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# CITs, Objects, Fields, and Lookups

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## Agenda

- Introduction
- Enabling Modern UX, Basic Configuration and Navigation
- Blueprints and Attribute Administration
- Considerations, Recommendations and Rego's MUX Migrator

# Objects, Attributes, and Views/Fields





# Objects

- 0
- Objects are the major functional components of Clarity
- Objects define the attributes (fields), subpages (links), page layout, and views that make up your configured instance of Clarity
- In addition to the stock objects delivered with the system, you can create custom objects. Custom objects are essentially tables inside the database that begin with "ODF\_CA"
- Use the default objects or create custom objects and sub-objects to manage information for specific business needs
- Once you create an object, add attributes, links, and actions and set up the views

## Objects



#### Each object has four distinct pieces you can configure

- Properties
- Attributes
- Links
- Views



#### Things to remember

- You can only delete Custom Attributes
- Attributes need an API Attribute ID to show in the New UX
- Adding more than 100 custom attributes to a single custom object may impact performance
- A hierarchy with a maximum of three levels of objects can be created, and allow child objects to inherit properties and access rights from parent objects

# Objects: Types



- Primary Standard Objects
  - Project
  - Task
  - Team
  - Resource
  - Company
  - Application



- Master Objects
- Sub-Objects

# Objects: Investment Object



The Investment object is a special component that provides the ability to define attributes one time and share them across select OOTB objects



These objects "inherit" attributes from the Investment object:

- Project, Idea, Other Work, Application, Asset, Product, Service
- Modern UX Custom Investments



Streamlines the creation process and ensures consistency across objects



You may re-label attributes on shared objects if needed (ID remains the same)



Attributes defined at the investment level are available to the stock objects noted above but are not required



You must make updates to Investment attributes at the Investment level

## Attributes

- Attributes are the fields on an object that store information
- The attributes of each object are available on the Attribute screen within the object
- Many attributes are delivered out-of-the-box, but you can create additional attributes using Studio
- Once created, you can organize and place attributes:

Classic UI: on views and portlets and use for reporting

Modern UX: Views and Blueprints

Example: "Start Date" is an attribute of the project object

Details on the various data types can be found in the Studio Developer Guide

# Attribute Data Types



#### When creating attributes, the following data types are available:

- String (2000-character maximum)
- Large String Plain Text
- Large String Rich Text
- Number
- Calculated
- Money (includes currency code)
- Boolean (checkbox)
- Date
- Lookup (related lookup needs to be available create prior to creating attribute)
- Multi-Valued lookup (same note above applies)
- Attachment
- Time-varying
- URL (Links to actual data)
- Rich Text (Only available in MUX)

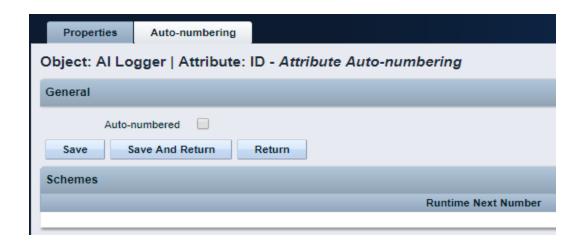
## Calculated Attributes

- A Calculated attribute displays a dynamic, read-only value
- Values are calculated from other existing attribute values
- ♦ Values are calculated every time the user accesses or refreshes the page
- These values are not stored in the database
- Calculated attributes can only read the following data types:
  - Number: Use this data type to calculate a number value like a sum or average
  - **String**: Use this data type to concatenate two or more text values
    - Example: concatenate the value of the attribute "created\_by" and the constant "2007" to produce a result of "ssmith 2007"
  - **Date**: Use this data type when you need to calculate dates using basic arithmetic or to provide the current date

**Note:** You cannot delete source attributes used in a calculated attribute!

## Attributes: Auto-Numbering

- Clarity provides the ability to create your own numbering/naming scheme for object instances (PRJnnnnn, APPnnnnn, etc)
- The scheme can be numeric or a mixture of characters and numbers
- Two out-of-the-box attributes that are commonly auto-numbered are "Name" and "ID"
- Configuration is done via the auto-numbering tab on the attribute detail



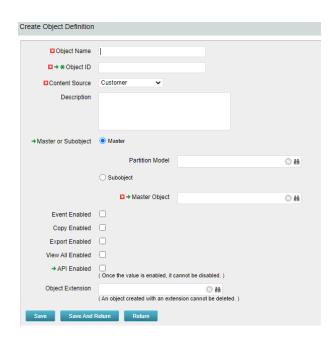
- Create a new custom sub-object to the project object
  - Administration -> Objects
  - Click New and fill out the required fields

**Object Name:** Meaningful name summarizing the object function

Object ID: Use a standard naming convention; many start with a customer ID + "\_" (special characters and spaces should not be used in IDs)

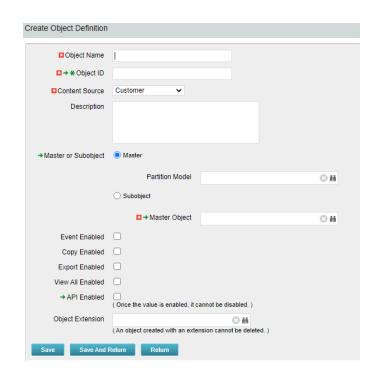
#### **Master or Subobject**

- Choose Master if object is to be standalone
- Choose Subobject if object is to be accessed via another object (1 to many relationship)
  - Choose the Master object by using the browse button

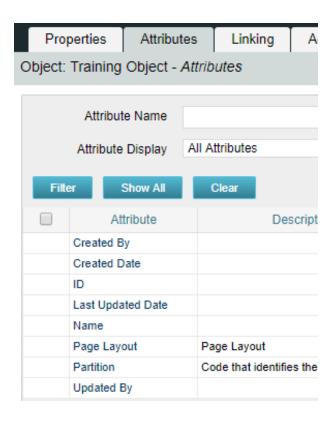


#### Select the following checkboxes if they apply:

- Event Enabled: Specifies that the process engine is notified of object instances that are created or updated. (If a process needs to get driven off the object).
- Copy Enabled: Specifies that copies can be made of the object instances.
- **Export Enabled:** Specifies that object instances can be exported to XML.
- View All Enabled: Specifies that the object instances can have a view containing all properties, subobject lists, and page portlets that can be personalized on a single page.
- API Enabled: Allows custom objects that are a sub object of projects/investments to show in the New UX.
- Include in Datawarehouse: Enabled the object to be available in the DWH.
- Object Extension: Used to create custom Investments, by associating to the Investment Object.



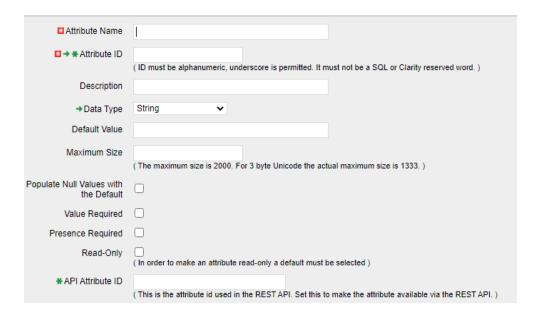
#### Notice the default fields included in the newly created object



- Created By and Created Date: Keep track of who and when the record was created.
- Last Updated By and Updated By: Keep track of the last person who updated the record and when.
- \*\* Note: Outside of custom objects there are OOTB jobs / processes that will skew the results of the last updated by and date fields, as the application often makes updates to the record.
- Page Layout: Each object defaults to a standard layout with tabs such as Properties, Processes, and Audit. This can be customized by adding a new custom page layout. (Details later on)
- Name and ID: Used to identify the record; Name can be repeated multiple times while the ID has to be unique. Auto-numbering is often used to force that uniqueness and standardization.

Add 3 or 4 attributes of different varieties to your new custom object

 Click New and fill out required fields as well as Data Type



- Attribute Name: Name of attribute (display name can be changed later in fields if need be)
- Attribute ID: Unique ID for attribute (spaces and special characters not allowed)
- Description: Meaningful explanation for attribute usage
- Data Type: Type of attribute
- Lookup: Only shows up for "Lookup" and "Mutli Valued Lookup" types
- Default: Default value to populate attribute with (if applicable)
- API Attribute ID: Required for field to show in New UX. Only available if Object is API Enabled



# Select the following checkboxes if they apply:

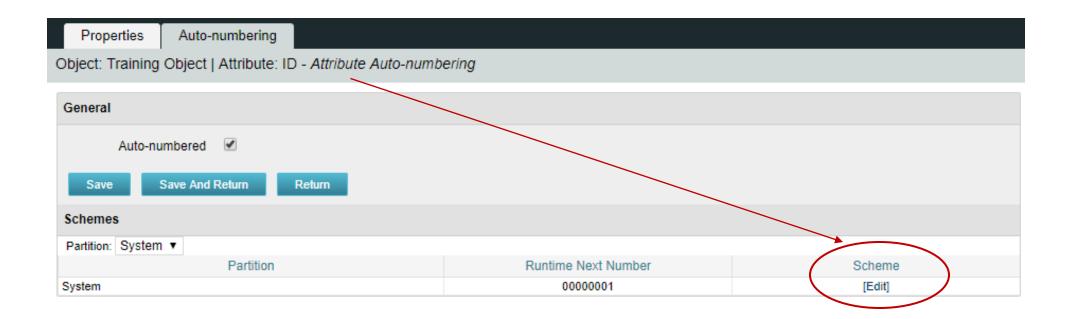
 Populate Null Values with the Default: If an attribute is added after instances have already been created, this will populate the existing records with the default value.

Populate Null Values with the Default	
Value Required	
Presence Required	
Read-Only	( In order to make an attribute read-only a default must be selected )
Save Save And I	Return
■ = Required → = Ent	er Once 🗰 = Unique

- Value Required: Specifies whether a value is required for the attribute.
- **Presence Required**: Specifies that the attribute always appears in the Edit Properties view.
- Read-Only: Specifies that a user cannot make changes to the value in the attribute.
- Include in the Datawarehouse: Include the field in the DWH schema.
- Attribute API Alias: Alias to enable the attribute through REST API.

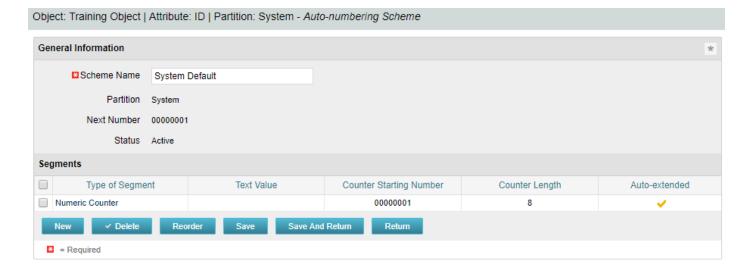
#### Auto-number the ID attribute

- Select the auto-numbering tab
- Check the "Auto-numbered" box and click "Save"
- Select Scheme -> Edit



• The default segment type is numeric, but this can be modified to include text

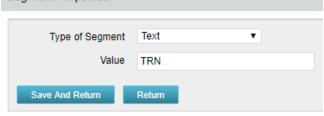
characters as well.

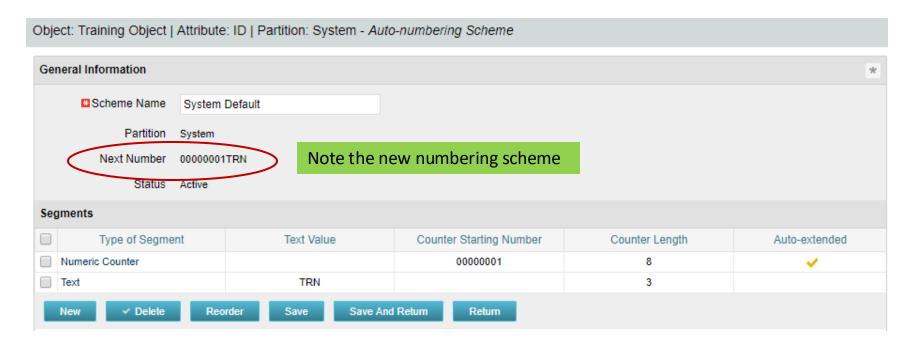


• Select "New" and set Type of Segment = "Text" and type the text value into "Value" field.

Segment Properties

• Click Save and Return.





- The new scheme defaults into the order it was entered. To reorder to have the text in front select "Reorder" and move the segments accordingly.
- Select "Save and Return."



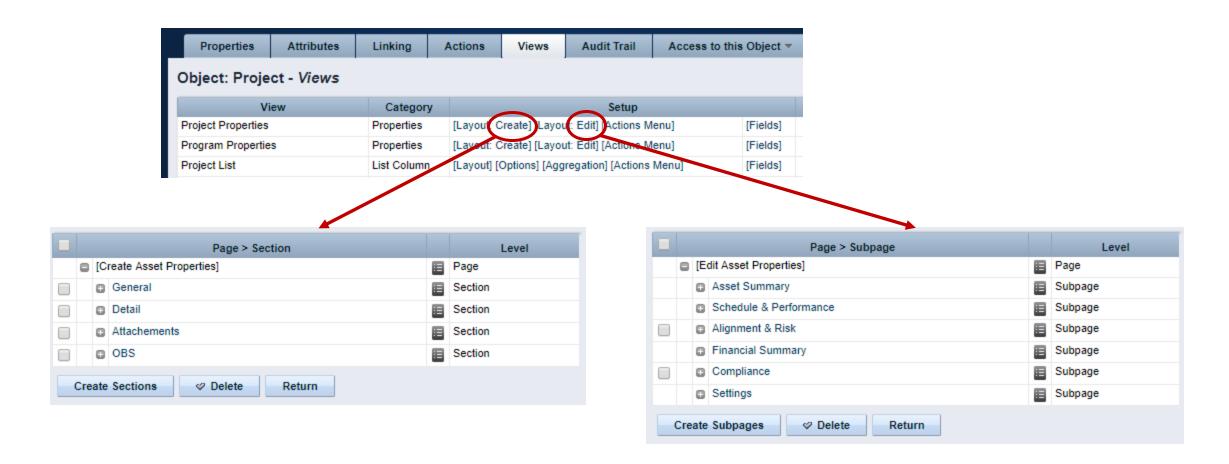
### Fields and Views

- Fields are representations of the available attributes which are placed onto screens and list views
- Field names can be different than the attribute (relabeled)
- They provide additional options and allow flexibility in view configuration:
  - Browse vs Pull-Down (for lookups)
  - Hints and Tooltips
  - Size of the field on the screen and text boxes.
  - Default value
  - Required (even if NOT required on the attribute definition)
  - List alignment
  - List column width
  - List word wrapping



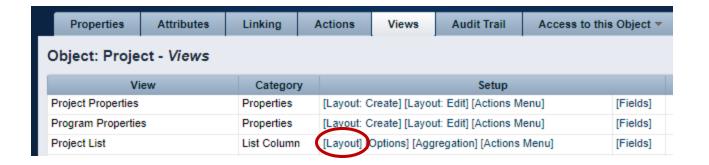
# Fields: Adding to a Screen

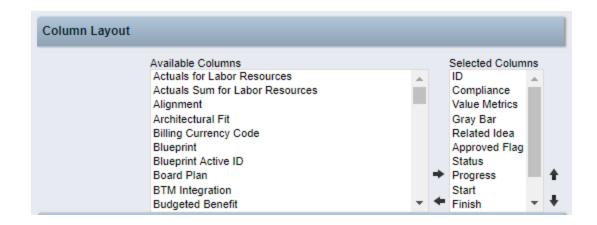
Fields can be added or removed on the Create and Edit screens



# Fields: Adding to a List

Fields can also be added or removed on the List view



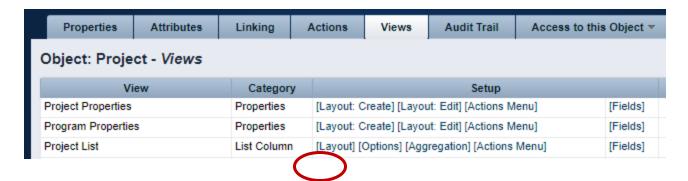


# Fields: List Options



#### Consider the following List view options to improve the user experience:

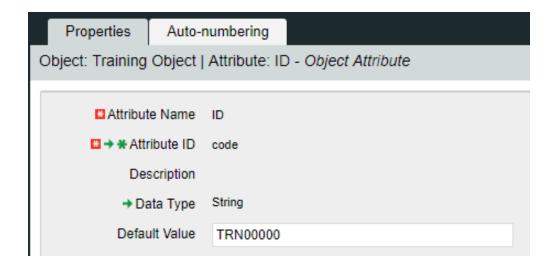
- Rows per Page
- Allow Configuration
- Filter results



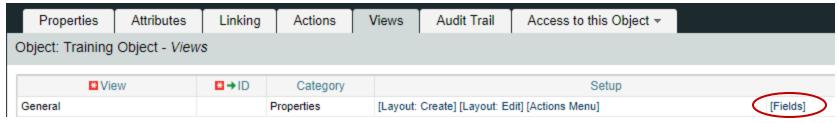


#### Use the new object do the following:

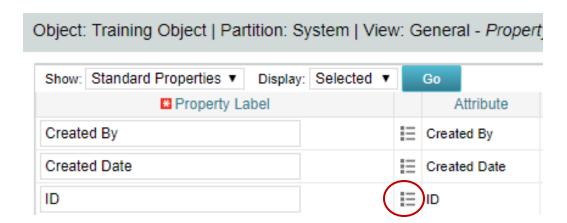
- Modify field "ID" to make read-only
  - Navigate to Administration ->
     Objects -> < Object Name> ->
     Attributes
  - Select the ID field and open. Set a default value. Click Save and Return.



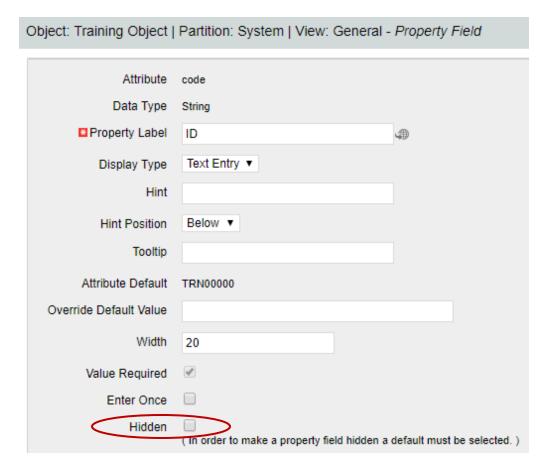
- Select "Views" tab
- On the General -> Properties line click the "Fields" link



Click on the properties icon next to the "ID" field

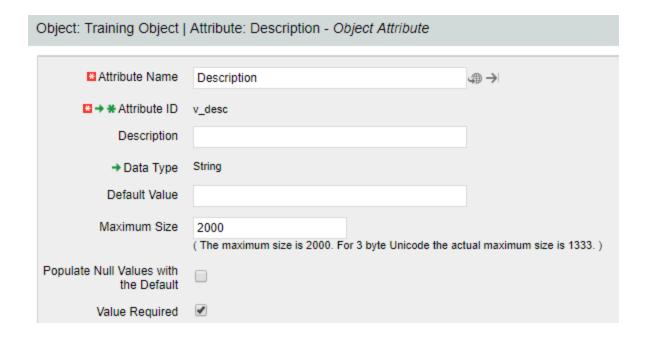


#### Select the "Hidden" checkbox



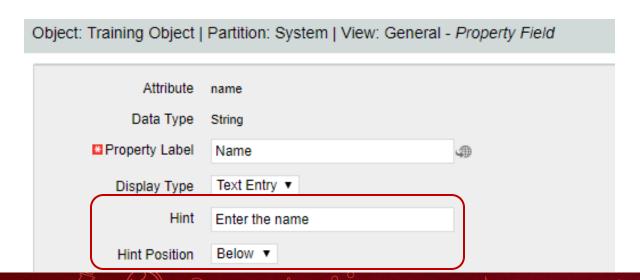
#### Make one of the new attributes "Required" within the field properties

- Navigate to Administration -> Objects -> <Object Name> -> Attributes
- Select a field (newly created) and open properties.
- Select the "Value Required" checkbox and click "Save."



Add a hint for entering one of the values and place it below the field.

- Navigate to Administration -> Objects -> <Object Name> -> Views
- From the General -> Properties line click on "Fields"
- Choose a field that you want to add some verbiage to help the user when entering information.
- Add verbiage to the "Hint" text box and choose a position.



### **Actions**



Object actions are individual operations that can be selected to be done from either the list or properties view within an object instance

• Examples of actions are the ability to run a report (only Business Objects), initiate a process instance, copy an object instance, etc.



Each object has some default actions available to them



To utilize an action the action menu needs to be configured

 Within an object this is located within the "Views" tab and by clicking on "Actions Menu" for the specific view being configured



Actions and the associated menus can be renamed as needed

# Studio and Modern UX





## Administration in the Modern UX



The Modern UX Administration is more functional than technical. It can be managed by any user with a good functional understanding of Clarity.



While some administration activities are done in the Classic Clarity UX, others are available only in the Modern UX.



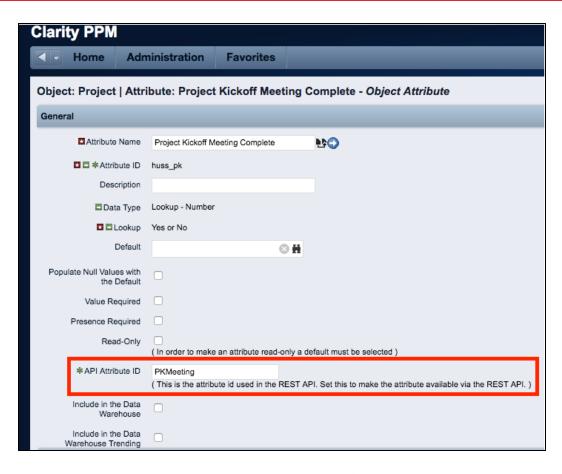
Administrators must have a good understanding of what they want to expose and to whom they wish to make functionality available to make best use of the Classic and New functionality.



Studio Objects and Attributes are available in the Modern UX, they only need an API Field ID to be configured.

# Enabling Attributes for the Modern UX

- For custom attributes to be able to be viewable/editable in the Modern UX, their API Attribute ID must be populated.
- Access your custom attributes on the object to which they belong, and populate this value to ensure the attributes may be utilized in the Modern UX.
  - Go to Administration -> Objects -> Select the appropriate object
  - Select Attributes Tab
  - Select Desired Attribute
  - Populate API Attribute ID and Save.



**Note**: API-Enable OBS attributes for them to be utilized in filters, views, etc.

# Basic Components Modern UX

- Blueprints
  - Modules
  - Views
  - Channels
  - Actions
  - Business Rules
- Field Level Security
- Pages (Dashboards)
- User Personalization
  - Views
  - Picklists

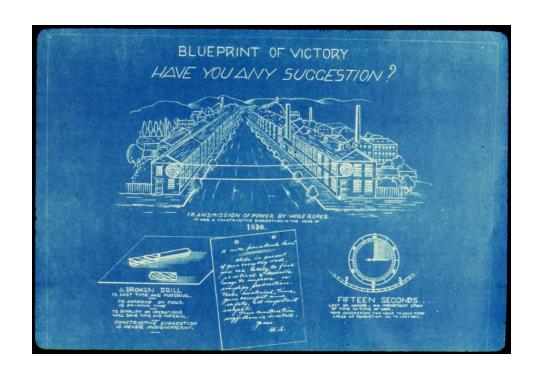
# Blueprints

## Blueprints

- Modules
- Views
- Channels
- Actions
- Business Rules

#### Overview

- Blueprints are configurable layouts in the New User Experience
- Blueprints can be used (might vary depending on version):
  - Projects
  - Ideas
  - Custom Investments
  - Custom Objects
  - Hierarchy
  - Roadmaps
  - Agreements
  - Pages



#### Overview

- Depending on the Blueprint type options might vary, but in general Blueprints can:
  - Allow admins to customize the look and feel of Edit Views, Add Modules,
     Add Channels
  - Impact how certain investments are created from templates
  - Implement Rules to enforce validations like required fields in Objects and Subobjects (16.0.3)
  - Configure Actions to run processes within MUX

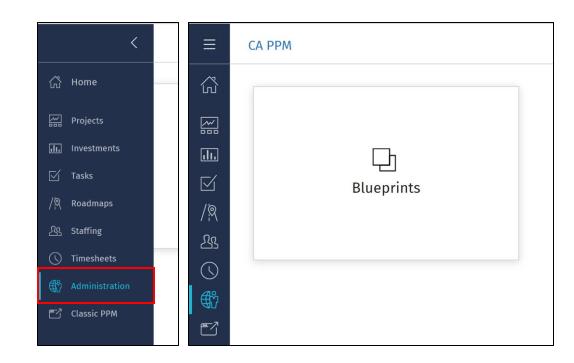
# Configuring Blueprints





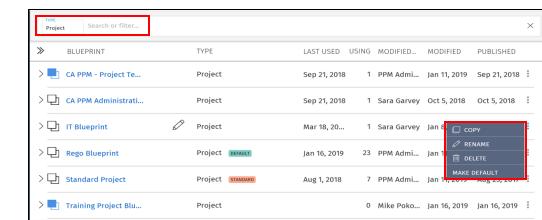
#### Navigation

- To have the ability to view and update Blueprints a user requires the following security rights
  - Blueprint Create Copy, Blueprint Delete –
     All, Blueprint Edit All, and/or Blueprint –
     View All
- 1. Once in the New User Experience, Click on the 'Administration' Icon
- 2. Click on the 'Blueprints' tile
  - Here you will see the list of Blueprints create in the system



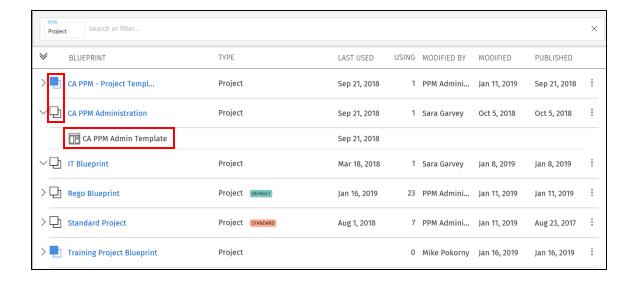
#### Blueprint List View

- Here you will see a list of the Blueprints that have been created in the system
  - The list is filterable; can filter by Blueprint type (e.g., Idea vs. Project vs. Custom Investments)
- There are multiple options for a Blueprint
  - Copy Create a new Blueprint which is a one for one copy
  - Rename Rename the Blueprint
  - Delete Delete the Blueprint
  - Make Default
    - Any newly created Idea or Custom Investment will inherit this Blueprint.
    - Projects not created from a template will inherit this Blueprint



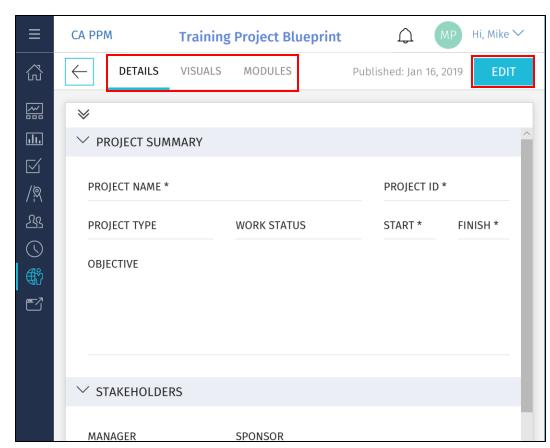
#### Blueprint List View cont.

- Next to the Blueprint name are Blue or White Boxes which indicate if the Blueprint has unpublished changes
  - Blue Unpublished Changes
  - White Published
- Nested under each Project Blueprint are the Templates that have been associated to it
  - This association is changed by simply dragging and dropping the template
- Templates marked as Standard may not be edited. To edit them, first make a copy.



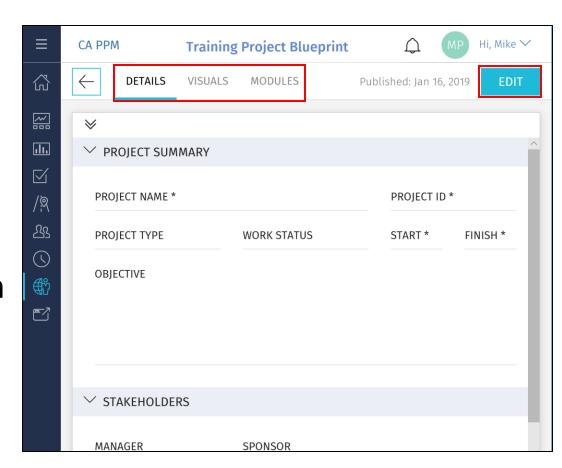
#### Properties Tab

- On Project Blueprints, there are 3 main concepts that can be edited. We will go more in-depth later on these topics.
  - Details This is the main details or properties page for the Project/Custom Investment Type. Here you can add or remove fields and sections. You can also move and resize fields by dragging and dropping them.
  - Visuals These are the icons on the Project
     Tiles. There can be a maximum of 3, but there
     is a minimum of 1 required. Currently, these
     are only available for the Project Blueprints.



#### Properties Tab

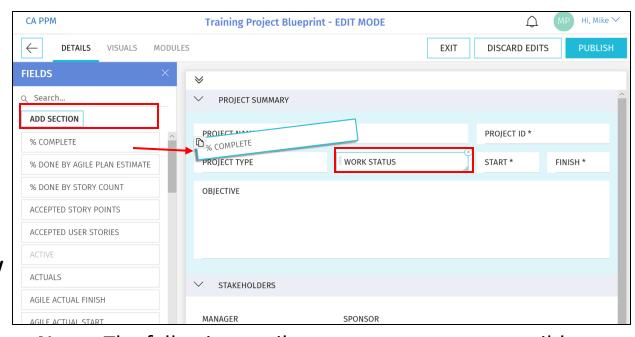
- Modules These are the supporting "pages" that can be added or removed from the Project. The modules include functionality like Financials, Teams, Risk, Issues, Changes, etc. Currently, these are only available for Project Blueprints.
- By clicking the Edit button, you will be taken Edit Mode where you will be able to modify the different Blueprint topics.



#### Details

#### Fields Pane

- Location of the fields you can add to the sections of your Details
  - By default, it contains a list of out-of-the-box
     Project and Investment fields
  - Custom fields and sub-objects can be added and will be covered later
- Fields that already exist on your Blueprint are greyed out
- Click the Add Section button to add a new section to the Details

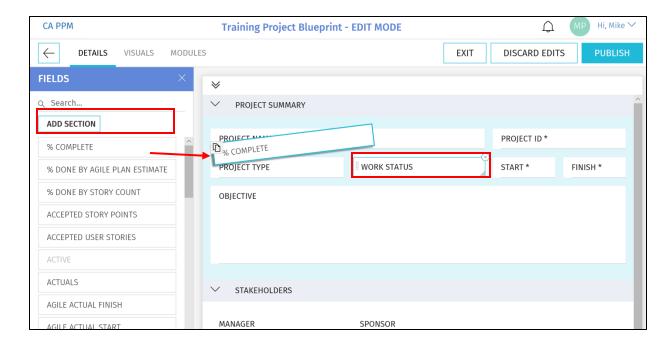


**Note:** The following attribute types are not compatible with the New User Experience: Custom Time-Scaled Value (TSV), Attachments, and URLs

#### Details

#### Fields

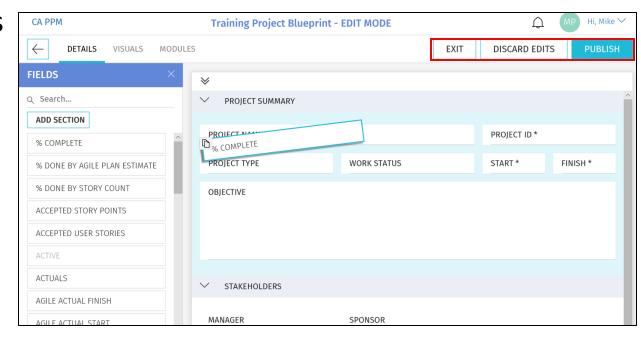
- Add or Move a field by simply dragging and dropping the field into a section
- Remove a field by clicking the X in the top right-hand corner of the field
- Resize the field by dragging the bottom right-hand corner of the field



**Note:** The following attribute types are not compatible with the New User Experience: Custom Time-Scaled Value (TSV), Attachments, and URLs

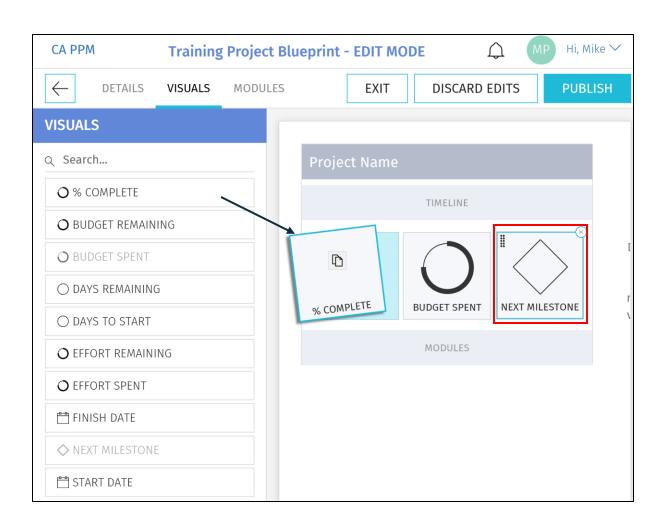
#### Details

- Details Options
  - Exit: Allows you to save your changes without Publishing the new view to Users
  - **Discard Edits:** Removes the change you have made
  - Publish: This Publishes the new view the users for the Projects associated to this Blueprint



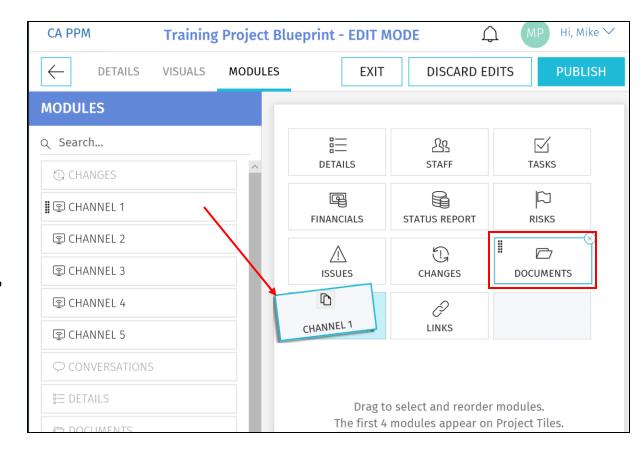
## Visuals (Projects Only)

- Visuals are displayed on the Project Tiles
- Currently, there are 10 out-of-the-box
   Visuals to choose from
- Add or Move a Visuals by simply dragging and dropping it
- Remove a Visual by clicking the X in the top right-hand corner of the icon



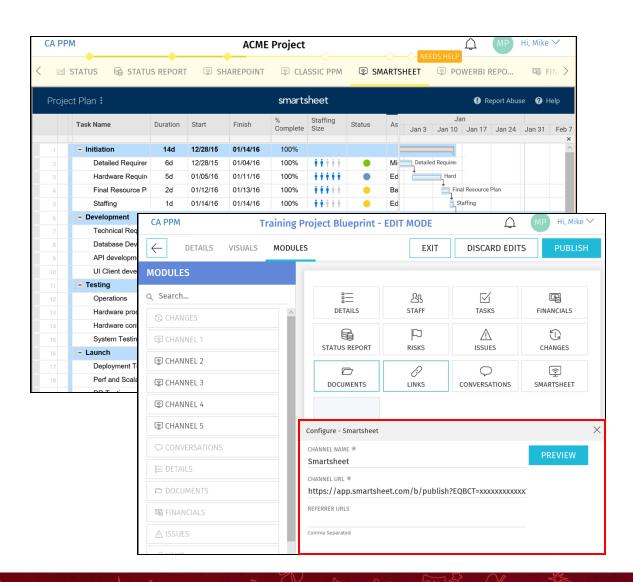
#### Modules

- Once inside of a Project, Modules are displayed across the top
- The first 4 Modules will also be displayed on the Project Tile for direct navigation to that Module
- There are 12 core Modules which are not configurable and provide project functionality like financials, team, task, etc.
- In addition to the core Modules, there are configurable Channels and the ability to add custom sub-objects



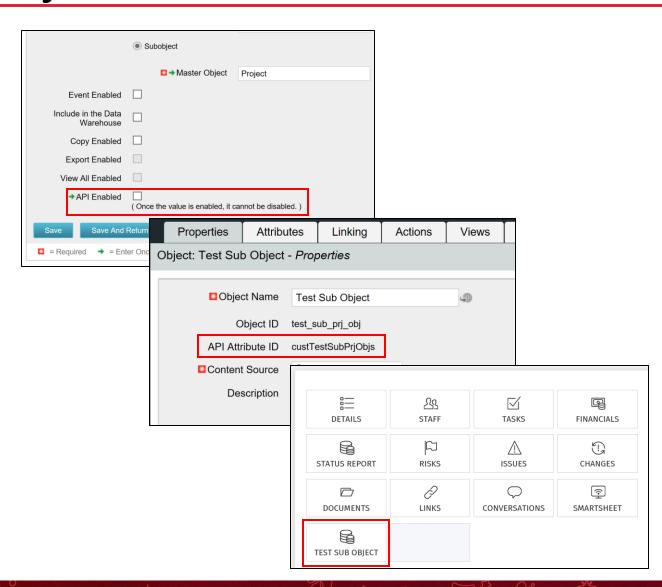
#### Modules – Channels

- Channels are configurable Modules that can be directed to other internal PPM locations, external applications, or external URLs
- Users can stay directly in their Project and get the additional pertinent information
- Configuration
  - Channel Name The name displayed to the user
  - Channel URL The URL where the channel will navigate
  - Referrer URLs These are additional URLs need for navigation like authentication
- The URL fields accept various parameters to send as query strings to other apps and/or options to interact with the Classic UI



#### Modules – Custom Sub-Objects

- Custom sub-objects of Projects,
   Ideas or Custom Investments as a
   Module in the New User Experience
- Check the "API Enabled" checkbox on the existing custom object or a new custom object
  - Once this is checked and saved, it can't be undone
- After saving, an API Attribute ID will be automatically created for the object and it will be available as a Module

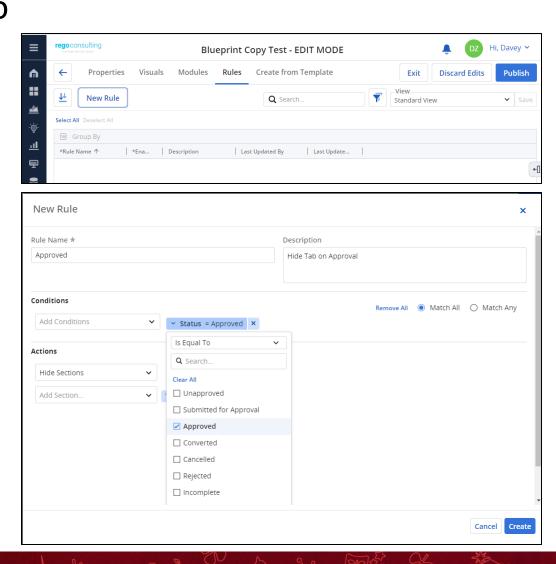


#### Rules Engine

- In the Modern UX there is now the option to create logic for hiding certain modules or sections based off attribute values.
- Easy way to create a flexible and dynamic user experience using views.

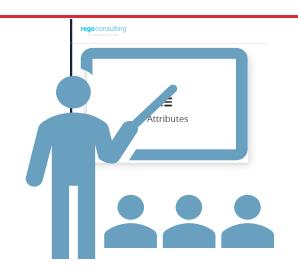
**Example: Demand Management process** 

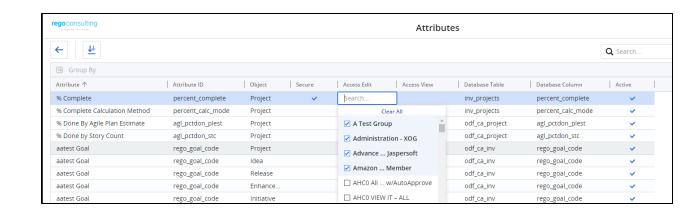
- Navigate to Modern UX → Administration
- Select on the Blueprints tile
- Search for the blueprint you want to create logic on
- Select Edit
- Navigate to the Rules tab
- Select New Rule



#### Field Level Security

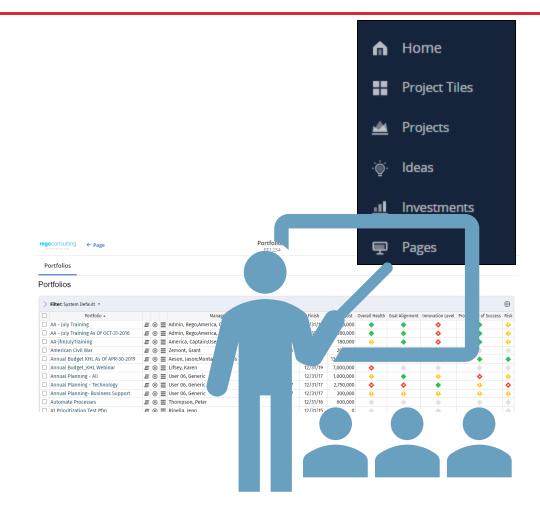
- In the Modern UX there is now the option to secure attributes.
- All master objects can have their attributes secure.
- Easy way to avoid users from seeing certain attributes in their configurable list view.
  - Navigate to Modern UX → Administration
  - Select on the Attributes tile
  - Search for attribute name
  - Access Edits and Access View is required.





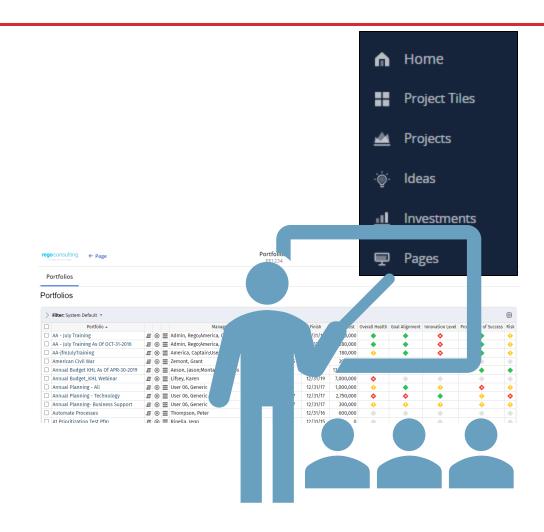
#### Pages and Dashboards

- In the Modern UX there is a new option to display portlet dashboards called Pages.
  - Navigate to Modern UX → Pages
  - Select on the + icon to create a new row
  - Populate a Name and Id with relevant information.
    - Example: Portfolio List
  - Navigate to Administration → Blueprints
  - Filter Type → Page



#### Pages and Dashboards

- Copy Standard Page
- Edit Copied version to relevant name
- Navigate back to Pages
- Select new blueprint and add Channel
- Input new Name and Address for Channel.
  - Example: claritytest.com/niku/nu#action:pfm.portfolio List&puiFullscreen=on



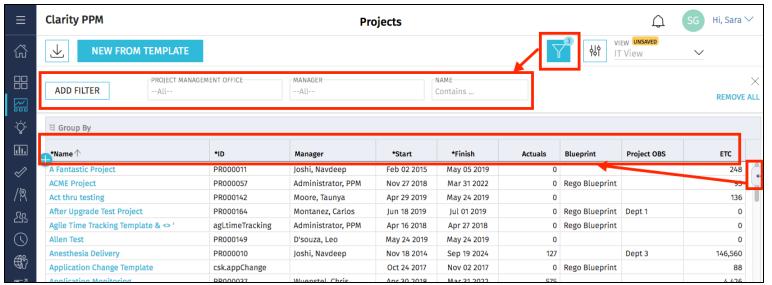
# User Personalization Views





## Saving Views and Filters (1)

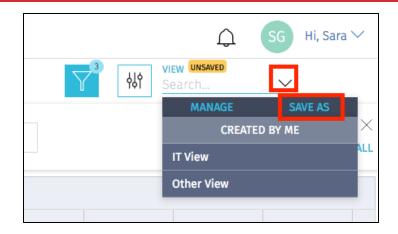
- In the Classic UX, Administrators may save configurations to list views and filters, to ensure users see the right fields in view.
- That same functionality is not available in the Modern UX, but administrators can save a view, and have the end users choose that view, to allow them to see a predefined set of fields and filters.
- To save a view:
  - Configure the filter and columns as you want the users to see them using the column panel and the filter selection.

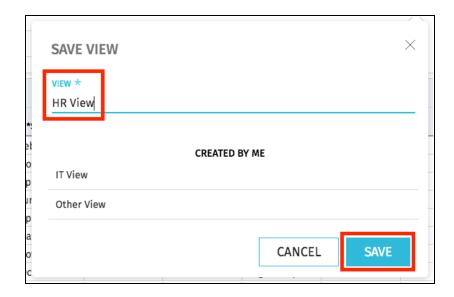


## Saving Views and Filters (2)

- To save a view (continued):
  - Once the filter and fields are added, use the View menu in the upper right corner to select Save As to Save the View.

Enter a name for the View, and click Save

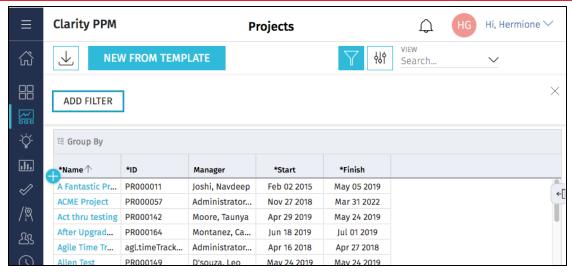




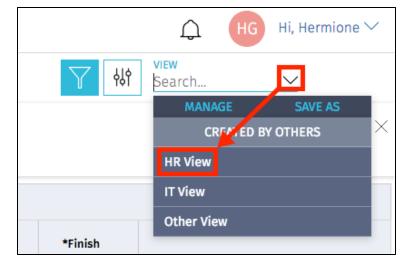
## Saving Views and Filters (3)

 Once the View is Saved, End Users may then search for and apply the view applicable to them.

 Instruct users to search for and apply the view using the View menu.

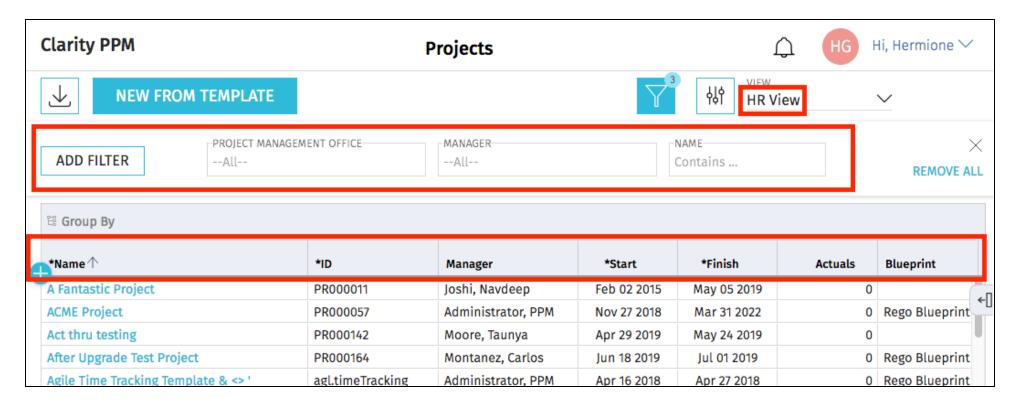


Original View, without desired fields and filters



## Saving Views and Filters (4)

• The new view will now be applied.



Saved View, with desired fields and filters

#### Notes on Saved Views

- There is no security right associated with saving views.
  - In 15.9.3 "Share" will be an option for users. Defaulted to false. This option will restrict users from seeing all views saved.
- This means that any end user can save a view that others will see. If everyone starts doing this, the list of views can become quite long.
- To limit scrolling through a long list of views, end users may use the Search functionality to search for and more easily locate the view you're asking

them to apply.

SAVE AS

CREATED BY OTHERS

MANAGE

NAME

Contains.

Hi. Hermione ✓

## User Personalization Picklists





#### What Are Picklists?

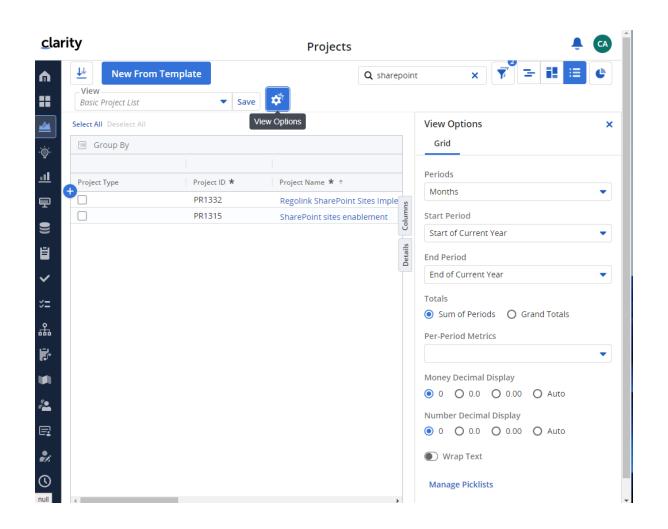


Picklists are similar to Static Lookups, but can be added by users on the Modern UX without depending on Admins/Clarity Studio

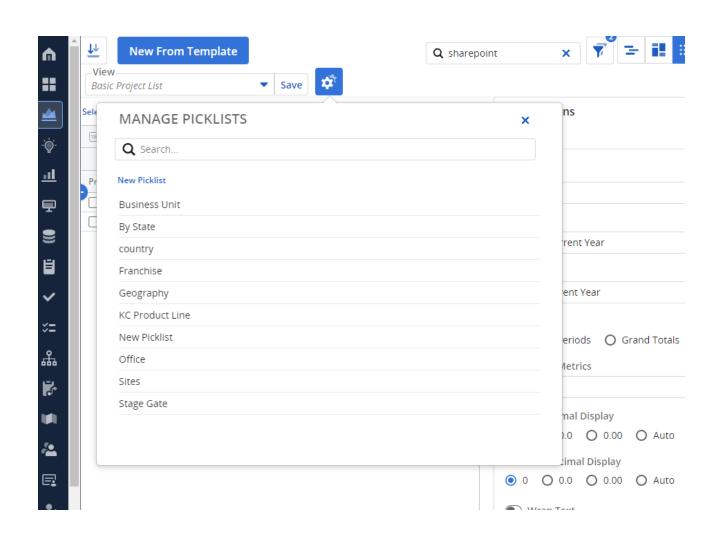


They are only visible in Modern UX and under certain cases like Roadmaps or Tasks, the values are specific to that Investment or Roadmap allowing for additional levels of personalization

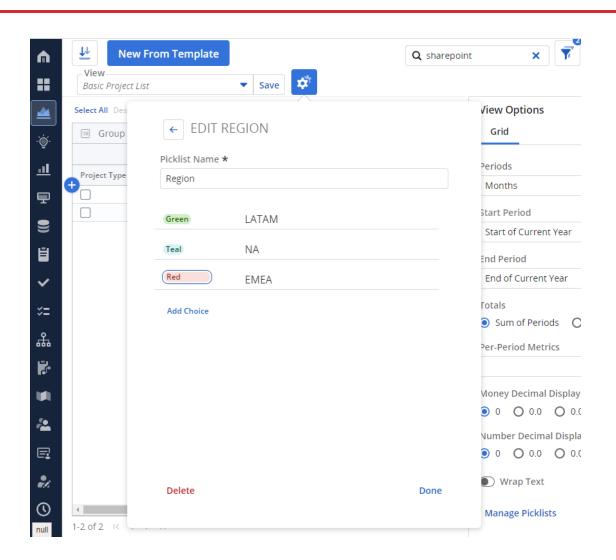
- Navigate to an Object's List View that supports Picklists
- Click on the gear icon and select "Manage Picklists"



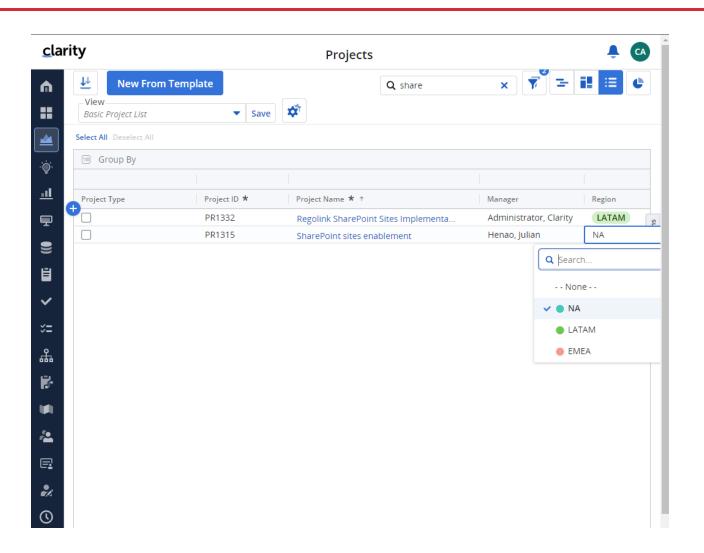
 Once the "Manage Picklists" popup comes up, select "New Picklist"



- Provide a "Picklist Name"
- Provide values by selecting "Add Choice"
- Additionally, you can choose a color similar to Classic UI buckets
- After you are finished click on "Done"



 The Picklist and values are now available



# Questions?



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