Feature–*Out of Service assets*

Feature Review

Contents

1 Out of service assets

Plantweb Optics Data Lake v1.7 Feature Review

Feature Name–*Out of service assets*

Reviews are due back to the documentation writer on–*September 10,2021*

Table 1-1: Plantweb Optics Data Lake v1.7 Feature Review Summary

Name	Date Returned	Writer - Review Notes
Garrett Hay Developer	09/06/2021	Comment about multiple schedules for the same asset.
Karel Cordova Lead Tester	09/06/2021	Six comments
(Ric) Enrique Alfio Romero Tester	MM/DD/YYYY	
Alessea Lane Product Manager	MM/DD/YYYY	
Sunita Yogananda Program Manager	MM/DD/YYYY	Required– **No Yes**
Adam S Qiu Staff Technologist	MM/DD/YYYY	Required– **No**
Chris Kasic Techdocs Standards	MM/DD/YYYY	Required– **No**
_____ Product Engineering	MM/DD/YYYY	Required– **No**

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1.1 Out of Service assets introduction

When an asset is removed from production for scheduled maintenance, a planned shutdown, holidays, or variation in usage patterns, it is "out of service." Another term used for this asset is an *ignored* asset. Designating an asset as out of service helps users to avoid unnecessary system-generated messages from temporarily out-of-commission equipment. When you designate an asset as out of service, Plantweb Optics Data Lake no longer creates system-generated messages.

By default, an out of service asset:

- Has its health roll up contributions ignored. Individual asset health is unaffected.

- Is removed from the Unhealthy Asset list within the Plantweb Optics Portal KPI and Dashboard

- No longer generates system messages. Does not affect user messages.

- Prevents the creation of automatic work notifications.

- Displays for all user profiles.

Plantweb Optics Data Lake permits an administrator to designate any asset as out of service. The administrator can:

- Manually change the **Service Information** property for an asset.

- Run a Lua script to change the status of assets.

- Use the DataStudio MassConfig function to change the status of multiple unrelated assets.

- Have a schedule trigger a Lua script to change the status of related assets.

See Related information for details.

You can selectively control out of service assets more effectively using the Plantweb Optics Data Lake DataStudio client. For example, in previous Plantweb Optics software, an out of service asset caused *all* of its child assets to be designated as "out of service." Using the DataStudio client, you can selectively target only the necessary assets (not the child assets). Additionally, you can attach a schedule (start date, end date, and recurrence) to toggle the out of service asset property On and Off.

Related information

Calendar schedules
Change out of service assets
Out of Service assets information

1.2 Calendar schedules

A Plantweb Optics Data Lake calendar schedule triggers actions that affect assets, messages, and the customized logic that changes these entities.

For Plantweb Optics Data Lake, out of service calendars consist of two independent items:

- **Scheduler Item**–The start and end datetimes (timestamps) when an action triggers. A Scheduler item also defines the Recurrence Pattern (frequency), such as weekly, monthly, yearly. You also control how many times you repeat the recurrence pattern.

- **Action Item**–The logic implemented for the chosen out of service assets when the Action item triggers. You can associate an Action item with multiple scheduler items. The actions take place on the **Start** and **End by** datetimes of each Scheduler item.

⚠ **CAUTION**

For out of service assets, the action logic happens only at the Scheduler Item **Start** and **End by** datetimes. This has the following implications:

- When you manually place an asset back "into service" after the **Start** datetime, the schedule cannot take the asset out of service. See Related information for details.

- When you change a Scheduler **Start** datetime *after* it triggers, none of the associated assets are put back into service.

- You must avoid constructing schedules whose **Start** and **End by** datetimes *overlap* other schedules that affect the same assets.

- If multiple schedules refer to the same asset:
  — **Start** datetime–becomes the *earliest* **Start** datetime of the two schedules.

  — **End by** datetime–becomes the *earliest* **End By** datetime of the two schedules.

Action Item logic is where you control the customization. For example, if you want a schedule to automatically set all children assets and the parent asset as Out of Service (previous Plantweb Optics), use the Action item.

Related information

Create a calendar schedule
Change a schedule of out of service assets
Customize how a schedule controls out of service assets
Manually change out of service asset status

1.2.1   Create a calendar schedule

Follow this procedure to create a calendar schedule for out of service assets using Plantweb Optics Data Lake DataStudio. These steps link the created scheduler item to the action logic.

Note
Later, you can manually change the schedule by selecting the Schedule name and using the **Object Properties** panel to edit the `Schedule > Pattern` properties.

Prerequisites

- Start Plantweb Optics Data Lake DataStudio.

- Click the **ISA-95 Equipment Model** bottom tab to determine the asset paths, such as, `'/Enterprise/Site/Logical Asset 1'`, Asset 2, etc.

- Click the **I/O Model** tab (bottom of the model) to determine where to store the created schedule.

Procedure

1. In the **I/O Model**, open the tree to display `System > Core > Schedules`.

2. Right-click on `Schedules` and use the **Admin → New → Data Processing → Scheduler Item** to display the **Create Scheduler Item** wizard.

3. Enter the **Scheduler Item** name, for example, `Scheduled Maintenance`.

4. Click **Next**.

5. Enter the **Scheduler Item** properties.

   a) Select the **Recurrence Pattern**, such as `Weekly`, **Monthly,** or `Yearly`.

   b) For the specific **Recurrence Pattern**, select the number of times to repeat the schedule.

   c) Using the clock and calendar widgets, select the **Start** datetime.

   d) Using the clock and calendar widgets, select the **End by** datetime. When this datetime is left blank, DataStudio assumes the **End by** date is indefinite.

   e) Click **Next**.

6. Click **Create**.

7. Create an **Action Item**. You have these options available.

   • **Default**—Select the `_ignored_schedules` item. The item is part of the Plantweb Optics Data Lake installation. You can find the item using the `I/O Model > System > Core > OpticsInternal > _ignored_schedules` path.

   • **Custom**—Select your own **Action Item**. Custom Action Items do not display in Plantweb Optics Portal.

8. Link the **Scheduler Item** to the **Action Item**.
   For example, drag the Scheduler Item (ISA-95 Model > `System > Core > Schedules > Scheduled Maintenance`) to the Action Item (I/O Model > `System > Core > OpticsInternal > _ignored_schedules`).

9. Provide an object reference name that connects `Scheduled Maintenance` to `_ignore_schedules`. For example, `Reference1`.

10. Select the **Triggering Link** check box and click **OK**.

11. Use MassConfig or Lua scripting to add all other schedules (under the `Core > Schedules`) to each asset you want as out of service. Make a reference from each schedule to the asset `_ignore_schedules` child variable.
    Each asset `_ignored_schedules` variable should display a **Passive Link** (**Object Properties** panel) that points to the schedule, for example `/System/Core/ Schedules/Scheduled Maintenance`.

Postrequisites

For any asset that does not have an `_ignore_schedules` child variable, one should be added manually or using a Lua script. See Related information for details.

Related information

[Change a schedule of out of service assets](#)

1.2.2 Change a schedule of out of service assets

Change a schedule's list of out of service assets, using a Lua script to add the assets to the named schedule.

```lua
-- Get the Schedule name and all assets you want as out of
service
local schedule = '/System/Core/Schedules/Scheduled Maintenance'
local list_of_assets = {
    '/Enterprise/Site/Logical Asset 1',
    '/Enterprise/Site/Logical Asset 2'
}

-- Add schedule to the list of assets
for _, asset_path in ipairs(list_of_assets) do

  -- Get the existing list of asset references (if it exists)
  local asset_sch_path = asset_path..'/_ignore_schedules'
  local asset_sch = syslib.getobject(asset_sch_path)
  local ref_list = {}
  if asset_sch ~= nil then
    ref_list = asset_sch.refs
  end

  -- Add new schedule to reference list
  table.insert(ref_list,{
    path = schedule,
    type = 'OBJECT_LINK_PASSIVE'
  })

  -- Update or create asset "_ignore_schedules" variable with
new Schedule
  syslib.mass({{
    class = syslib.model.classes.Variable,
    operation = syslib.model.codes.MassOp.UPSERT,
    path = asset_sch_path,
    ["ObjectName"] = "_ignore_schedules",
    references = ref_list
  }})
end
```

Prerequisites

- Determine the logical asset paths shown in the ISA-95 Equipment Model for your assets.

- Open the **Script Editor** and paste the example Lua script. See Related information for details about the basic steps to use the Lua script editor.

Procedure

1. Insert the path (`/Enterprise/Site/...`) corresponding to your ISA-95 Equipment Model logical assets in the *list_of_assets* variable.

2. Insert the path (`/System/Core/Schedules/...`) to the desired schedule in the I/O Model for the *schedule* variable.

3. Run the Lua script.

Related information

DataStudio - Lua scripting

1.3 Change out of service assets

The Plantweb Optics Data Lake DataStudio provides you with several ways to change the status of an asset from active to out of service. You can:

- Manually change the **Service Information** property for an asset.

- Run a Lua script to change the status of several assets.

- Use the DataStudio MassConfig to change the status of multiple assets.

- Have a schedule trigger a Lua script to change the status of related assets.

- Return assets to service.

For information about using Lua scripting and MassConfig, first access the *Plantweb Optics Data Lake Help*, with the Emerson Guardian link: System Docs or press the [**Shift + F1**] key to display the DataStudio help copied during your Plantweb Optics Data Lake installation. Then,

- Select the **Getting Started** menu > **Jump Starts** item > *Using Lua Scripting* topic to get an introduction to Lua scripting and see some examples.

- Select the **Getting Started** menu > **System Docs** item > *Lua Scripting* topic to get additional in-depth information about the Lua scripting engine.

- Select the **APIs** menu > **Lua** item > *Lua API* topic to reference Lua library functions and methods to access Plantweb Optics Data Lake objects.

- Select the **User Interfaces** menu > **DataStudio** item > *Display Hands On* topic > *Working with MassConfig* subtopic to create, delete, and change multiple objects in Plantweb Optics Data Lake.

Related information

Manually change out of service asset status
Use Lua script to change out of service asset status
Customize how a schedule controls out of service assets
Return assets to service

1.3.1 Manually change out of service asset status

With Plantweb Optics Data Lake DataStudio you can directly display and change asset settings. Change the asset object property called **Out of Service** by selecting the check box. See Related information for details about the asset **Object Properties** panel.

Prerequisites

- You started Plantweb Optics Data Lake DataStudio.

- You are connected to the Plantweb Optics Data Lake that stores tree hierarchy that reflects the logical organization of your assets.

Procedure

1. At the bottom of the model display panel, click the **ISA-95 Equipment Model** tab.

2. Expand the asset tree until you find your asset.

3. Select the asset and display its **Object Properties** on the right side of the DataStudio window.

   The **Object Properties Panel** is by default shown on the right hand side of DataStudio. It shows all properties of the currently selected object. Objects can be selected in any panel in DataStudio and then display in the **Object Properties Panel**.

4. Scroll in the **Object Properties Panel** and expand the **Service Information** section.

5. Within **Service Information** area, the **Out of Service** property is a check box.

6. Select the **Out of Service** check box to decommission the asset.

7. Click **Apply**.

Related information

DataStudio - Object Properties panel

1.3.2   Use Lua script to change out of service asset status

Scripts are generally attached to objects that exist in the different models of Plantweb Optics Data Lake. You can use a Lua script to change an asset Out of Service property value.

```
-- Set whether you want the asset to out of service (true) or not
local new_outservice_status = true
-- Enter the absolute path to the logical asset
local asset_path = '/Enterprise/Site/Logical Asset 1'
-- Send the updated properties values back to the asset
syslib.setvalue( asset_path..'.ServiceInfo.OutOfService',
new_outservice_status)
```

Prerequisites

• Determine the logical asset path shown in the **ISA-95 Equipment Model** for the asset.

• You have opened the Lua Script Body Editor and place the example Lua script into the script editor. See Related information for details about the basic steps to use the script editor.

Procedure

1. Set the *new_outservice_status* to a value of `true` or `false`.

2. Insert the path (`/Enterprise/Site...`) corresponding to your ISA-95 Equipment Model asset in the *local_asset_path*.

3. Run the Lua script.

Related information

DataStudio - Lua scripting

1.3.3   Customize how a schedule controls out of service assets

Because a schedule item triggers an independent action item, the action item can do more than just change an asset property. This procedure shows how a Lua script can be used to customize which assets are designated as *out of service*. For this example the Lua script can find all child assets of a parent asset, then designate the child assets as out of service.

Prerequisites

- You started Plantweb Optics Data Lake DataStudio.

- You created a schedule that references the standard Action item named `_ignored_schedules`. The action item exists in the **I/O Model** (`System > Core > OpticsInternal`).

- You copied the following Lua script to the Windows clipboard.

Lua Script that customizes out of service functionality

```lua
local Catalog = require 'esi-catalog'

-- This function finds all children of an asset
local function get_descendents(asset)
  return Catalog:FIND({"ObjPath", "ObjType"},
    {asset.path .. "/%", syslib.model.classes.Asset},
    {"LIKE", "IS"})
end

-- This function changes the out of service property for a list
of given assets
local function ignore_assets(assets_list)
    -- For each asset in the asset list update their ignore
property
    for _, asset in ipairs(assets_list) do
        syslib.setvalue(asset.path..'.ServiceInfo.OutOfService',
true)
    end
end

local calendars = syslib.getreferences(syslib.getselfpath())

-- For each schedule,  check to see if a schedule out of service
date occurred
for _,calendar in ipairs(calendars) do
  if syslib.getvalue(calendar.path) == true then

    -- Get a list of all parent assets that you want to set
explicitly as out of service
    local assets = syslib.getreferences(calendar.path)
    for loc,asset in ipairs(assets) do assets[asset.path] = loc
end

    -- Add all children of the assets to the list of assets
    for _, asset in ipairs(syslib.getreferences(calendar.path))
do
      for loc,descendent in ipairs(get_descendents(asset)) do

        -- Don't add assets repeatedly
```

```
            if assets[descendent:path()] == nil then
              table.insert(assets,{path = descendent:path()})
              assets[descendent:path()] = #assets
            end
        end
      end
      -- Update all assets to be ignored
      ignore_assets(assets)
   end
 end
```

These steps show you how to associate the Lua script to an action item. When the schedule **Start** time triggers the action item, the script implements the custom logic. In this example, the script sets all child assets belonging to the current asset as out of service. See Related information for details about how the Action Item links to a schedule.

Procedure

1. Select the `_ignored_schedules` action item.
    The **Object Properties** pane displays on the right side of the browser window.

2. In the **Object Properties** pane, expand the **Common** properties control (downward triangle).

3. On the right side of the Lua Script Body property, click the ellipses button.

4. In the **ScriptEditor (ignored_schedules)** pane, click the clipboard icon to paste the Lua script.

5. Click **OK** in the editor to attach the script to the action item.

6. Click **Apply** in the **Object Properties** pane to use the customized functionality.

Related information

Change a schedule of out of service assets

1.3.4   Return assets to service

To restore assets to service, you only need to clear the asset **Out of Service** property check box. See Related information for details.

This procedure covers the following situations:

*   An unscheduled out of service asset.

*   A scheduled out of service asset for which the schedule has started.

*   A scheduled out of service asset and the current time is not within the schedule's range.

Procedure

1. Select the asset in the ISA-95 Equipment Model.
    This displays the asset **Object Properties** on the right side of the DataStudio window.

2. Scroll down the **Object Properties Panel** and expand the **Service Information** section.

3. Clear the **Out of Service** check box.

1.4 Out of Service assets information

The **Out of Service Assets** report lists all out of service assets and the schedules that define when selected assets are not in service.

You display all the out of service assets for:

- The **Current** schedule.

- Only a single Schedule.

This report also contains an **Export CSV** button. When you click it, Plantweb Optics Portal creates a comma-separated value `*.csv` file (spreadsheet).

The report and the spreadsheet file contain the following out of service information:

- **Asset Name**

- **Asset Description**

- **Asset Path**–The asset path in the logical **ISA-95 Equipment Model**. For example, `/Enterprise/Austin Site/Emerson Crude Refinery/Process Cell/Unit Name/...`

- **Schedule Name**

- **Schedule Start Date** (Timestamp)

- **Schedule End Date** (Timestamp)

Note
If the **Start Date** or **End Date** column value is blank , the asset was manually taken out of service and is not tied to any schedule. See Related information for details.

1.4.1 Display Out of Service assets report

In the Plantweb Optics Portal **Dashboard**, click the **Reports** (clipboard) icon to view the **Out of Service Assets** report, along with the created calendar schedules.

Prerequisites

- You started the Plantweb Optics Portal in your browser.

- You have navigated to the **Dashboard** display.

Procedure

1. Click the **Reports** (clipboard) icon or tile on the left side of the browser.

The **Reports** page displays several reports.

2. Under the **Reports** column, click the **Out of Service Assets** report.
   The defined Schedules display across the top of the report. By default, the report lists all the scheduled and unscheduled out of service assets.

Figure 1-1: Out of Service Assets Report - Currently defined
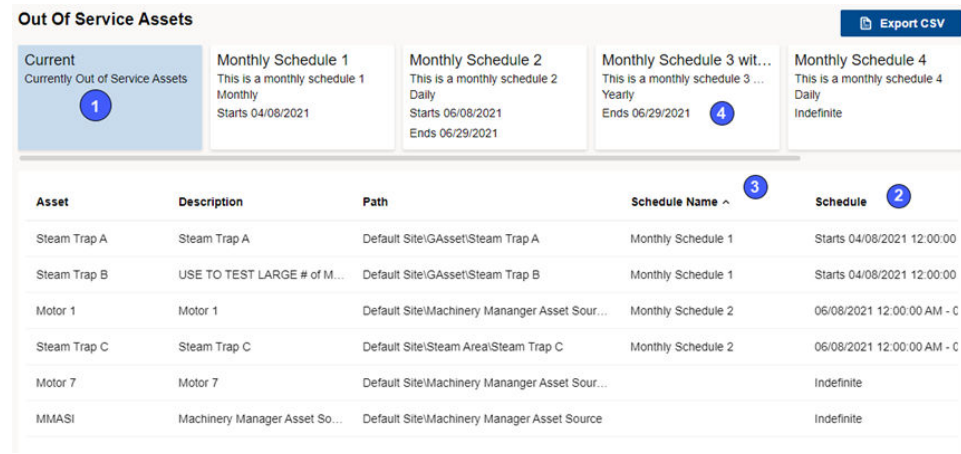
1	**Current**-Displays all scheduled and unscheduled out of service assets. A missing **Schedule Name** denotes an asset manually taken out of service, that has an indefinite start and end date.
2	Displays the start date and time. If an End Date is specified for the schedule, the end date and time displays.
3	Any column can be sorted in ascending or descending sequence. Ascending sort is denoted by an upward caret (∧) and descending sort sequence is denoted by downward caret.
4	Click any schedule (not **Current**) to display assets assigned to this schedule.

3. Click one of the schedule names to restrict the report to only the out of service assets defined for that schedule.

Figure 1-2: Out of Assets Report - Single Schedule
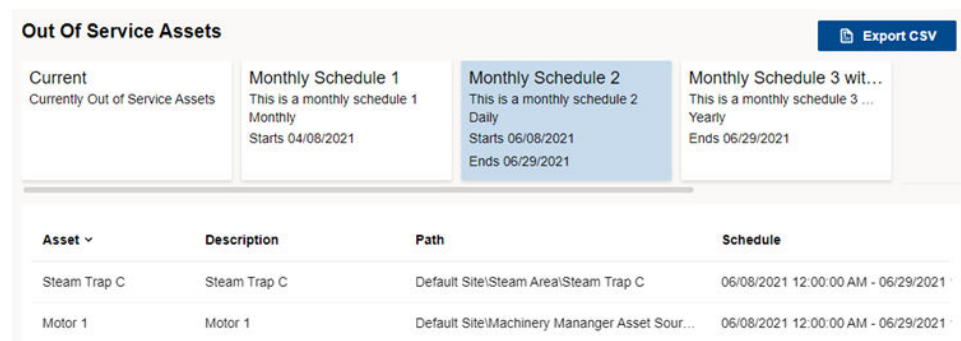
1.4.2 Export out of service assets to csv file

Export the Out of Service Assets information to a spreadsheet (`*.csv`) file.

Prerequisites

You have out of service assets that were:

- Taken manually out of service.

- Set up to be removed from service according to a schedule.

- Taken out of service with a script based upon their relationship to a parent asset.

See Related information for details.

Procedure

1. Navigate to the **Dashboard** display in Plantweb Optics Portal.

2. Click the **Reports** (clipboard) icon or tile on the left side of the browser.
   The **Reports** page displays the predefined reports.

3. Select one of the predefined reports under the **Reports** column.

4. For the **Out of Service Assets** report, select the schedule for which you want to export assets. **Current** (schedule) denotes a summary of all out-of-service assets.

5. Click the **Export CSV** button. Plantweb Optics Portal creates a comma-separated value `*.csv` file (spreadsheet).

The spreadsheet file is downloaded to your local machine and contains the following information:

- Asset Name

- Asset Description

- Asset Path–The asset path in the logical **ISA-95 Equipment Model**. For example, `/Enterprise/Austin Site/Emerson Crude Refinery/Process Cell/Unit Name/...`

- Schedule Name

- Start Date (Timestamp)

- End Date (Timestamp)

Related information

Manually change out of service asset status
Create a calendar schedule
Use Lua script to change out of service asset status

1.5 DataStudio basics

Some basic operations in Plantweb Optics Data Lake DataStudio.

1.5.1   DataStudio - Object Properties panel

DataStudio provides every object with a set of properties that can be set manually, using a script, or with MassConfig. The Object Properties Panel displays by default on the right side of the DataStudio window. It shows all properties of the currently *selected* object. Objects can be selected ina ny panel in DataStudio and are shown in the Object Properties Panel.

Figure 1-3: Object Properties panel
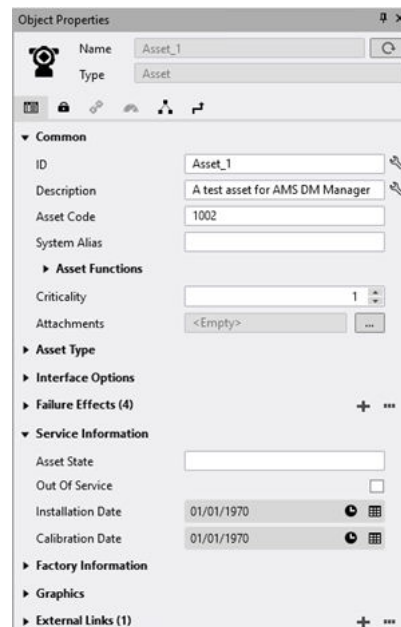
In the top section you can press a Refresh button (**circular arrows**) that retrieves all object properties from the Core server for the object displayed in the panel. When your cursor hovers over the top section a plus (+) displays beside the object icon. Clicking the icon displays the advanced header properties. Here you can see the **Item Path** that would be referenced in a Lua scripts or MassConfig sheet.

1.5.2   DataStudio - Model Trees and Paths

Model Trees

For Plantweb Optics Data Lake DataStudio all database information is expressed as objects in different hierarchies. Most Plantweb Optics Data Lake users will reference the:

- **I/O Model**–A hierarchical representation of the physical infrastructure of Plantweb Optics Data Lake (including data sources) that uses a tree structure made up of different objects.

- **ISA-95 Equipment Model**–An ANSI international standard used globally across industrial sectors to develop automated interfaces between enterprise and control systems. The model helps you to create an equipment model that matches the hierarchy model described in the ISA-95 standard and map measurements associated with assets to items in the DataStudio I/O model.

Figure 1-4: Plantweb Optics Data Lake Models
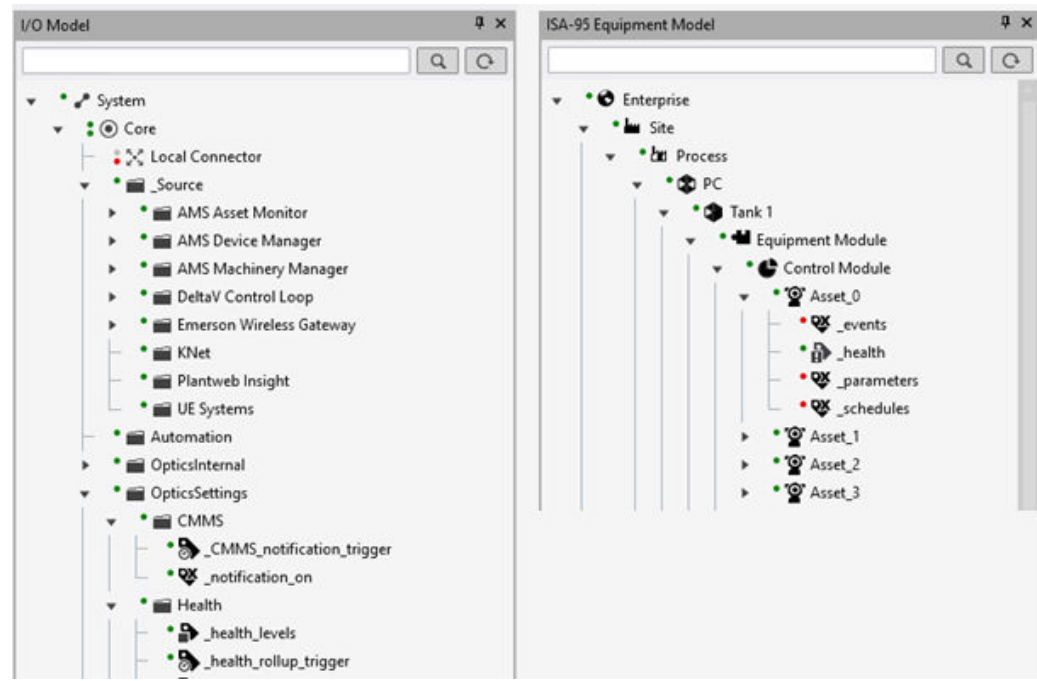
Relating Objects to Each Other

You can complete many operations in DataStudio using a simple drag-and-drop with the mouse. For example, when adding model objects to a display or generating references between model objects. When dragging an object the mouse cursor can changes to either a *hand* or a *cross* icon. The hand cursor ( ) indicates a supported operation at this location in the model, the cross ( ) indicates you cannot perform this operation.

Paths

Model trees show objects of the particular model in a strictly hierarchical way. The hierarchy of the tree in relation to an object defines a series of different levels, similar to the folder structure of a computer filing system. Just as a file path defines the location of a file in its tree structure, a path defines the location of an object within a DataStudio model.

For the two models most Plantweb Optics Data Lake users interact with, a example path would look like:

- **I/O Model**–`/System/Core/Schedules/Scheduled Maintenance`.

- **ISA-95 Equipment Model**–`/Enterprise/Site/Logical Asset 2`.

1.5.3   DataStudio - Lua scripting

This procedure describes basic access to the Lua Script Editor and its controls.

Prerequisites

Access the Plantweb Optics Data Lake DataStudio using your browser.

In DataStudio, you can create and mange your Lua scripts. Select the **Getting Started** menu > **Jump Starts** item > *Using Lua Scripting* topic to get an introduction to Lua scripting and see some examples.

Figure 1-5: Script Editing Features
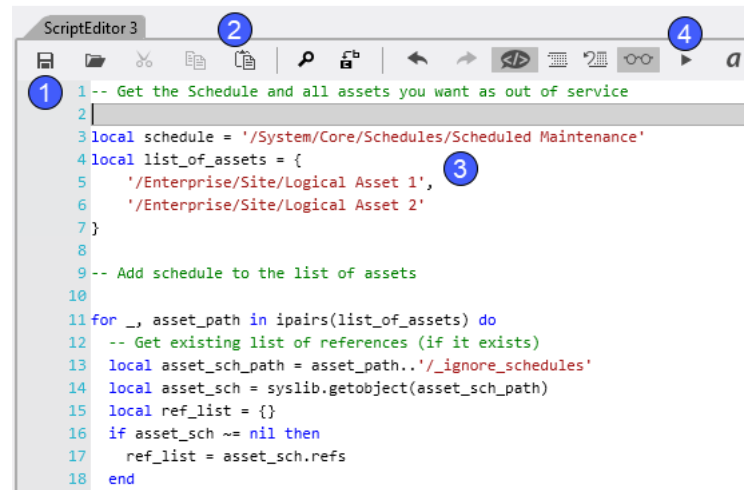
1	Save script to a local computer.
2	Paste script from clipboard into the Script Editor.
3	References to assets and objects using model tree paths.
4	Run script to test.

Procedure

1. Display the Script Editor using one of the stated procedures.
   - DataStudio menus–Select the **Open → Script Editor** .
   - Press the [**Ctrl + U**] shortcut keys.
   - At any **Object Properties** panel–Select **Common** Properties > select the **Lua Script Body >** click the ellipses button.

2. You can create a Lua script multiple ways. The most common choices are:
   - Type the script directly into the **Script Editor** tabbed pane. Note the double hyphen used to identify comments.
   - Use your favorite text editor to build the script, copy it to the clipboard, and paste it into the **Script Editor** tab.

3. Reference objects in the model tree. The tree path to an object provides a reference link between objects. For example, a schedule (Scheduled Maintenance) can reference one or more plant assets (Logical Assets 1 and 2) and an Action Item to perform the logic (take assets out of service). See Related information for details.

4. Test run the script to verify correct operation.

Postrequisites

You can save your script to your local computer or save it in a Data Studio script library. Select the **Getting Started** menu > **System Docs** item > *Lua Scripting* topic to get additional in-depth information about the Lua scripting engine.

Related information

Use Lua script to change out of service asset status

Customize how a schedule controls out of service assets

DataStudio - Model Trees and Paths

Glossary

action item

The Optics Data Lake container for the logic (out-of-the-box or custom) that is implemented.

bulk edit

A Plantweb Optics Data Lake DataStudio function (MassConfig) that provides users a method to change multiple objects using a spreadsheet . To use this feature, you:

1. Export a collection of assets or CMMS objects using the `.csv` (comma-separated values) file format.

2. Make all desired changes with a program that manipulates `.csv` formatted files.

3. Import the updated `.csv` file back into the Optics Data Lake repository.

context menus

Context menus display automatically by right-clicking on items within the DataStudio models. DataStudio offers context menus in many application window areas and provides functions related to the selected item (like, asset). Context menus can be simple (small number of actions or functions), or they can be large and nested. Disabled menu items define functions of the selected item that are unvailable at that time.

I/O Model

Previously known as the *Network Hierarchy*. This model display's the asset's static physical devices and device parameters. The I/O Model contains such objects as Scheduler Items and Action Items. The I/O system tree comprises all classes required for managing external data sources and persistent data storage, including Time Series plus the Alarms and Events Historization. See *ISA-95 Model* for details about the asset logical view and making changes to an asset.

ignored assets

Also referred to as *out of service* assets. The **Out of Service Assets** report shows the current schedules and the out of service assets. You can also export ignored asset information as a `*.csv` file (spreadsheet).

ISA-95 Model

Previously referred to as the *Logical Hierarchy*. The model helps you to create a logically compliant hierarchical asset model for all sites, units, and modules within a plant. Use this model to make changes to the asset, while keeping the assets physical devices and measurements (parameters) static. This is the logical model you use to set specific asset properties, either manually or using the bulk edit feature (MassConfig) in Optics Data Lake. See *I/O Model* for details about the asset physical devices.

Lua script

A decision logic and calculation engine that can provide advanced asset features to users. For example, performs automatic event message spam management or designates one or more asset as *out-of-service* during a scheduled maintenance or holiday period.

MassConfig

An Plantweb Optics Data Lake DataStudio feature that helps you create, change, or delete multiple objects (assets). MassConfig helps you perform bulk editing by exporting objects to Microsoft® Excel, You change object properties in Excel, and finally import the objects back into Optics Data Lake.

Reference: Optics Data Lake - MassConfig

object properties

The properties of an ISA-95 equipment object (asset) or other Optics Data Lake model object that distinguishes this object from other objects.

out of service assets

Another term for an *ignored* asset. When an asset is removed from production for scheduled maintenance, planned shutdown, holidays, or variation in usage patterns, it is "out of service." This functionality helps users to avoid unnecessary system-generated messages from temporarily out-of-commission equipment (assets).

All users see the list of displayed out of service assets. An asset can be designated as out of service by any user with administrative permissions. Health roll up calculations are unaffected by out of service assets. Their health though continues to be updated. The KPI unhealthy asset list and Dashboard does not display out of service assets. Events from out of service assets are not generated. A user can still create a user message bound to an out of service asset.

Plant Calendar

Used to schedule plant activities and events such as required maintenance outages or holidays. Out-of-service assets can be tied to one or more reoccurring Plant Calendar schedules, as long as the schedules do not overlap.

In Plantweb Optics Data Lake there are multiple schedules that can control one or more events. For example, a scheduler item could define the start and end dates for the winter holidays. An administrator can assign one or more assets with the **Out of Service** property (value=`true`) to this schedule. Communication from the assets changes on the start date and end date of the schedule.

recurrence pattern

How often a schedule should activate, whether hourly, daily, monthly, or yearly.

scheduler item

A calendar event with (**a**) a start date, (**b**) an end date, and (**c**) a recurrence pattern that defines how often the scheduled event happens (for example, `Monthly`, `Yearly`, and so forth).

service information

A category of object properties for an asset. Service Information contains the **Out of Service** property. You can change this property manually, with a Lua script, or using MassConfig.

workspace

A storage structure that contains the configurations for all items used in a DataStudio session. Whenever a user logs in to DataStudio, they must specify a workspace to use or create a new workspace. Workspaces can be saved at anytime when using DataStudio as

an authenticated user. When you disconnect the current session or close DataStudio, you are asked if the workspace should be saved.

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