Complex Type	Specific Format
Object	An object is a wrapper that includes a set of properties, each of which can have a data type itself.
List	A set of values (or objects) of the same data type.
Any value	Any type of value

App and Page Variables



App and Page Variables

Page variables exist in the context of a single page

In addition, the value is reset whenever you navigate to a page and use the *Navigate Back* flow function to navigate back to the original page, since the entire page is removed.

Page variables are available in formulas using the pageVars namespace

App variables exist in the global context of the app.

App variables reset only when the app opens for the first time or is closed and reopened.

App variables are available in formulas using the appVars namespace.

Data Variables

Data variables are similar to other variables but are used for holding data from external data sources

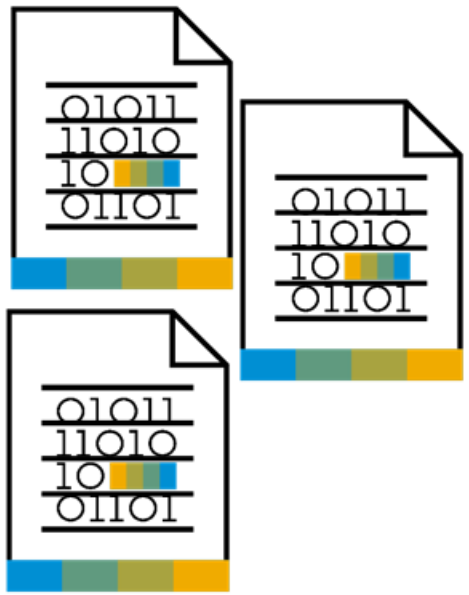
Since they are used to fetch and update data records, they have a few more capabilities

For example, you can define OData filters for use when retrieving data to put into the variable

Data variables have their own logic canvas

Data Variables

Collection of Data Records



Holds a list of data records, each one with the schema from the data resource.

Single Data Record

Holds a single data record with the schema from the data resource.

New Data Record

Holds a single data record with the schema from the data resource. This is used to create a new data record.

Functions

When an event occurs, a function initiates an operation in which one or more inputs are processed, and an output is returned

Logic is fundamentally based on business rules

Flow functions

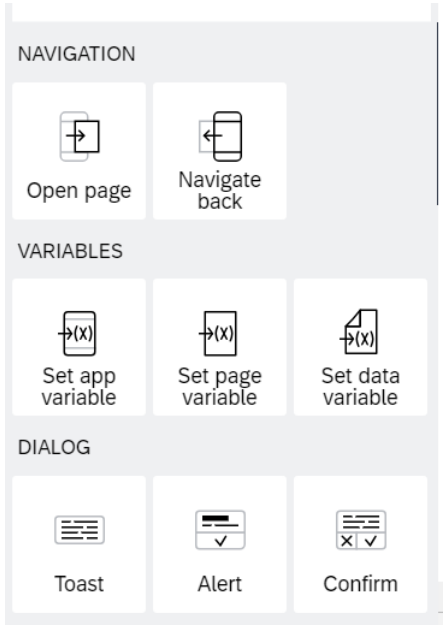
- Can be found in the Logic tab with different categories
- Can be used to perform actions that can be visually placed and combined in a sequence

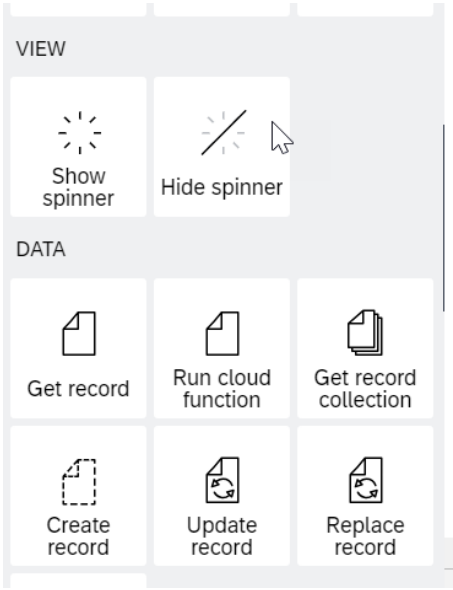
Formula functions

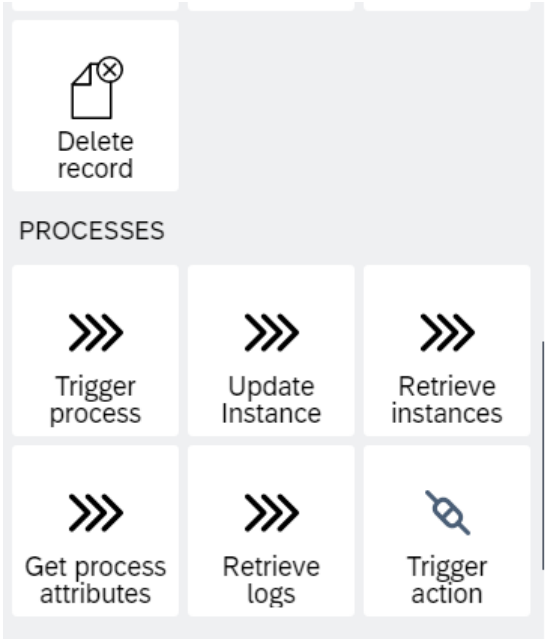
- Uses a powerful library with over 500 finished formulas
- Task of form functions is to process data

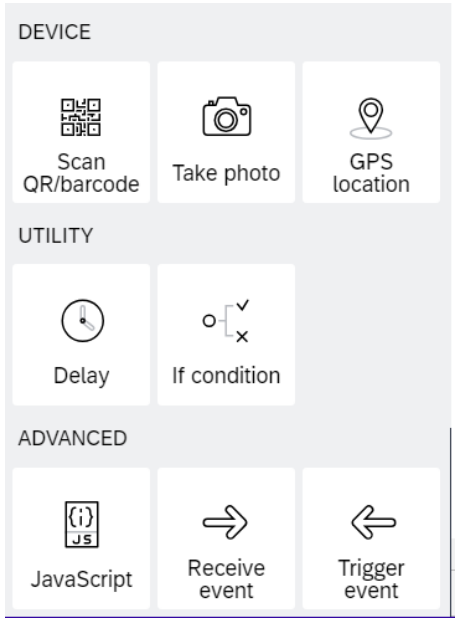
Events

Events	
App loaded: This event is available when the app has finished loading. For example, a welcome message can be shown to the user, or necessary configurations can be set.	Page mounted: This event is available when the app has finished loading and rendering. This can also be used to trigger a logic to render dynamically customized content and initialize components. This is shown in the exercise: Generate the Data of a Colleague With OData.
Component onFocus/Component onChange: OnFocus occurs, for example, when a certain component is selected or activated, which expects an action or input, as with the selection of an input field. The onChange event is triggered when, for example, the value in the input field changes or a checkbox is selected.	Page focused: The event occurs when a page is focused, for example, opened using the navigation or logic components or navigated back to as the active page.
Component onBlur: Contrary to the focus, this triggers an action when it is dropped again, as with the active change to another component.	Page blurred: Contrary to the focus, this triggers an action when it is dropped again, as with the active change to another page.
Component tap: This event is triggered by choosing a component and is possible for all components.	Page nav bar item clicked: This is triggered by choosing the navigation header bar with various buttons and icons for navigation.



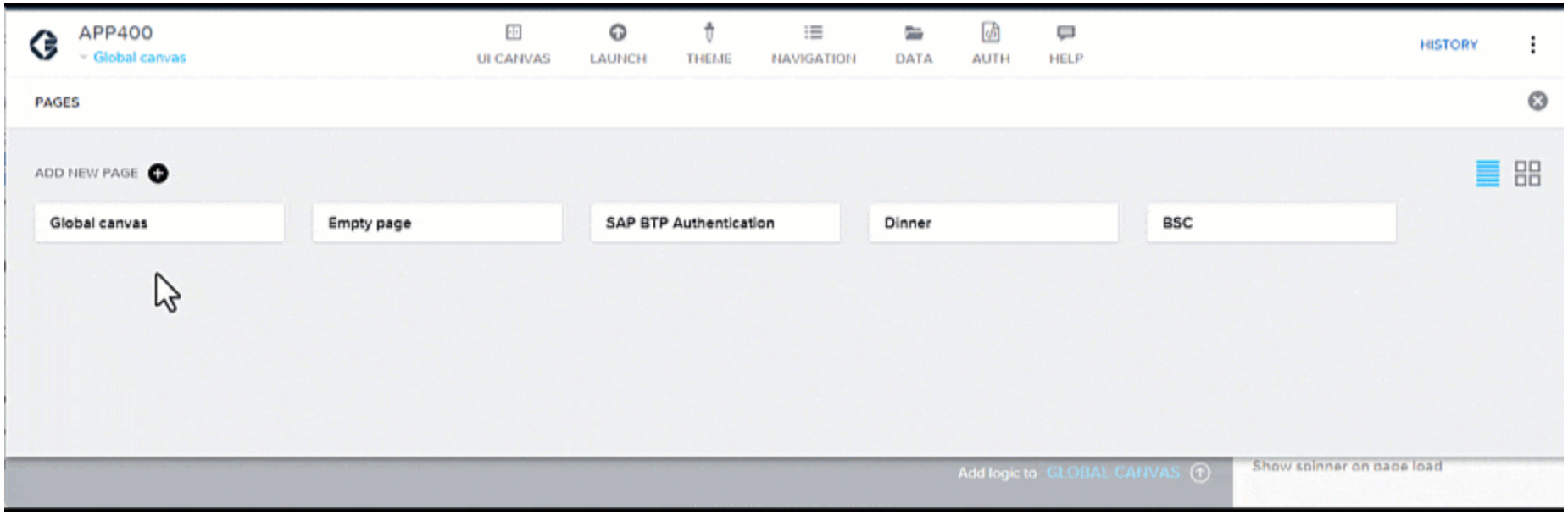






Logics

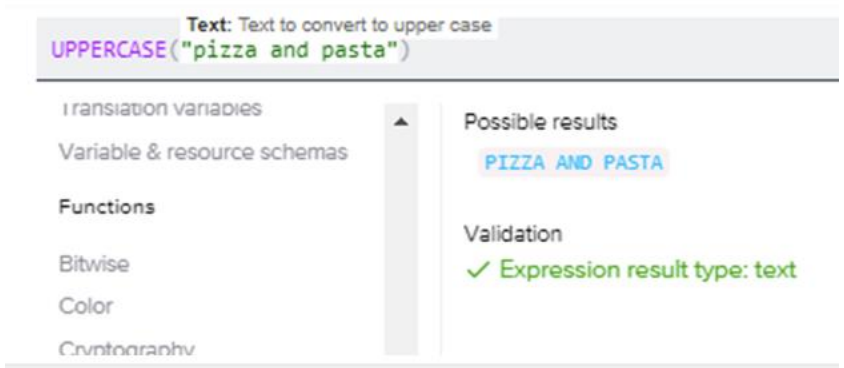
Flow functions – Logic Canvas

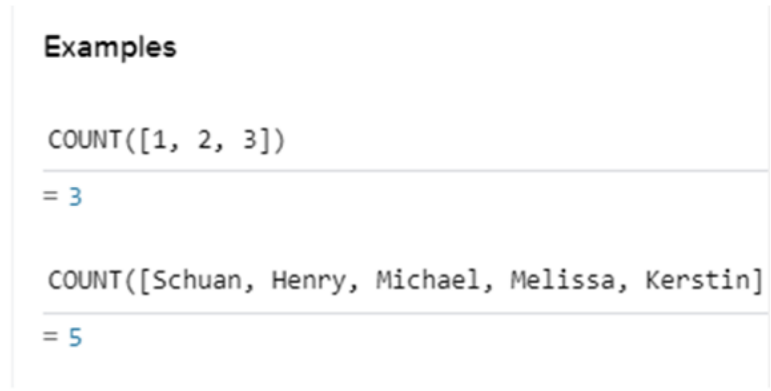


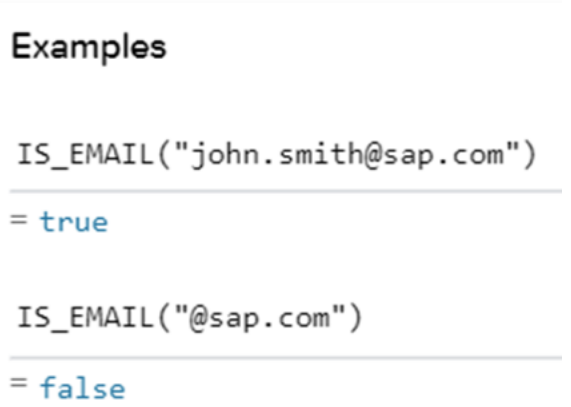
Flow functions – Logic Canvas

Logic Canvas	
Global Logic Canvas	The Global Logic Canvas can be reached in the page collection
Page Logic Canvas	At the Page Logic Canvas, you can see integrated page spinners that are set in the function in such a way that it disappears when a page is loaded.
Component Logic Canvas	Different logics can be found in the Component Logic Canvas by default, depending on the selected component. For example, more logics can be shown if a component also has several subcomponents and access

Formula Functions







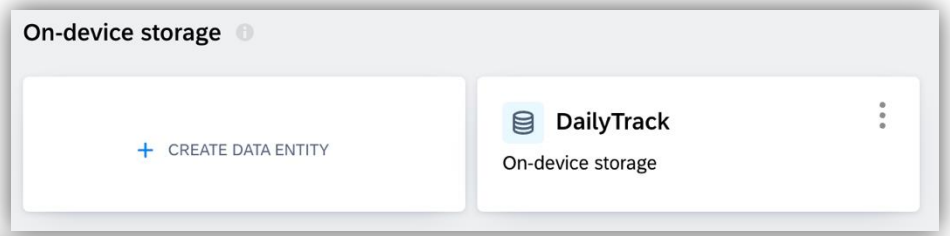
Data Resources

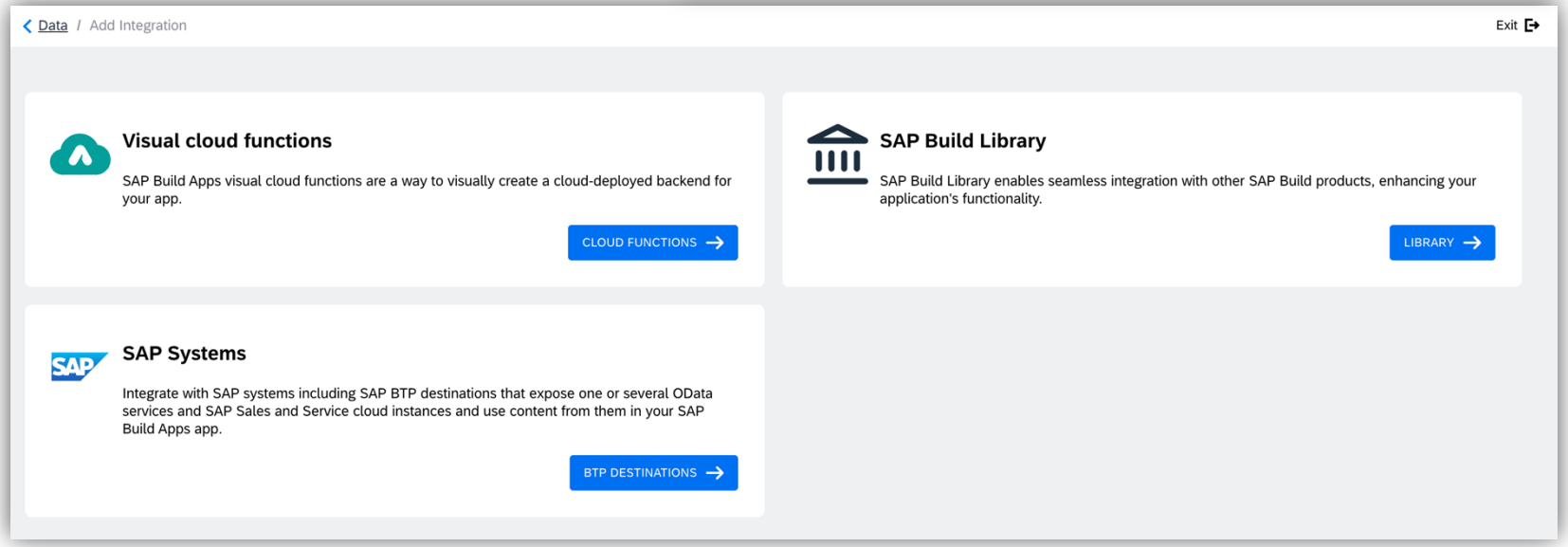
Types of Data Resources

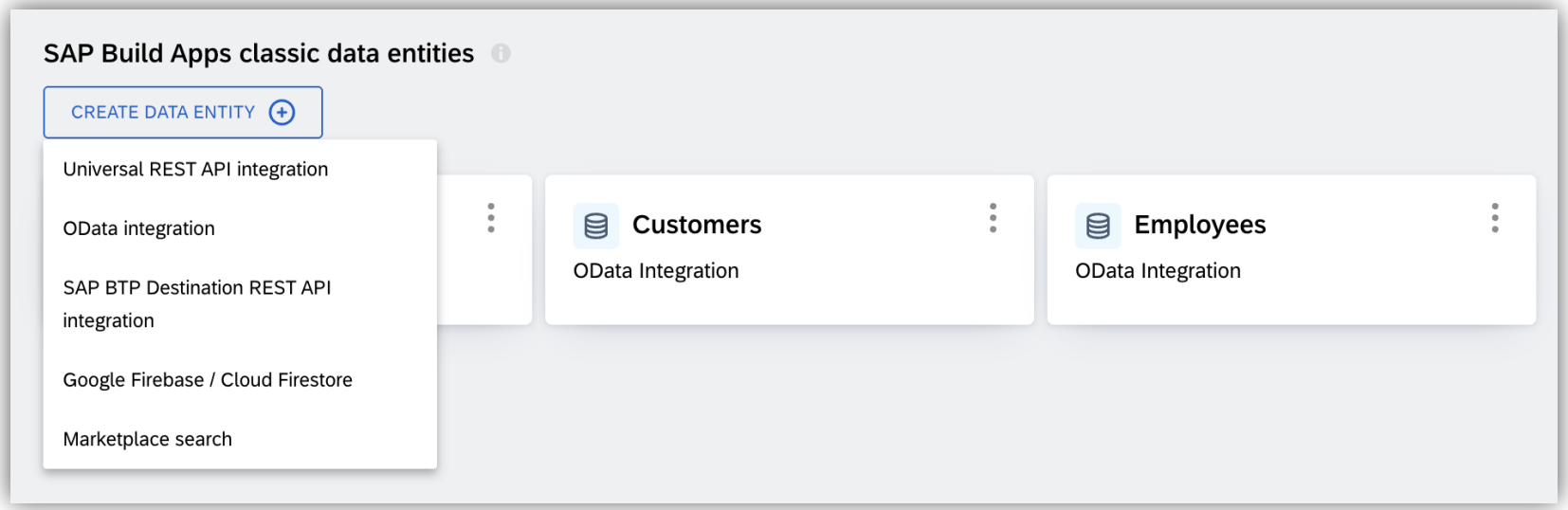
On-device storage: Store data locally on the user's device or web browser. Cannot be shared between devices unless another integration is used.

Integrations: An integration describes how an application communicates with an external system. It defines the protocol and style of communication and holds the necessary configuration information required by every call to any data entity using the integration. This includes e.g. the base URL, authentication headers, API keys and other parameters.

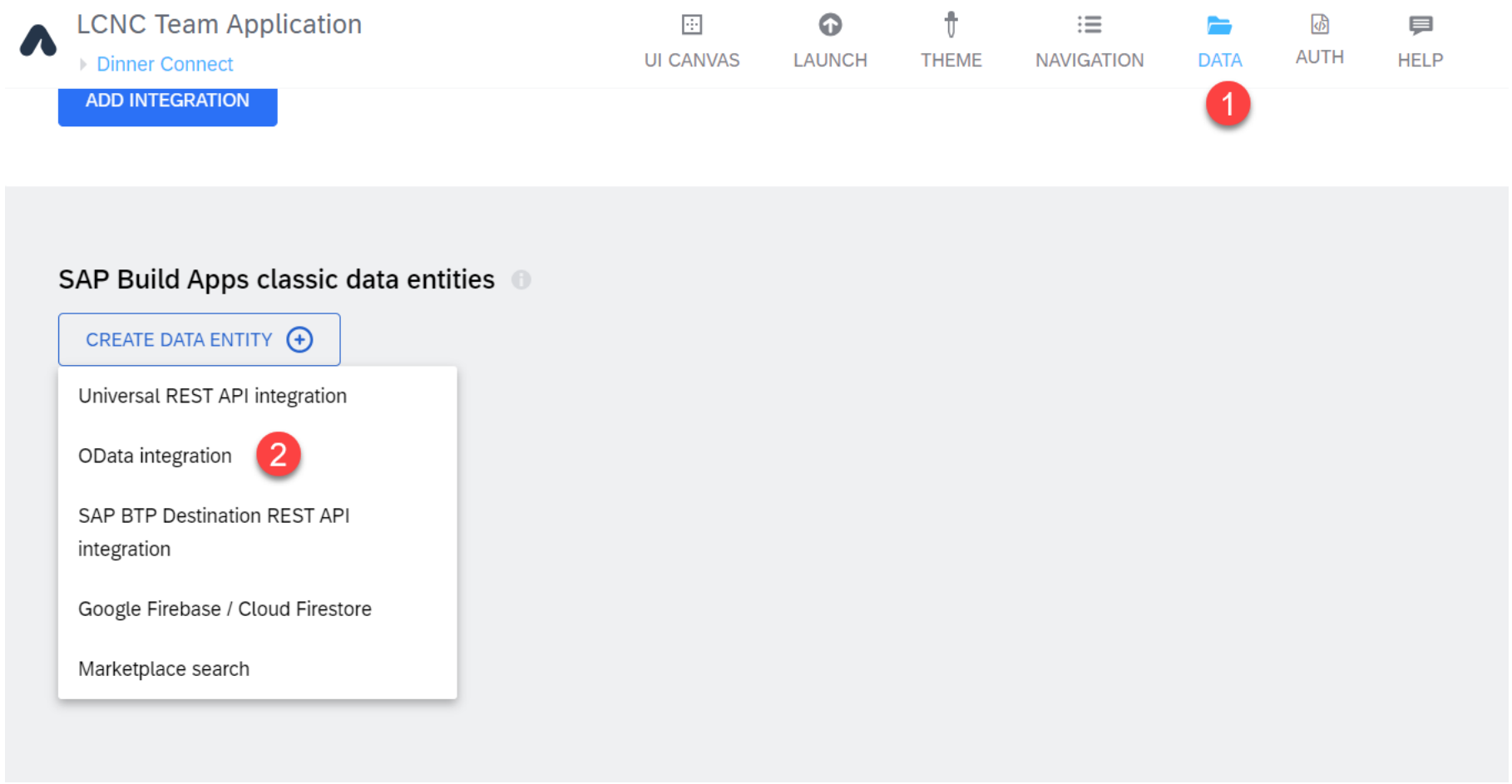
SAP Build Apps classic data entities: SAP Build Apps classic data entities are data entities that do not go through an integration. Each SAP Build Apps classic data entity is configured separately, including configurations for headers, url and parameters. To display content from Google Firebase, use SAP Build Apps classic data entities. SAP Build Apps classic data entities can also be used with REST APIs or OData.



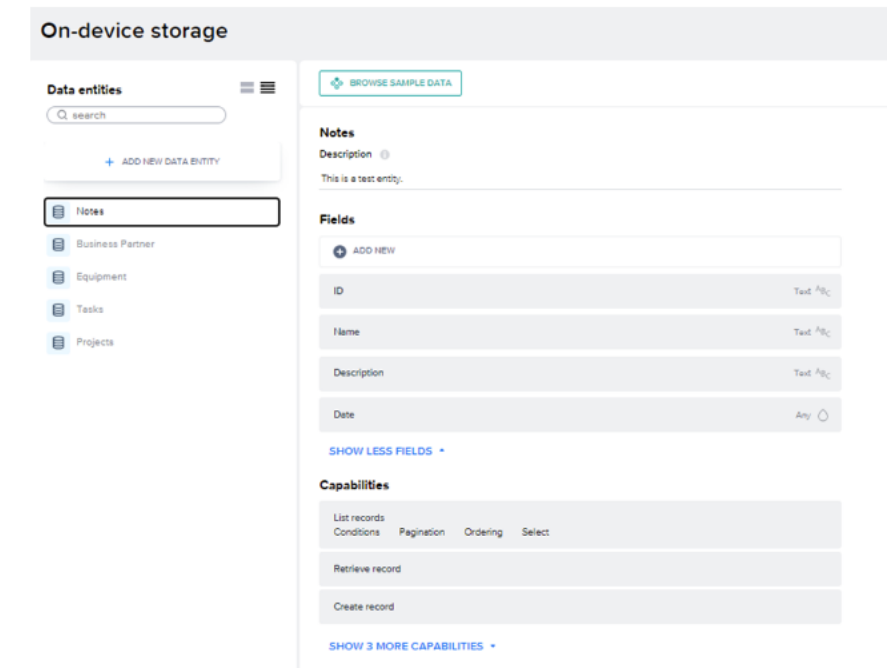




OData Resources



On-Device Storage



Examples of the type of data that could be stored on-device are:

- Personal settings/preferences for the app
- Temporary data that is not ready to be sent to a back-end data source
- Data to allow offline use of the app
- Data only related to the current user

The data is stored either on the device (for mobile apps) or in the browser (for web apps)

Most important thing to remember is that the data is only available to the current user since it is stored on their device only.

Data Resources in the Marketplace

SAP Build Apps provides some example data resources that may be useful for your projects or give you sample data for testing

In addition, you may have data that is reused in many projects and want to create a simple way to reuse it instead of defining the data resource in each project

- You and others in your tenant will be able to find this data resource by searching its title or description.