Building an Application 1

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Topic: Building an Application

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- Gather Requirements:
- Who are the people using this Application?
- Who or what needs the results downstream?
- What are possible interactions with other internal or external applications?

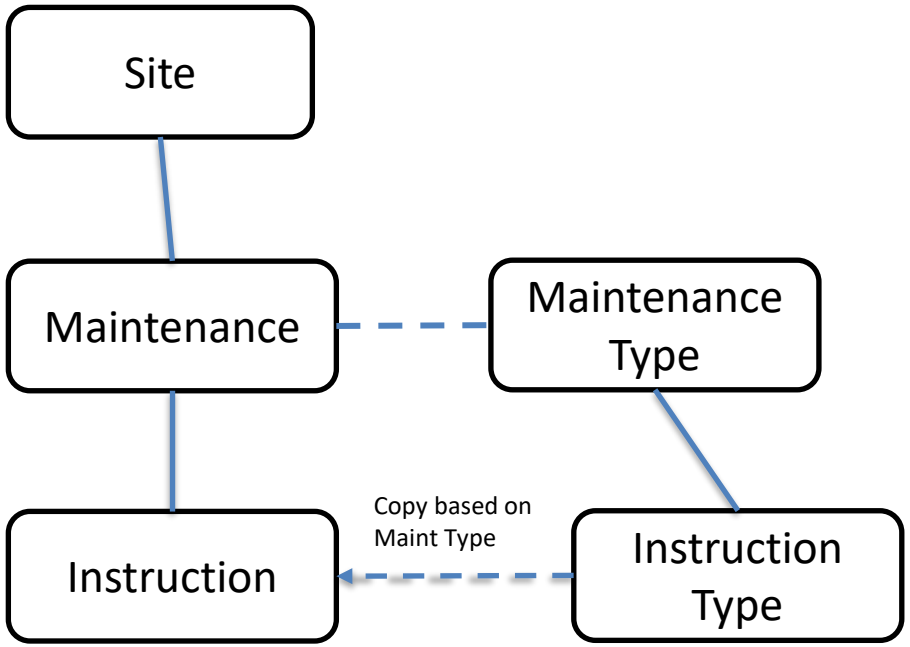
Sample Business Process: Site Maintenance

- Perform various types of Maintenance on a Site on a periodic basis
- Schedule Maintenance Sessions periodically
- Based on the type of Maintenance, perform a different set of tasks.

Topic: Design Application

Design Application

- Draw basic structure to understand data structure
- Get some sample data to get an idea of data points you need to track
- Plan out any Automations that will be needed



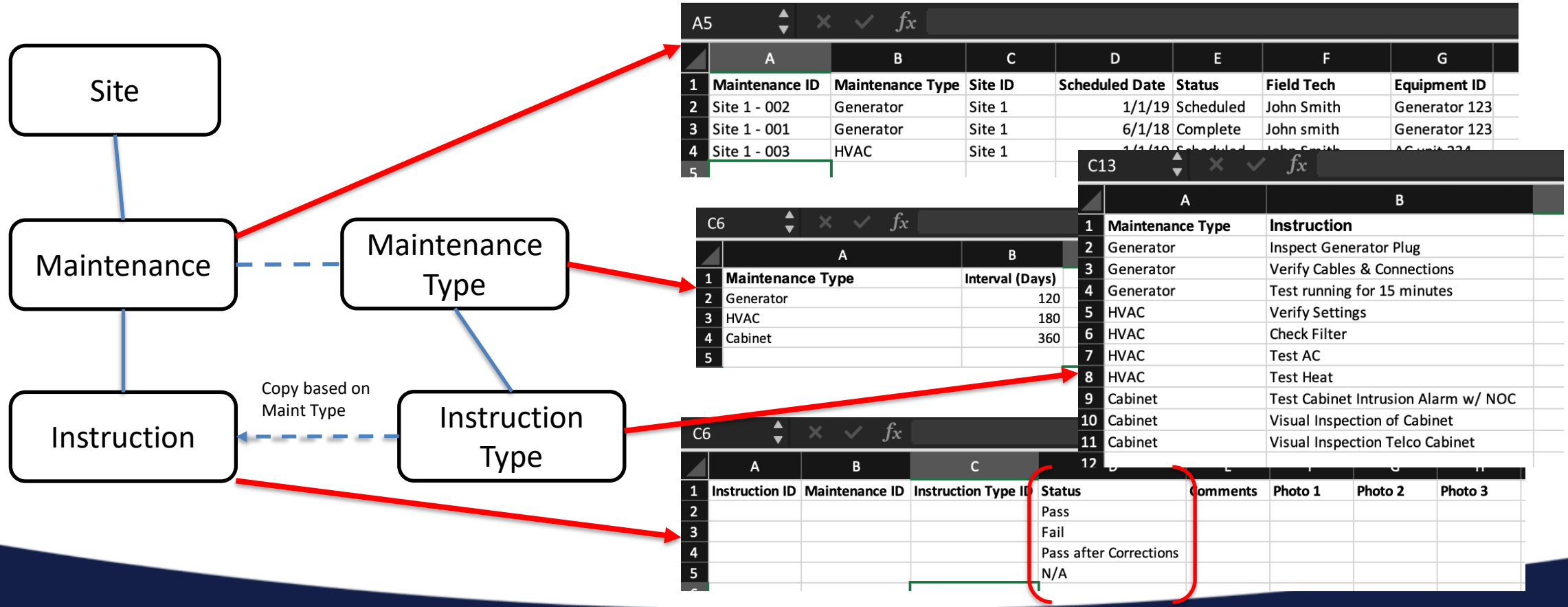
For this Site Maintenance Application:

- ***Maintenance*** Sessions are attached to a ***Site***
- To allow an arbitrary set of ***Instructions*** for different types of Maintenance Types, we create that as a Child
- Build a metadata structure to hold our definitions of What ***Instruction Types*** are used for particular ***Maintenance Type***
- We can make an automation to copy a set of ***Instructions*** to a ***Maintenance*** based on it's ***Maintenance Type*** when it is created.

Topic: Design Application

Get Data for each Trackor Type to determine what datapoint need to be created

- People performing these processes usually have Excel sheet they use
- Be sure to think about all the needed values in Picklist type fields



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Build the Data Store:
- Create Trackors
- Build Tree
- Create Fields
- Assign to Tabs
- Assign Tabs to Applets

Build Automations
- Automation Trackor
- Rules/Packages
- API Interfaces

Build the User Interface
- Create Menu Items
- Setup View and Filter Options
- Reports
- Portals
- Dashboards
- Security Roles

Building the Database

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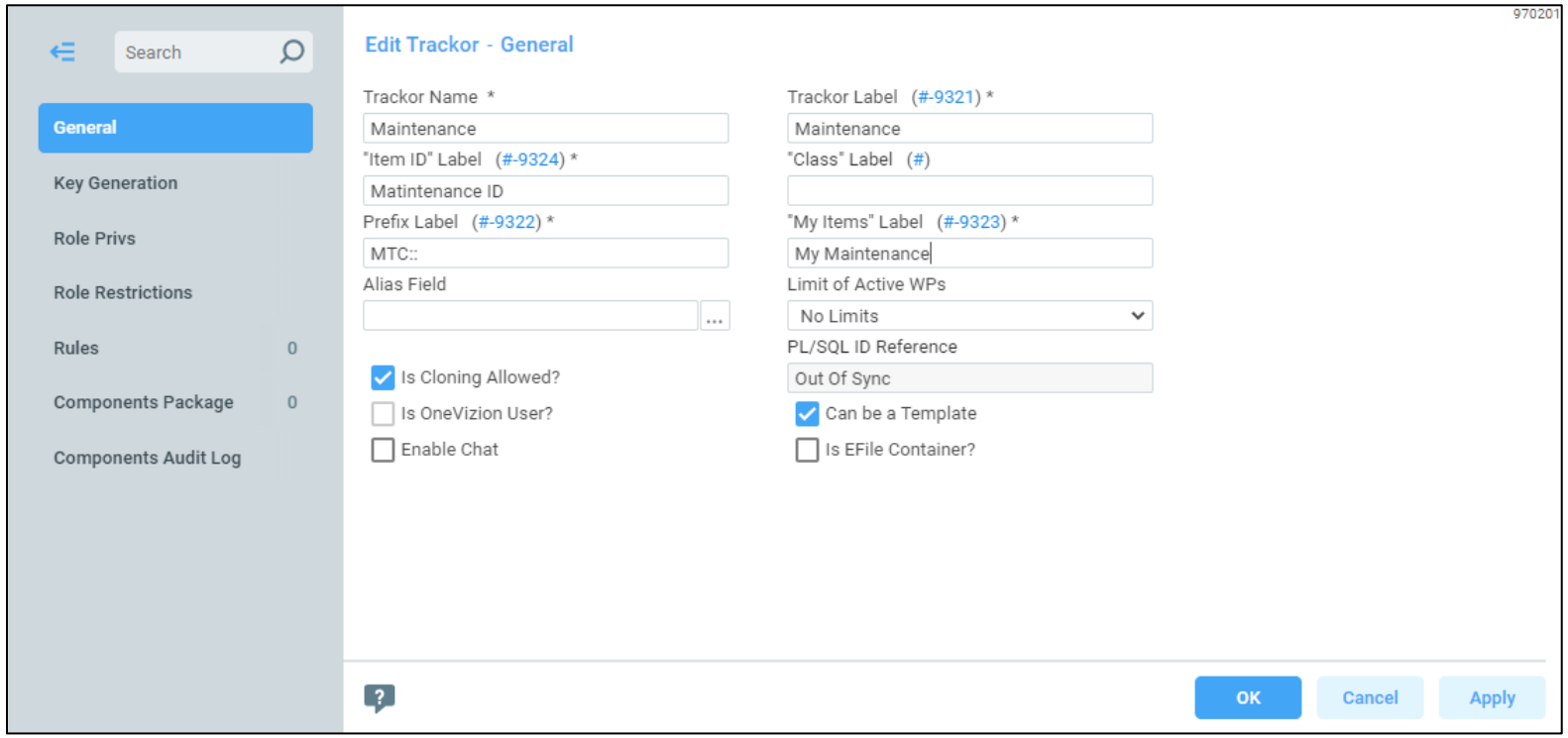
Create Trackor Types



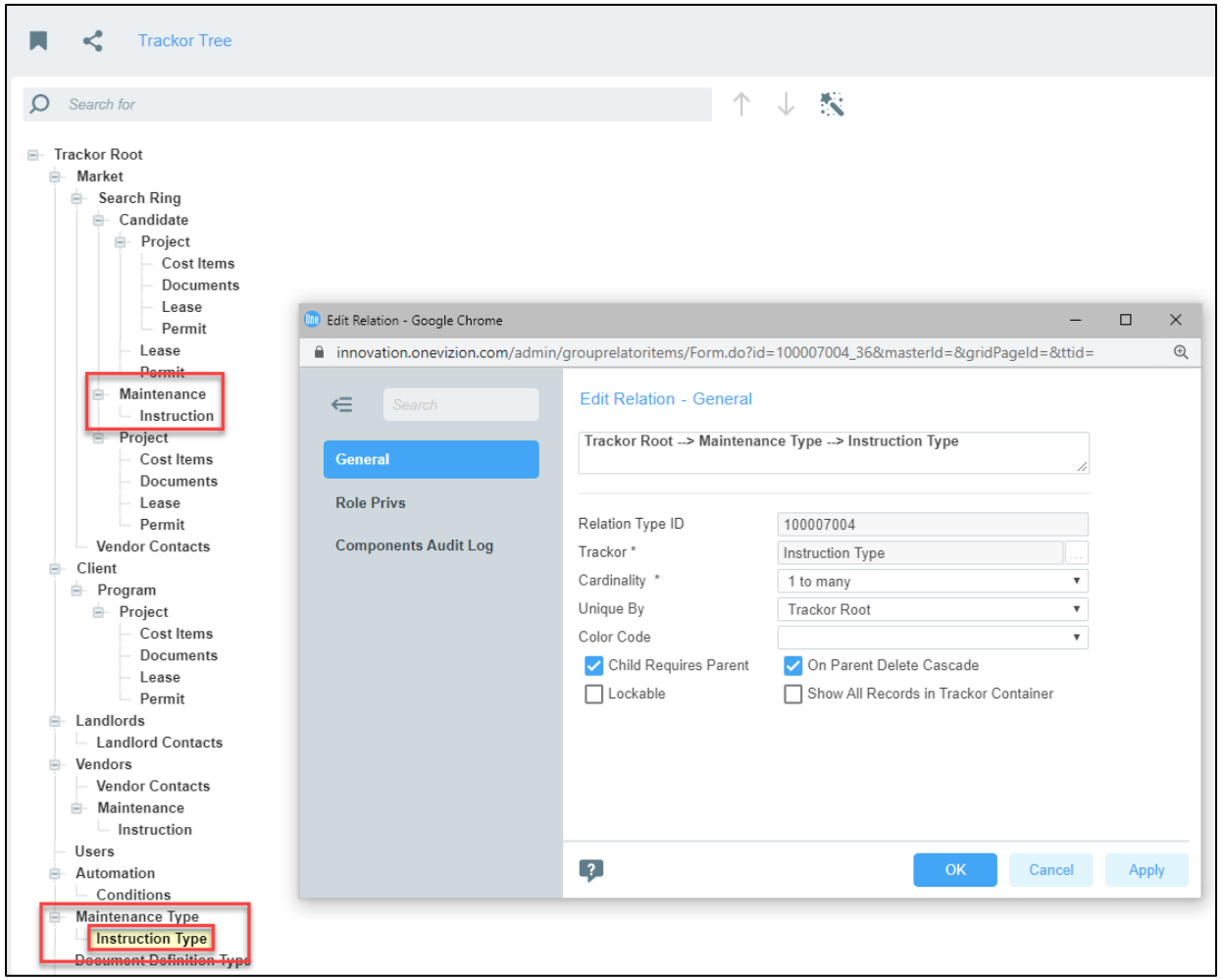
Notes:

- Be sure to go to the Components Export page and create a new ***Components Package*** to use while you are building a new application.
- Decide how you will uniquely identify each Trackor Record.

The Site Maintenance App has 4 Types to create.

- Maintenance
- Instruction
- Maintenance Type
- Instruction Type

Build Trackor Tree



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Notes:

- Trackors must be attached somewhere in the Tree to be visible to users.
- Attaching to the Trackor Root means this data is not directly related to other parts of the Tree.

- ***Maintenance*** is attached under ***Search Ring***
- ***Maintenance Type*** is attached at the Trackor Root. Only Admins will see this directly.
- ***Instruction*** and ***Instruction Type*** are set with *Child Requires Parent* and *Cascade Delete* because they can't exist without their parent.

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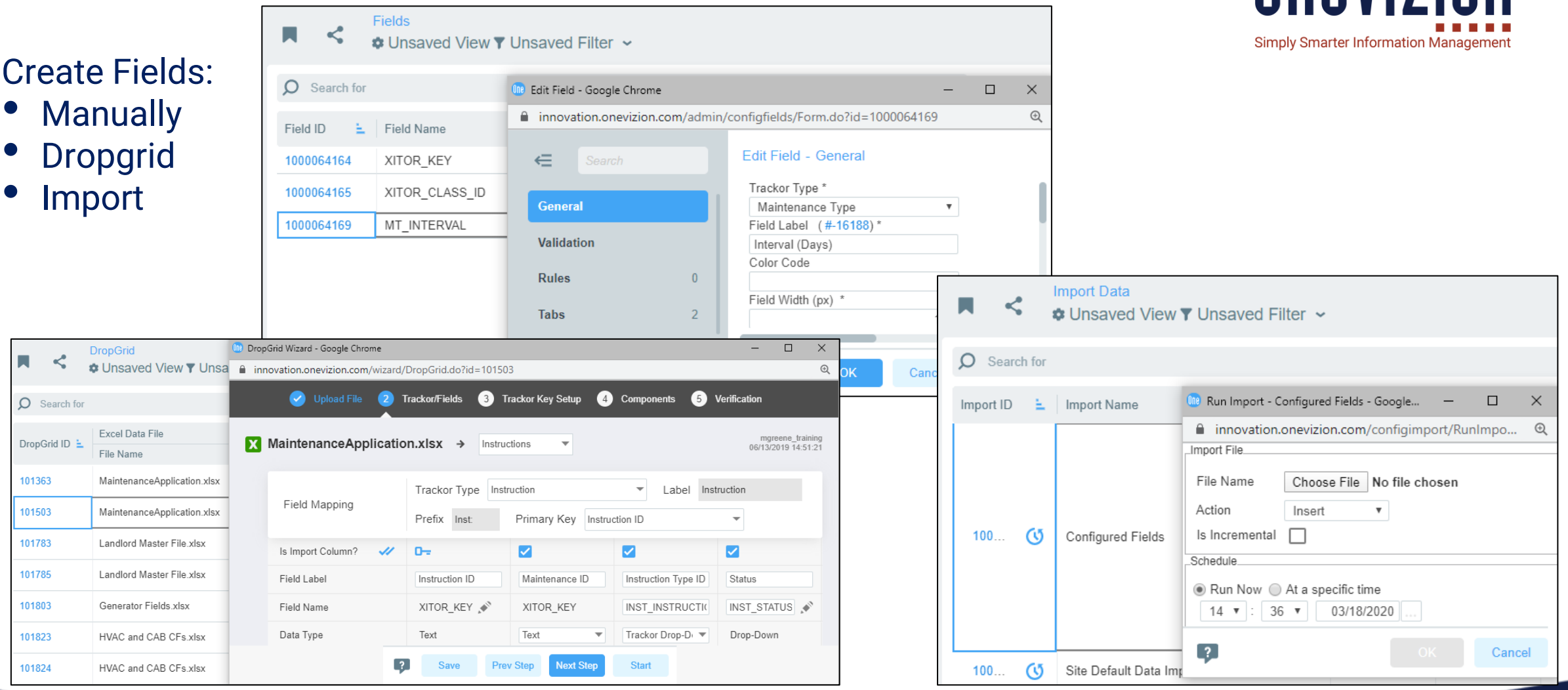
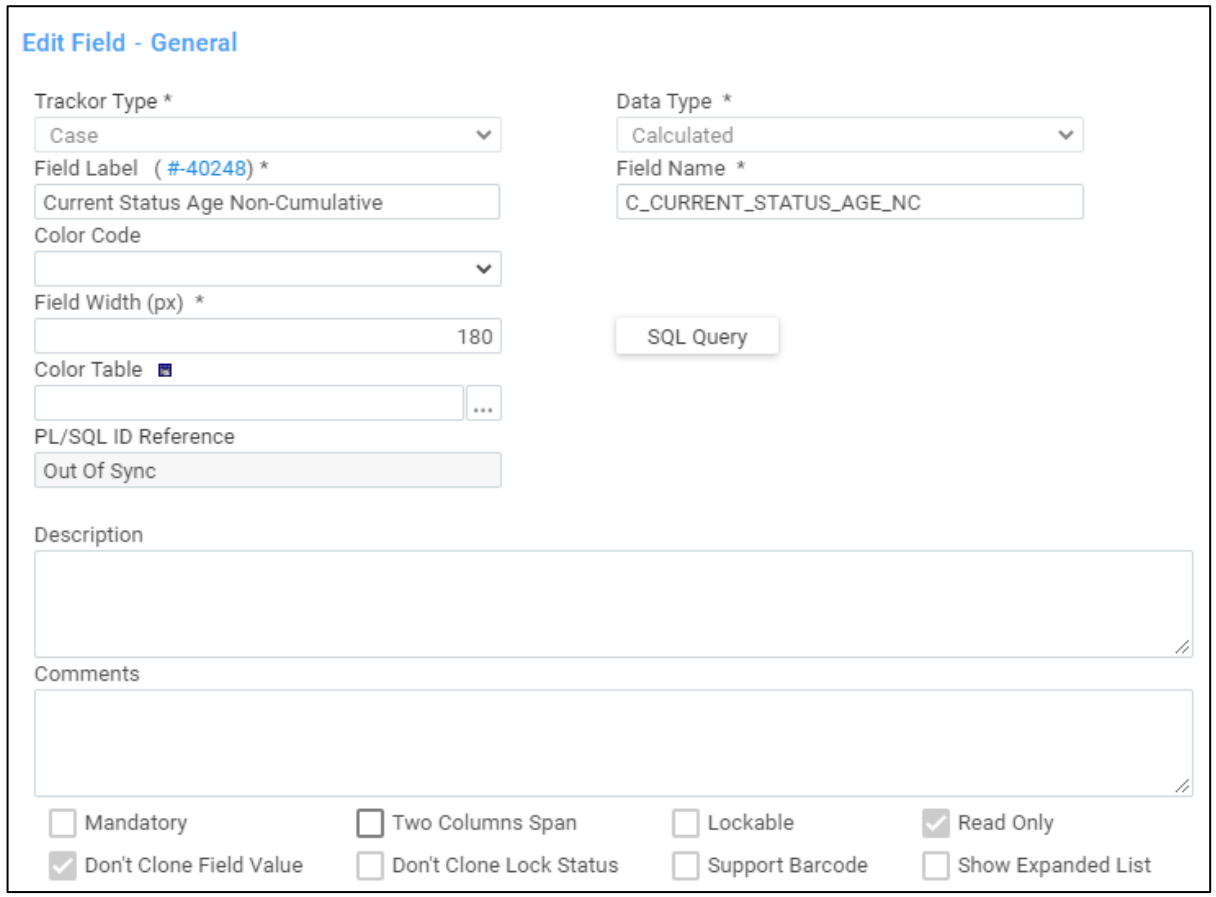
Create Fields:

- Manually
- Dropgrid
- Import



Create Fields - Manually



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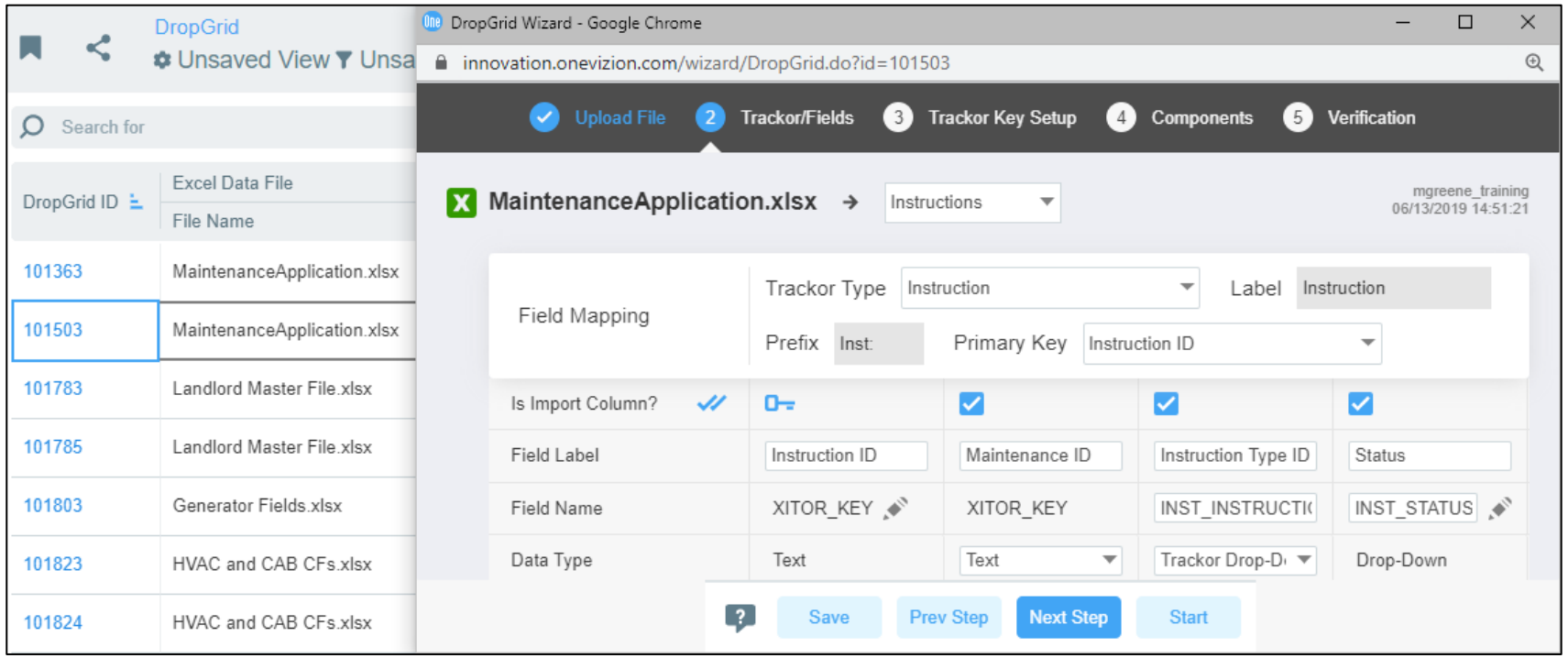
Notes:

- A default Field Name is created based on the Trackor Type's prefix and the label you type in.
- Field Names should be kept to 30 characters or less for some features.
- Different Attributes of the Field are displayed based on the Data Type selected.

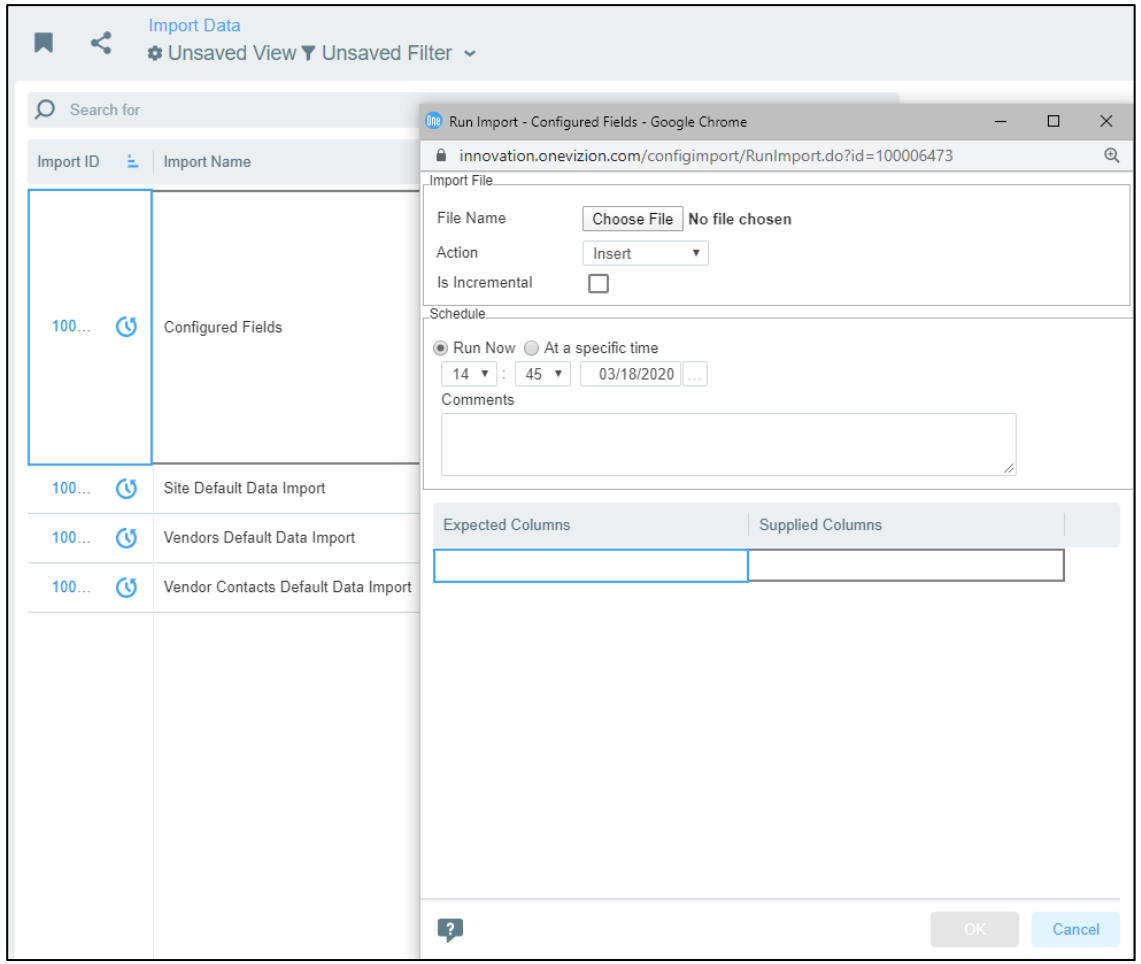
Create Fields - Dropgrid



Notes:

- Will scan the excel sheet to attempt to generate field labels, names and data types based on the sheet.
- These defaults can be adjusted if needed.
- Dropdown fields will be populated with values from the field.
- A General Tab will be created along with a View.
- An Import will be created, and the data will be imported if desired.

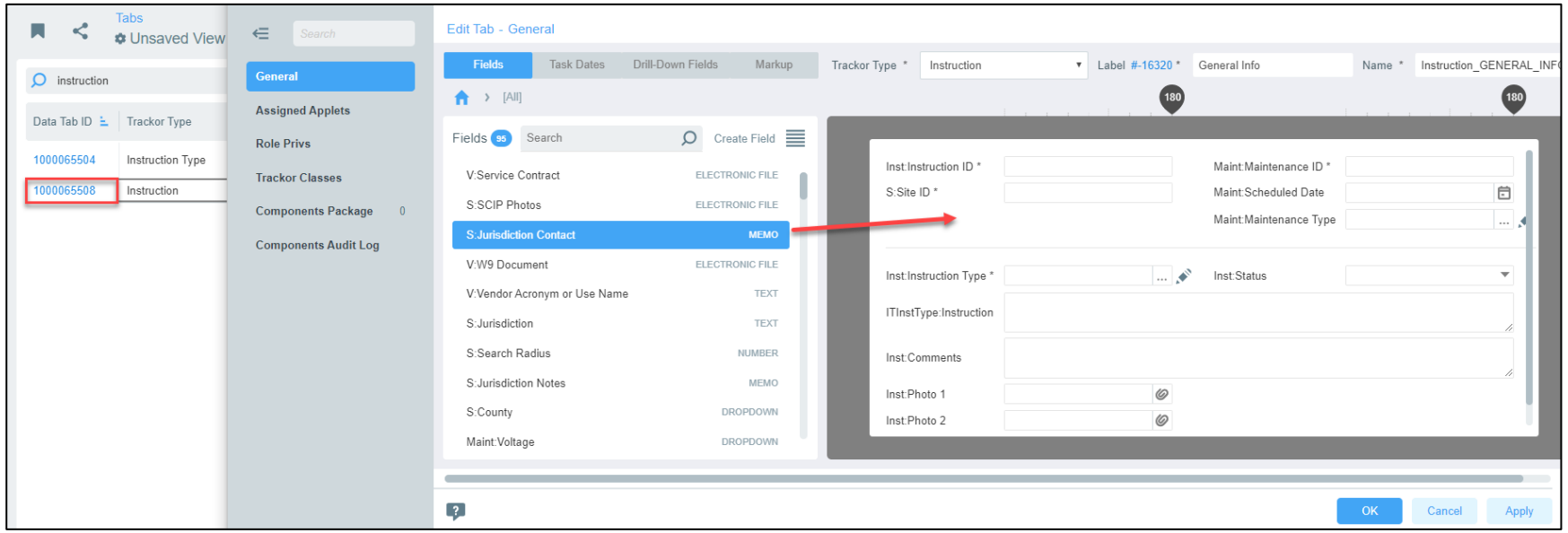
Create Fields - Import



Notes:

- Uses a CSV file.
- Columns for the file are the same as generated by an **Export** from the **Fields** page.
- Requires columns for Trackor Type, Label Text, and Data Type

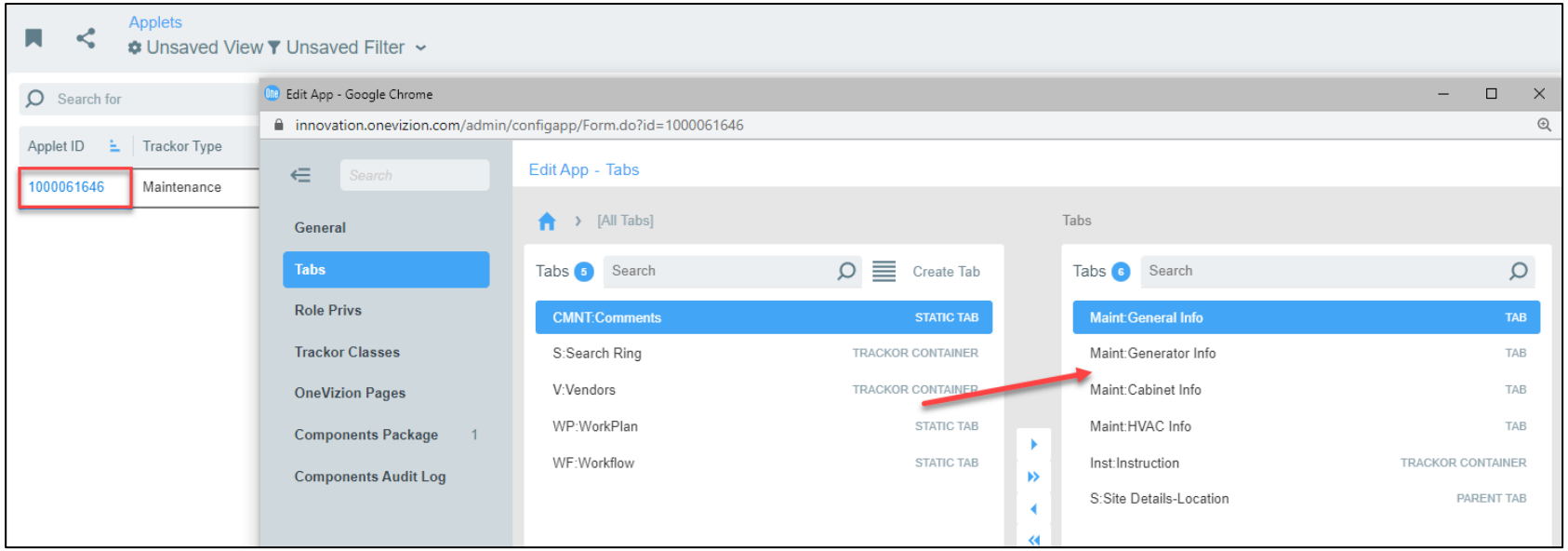
Assign Fields to Tabs



Notes:

- Drag fields from left side list into position on the right side
- Markup tab gives labels and dividers for better visibility
- Fields can also be repositioned on the tab form by dragging and dropping.
- Fields from related Trackor Types can also be used.
- New Fields can also be created

Assign Tabs to Applets



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Notes:

- Drag any needed Tabs from left to the right side.
- Can add drill down tabs for Child or Parent Trackor Types.

Site Maintenance app:

- The ***Maintenance*** trackor needs Access to its ***Instruction*** children.
- Same for the matching ***Maintenance Type*** and ***Instruction Type*** pairing.
- Also, the ***Site*** trackor needs visibility to its ***Maintenance*** sessions.

Building Automations

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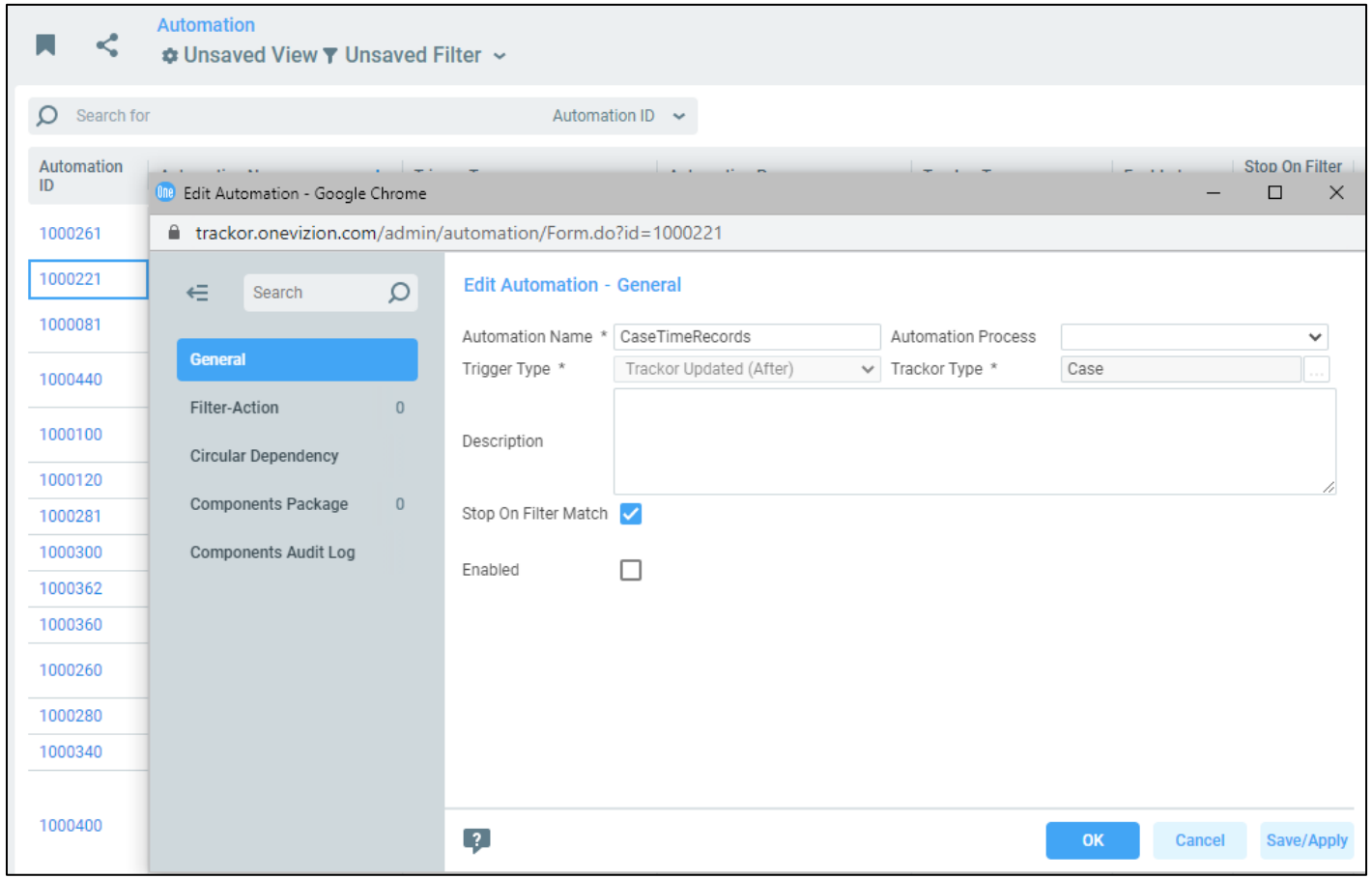
Automation Trackor



Automations provide a way for Business users to set up triggers, filters, and actions without having to use SQL code to build Rules.

An Automation is a set of **ordered Filter-Actions** that is controlled by **Triggers** on a specific Trackor Type.

Below are some of the key terms and capability of Automations:

- **Trigger Type** – Defines *when or the type of Event* in the system that will trigger the Automation. This is similar to the Rule Types in the platform. Currently, below Trigger types are supported:
  - Field Updated (After)
  - Task Date Updated (After)
  - Trackor Created (After)
  - Trackor Created/Updated (After)
  - Trackor Updated (After)
  - Trackor Deleted (Before)
- **Trackor Type** – Defines *what type of records* will be affected by the Automation. For instance, if Trigger Type is 'After Trackor Created' and Trackor Type is 'Job', the current Automation will get triggered every time a new Job record is created.
- **Stop on Filter Match** - This option allows an Automation to stop executing the ordered set of Filter-Actions, when a particular Filter-Action condition is met and executed, instead of processing the remaining Filter-Actions.
- **Enabled** - Entire Automation can be enabled or disabled with this checkbox.
- **Filter-Action**
  - **Filter** – Defines the *actual records* that will be affected by the Automation. Conditions that need to be validated for Automation's Action to take place. This is similar to using a filter in a Trackor Browser grid. The Automation Filter can be used similar to setting a Grid Filter – the conditions in the Filter (Advanced Filter logic is also available) will have to be met (should evaluated to True) for a Trackor/record in order for the Automation Action to occur.
  - **Action:**
    - **Action Type** – Defines the type of Action that will be performed when Automation is triggered and validated. Currently 'Field Update', 'Task Date Update', 'Error Message', 'Field Lock-Unlock', and 'Field Set Color' are supported. For example, if the current Automation has an Action Type of 'Field Update', every time a Job record is created, a configured field will be updated
    - **Order Number** – Defines the order in which the Filter-Action will be executed within the Automation. A lower-order number means the Action will be executed earlier. When no order number is present it will be executed at the end. If multiple Filter-Actions exist with same order, execution order will be random.
    - **Enabled** - An action can be enabled/disabled for testing purposes
    - **Target Field** - The Field that will be updated in the Action.
    - **Action Mode** – A mechanism to set a 'Constant Value' or a value calculated by a 'Formula' or SQL code to a field. Currently, we support only one Action per Automation.
    - **Target Value** - The value that will be assigned to Target Field
    - **Formula, Trackor Types** - Formula can be used to enter PL/SQL code that can be used on selected Trackor Types. These fields are available when 'Formula' option is selected in Action Mode
- **Circular Dependency** - this tab in an Automation shows if there are any instances of circular dependencies between Automations which could cause an endless loop.
- **Automations tab in Configured Fields/Tasks** show a list of Automations where (Automation name) the current field/task is being used and how (Action/Filter/Trigger) it is being used.

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For more detailed information on setting up an Automation please refer to the online documentation.

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API Interfaces

trackors Show/Hide | List Operations | Expand Operations

DELETE	/v3/trackor_types/{trackor_type}/trackors	Delete Trackor
GET	/v3/trackor_types/{trackor_type}/trackors	Read Trackor data
GET	/v3/trackors/{trackor_id}	Read Trackor data by Trackor id
GET	/v3/trackors/{trackor_id}/applets/{applet_id}	Read Trackor Applet data
GET	/v3/trackors/{trackor_id}/applets/{applet_id}/tabs/{tab_id}	Read Trackor Tab data
POST	/v3/trackor_types/{trackor_type}/trackors	Create Trackor

Implementation Notes

Creates new trackor. Trackor id and Trackor key of created Trackor will be returned with HTTP 201 status.

Response Class (Status 201)

Trackor Created

Model | Example Value

```
{
  "TRACKOR_ID": "10009732798",
```

Notes:

- Swagger Documentation for all interfaces
- Python wrapper library

Building the User Interface

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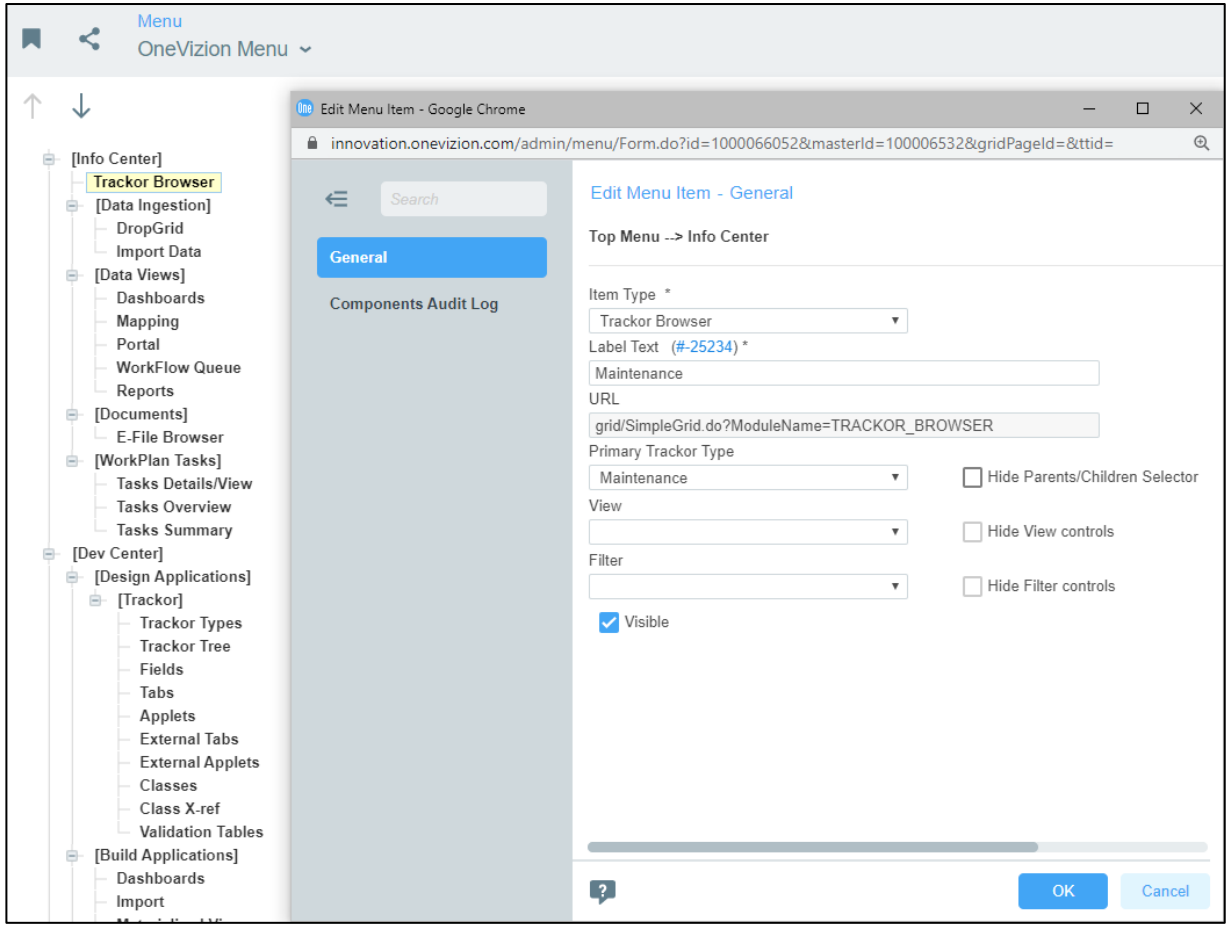
Create Menu Items



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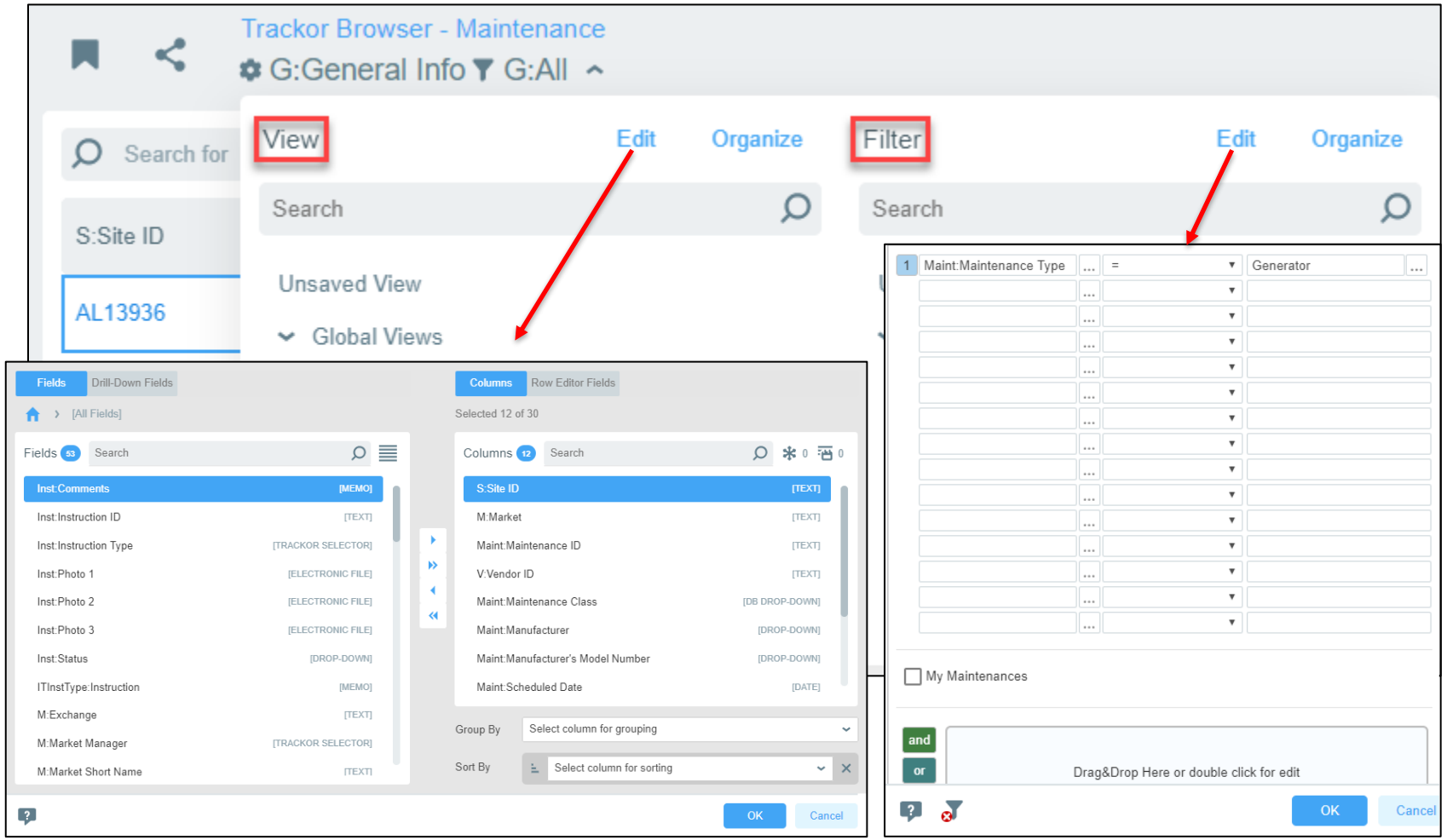
Notes:

- ***Trackor Browser*** links in the menu will give users quick access to the Trackor Types they have access to.
- Different **Menus** can be created for different Roles.

Site Maintenance app:

- Administrators will need access to the ***Maintenance Type*** trackor to setup the templates.
- End Users will only need access to the ***Maintenance*** instances attached to the ***Site***.

Setup View and Filter Options



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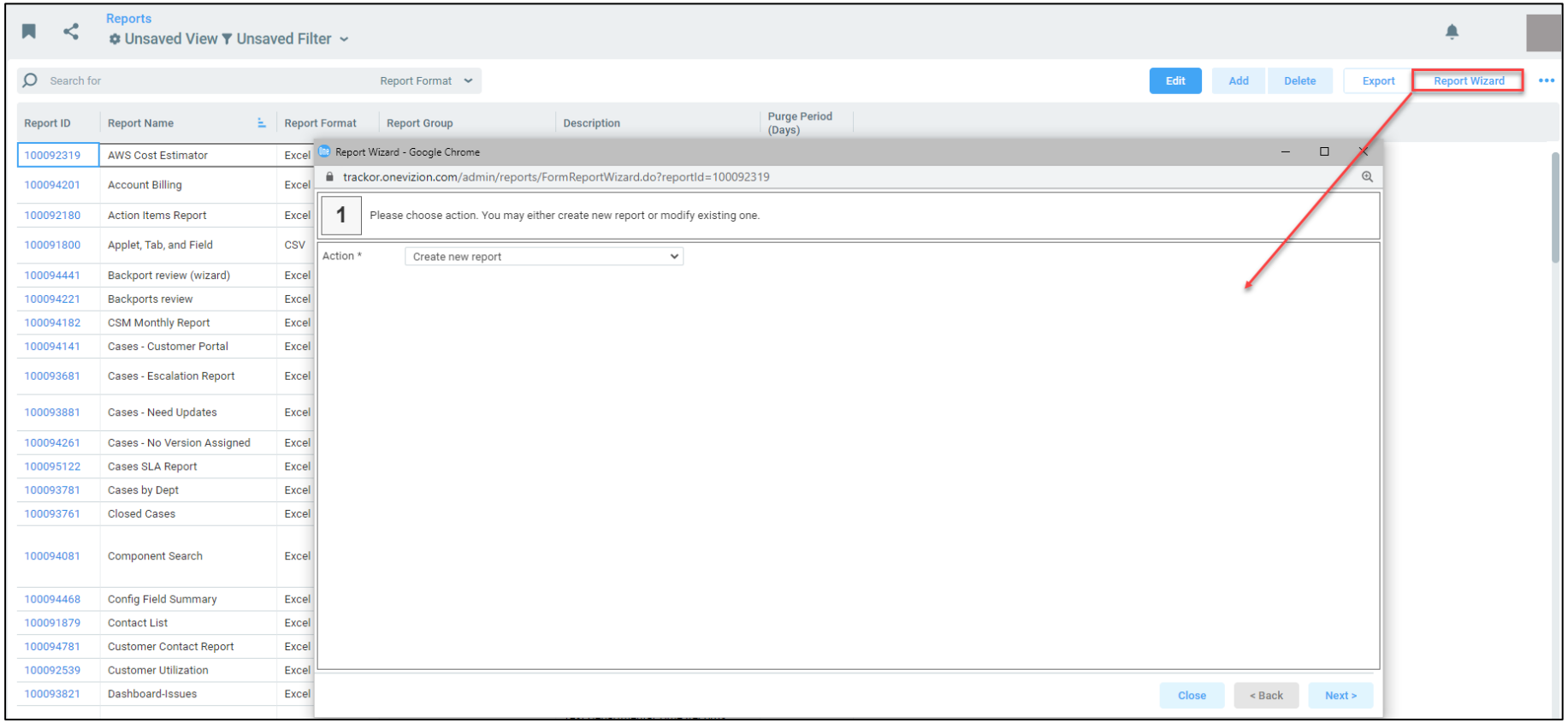
Notes:

- It's best to create a small separate targeted view for each task a user needs to do.
- Global Views and Filters can be assigned out to Security Roles.
- You can use data points from any related Trackor Types, or even Workplan Task Dates.

Reports



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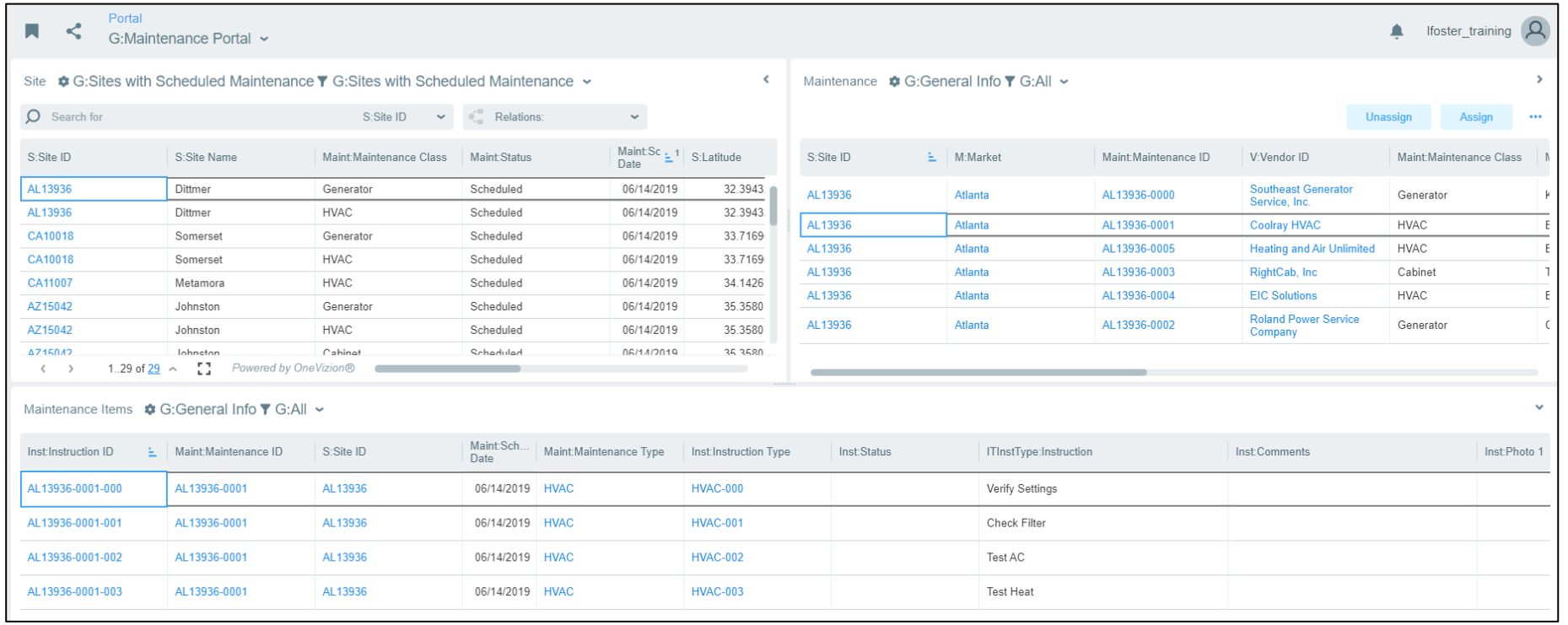
Notes:

- Report Wizard can create an excel report from a View and Filter
- More complex SQL can be written if something more is needed
- Data fills an Excel template, so any charts or graphs can be done via Excel.

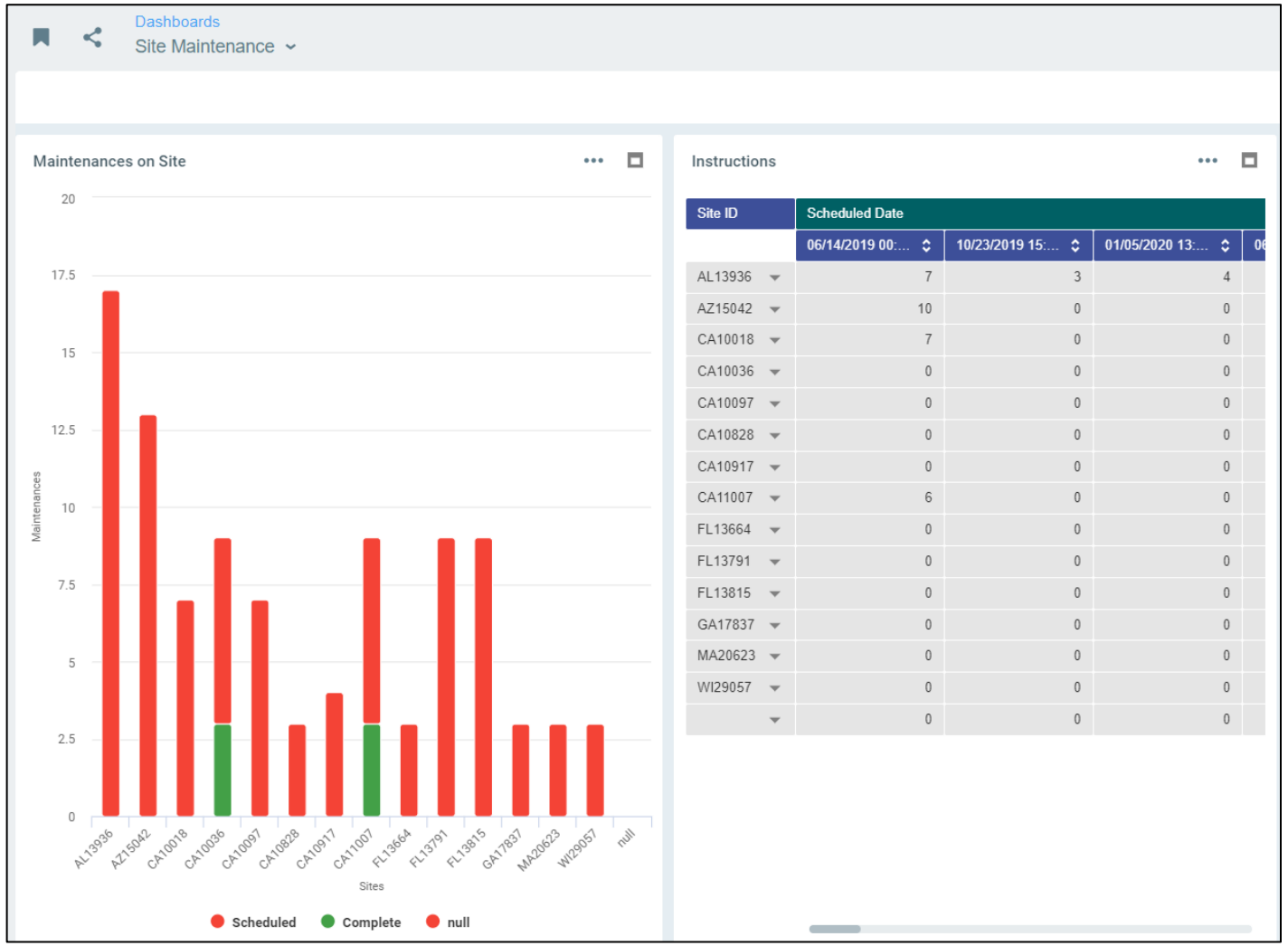
Portals



Notes:

- Can contain Trackor Browser grids, Applets, Dashlets, or Task grids.
- Frames can be automatically filtered based on selections in other frames.
- Great way to group related data together for user input.

Dashboards



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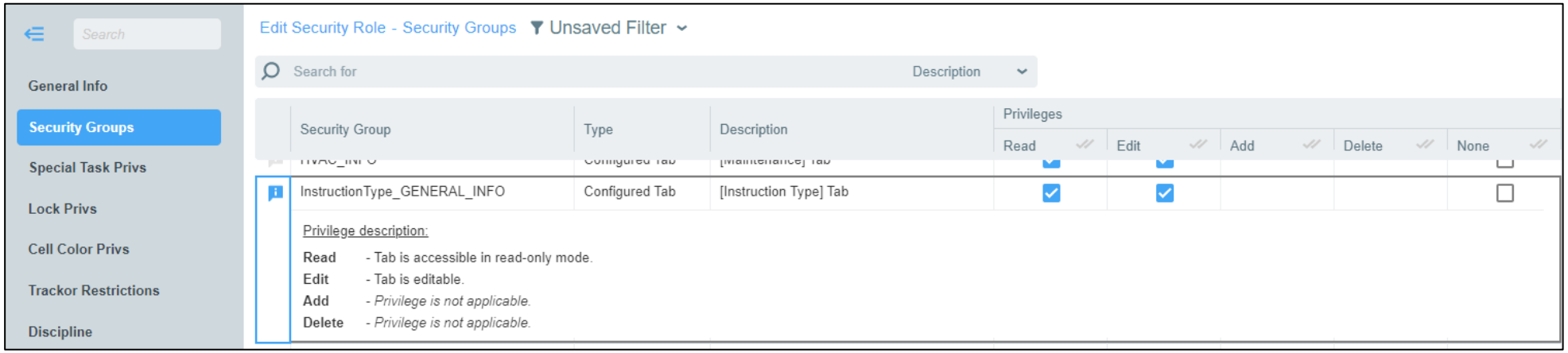
Notes:

- Dashboards are driven by a single SQL query.
- Different Dashlets can slice the data in different ways for different visualizations.
- Dashlets can be bound together for filtering when drilldowns are done.

Security Roles



Notes:

- Security is handled down to the **Tab** level
- Clicking on the flag beside gives a description of what each Privilege does.
- Menus, Global Views and Filters and other things can be assigned to each **Security Role**

Site Maintenance App

- **Maintenance Admin** Role for an Admin to maintain the ***Maintenance Types***
- **Site Maintenance** Role for Users to be able to make new ***Maintenance*** sessions on individual ***Sites***.

OneVizion Documentation

For more information regarding these topics, visit wiki.onevizion.com

Thank You