Element Manager Data Build

Author: UTEL Training Team
Email: training@utel.co.uk

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Table of Contents

1 Introduction

The Element Manager is THE place to begin if you are responsible for building the Network on the FastLight system.

Construction of a network in the FastLight GIS mostly mirrors the **real world**.
FastLight models aspects of multiple layers of network assets, and this section introduces essential concepts and gives an overview of how we construct the network in FastLight.

Network assets can be divided into four broad classes or layers:
1. Civil engineering assets such as buildings, cabinets, manholes, the ducts which run between them, and poles carrying aerial cable sections;
2. Weatherproofing assets such as waterproof joint closures and the cable jackets which protect transmission media;
3. Optoelectronic assets including cables, wires and the active and passive optical and electronic components carrying data; and
4. Configuration assets: individual data connections are created by splicing, connections, wiring and configuration within the optoelectronic layer.

Each one of these layers is a network: a map view shows that each layer consists of nodes connected by lines, in the same way that towns are connected by roads.

For the civil engineering layer, the *nodes are buildings, cabinets and manholes* whilst the *lines are ducts or aerial sections*.

For the optoelectronic layer, the *lines are cables* and the *nodes are points* where fibres from cables are interconnected or terminate on optoelectronic equipment.

In the configuration layer, a *line is an individual fibre* (or even an individual transmission wavelength in a WDM system) and the *nodes are fibre interconnections and terminations* on ports of optical or optoelectronic equipment.

Each layer in the list above "contains" the layer below it.
For example, a concrete duct may contain one or more cables, and a Footway Box may contain one or more waterproof joint closures.
As a result the first two layers are "hollow" - they consist of tubes (ducts in the civils layer and cable jackets in the weatherproofing layer) connecting enclosed spaces (respectively, manholes and joint closures).
The optoelectronic layer also "contains" the configuration layer, although in a more abstract way.

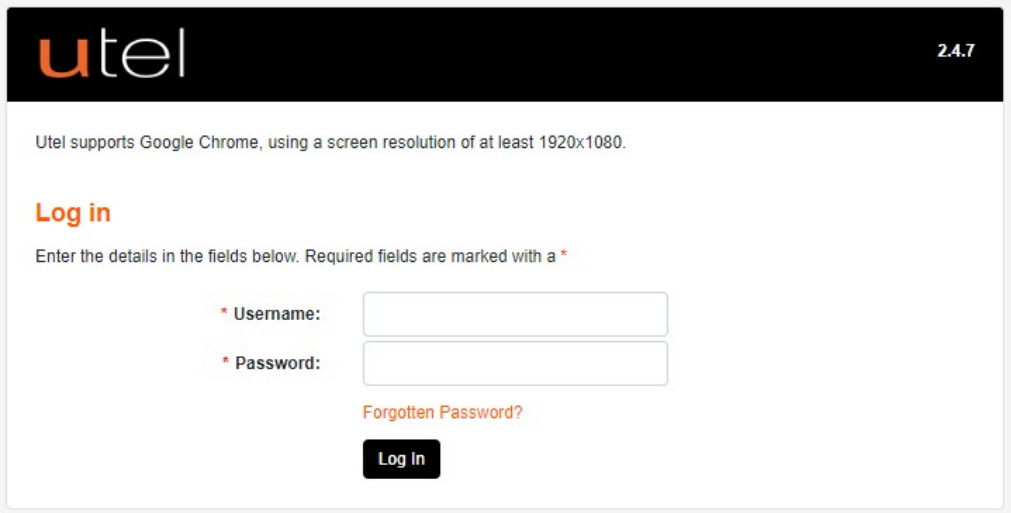
In the *real world* and for each network section
- the **civil engineering asset must be in place before other network assets can be installed** within it.
  For example, we need a duct terminating in a manhole before we can pull a cable into it.
- the **optoelectronic assets (including fibres in cables) must be in place before fibres can be connected or spliced** to create a connection.

Just for completeness, the "construction" of the weatherproofing network is less clear-cut. Cable jackets are created as the cable is manufactured. Joint closures which seal to the cable jacket are typically provided in two or more parts and are assembled around the equipment to be protected. That is, a joint closure is often not installed in advance of the equipment it contains, although it would almost always be specified in advance. The network of tubes in the weatherproofing layer (made up of cable jackets and joint closures) runs between "dry" nodes of the civil engineering network such as point-of-presence buildings and some well-protected types of street cabinet. A "dry" node can be defined as maintaining an environment within which optical connectors and electronic equipment may operate without additional weatherproofing. A "dry" node can be considered as a node both of the civil engineering network and of the weatherproofing network.

Construction of a network in FastLight GIS although mapping mostly mirrors the real world; it does have some additional requirements on the ordering of operations

- for any network section, the nodes of the civil engineering network must be created *before any duct* can be connected between them
- a duct start or finish may be at any one of the following nodes of the civil engineering layer:
  - POPs: Central Office, Street Cabinet POP, Data Centre
  - Cabinets
  - Manholes
- a duct must be created *before a cable* can be installed within it
  - FastLight tracks duct capacity and utilization and will not allow a cable to be installed in a duct which has insufficient space
- two or more cables must be created with terminations at the *same* joint closure, POP or cabinet before fibers can be *connected between them*
  - to see the connection editor screen
    - click on a POP or a cabinet; or
    - click on a manhole and then click on a joint closure in the pop-up which appears
- an ONT may only be placed *within a building*
- All items that have specific rules, and more detail, can be found on the '**?**' button located throughout Fastlight.

Sign In:
When signing in please note that Utel supports Google Chrome, using a screen resolution of at least 1920x1080.



2 Tree Hierarchy

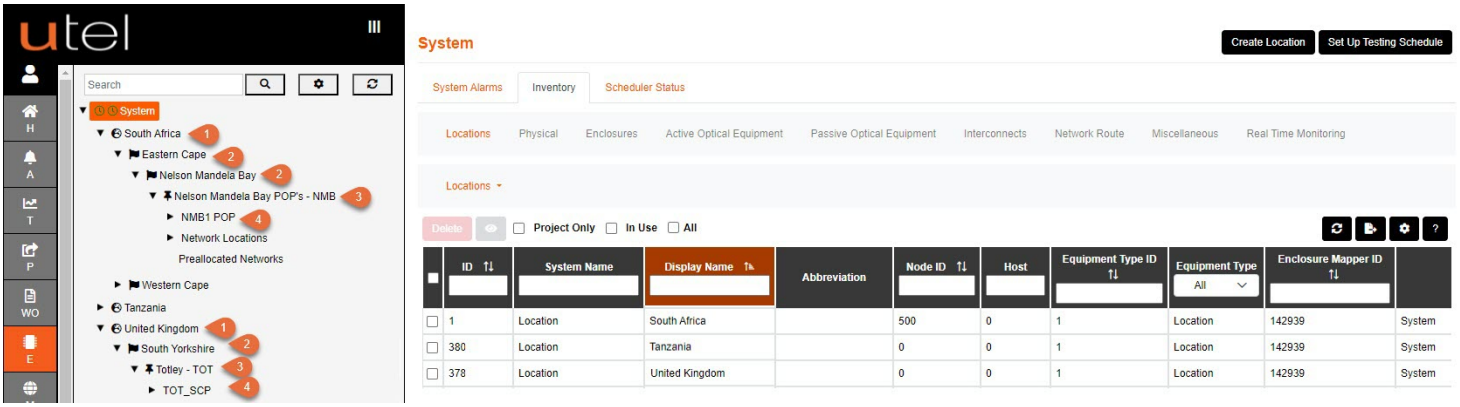
The Tree Hierarchy is displayed on the left-hand side of the screen within **Element Manager**. Here you can structure your Network in a branching view to show different levels and what is above and beneath them.

The top level of your Tree is called the 'Location.' This could be a company name, Country, or anything else of your choosing and will be agreed and possibly configured pre-installation.
Underneath this there is a 'Sub-Location' (e.g. Province) into which you add another Sub-Location, or your 'POP/Third Party Location' (e.g. Area) and then within this you plot your POP Site.

Tree Hierarchy

You can have several Locations sitting at the same level e.g. multiple Countries or Companies at Location level, or multiple Provinces (Sub-Locations) within a single Country (Location), as shown in the image below. However, your Location level should be the largest area you wish to refer to as you cannot retrospectively create a level above that.

1. Locations e.g. Country
2. Sub-Locations e.g. Provinces
3. POP-Locations e.g. Areas
4. POP Sites



The Tree can be hidden and displayed by selecting the **III** icon to the right of the FastLight logo.

*Building all elements of your Tree is completed through **Element Manager**. This includes creating maps for your locations and areas. Whilst these maps can be viewed in the **GIS Mapping** section, they can only be created in **Element Manager**.*

3 Creating Elements

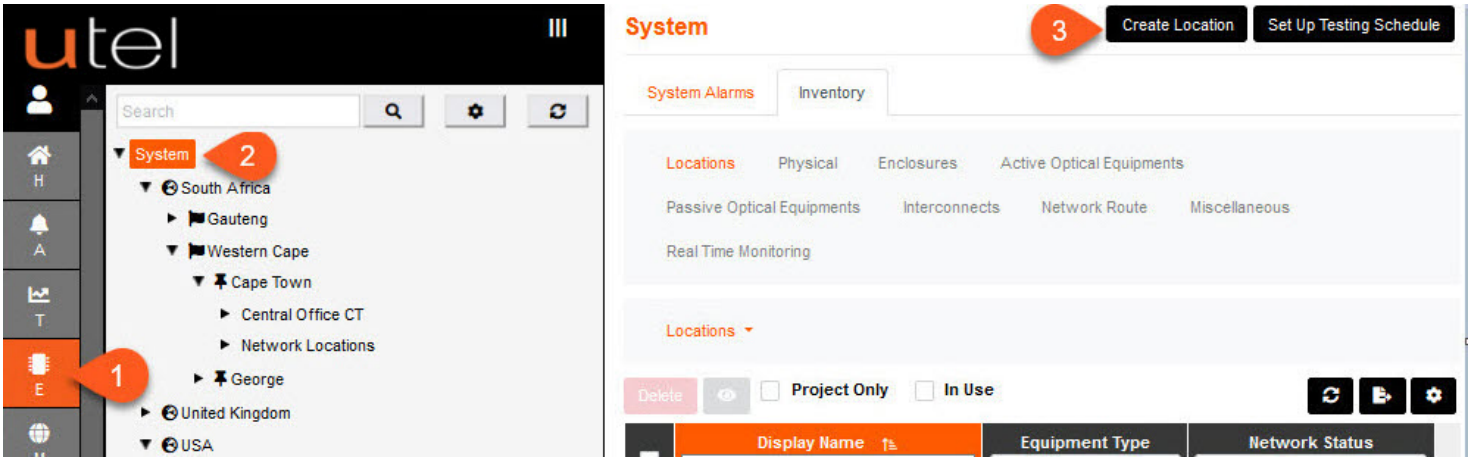
At this point it is worth mentioning that **buttons** that are *greyed out*; it is due to the fact that they cannot be used due to constraints (e.g. deleting a location that contains sub-locations) or that they do not have any functionality yet.
There should be tool tip available to users explaining why the button is not available.

The process of creating Locations, Sub-Locations, POP-Locations and POPs is very similar.
First thing is to set up a **Location**, and this will not be required to be done again unless setting up a new Country, or similar.

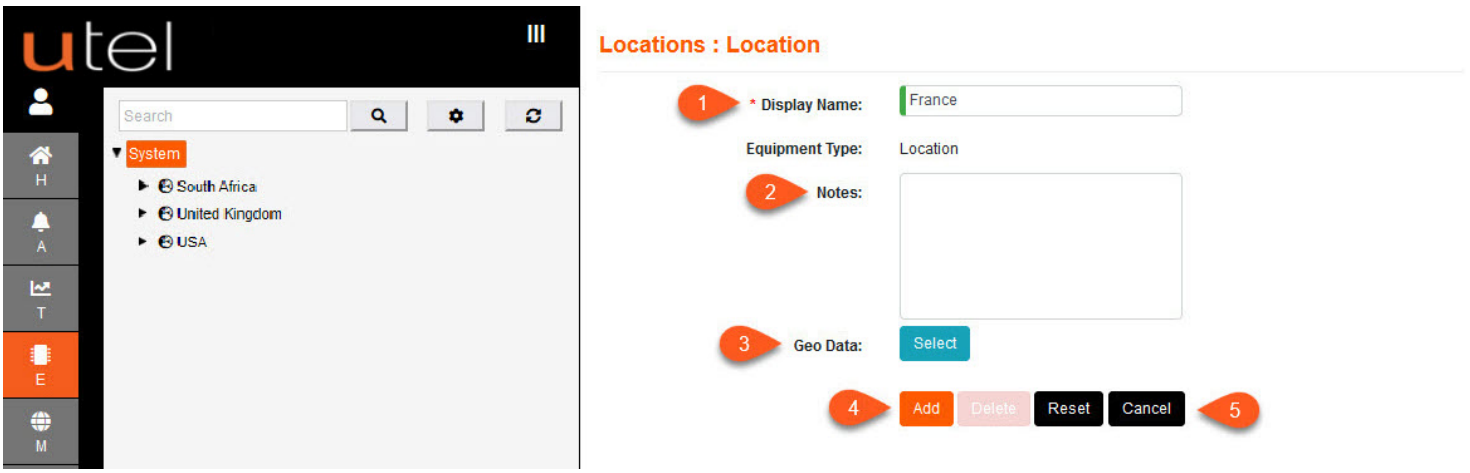
Any field with a * before the name means it is a compulsory field and you must input something here e.g. **Display Name*.

3.1 Create Location

The Location(s) is the top level within your System, with everything else sitting underneath this.
System is only available to the *System Administrator*, in order to have overall control between Locations.



1. Select **Element Manager** from the Menu bar.
2. Select *System* in the Tree.
3. Click the **Create Location** button in the top right of the screen.



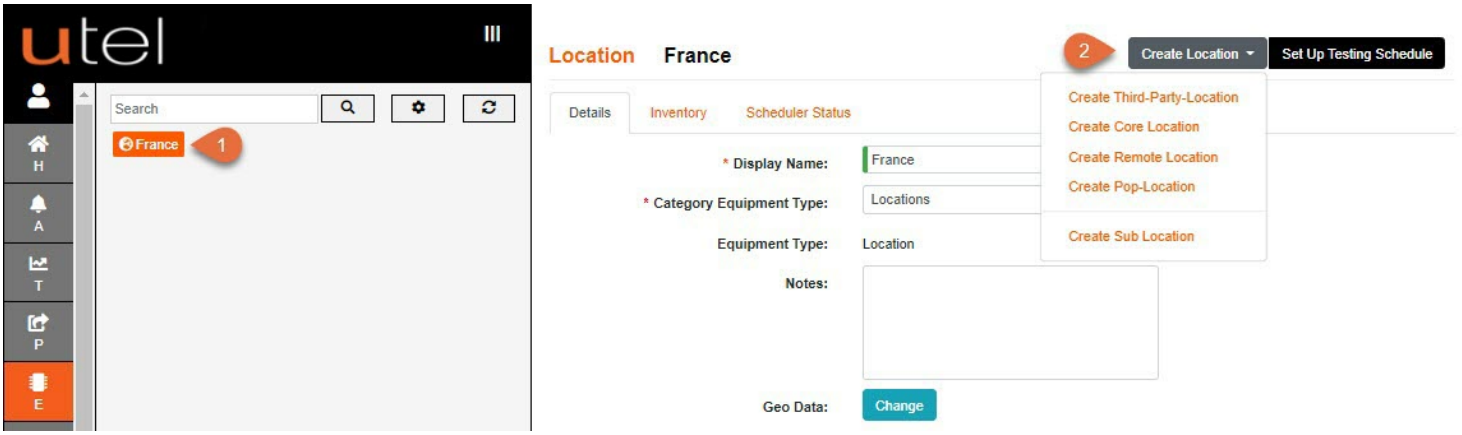
1. Enter the name as you would like it to display in the Tree.
2. Add any relevant Notes if required.
3. If you are completing the mapping stage at this point, then press the blue **Select** button next to Geo Data (See *Using the Maps function* later in this document).
   This does not have to be perfect for now, you can come back to this at a later point.
4. Once the entry is complete, the **Add** button will change to orange. Select it to save.
5. To cancel this entry, press **Cancel**.

Your new Location will then appear in the **Tree**.

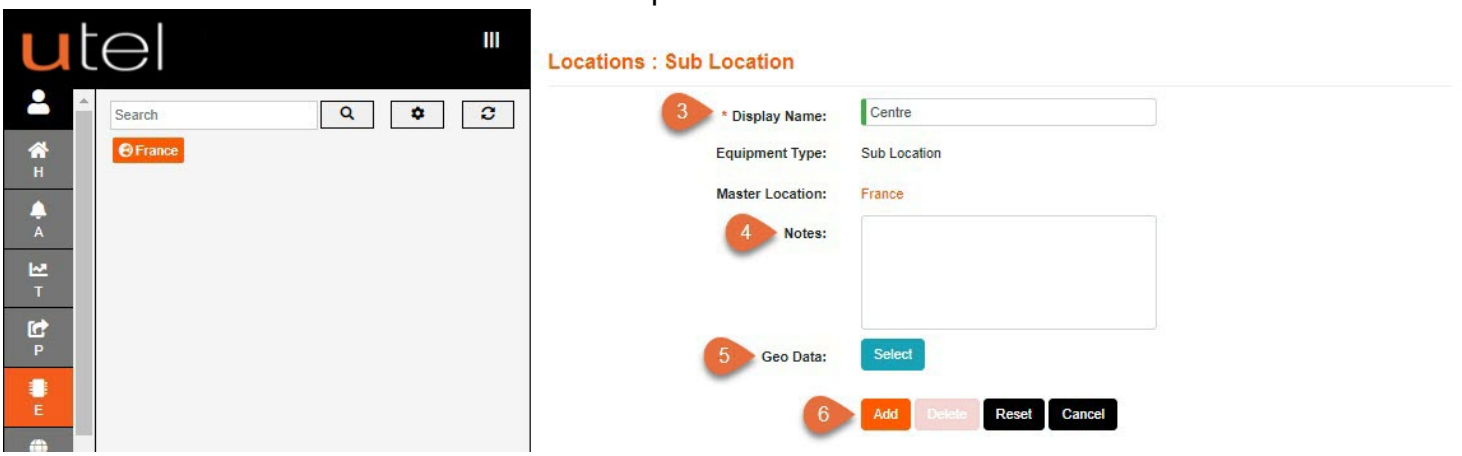
You can create multiple entries at all levels, as seen in the image above.
At this point you can set all users to have *Boundary Enabled* to a specific Location.

3.2 Create Sub-Location

A Sub-Location is usually a Province or large area.
The process of creating a Sub-Location is very similar to creating a Location.
You can create multiple Sub-Locations within each Location.
However, it is recommended to limit the Sub Locations, within Sub Locations, to 5.



1. In the Tree, select the Location under which you wish your new Sub-Location to sit.
2. Click the **Create Sub-Location** from the drop down list on the Create Location button.

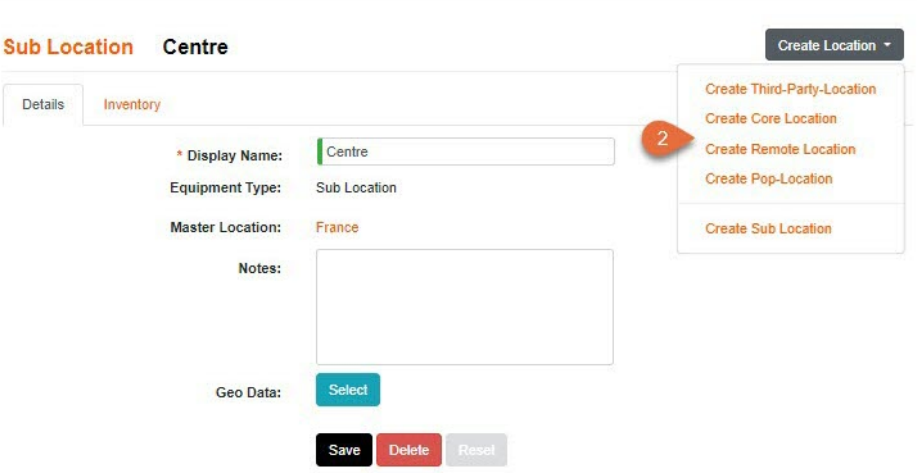


3. Enter the name as you would like it to be displayed in the Tree. In this example, we're creating the Sub Location Centre within the Country (Location) of *France*.
4. Add any relevant Notes if required.
5. If you are completing the mapping stage at this point, then press the blue **Select** button next to Geo Data (See *Using the Maps function* later in this document).
   This does not have to be perfect for now, you can come back to this at a later point.
6. Click **Add** to save or **Cancel** to leave the page. If added, this will then be displayed in the Tree.

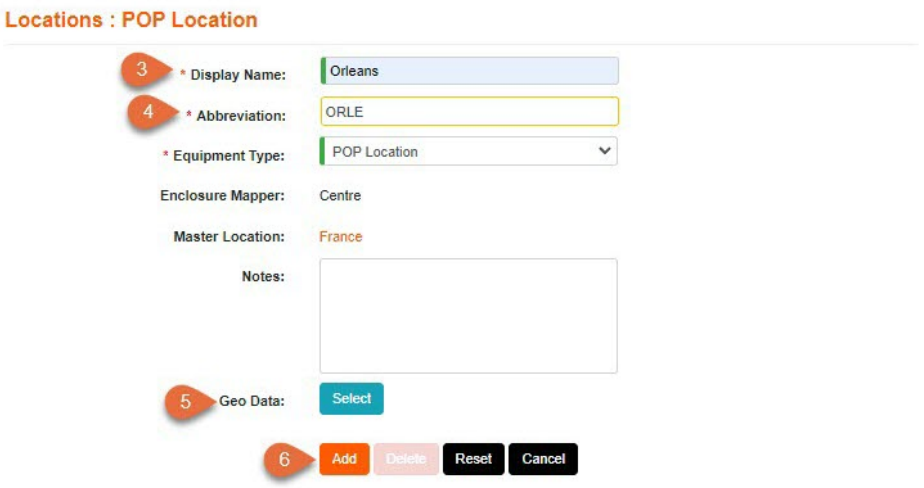
3.3 Create POP-Location

There are four different Locations that can be created:
The POP Location is the area that holds all Network Locations connected to the POP,
The Remote Location is the area that holds all Network Locations connected to the remote POP,
The Core Location is the area that holds all Network Locations connected to the backbone between existing POPs, and
The Third-Party-Location is the area that holds all Network Locations belonging to Third Parties.

Again, creating them is a very similar process.



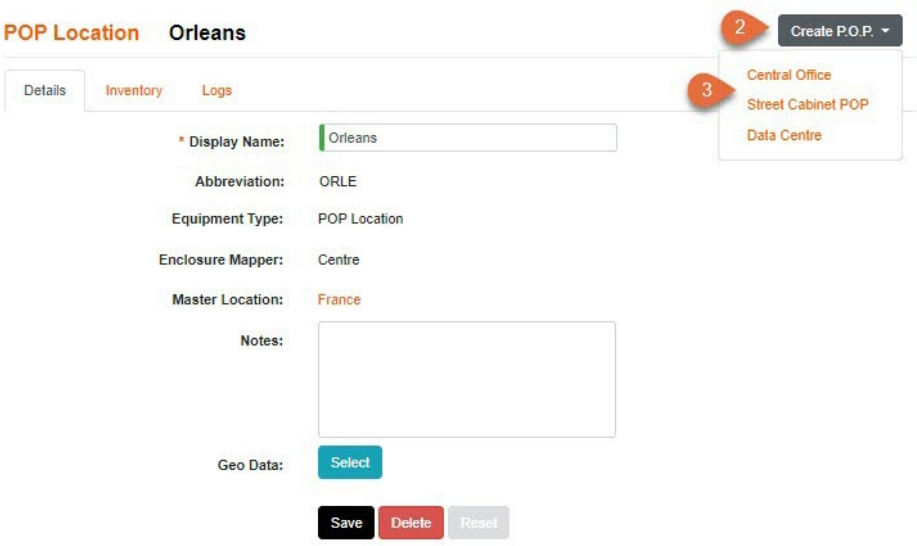
1. In the Tree, select the Sub-Location under which you wish your new POP-Location to sit.
2. Click the **Create POP-Location** from the drop down list on the Create Location button.



3. Enter the name as you would like it to be displayed in the Tree. In this example, we're creating the Area Orleans within the Province (Sub-Location) of *Centre*.
4. Add a 3 or 4 letter abbreviation for this display name. Fields marked in Orange cannot be edited once saved.
   Please refer to the *Naming Convention* 68 part of this document for guidance.
5. If you are completing the mapping stage at this point, then press the blue **Select** button next to Geo Data (See *Using the Maps function* later in this document).
   This does not have to be perfect for now, you can come back to this at a later point.
6. Click **Add** to save or **Cancel** to leave the page. If added, this will then display in the Tree.

3.4 Create a POP

Creating a POP automatically adds another folder, *Network Locations,* to the Tree. This allows you to add in Buildings, Cabinets, Manholes and Cables. These are covered in *GIS Mapping Data Build Guide.*

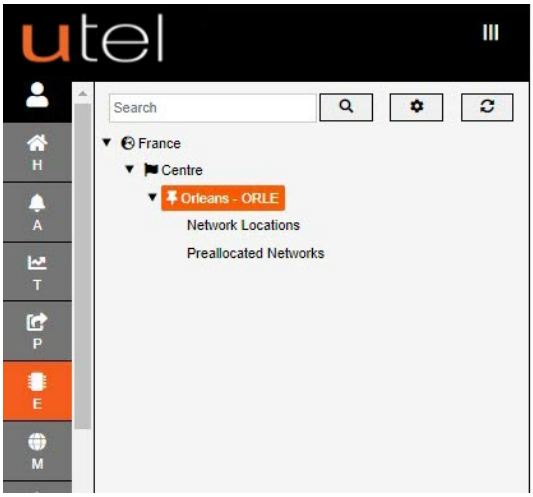


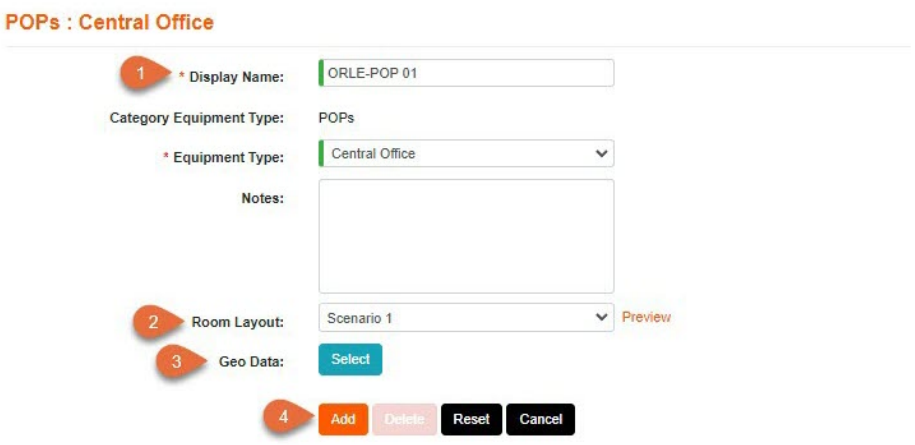
1. In the Tree, select the POP-Location in which you wish to build your POP. In this example, we are putting our POP into the Area (POP-Location) of Orleans.

2. Click the Create POP button.

3. Select either a 'Central Office', 'Street Cabinet POP' or 'Data Centre' from the drop-down menu.

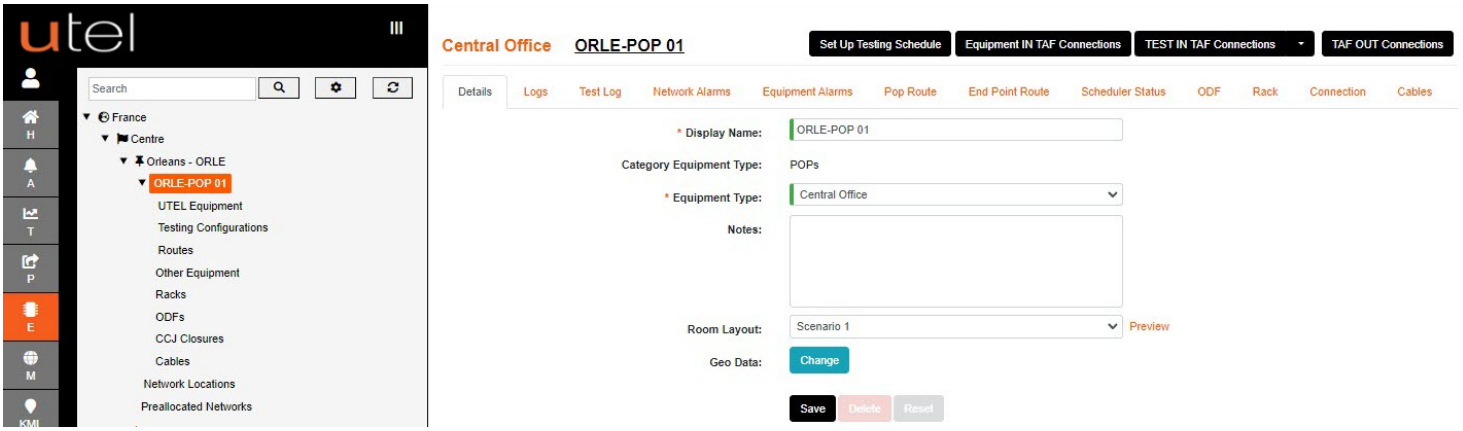
Note: You can ONLY create a POP within a POP-Location. The button will not appear at other levels.





1. Enter the name as you would like it to be displayed in the Tree.
2. Please refer to the *Naming Convention* 68 part of this document for guidance. If so, the name will appear similar to the image above.
   The Room Layout will automatically select 'Scenario 1' layout, but it is currently configurable to two different rack layout situations.
3. If you are completing the mapping stage at this point, then press the blue **Select** button next to Geo Data (See *Using the Maps function* later in this document).
   This does not have to be perfect for now, you can come back to this at a later point.
4. Click **Add** to save. This will then display in the Tree.

The POP will now appear in the Tree.



The POP Site name has an arrow next to it to indicate that it can be expanded. This reveals components that are automatically created as they are specific to the POP.

These will be covered later in this document in the *Adding UTEL Equipment* section.

3.5 To Edit or Delete a Location, Sub-Location, POP-Location or POP Site

Within Element Manager, select its name from the Tree.

To edit, simply change the details displayed on the main screen as required. Any amendments made will automatically turn the **Save** button from black to orange. Select **Save**.

To delete, you must ensure there are no layers within it. For example, if you wish to delete a Location, you must first delete any POP Site(s) within it, then the POP-Location(s) and Sub-Locations. If there are existing layers within it, then the **Delete** button will not be displayed. You will also not be able to delete a POP Site if it has equipment associated to it. Delete all equipment (OTDR, Switches, etc..) first, in reverse order to installation.

This process avoids any accidental (and potentially extremely time-consuming to rebuild!) deletions.

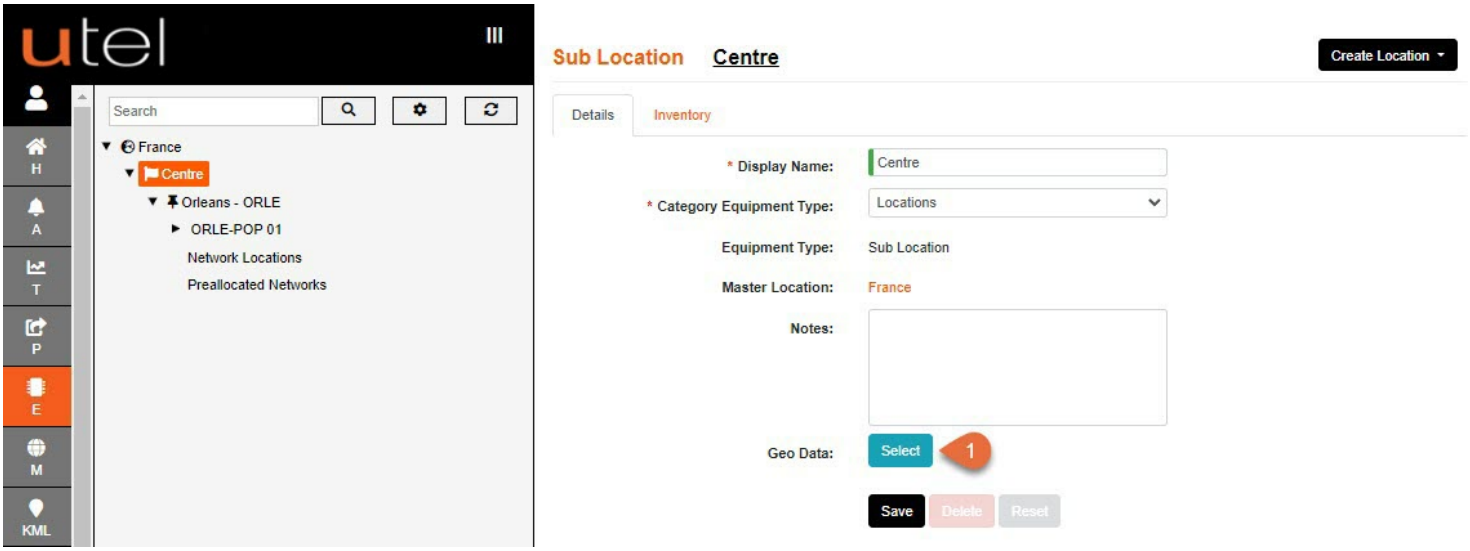
4 Using the Maps Function

FastLight allows you to accurately plot your Locations, Sub-Locations, POP-Locations and POPs using an interactive map.

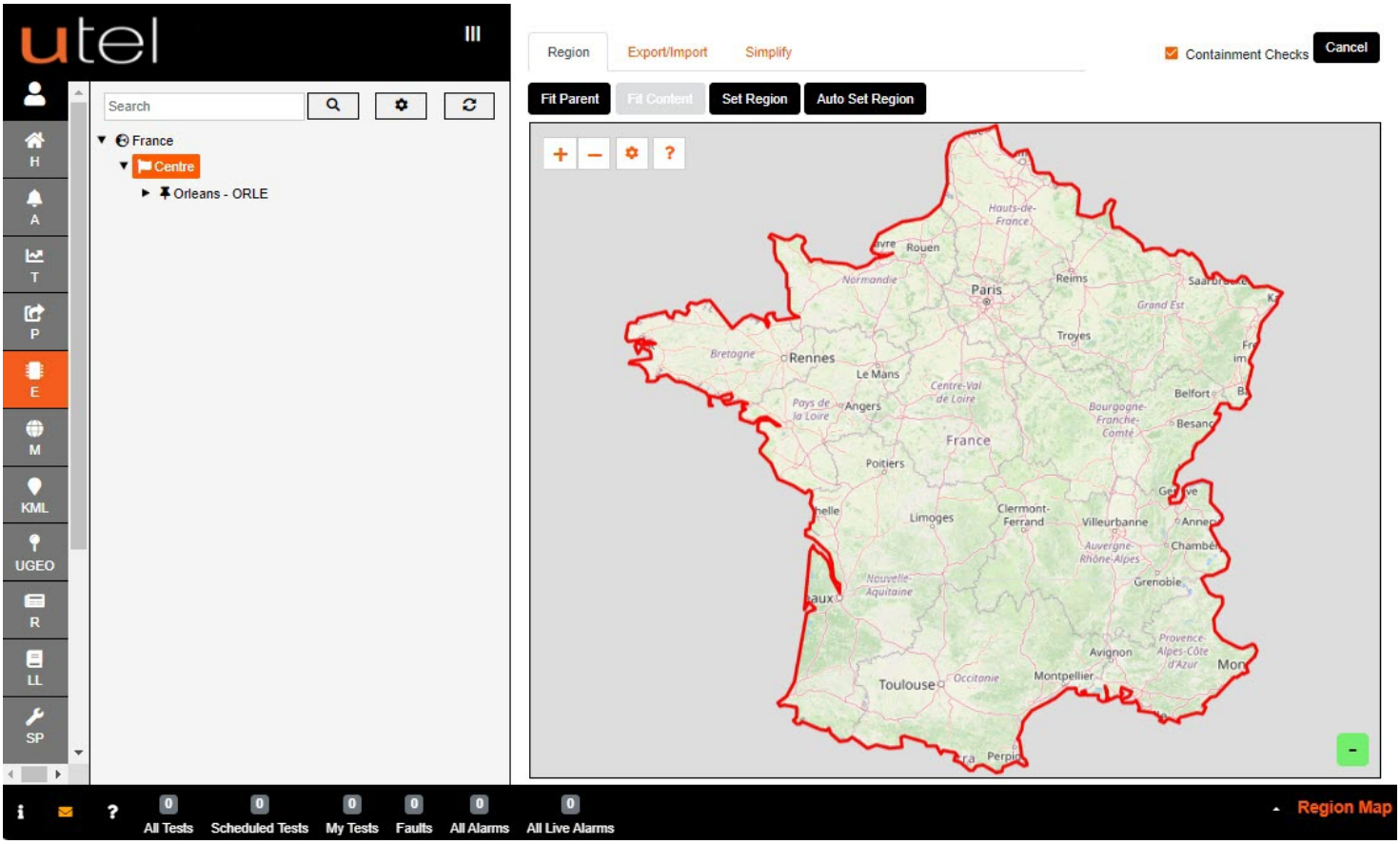
There are two ways to create maps:

A) If you have already created the item in the Tree then select the name in the Tree and click the blue **Select** button.
B) Whilst you are creating your new item - click the blue **Select** button next to Geo Data.

Using the Maps Function



Both methods take you to the Maps screen.



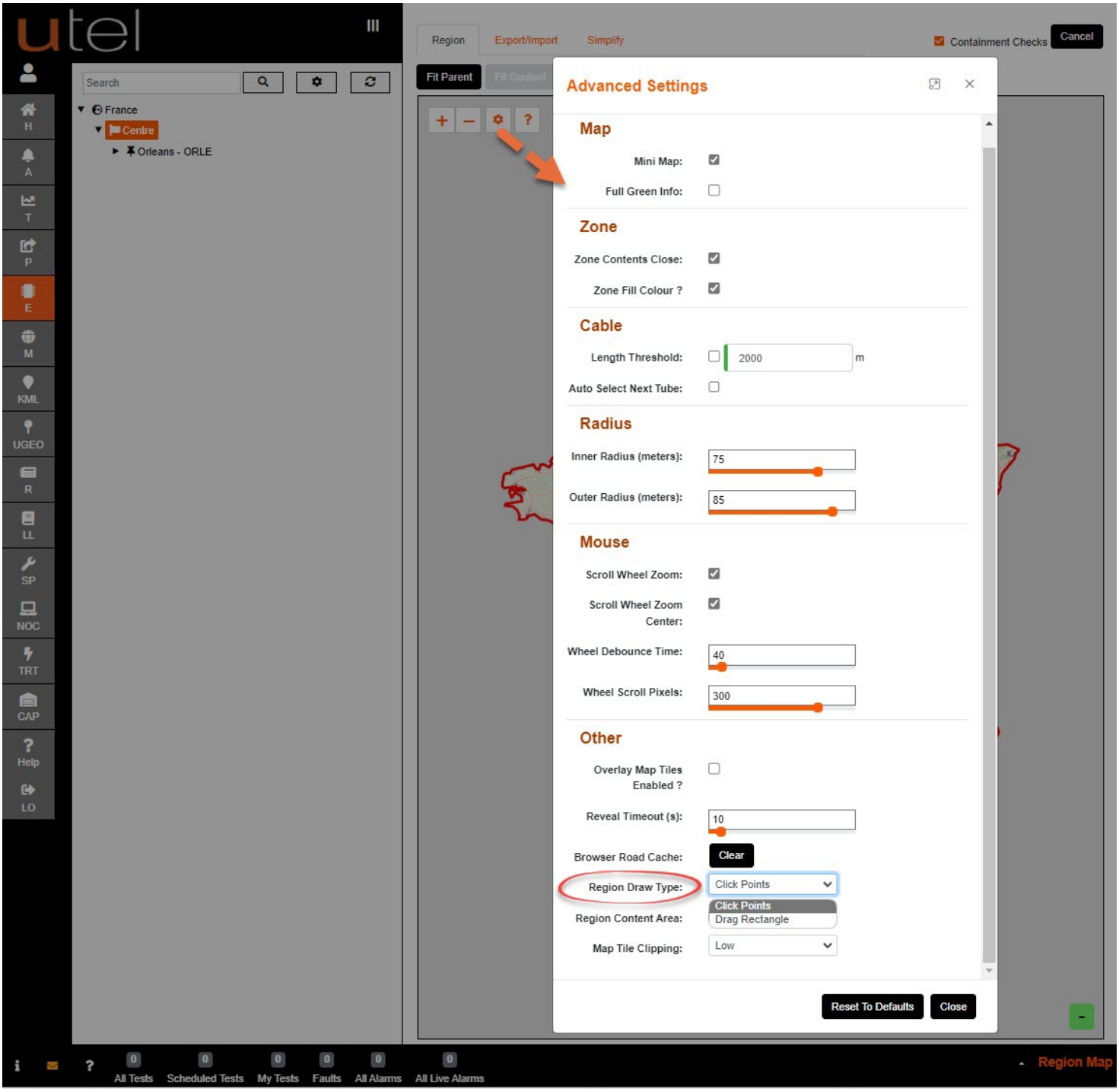
If at any time you have moved away from the *parent* boundary (the boundary within where you are creating your new location) just click **Fit Parent** to go back within the *parent* boundary.

Drag the map and zoom in and out using the plus and minus buttons, or the scroll on your mouse, to move the target cursor to where you wish to draw your Location.

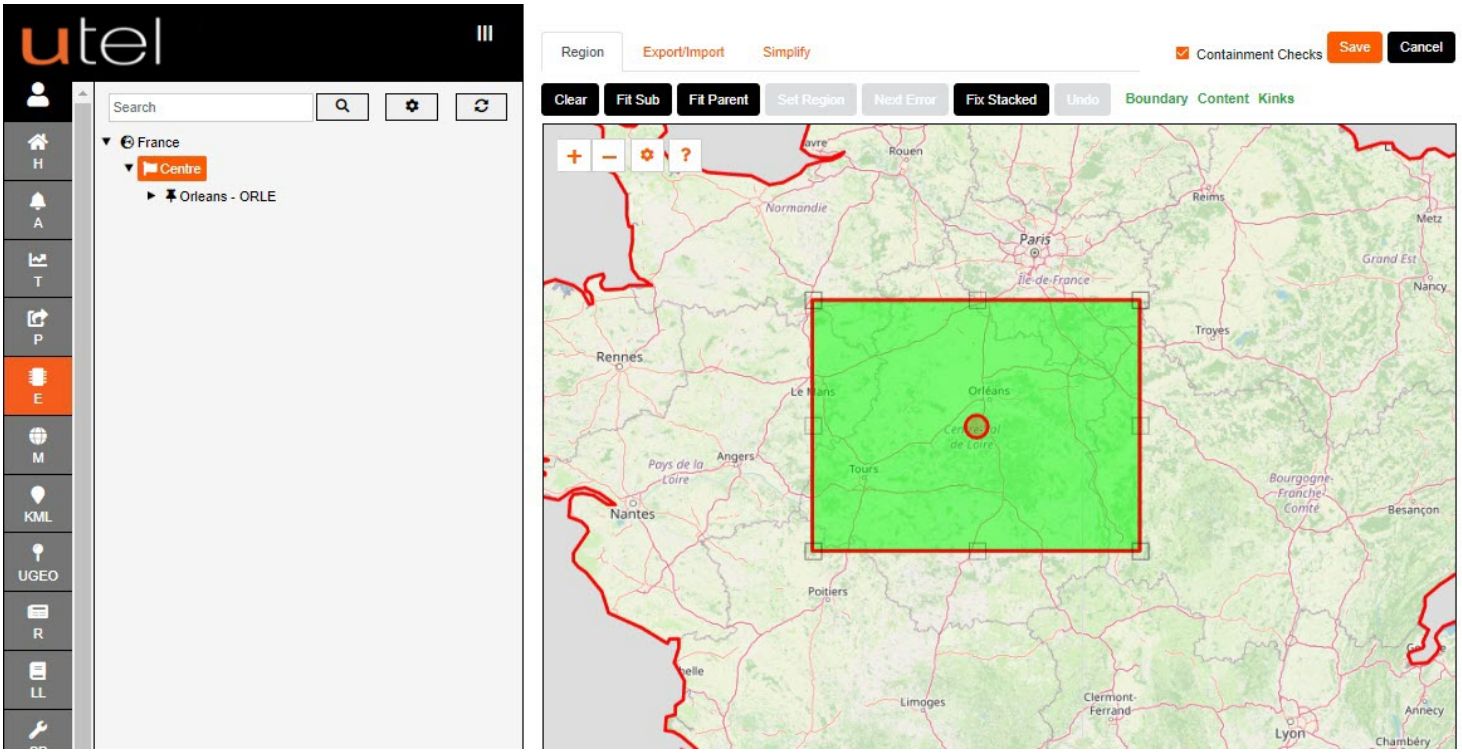
If your area is a similar size to the 'parent' size then use the **Auto Set Region** button, otherwise click on **Set Region**.

Depending on which setting you have chosen for *Region Draw Type* in Advanced Settings;

you will either draw with 'Click Points' or 'Drag Rectangle'.



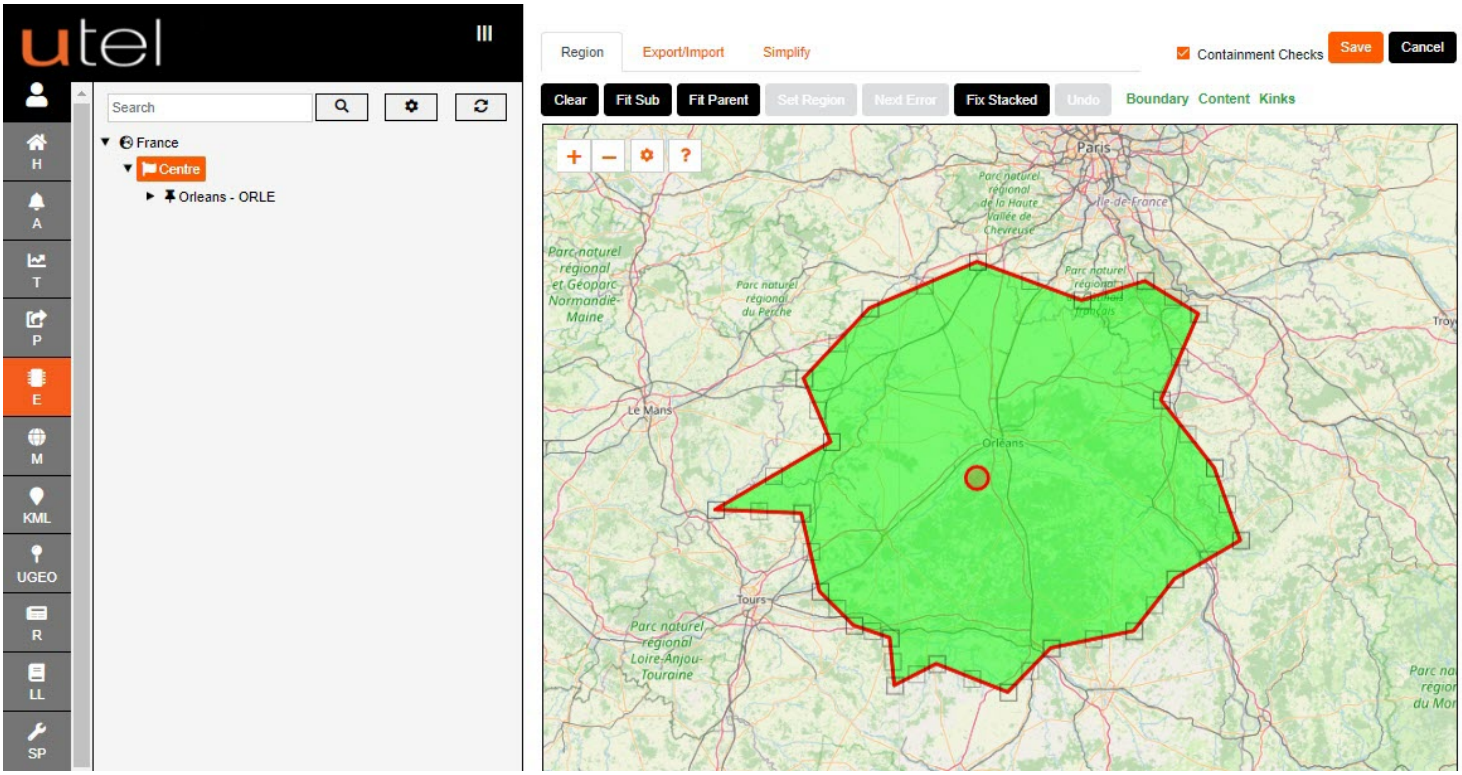
Drawing with 'Drag Rectangle' you will need to Left Click and hold
Then drag box over the approximate area you wish to map. When you release the mouse click, it will zoom into the location.



A green box will appear with white marker squares around it as highlighted here.

To adjust the boundaries of the area you wish to draw, click and drag these boxes.

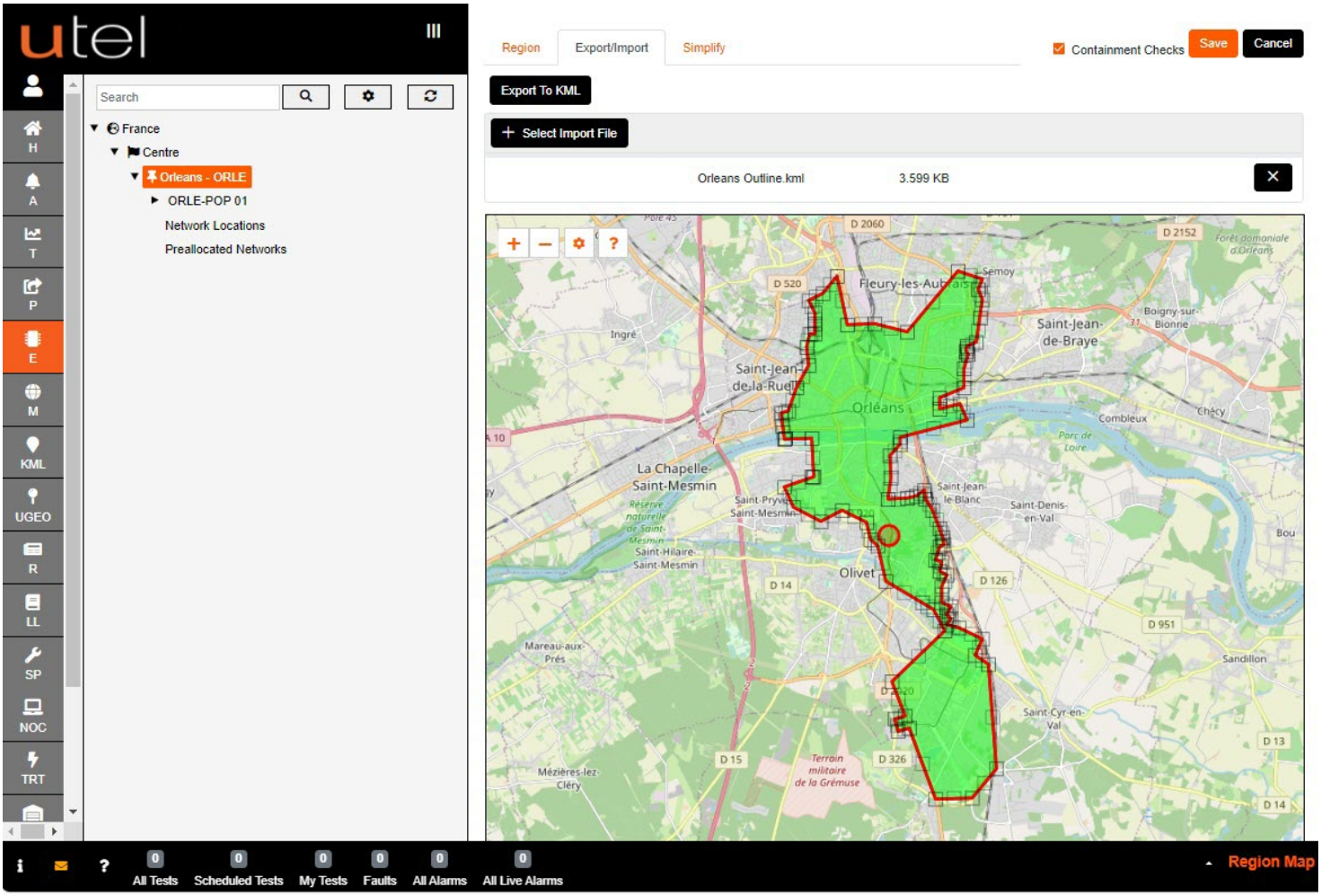
As you move them, extra moveable boxes will automatically appear to allow you to map the area as precisely as possible.
To use these extra boxes, simply click on the box. By doing so, new ones will appear either side to allow for as many boxes as you wish.



You can zoom in and out with the mouse scroll wheel.

To centralize the page on the area you are working, click **Fit Sub**.
If you wish to redraw your area from scratch, click **Clear**.
Once you are happy with your map, click **Save**.
To cancel and go back to previous screen, click **Cancel**.

There is an option to load a KML file that has the necessary boundary already created.
Click on **Export/Import** tab, click **+ Select import file** and navigate to it in it's file location.
Once selected you can click on **Save** at the top right corner, or **Cancel**.



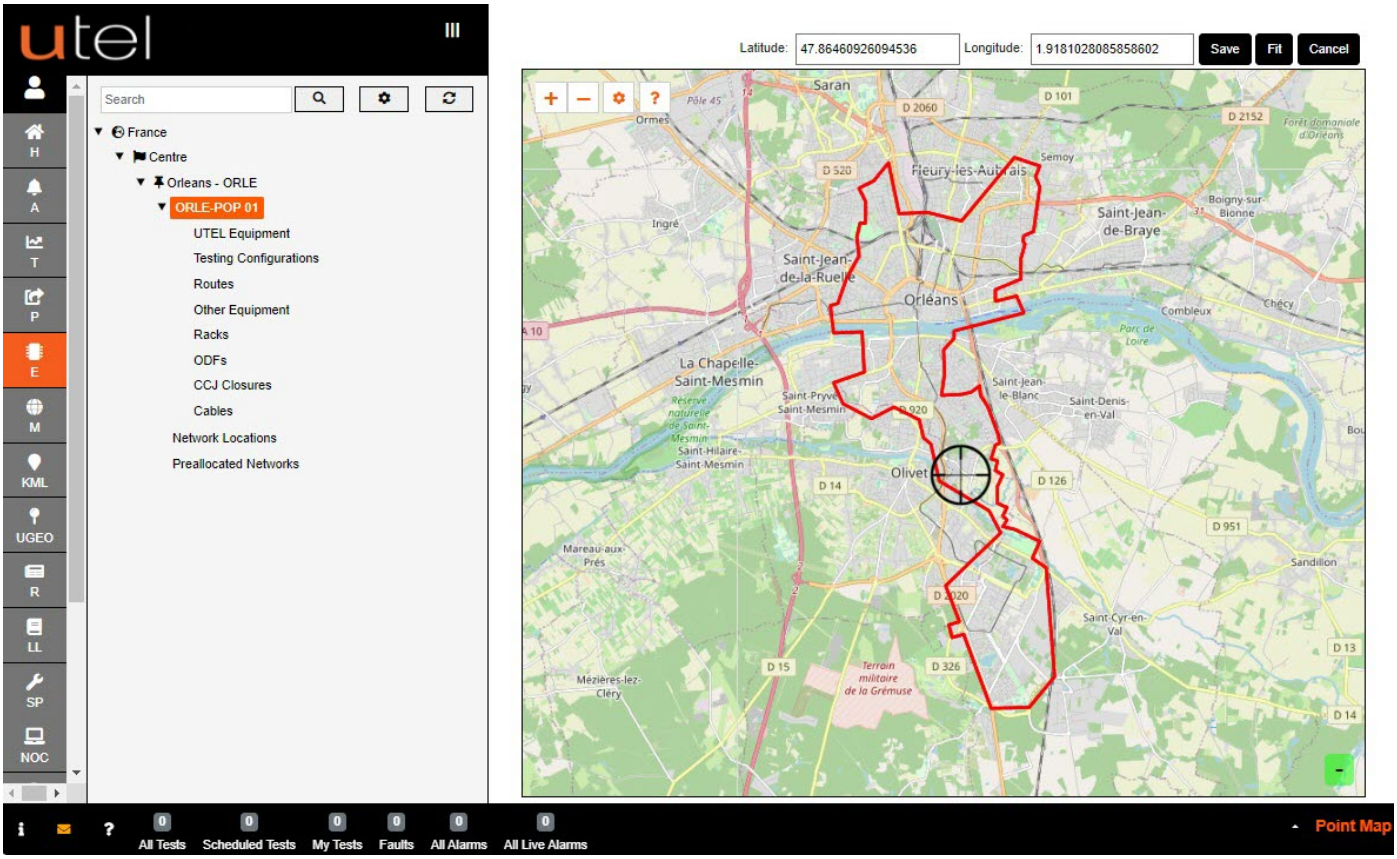
4.1 Mapping a POP Site

The POP is a fixed building or cabinet in a very precise location rather than a general area, so mapping this is slightly different.

First access the Maps screen for the POP by clicking the blue **Select** button next to Geo Data.

A map with a red border denoting the POP-Location will appear with a cross-hair target to identify the POP like so:

Using the Maps Function



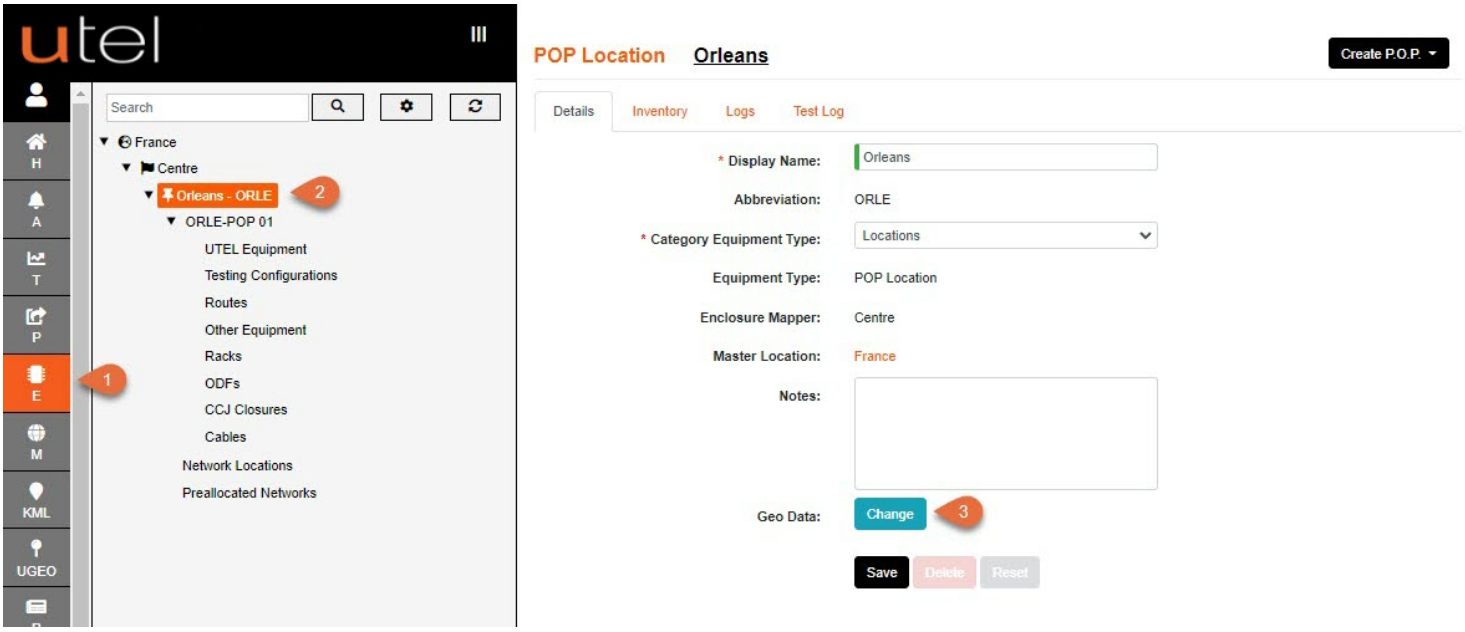
To centralize the page on the red parent area you are working within, click **Fit**.

By zooming, drag and drop the cross-hair target precisely to where the POP is located. As you move it around, you will see the latitude and longitude positions changing at the top of the screen.

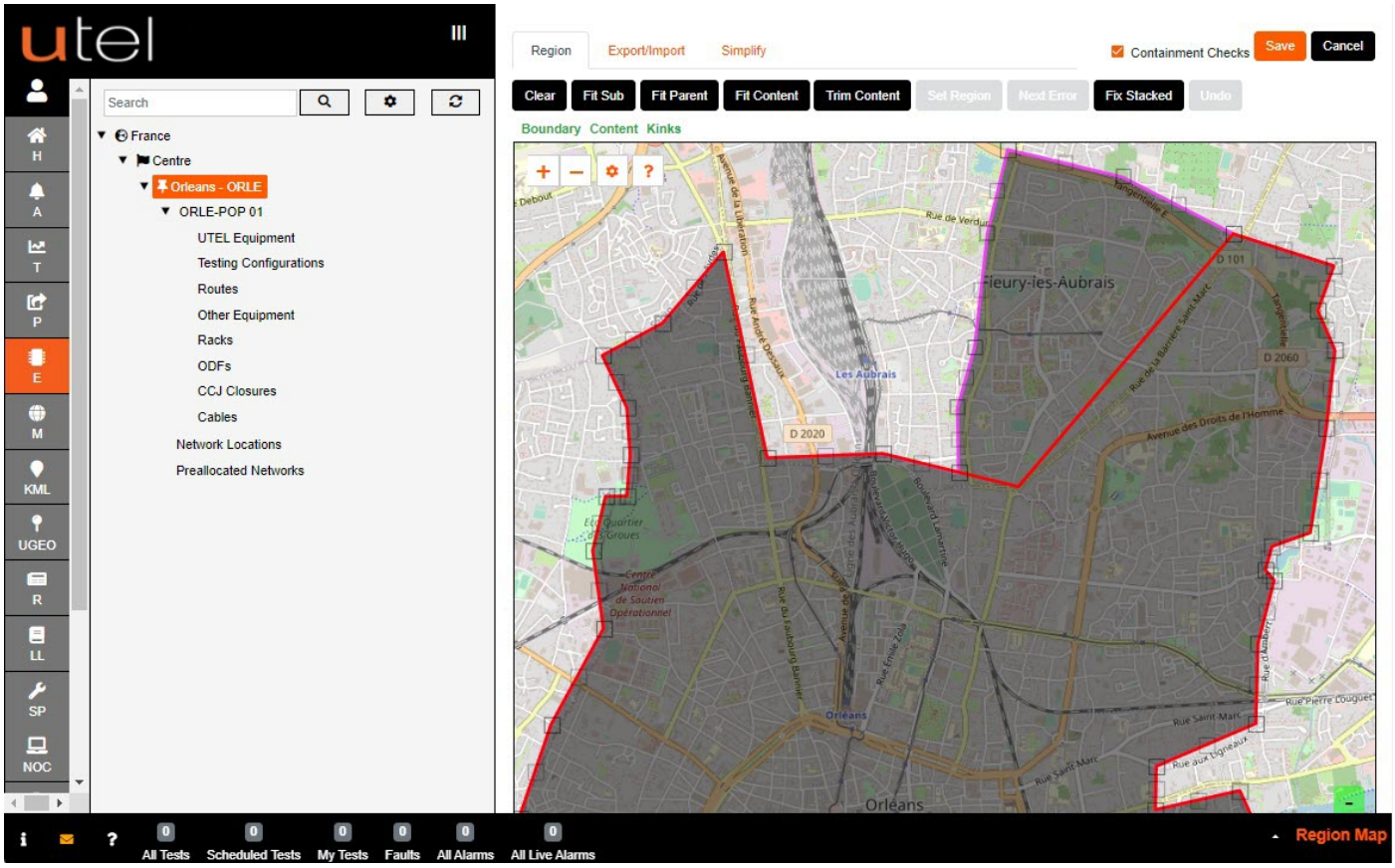
This must be as accurate as possible.
This is the location of the OTDR and an inaccurate location will lead to incorrect mapping and potentially large-scale problems in the future.

Once the cursor is in position, click **Save**.
To cancel and go back to previous screen, click **Cancel**.

4.2 To Edit or Delete an Existing Map

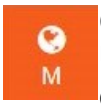


1. Select **Element Manager** from the Menu bar.
2. In the Tree, click on the name of the map you wish to modify, in this case it is a Sub-Location.
3. Select the blue **Change** button next to Geo Data.



When complete modifying the boundary, click **Save** to apply your changes.

4.3 Viewing Maps



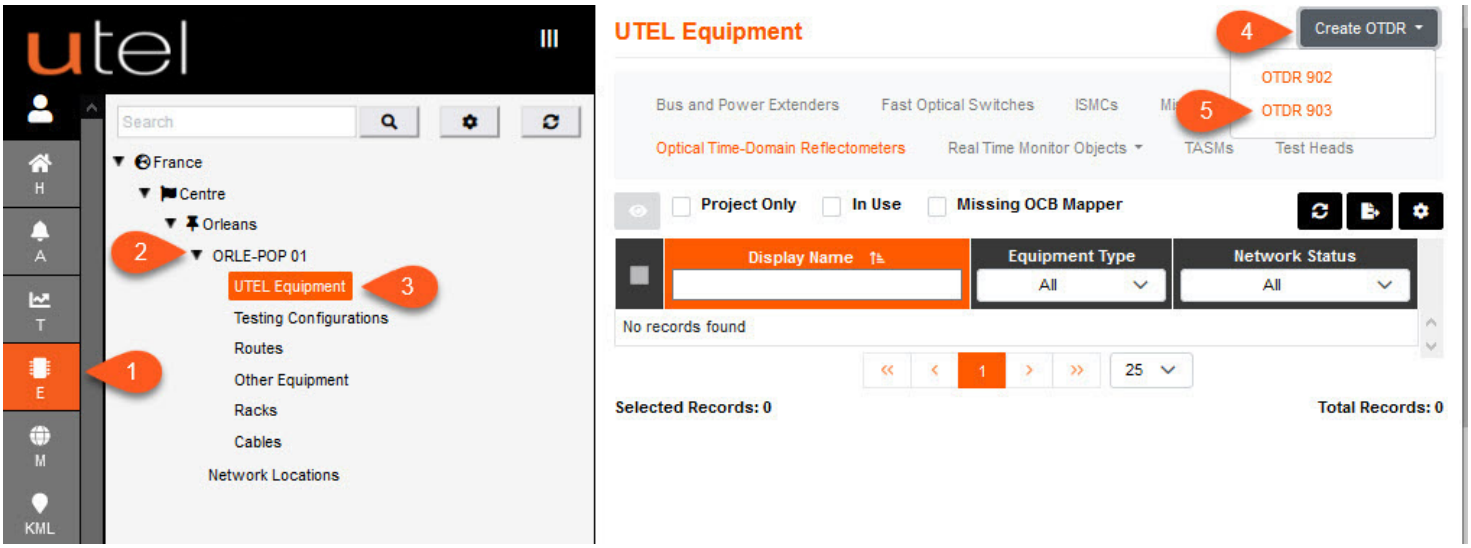
Creating Existing infrastructure can be done by selecting the GIS Mapping icon from the Menu bar. Using the Mapping function, for drawing the more detailed elements of your Networks, will be covered in *GIS Mapping Data Build Guide.*

5 Adding UTEL Equipment

Once a POP Site has been created, UTEL Equipment such as OTDRs, Switches, ROSCs, Bus and Power Extenders can now be added to the Network.
An OTDR Controller is available in a POP or Core Location, and a ROSC Controller is available in a Remote Location.

5.1 Create an OTDR

1. Select **Element Manager** from the Menu bar.
2. Find the POP Site you wish to work on in the Tree and expand the options within it by selecting the arrowhead to the left of its name.
3. Click on **UTEL Equipment** in the Tree, then the OTDR tab in the main window.
4. Click the **Create Controller** button.
5. Select the type of OTDR, available in your Network, from the drop-down menu.

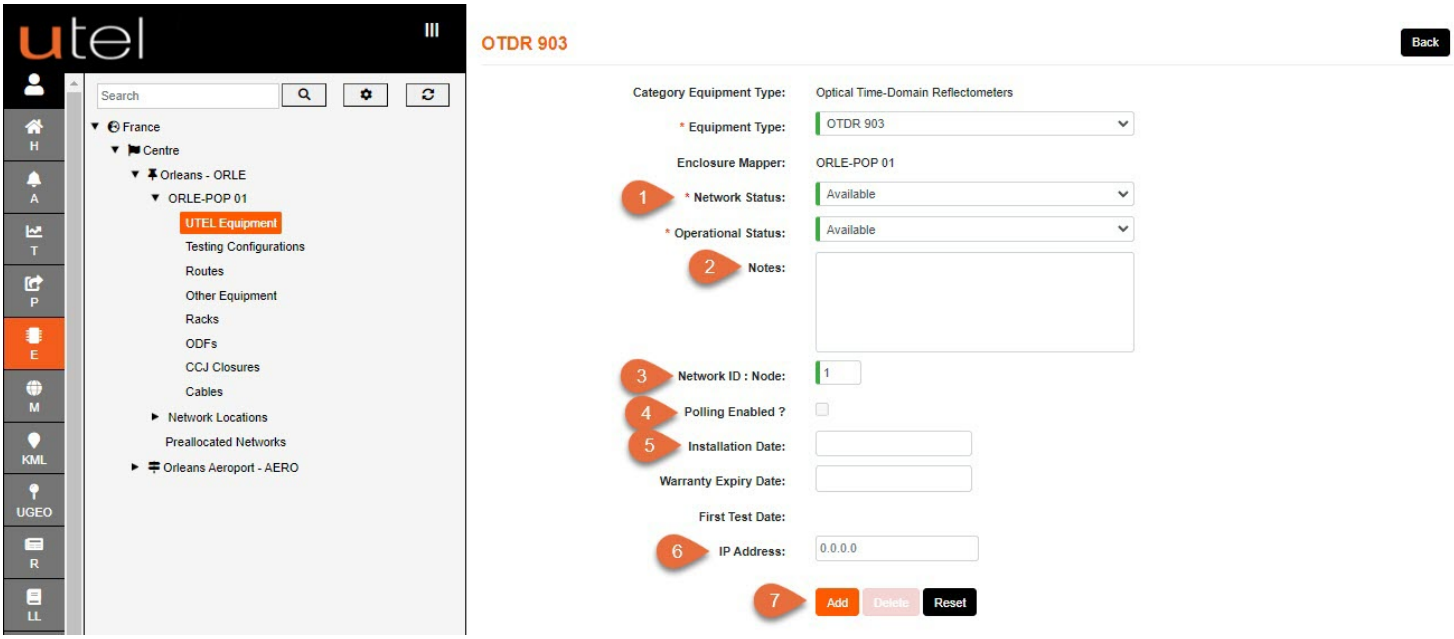


Note: OTDRs and ROSCs are added to the POP, but Switches are assigned to either.

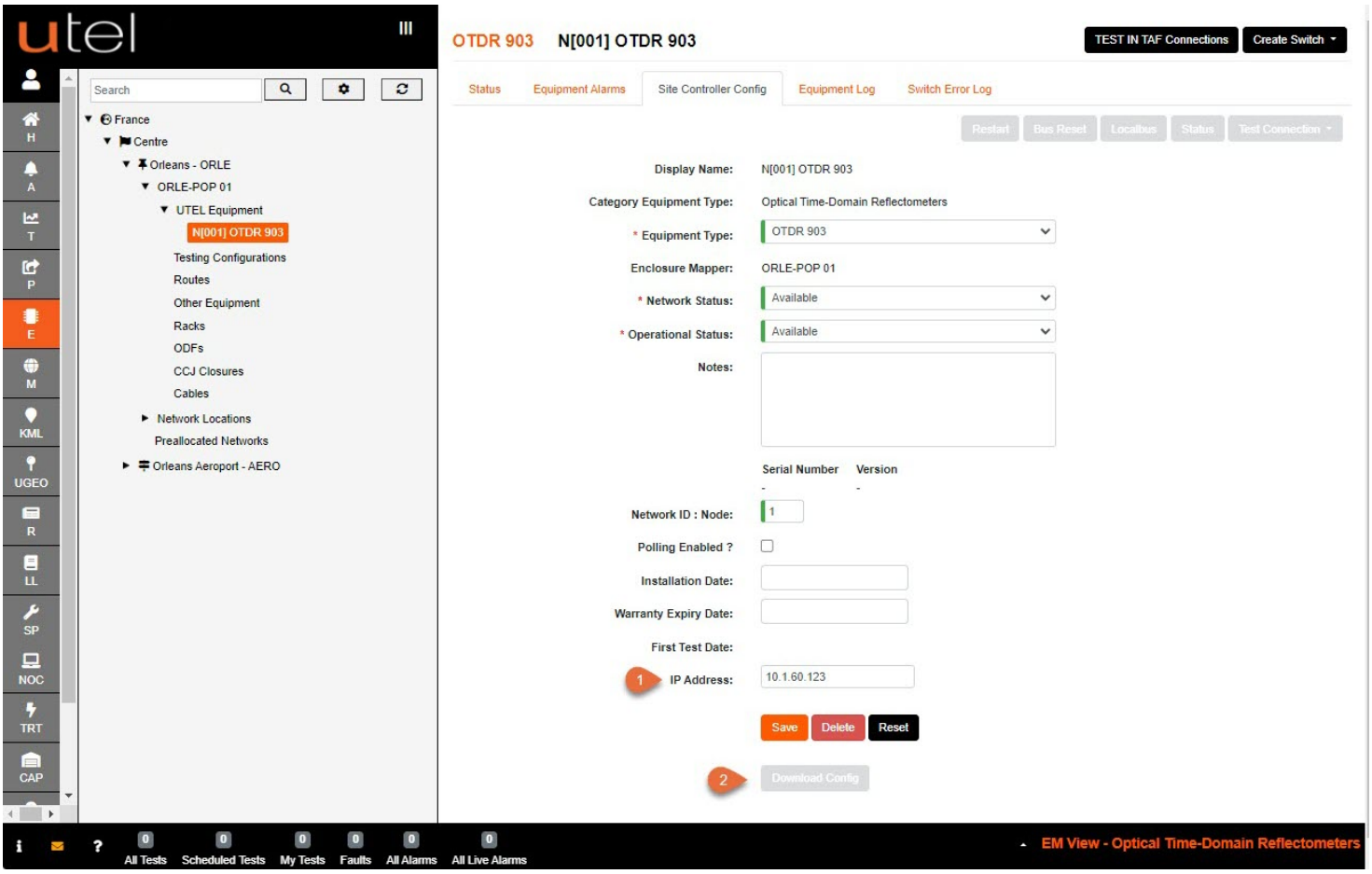
1. Choose the appropriate Network Status and Operational Status from the drop-down menus.
2. Add any Notes if required.
3. The *Network ID: Node* should not need changing unless a second OTDR is being added.
4. If Polling is enabled, select the box here. *Polling Enabled* means FastLight sends a signal to check the OTDR is there and is still connected. If Polling is enabled and the OTDR is disconnected, then it will raise an Equipment Alarm on FastLight. This option can only be selected once an IP address has been entered, otherwise the box is disabled.
5. Enter the Installation and Warranty Expiry Dates if known, for your records.
6. If the equipment is installed and an IP address has already been allocated to the OTDR, then add this here.
   Note: If an IP address has not been assigned, you can save the entry and come back to it at a later date to add this in. Until an IP address is added, you will not be able to run any test.

Adding UTEL Equipment

7. Once completed, to save this entry click **Add**. You will now see it displayed in the Tree.
8. To move away from this page without saving, select **Back**.



To ensure your OTDR is configured correctly, and communicating with FastLight, do the following:



1. Add a valid IP Address, and this will enable the Save button. Select **Save**.
2. Now select the **Download Config** button at the bottom of the OTDR form.

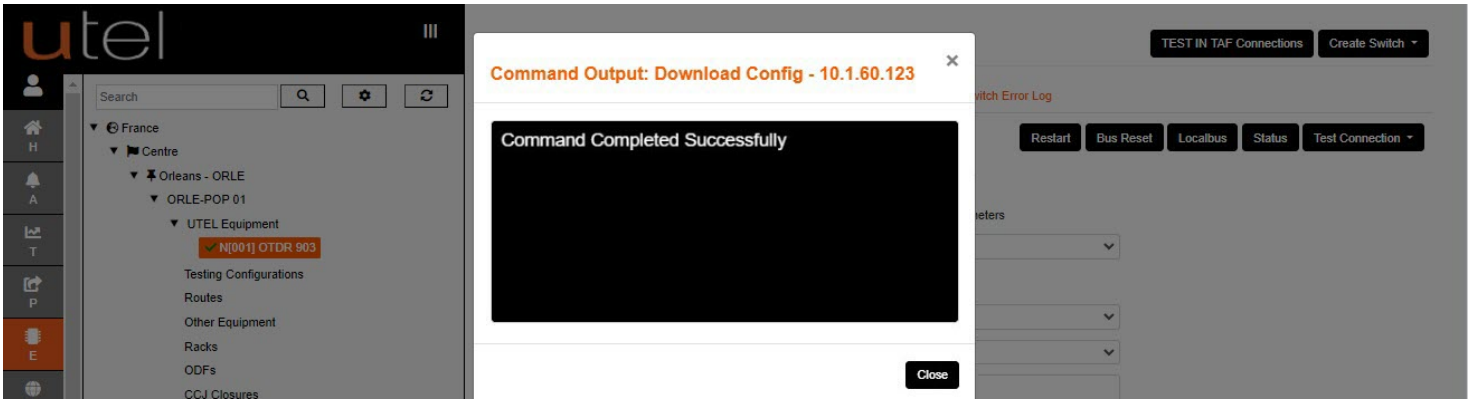
Adding UTEL Equipment

The User will be **notified** with the following message:

'Are you sure you want to Download Config on Controller?
If so, please be aware that the Controller will be *restarted'*.
The OTDR will take about 1 minute to calibrate, so it is advised to allow this to process.

Select '**OK**' if you want to proceed

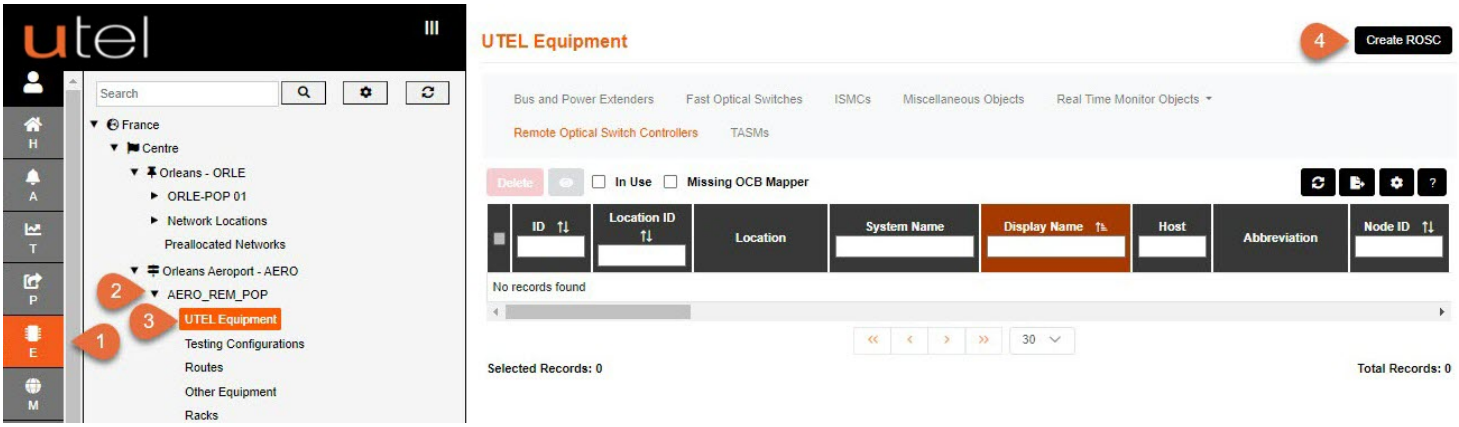
The Command Prompt should deliver a ***'successful'*** message.
If any other message displays, check your OTDR configuration.



To fully complete your set up it is advised to tick;
'Polling Enabled', the *'Installation Date'* as well as any *'Warranty Expiry Date'* in order to be flagged when it expiration is nearing.

5.2 Create a ROSC

1. Select **Element Manager** from the Menu bar.
2. Find the POP Site you wish to work on in the Tree and expand the options within it by selecting the arrowhead to the left of its name.
   Note: A Remote Location houses a ROSC (Remote Optical Switch Controller).
3. Click on **UTEL Equipment** in the Tree. The ROSC tab will automatically open in the main window.
4. Click the **Create ROSC** button.

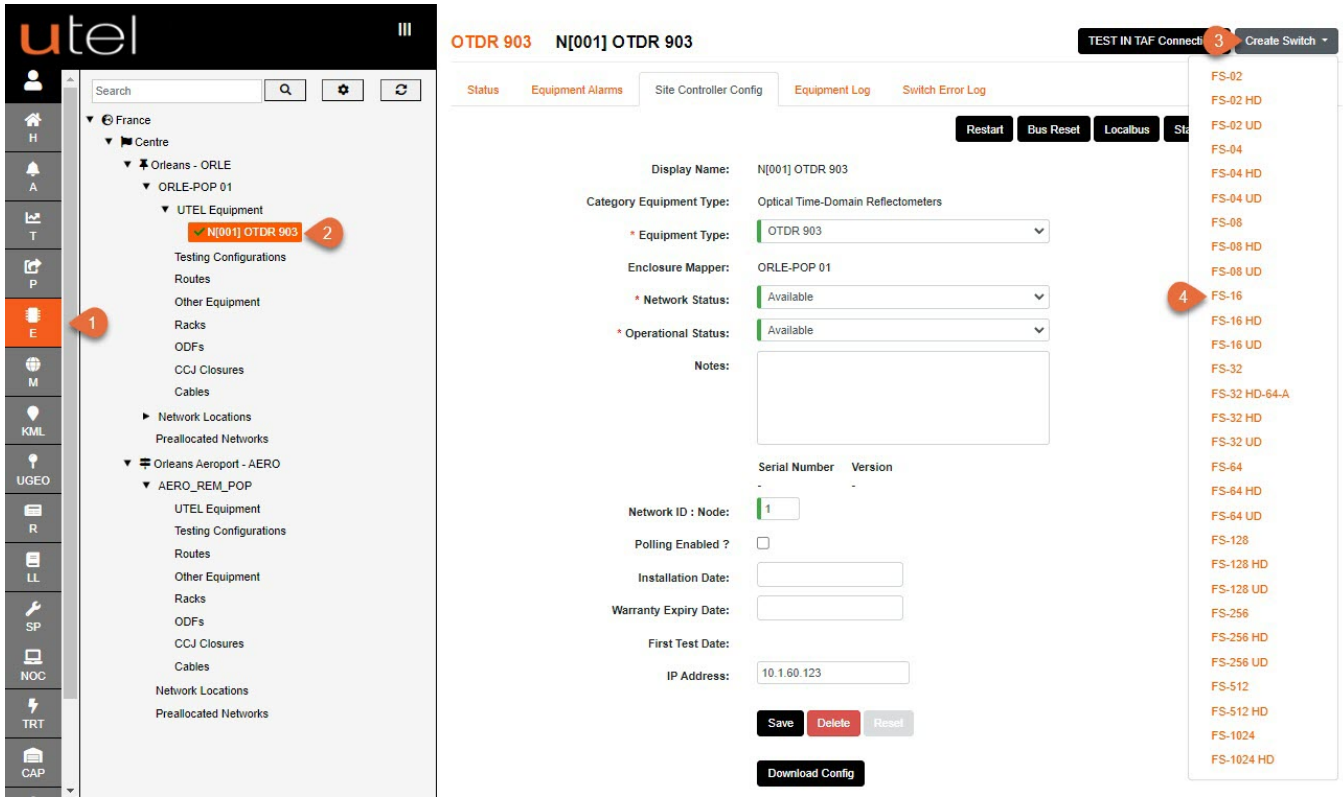


The process is the same as adding an OTDR, detailed here Create an OTDR 19
A ROSC will need to be connected to a *minimum* of one switch in order to connect out.

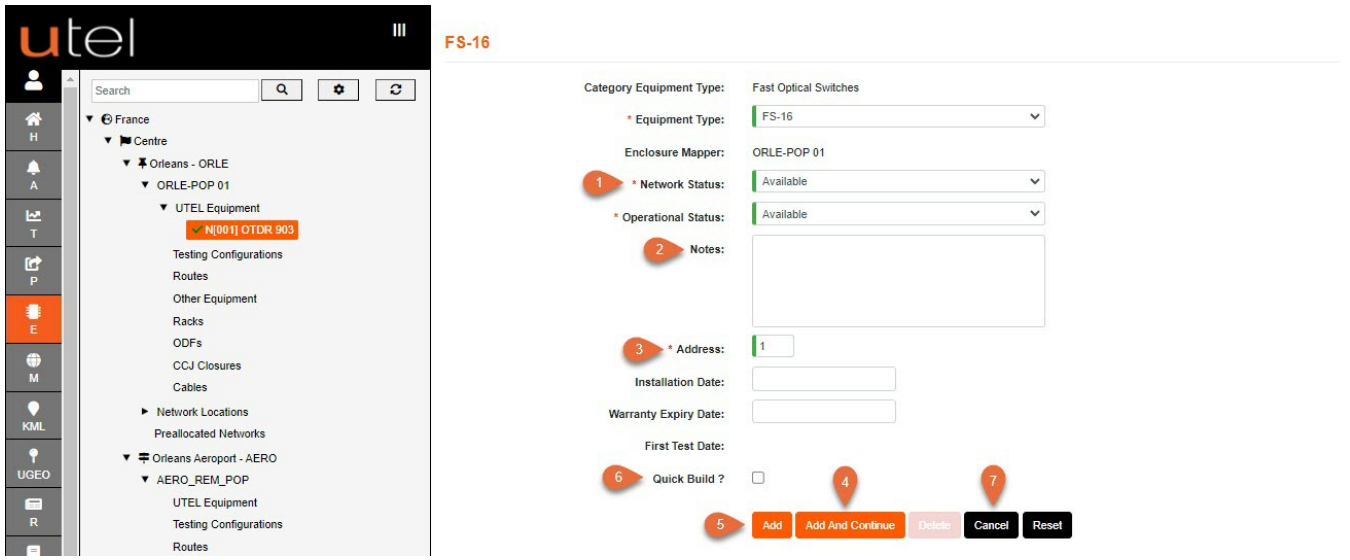
5.3 Create a Switch

Once you have added a Controller, you are then able to add Switches.

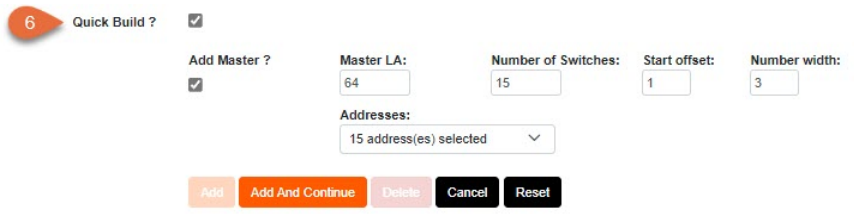
It is common to have a Primary (or Master) Switch and cascaded from this you have the Secondary stage Switches.
All Switches are added in the same way as shown below.



1. Select **Element Manager** from the Menu bar.
2. In the Tree, select the location, UTEL Equipment and then the controller that you wish to add the Switch/Switches to.
3. Click the **Create Switch** button.
4. A drop-down menu will appear with all the Switch options available in your Network.
   Select the one you require. For this example, we will add an FS-16.

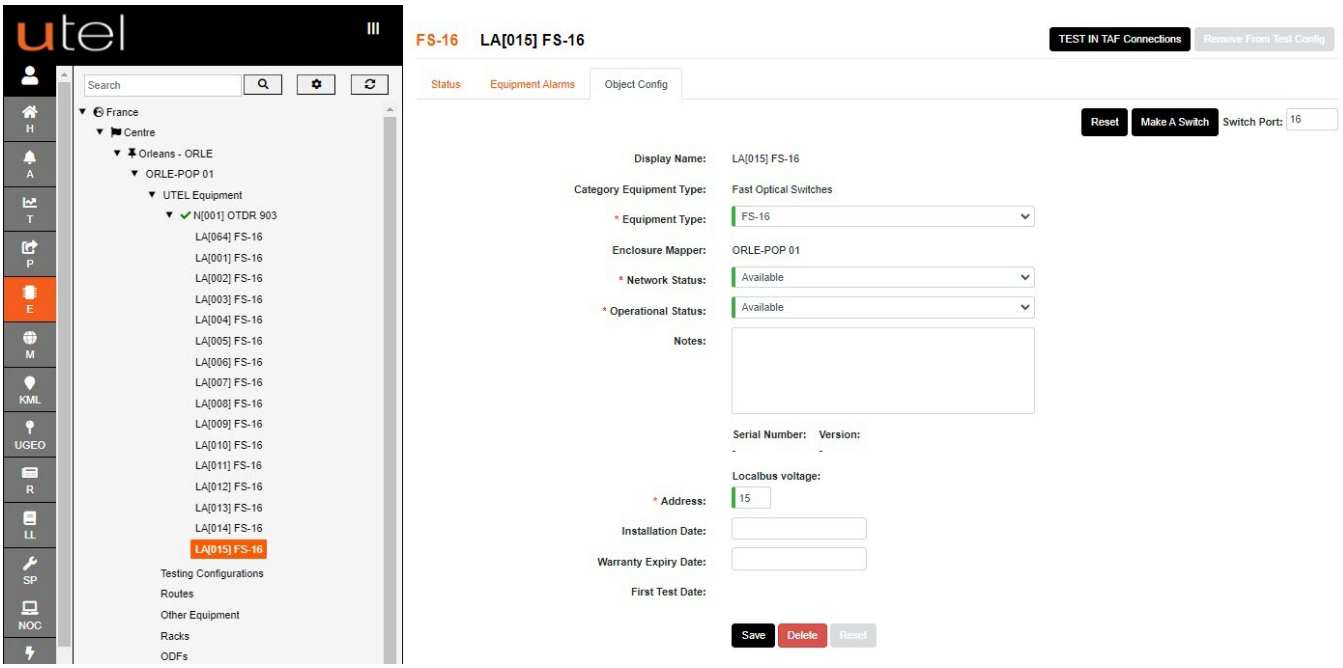


1. Choose the appropriate Network Status and Operational Status of the Switch using the drop-down menus provided.
2. Add any Notes if required.
3. Input the Address number. We recommend giving the Primary Switch an address of 64 and for Secondary switches to be mapped and named with the relevant OLT (Switch01 is linked to OLT01).
4. To save this and then create another identical Switch manually, for the same controller, select **Add and Continue**.
5. To save this entry and go to the information page for this Switch, select **Add**. Use this button if you are adding a one-off Switch and then moving on to another task.
6. To save this and then create a number of identical Switches automatically then tick **Quick Build** and then **Add and Continue** when you have selected the desired outcome:



7. To move away from this page without saving, select **Cancel**.

Add and Continue will process adding the Switches to the system, and then they be seen in the **tree**.

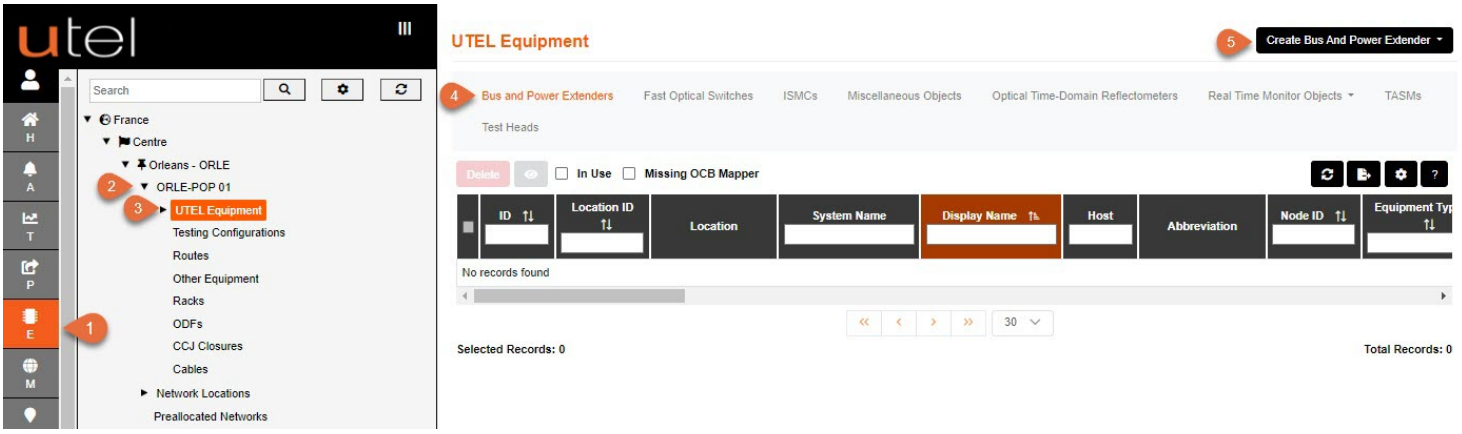


Another way of creating Switches is to restart the OTDR once the switches are connected.
The **alarm receiver** will automatically create switches that are connected.

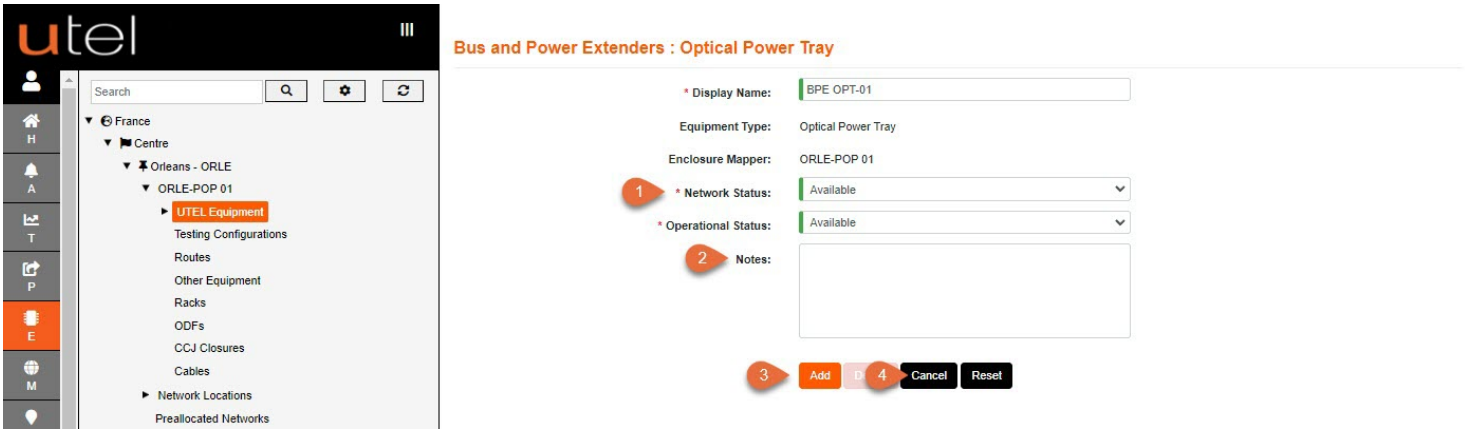
5.4 Create Bus and Power Extenders

1. Select **Element Manager** from the Menu bar.
2. Find the **POP Site** you wish to work on in the Tree and expand the options within it by selecting the arrowhead to the left of its name.
3. Click on **UTEL Equipment** in the Tree
4. Select the **Bus and Power Extender tab** in the main window.

5. Click the **Create Optical Power Tray** button.



1. Choose the appropriate Network and Operational **Status** from the drop-down menus.
2. Add any **Notes** if required.
3. Once completed, to save this entry click **Add**. You will now see it displayed in the **Tree**.
4. To move away from this page without saving, select **Cancel**.



5.5 To Edit or Delete UTEL Equipment

Within Element Manager, select the POP Site on the Tree and select UTEL Equipment.

You can navigate to the required Equipment down the tree.
Alternatively you can access the equipment from the tabs, and access it via the table.

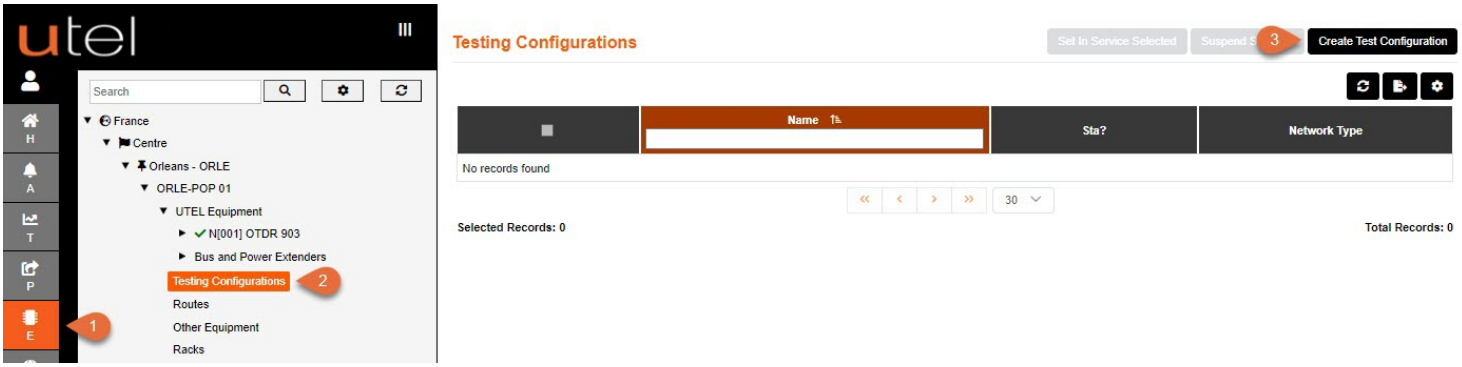
To edit, simply change the details displayed on the main screen as required.
Any amendments made will automatically turn the **Save** button from black to orange. Select **Save**.

To delete, you must ensure there is no further equipment associated with that component.
For example, if you wish to delete a controller, you must first delete any Routes, then the Test Configuration and the Switches before you can delete the controller itself.
If there are existing layers within it, then the **Delete** button will not be displayed. Remember to delete the components in reverse order to installation.

This process avoids any accidental (and potentially extremely time-consuming to rebuild!) deletions.

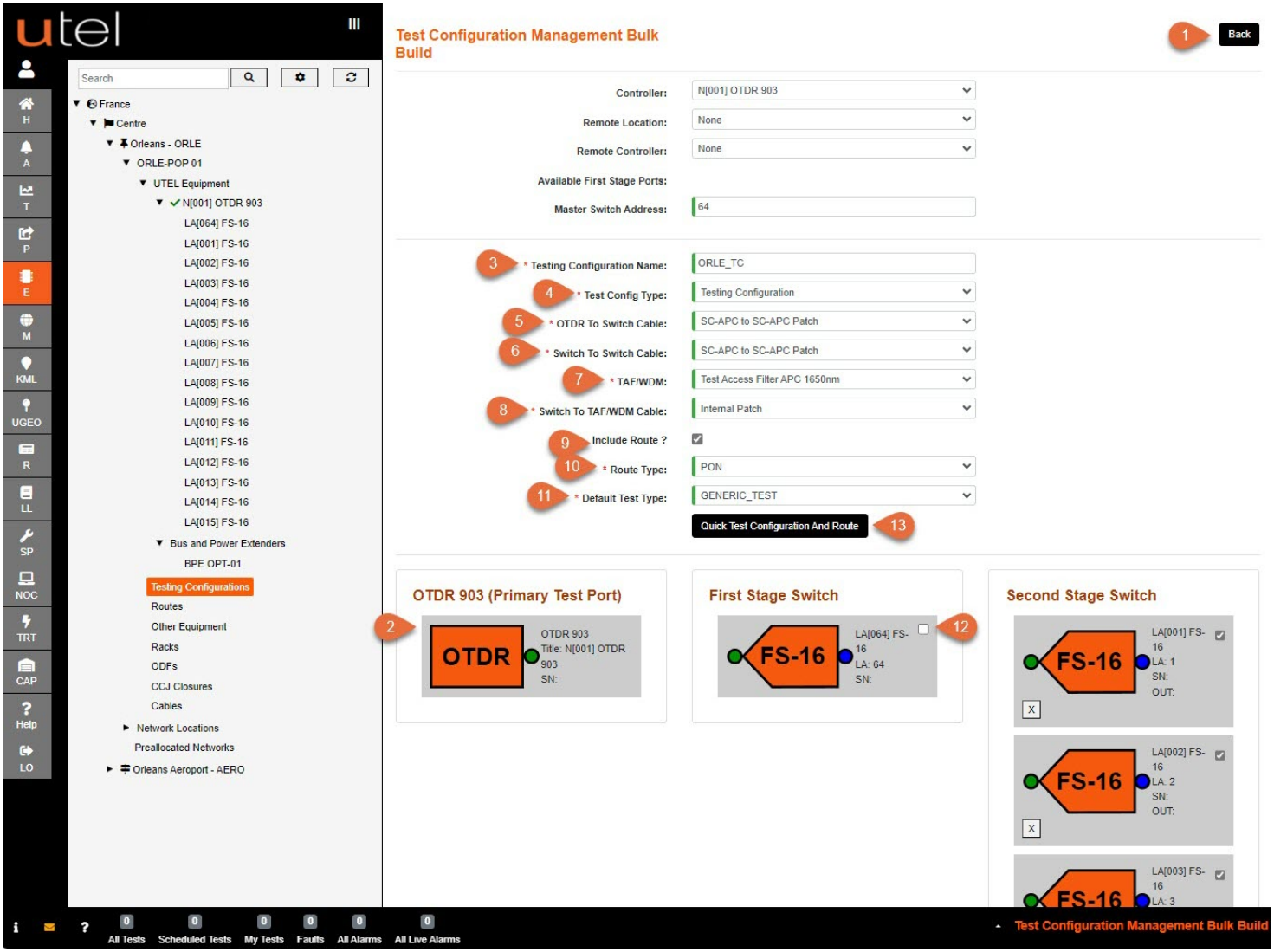
6 Test Configurations

Apart from creating a Test Configuration, with all the details of the equipment installed, to set up your routes - there is an option to set up Pre-Routes before any Equipment is added.



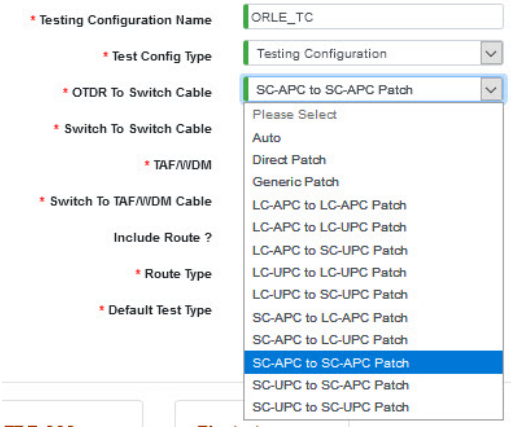
Select **Element Manager** from the Menu bar.
In the Tree, select the relevant POP Site and then Test Configurations.
Click the **Create Test Configuration** button.

Below is the screen that is presented with the UTEL Equipment created.
All the fields are filled in with the default settings for quick creation:

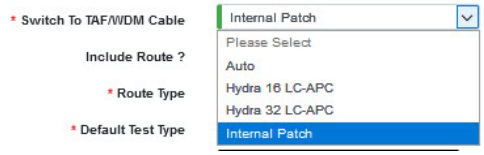


Test Configurations

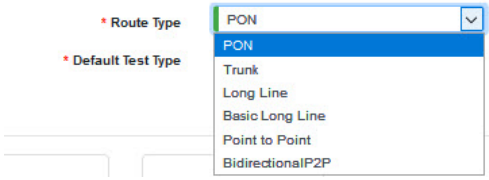
1. The screen will now display the UTEL Equipment you have built in the Network so far.
   If there are elements missing from this screen or incorrect Logical Addresses (LAs) for your Switches, then they may have been added incorrectly.
   Select **Back** and edit these if necessary.
2. The correct **Controller** (OTDR 903) should display automatically at the top of the screen.
   If you wish to edit, select the one you require from the drop-down menu or the location and name of the remote controller if it is a ROSC.
3. Enter a **Test Configuration** name as you would like it to display in the Tree.
   Please refer to the *Naming Convention* 68 part of this document for guidance.
   If so, the name will appear similar to the image above.
4. Test Configuration **Type** should automatically be the correct one for the location created.
5. Select the Patch Cable used for the **OTDR To Switch Cable**.
6. Select the Patch Cable used for the **Switch To Switch Cable**, which has the same options;



7. Select Test Configuration **TAF** required;
   None, APC 1650nm or UPC 1650nm.
8. Select **Switch To TAF/WDM Cable** from the drop-down menu;



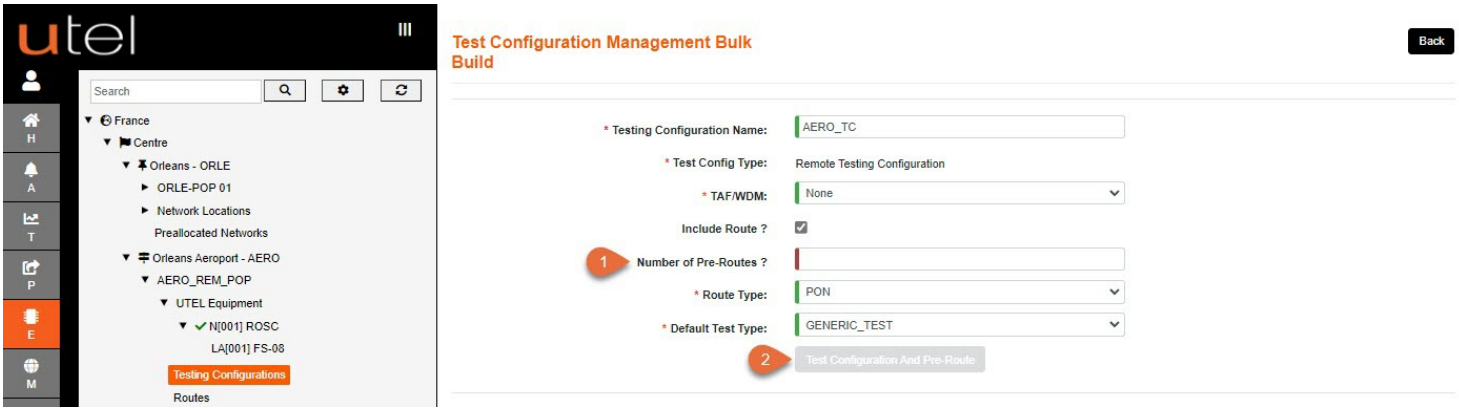
9. **Include Route?** to allow for routes to be available from the tree; if so then proceed with 10 - 12.
10. Select **Route Type** from the drop-down menu;



11. Select **Default Test Type** from the drop-down menu.
12. **Select** the Master Switch when required for network routing, via the tick box.
    Any Switches not to be included in setting up routes can be deselected.
13. Once all the above is correct, select the **Quick Test Configuration and Route** button.

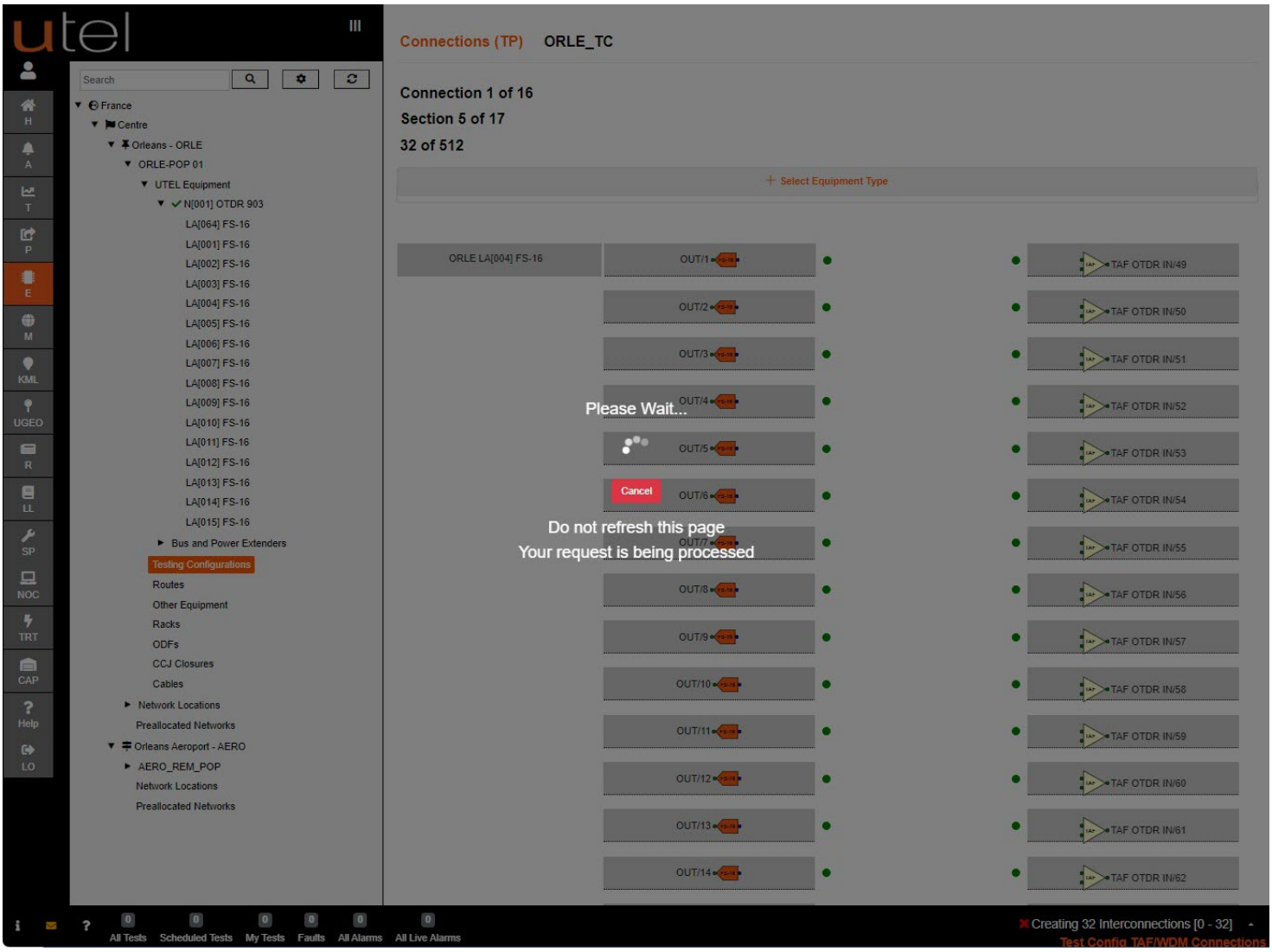
Below is the screen that is presented without the UTEL Equipment created.
This allows pre-routes for the network to be connect up before the switch ports are available:

Test Configurations



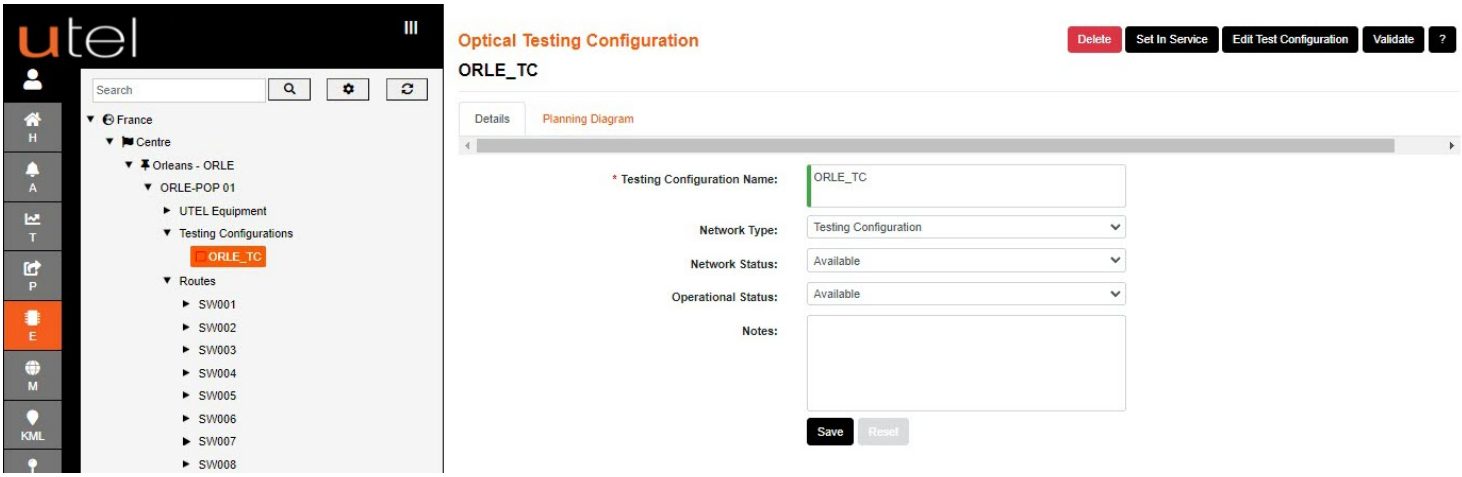
1. Enter the number of **Pre-Routes** required.
2. Once all details are configured as required, select the **Test Configuration and Pre-Route** button when it becomes available.

The system will make connections between the OTDR, the Master Switch and the cascaded Switches.
The Routes will be automatically be created.
This may take up to a minute, depending on the number of connections to be made.

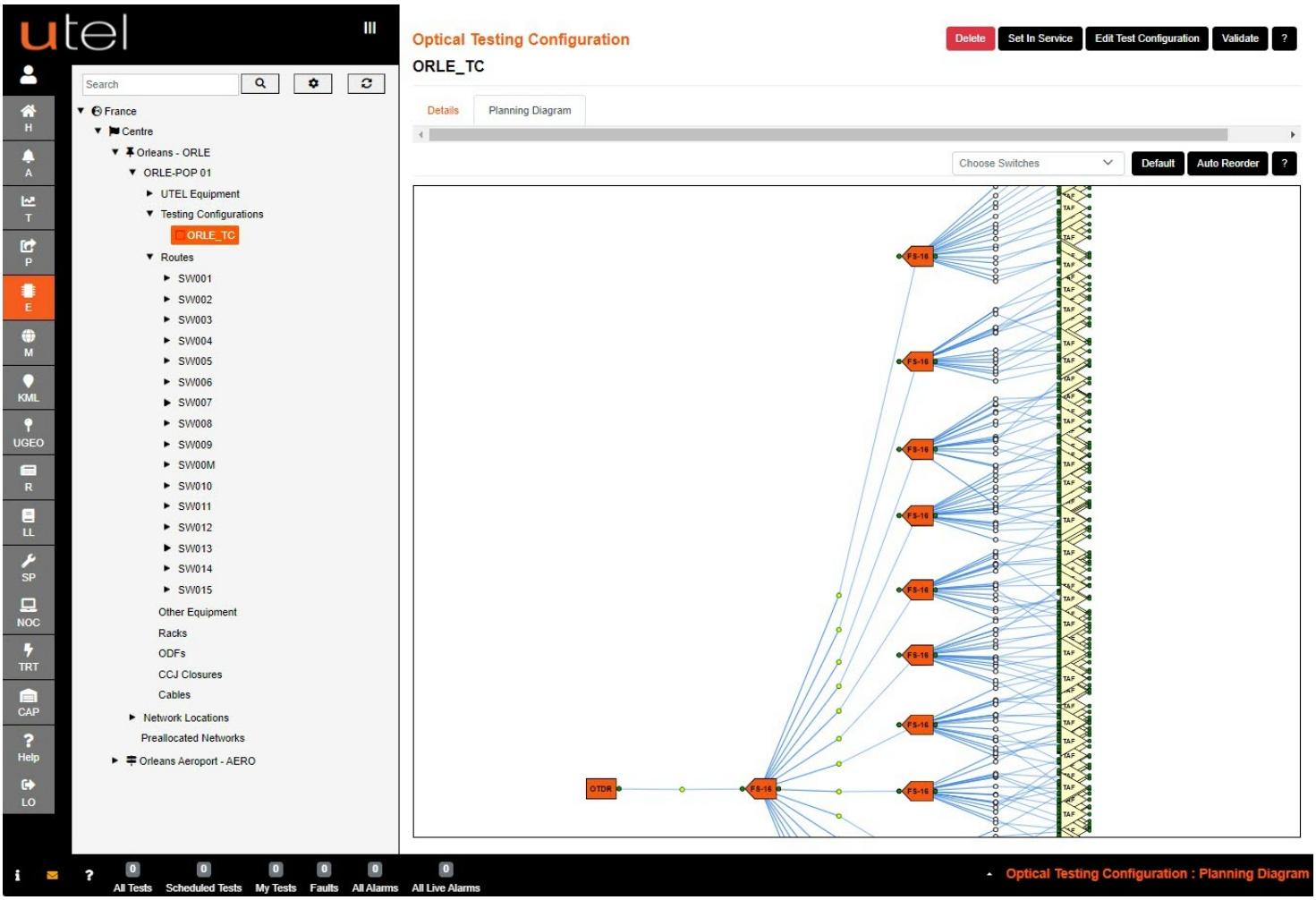


When the Test Configuration is complete you will be presented with the **Details**.

Test Configurations



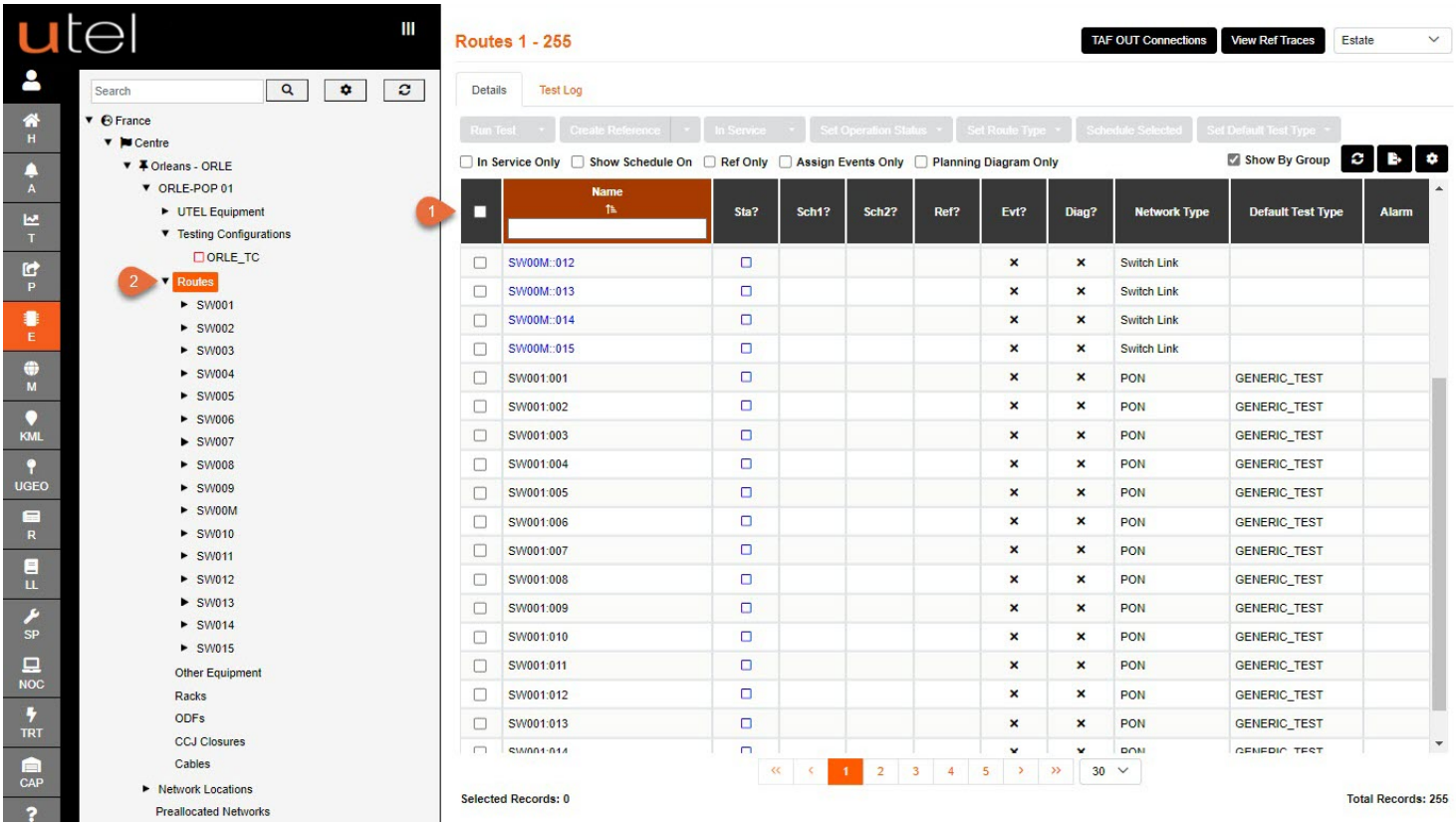
The connections will be displayed in a **Planning Diagram**.



You are able to zoom in and out of the diagram using the scroll on your mouse to view it closer.
The Switch filter will allow a simplified view, especially as more of the network is added to the routes.

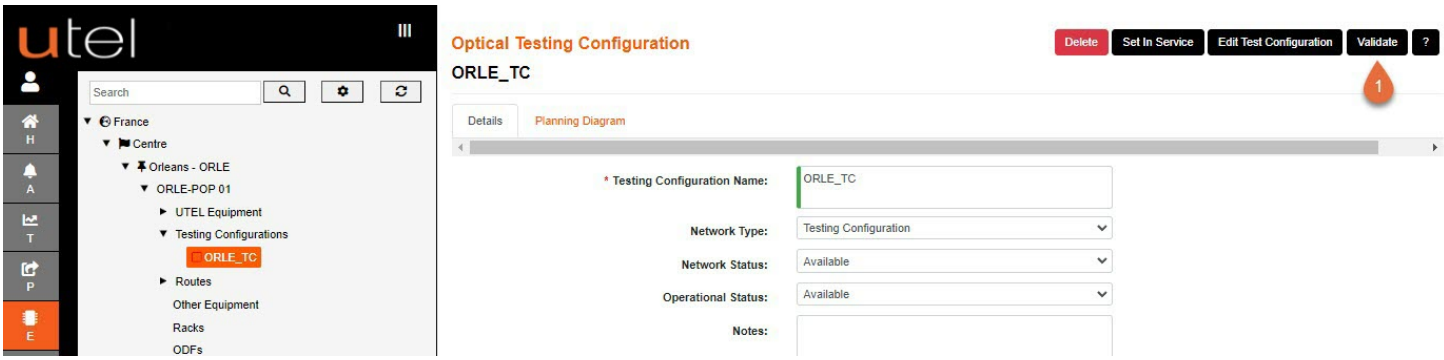
FastLight will display the Routes in a table view (1).
They will also appear grouped together in the Tree (2).

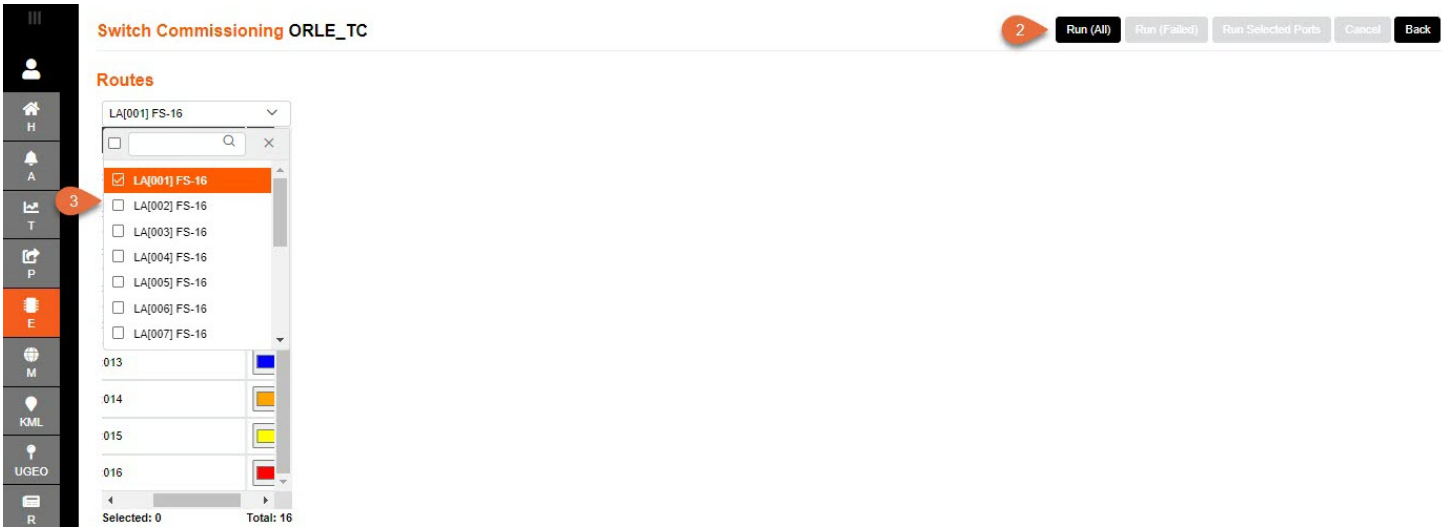
To view all the Routes in this table view, select Routes from the Tree.
To view an individual route, select its name from the Tree view.



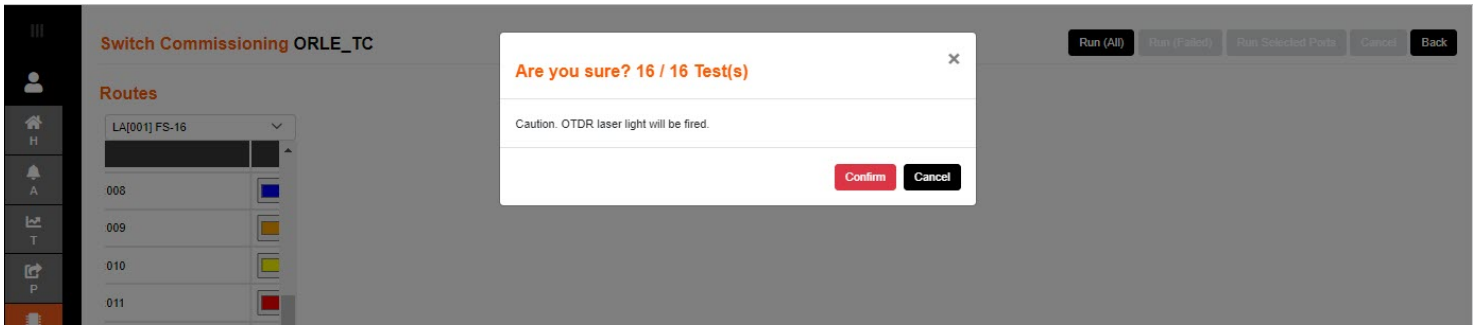
6.1 Validate Switches

The is an optional functionality to check the state of the ports before connecting up your network.



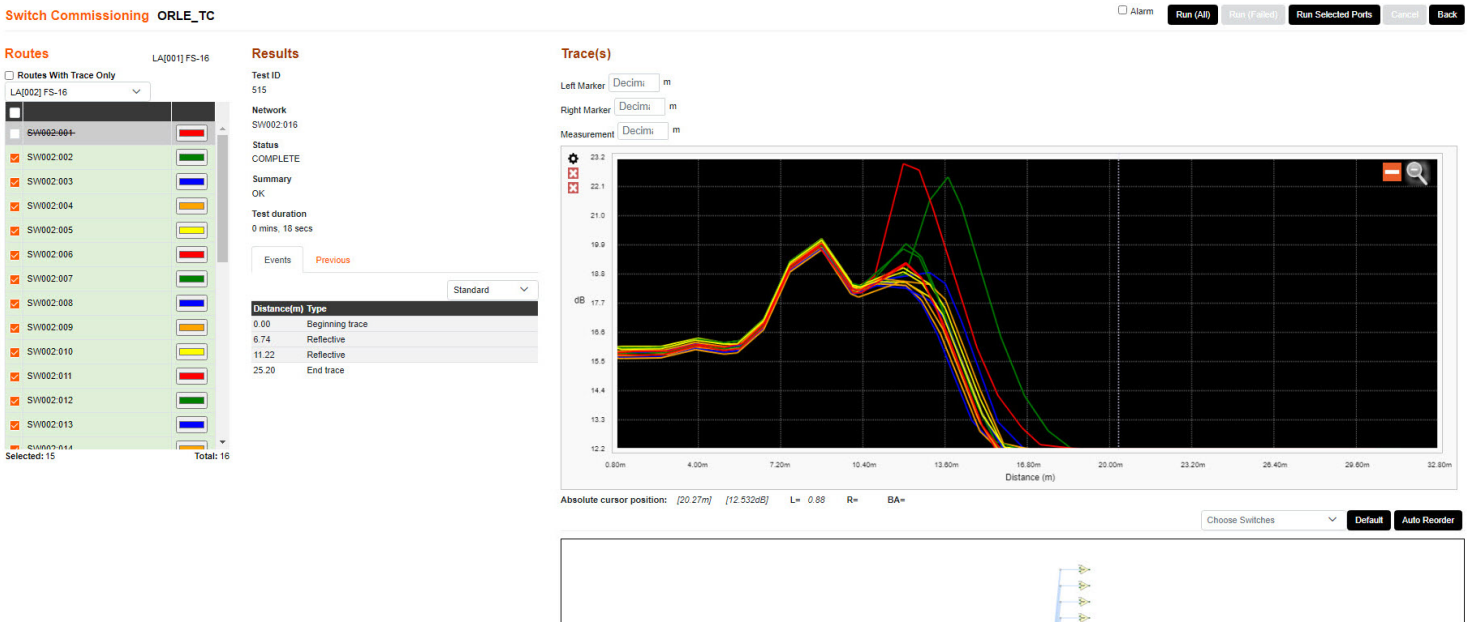


1. Select **Validate**.
2. Select **Run (All)** or,
3. Select switches and/or ports.

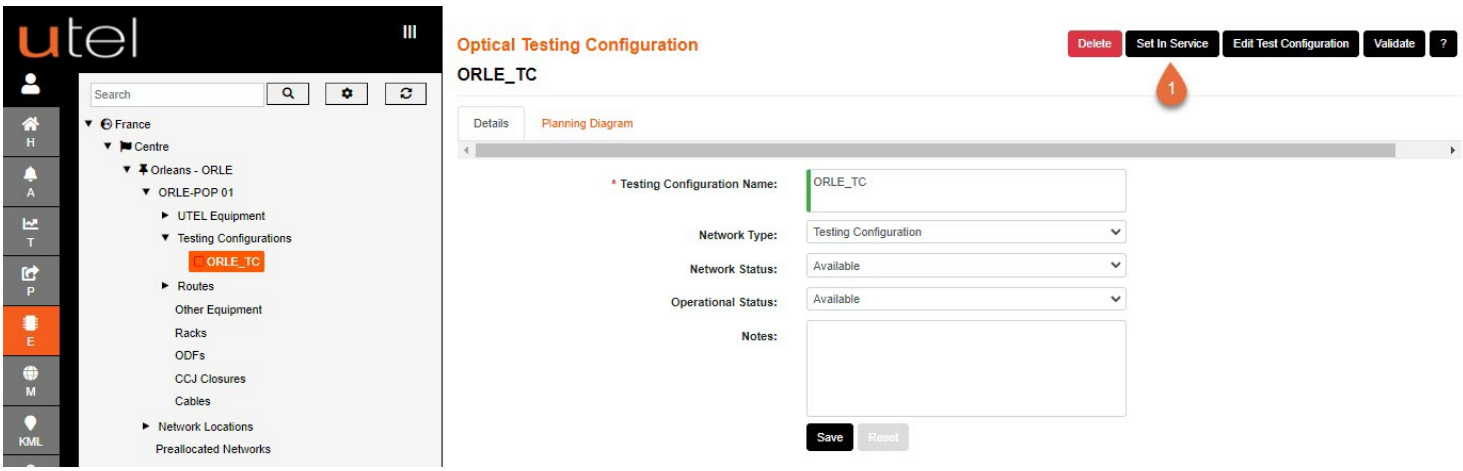


While the tests are running a status **icon** is indicated next to each port, along with the traces run on view.

When the traces have all finished being run, they are displayed on the **Trace** tab and you can visually check for dirty ports.



6.2 Setting Test Configuration In Service



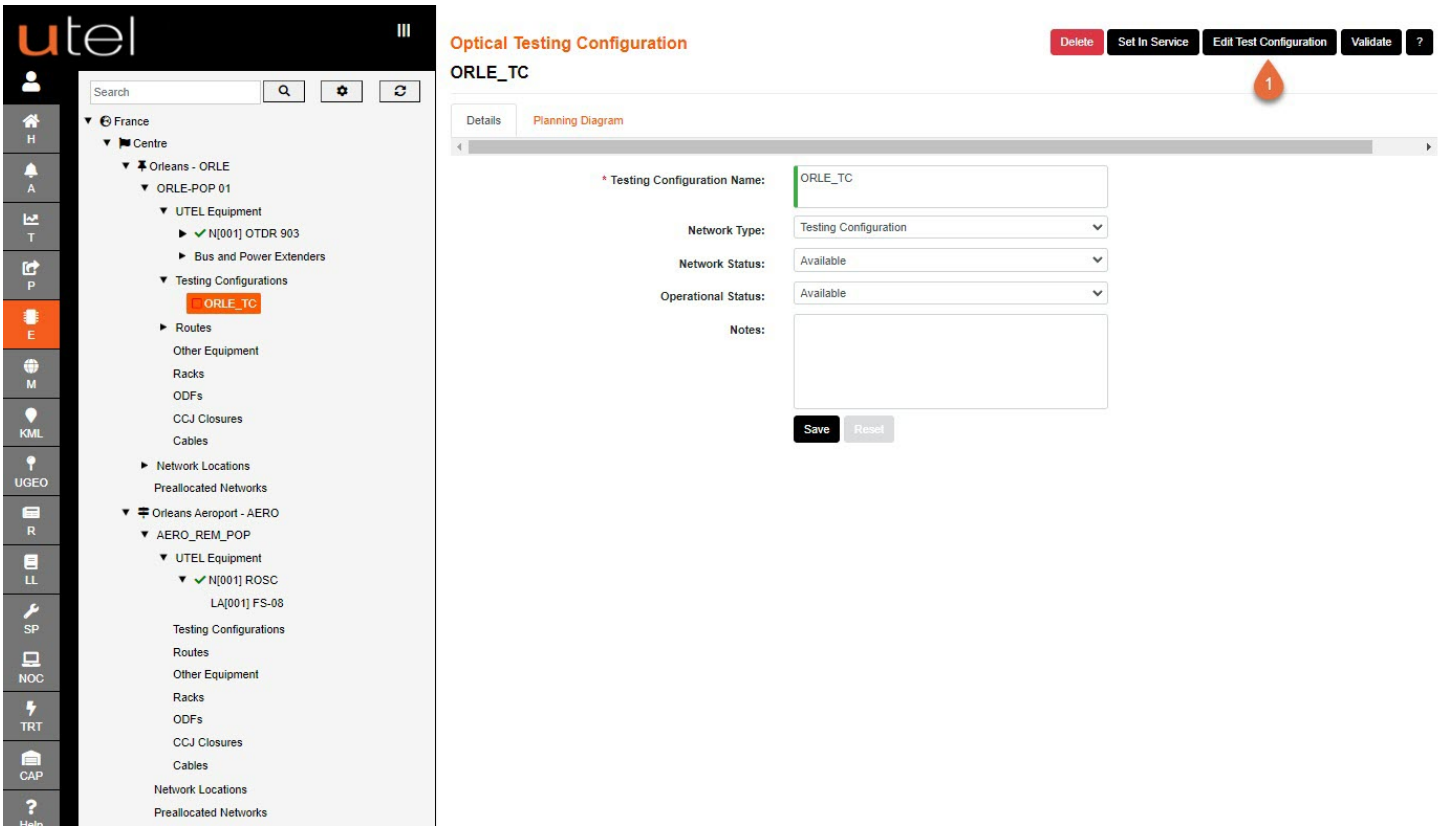
1. Select the name of the Test Configuration from the Tree then press the **Set In Service** button.

This will turn the icon next to its name in the Tree from red (Suspended) to green (In Service).

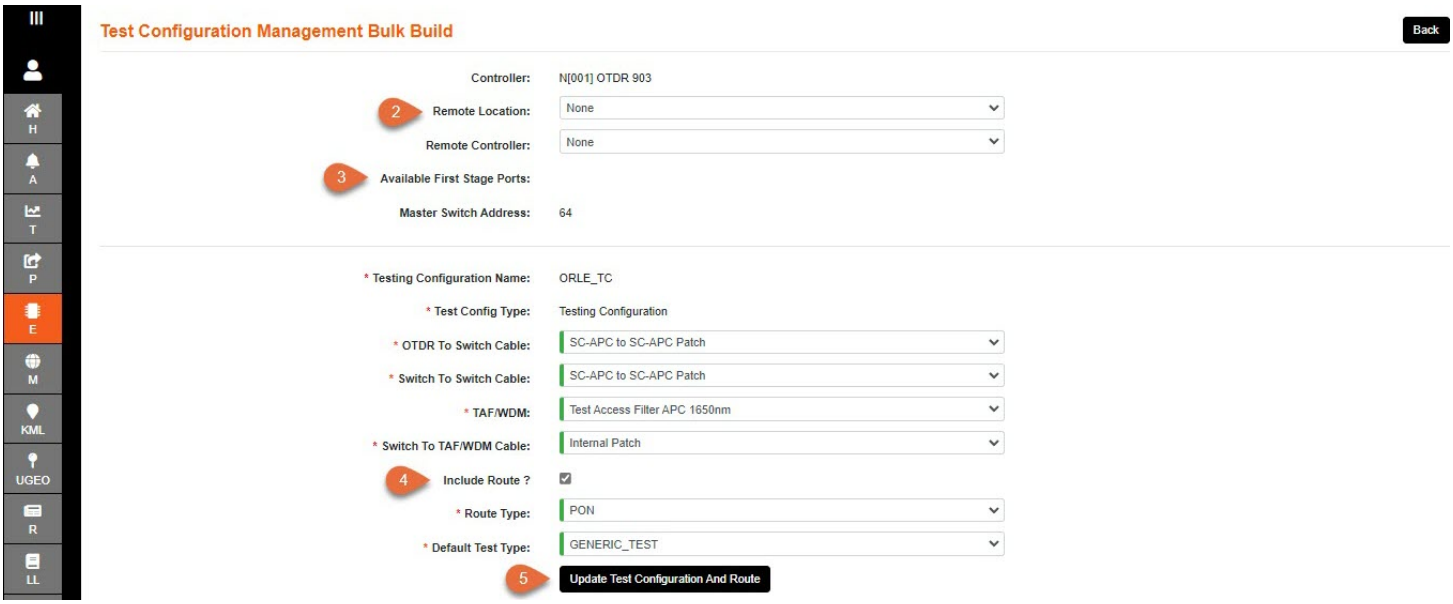
Note: A Test Configuration can only be edited, deleted or validated when it is in a suspended state.

6.3 To Update a Test Configuration

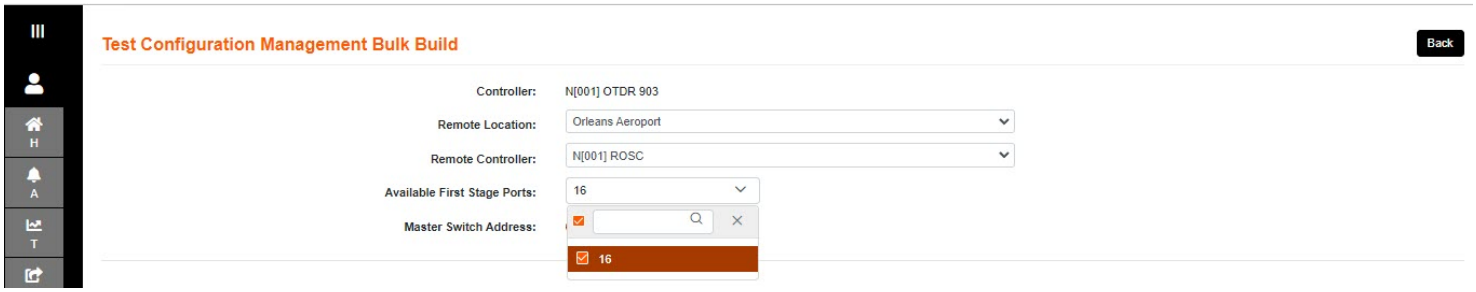
Navigate to the required **Test Configuration** in the Tree.



1. Select **Edit Test Configuration** on the top right of the screen



2. If you require to add a ROSC configuration from a remote site, select the **Remote Location** you require from the drop-down menu.
3. Select the **Port** the ROSC will be connected to when the drop down becomes available.



4. **Modify** any settings that are required to be updated
5. When you have modified the items required, select **Update the Test Configuration And Route**.

6.4 To Edit or Delete a Test Configuration

Within Element Manager, select the Test Configuration in the Tree.

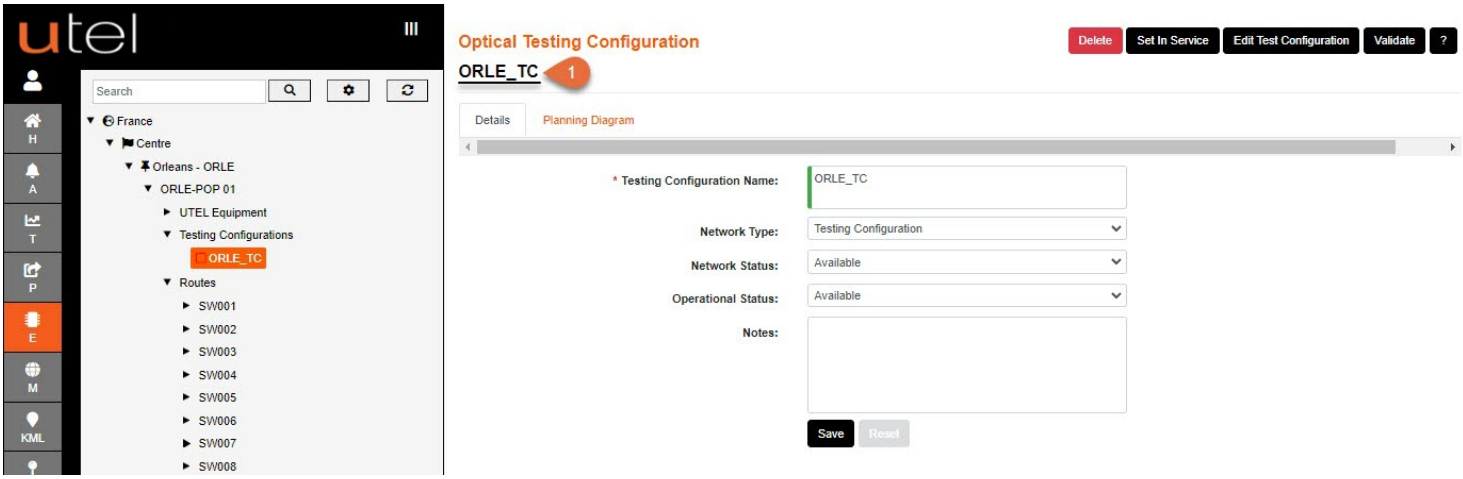
To edit, simply change the details displayed on the main screen as required.
Any amendments made will automatically turn the **Save** button from black to orange. Select **Save**.

To delete a Test Configuration is to remove all connections between the OTDR and Switches, as well as the routes.

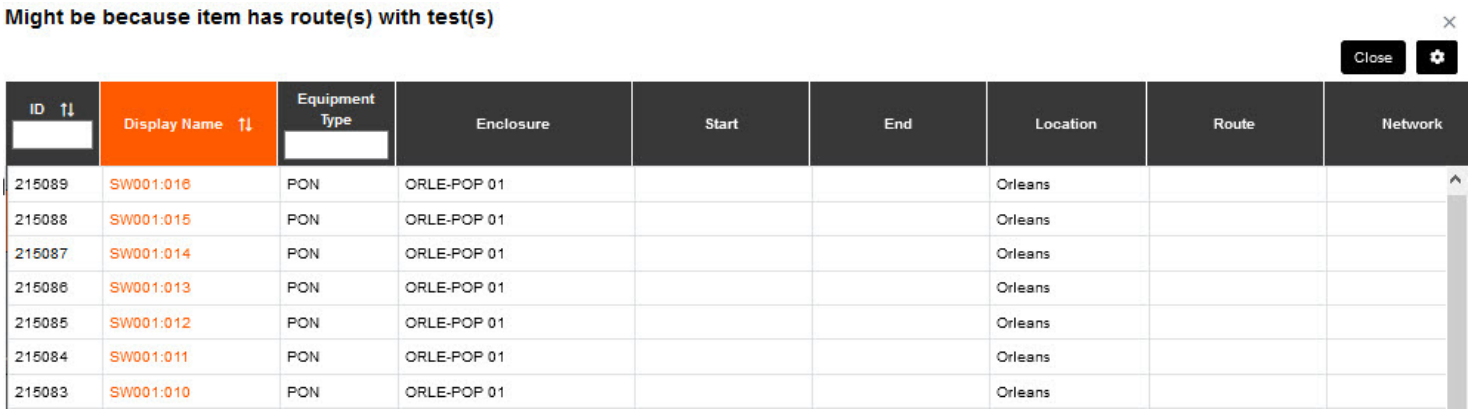
To delete, you must ensure there is no further equipment associated with that component.
For example, if you wish to delete an OTDR, you must first delete the Test Configuration and the Switches before you can delete the OTDR itself.
If there are existing layers within it, then the **Delete** button will not be displayed.

1. Click on the Test Configuration **name** to see associated items.
   Remember to delete the components in reverse order to installation.

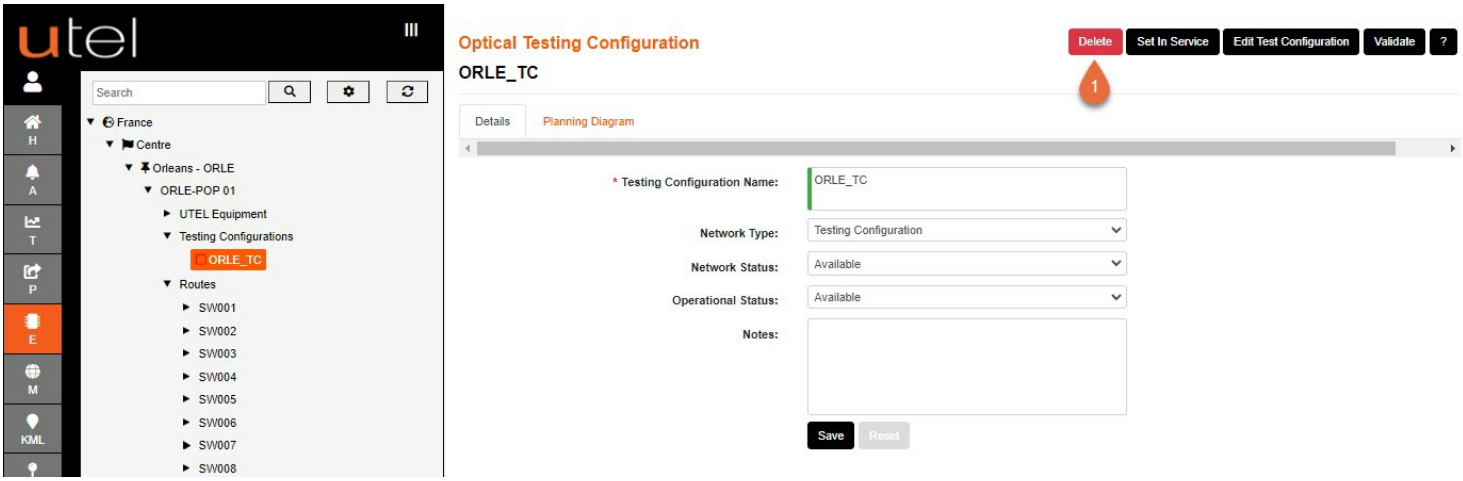
This process avoids any accidental (and potentially extremely time-consuming to rebuild!) deletions.



The items that is preventing the deletion is presented in a selectable table for ease of navigation.

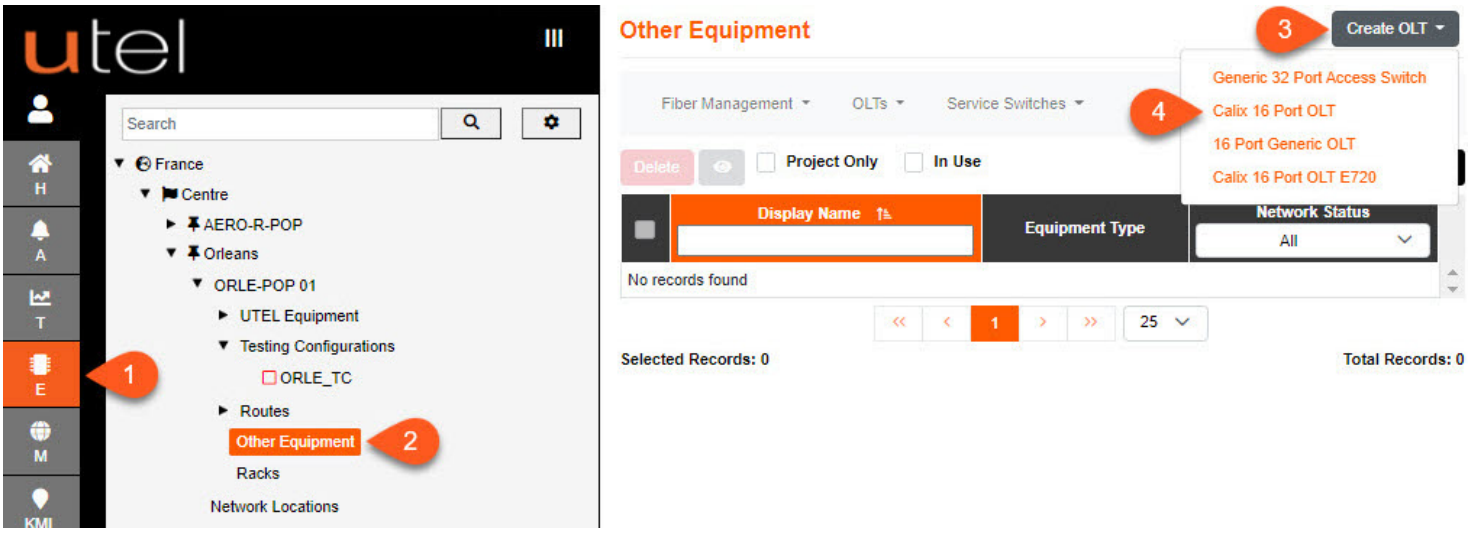


2. Once all associated with the Test Configuration is cleared, select **Delete**. All routes will automatically be deleted too.



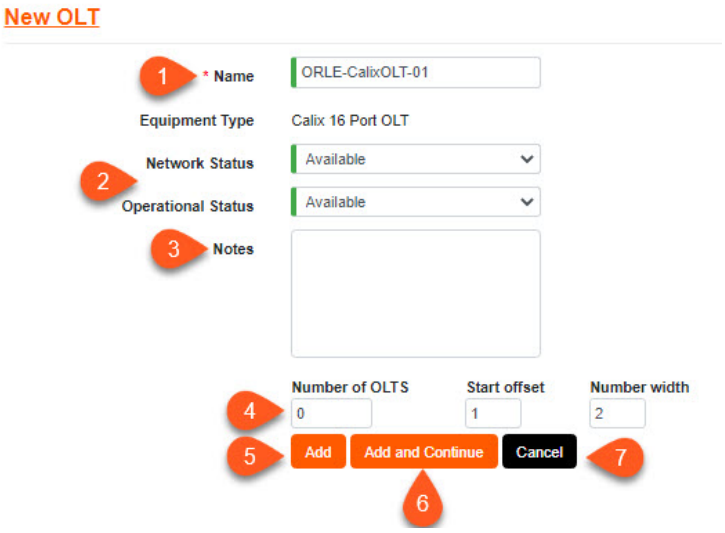
7 Create Other Equipment

To create an OLT, navigate to **Other Equipment** in the tree.

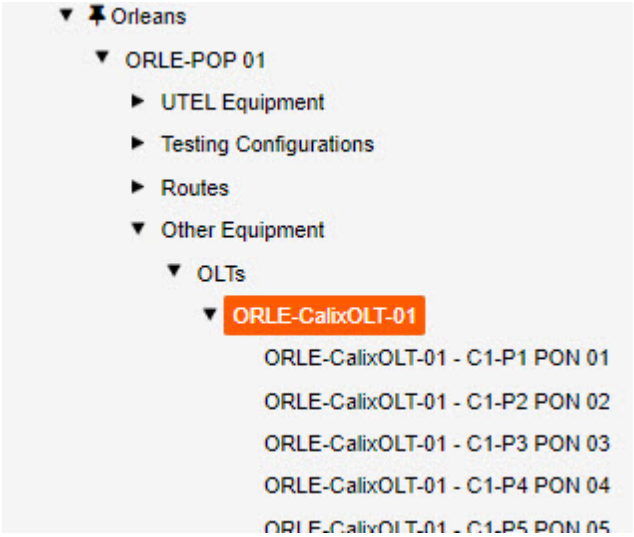


1. Select **Element Manager** from the Menu bar.
2. In the Tree, select the POP Site, then **Other Equipment**.
3. Click the **Create OLT** button.

4. A drop-down menu will appear with all the **OLT** options available to you. Select the one you require. For this example, we will add a Calix 16 Port OLT.



1. Enter the **Name** as you would like it to display in the Tree.
   Please refer to the *Naming Convention* 68 part of this document for guidance.
2. Select the **Network Status** and **Operational Status** of the OLT using the drop-down menu provided.
3. Add any **Notes** if required.
4. Enter the **Number of OLT's** that need to be created, usually the same number of Secondary (Slave) switches already in the POP. One will be added if left at 0.
   The Offset number will add the OLT's from the number entered, automatically incrementing the number at the end of the OLT name.
5. To save this entry and go to the information page for this OLT, select **Add**. Use this button if you are adding a one-off OLT and then moving on to another task.
6. To save this and then create another OLT, select **Add and Continue**.
7. To move away from this page without saving, select **Cancel**.



You will now see the OLT displayed in the Tree, along with all the ports.

7.1 To Edit or Delete an OLT

Within Element Manager, select its name from the Tree.

Create Other Equipment

To edit, simply change the details displayed on the main screen as required. Any amendments made will automatically turn the **Save** button from grey to orange. Select **Save**.

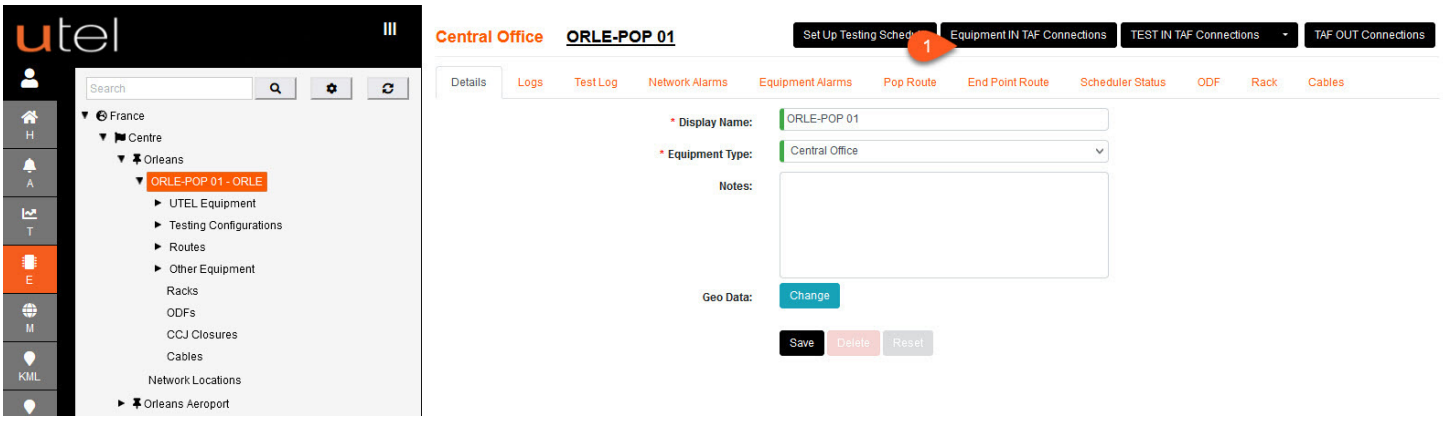
To delete, select **Delete**.

7.2 OLT - TAF Connections

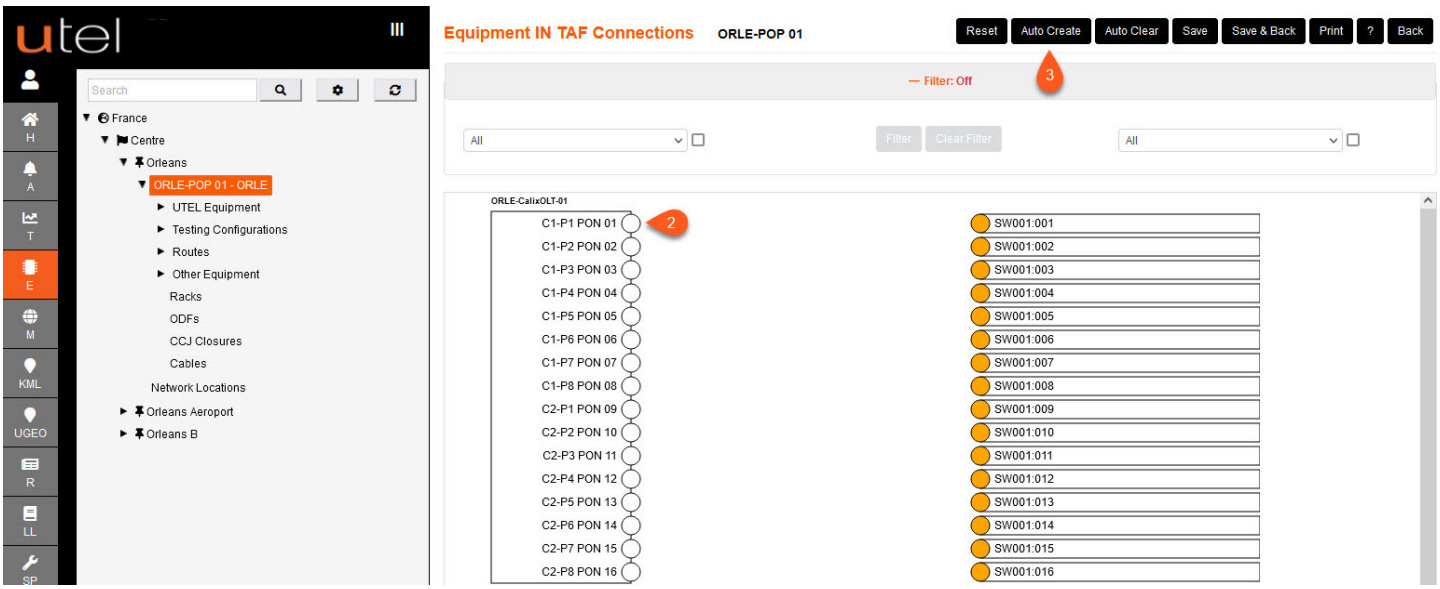
The routes required path needs to be manually set between the OLT and the TAF.

Select the POP of the required route in the tree.

1. Click on the **Equipment IN TAF Connections** button.

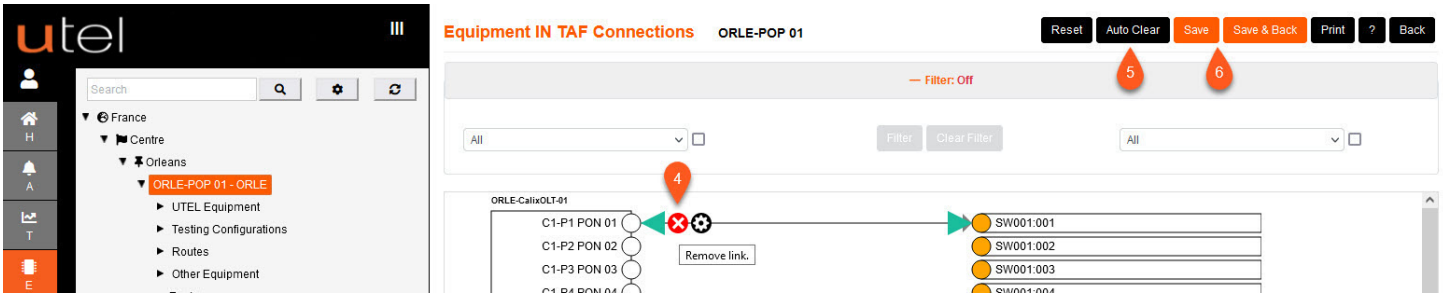


2. Using the left mouse - select the OLT port to be connected and drag to the desired Switch port.
3. Alternatively you can select 'Auto Create' button to connect up all the OLT, and Switch ports, 1-to-1.



4. If you would like to remove the connection - hover over the line and a red cross will be presented. Click on the red cross and the line will be removed.
5. Alternatively you can select the 'Auto Clear' button.

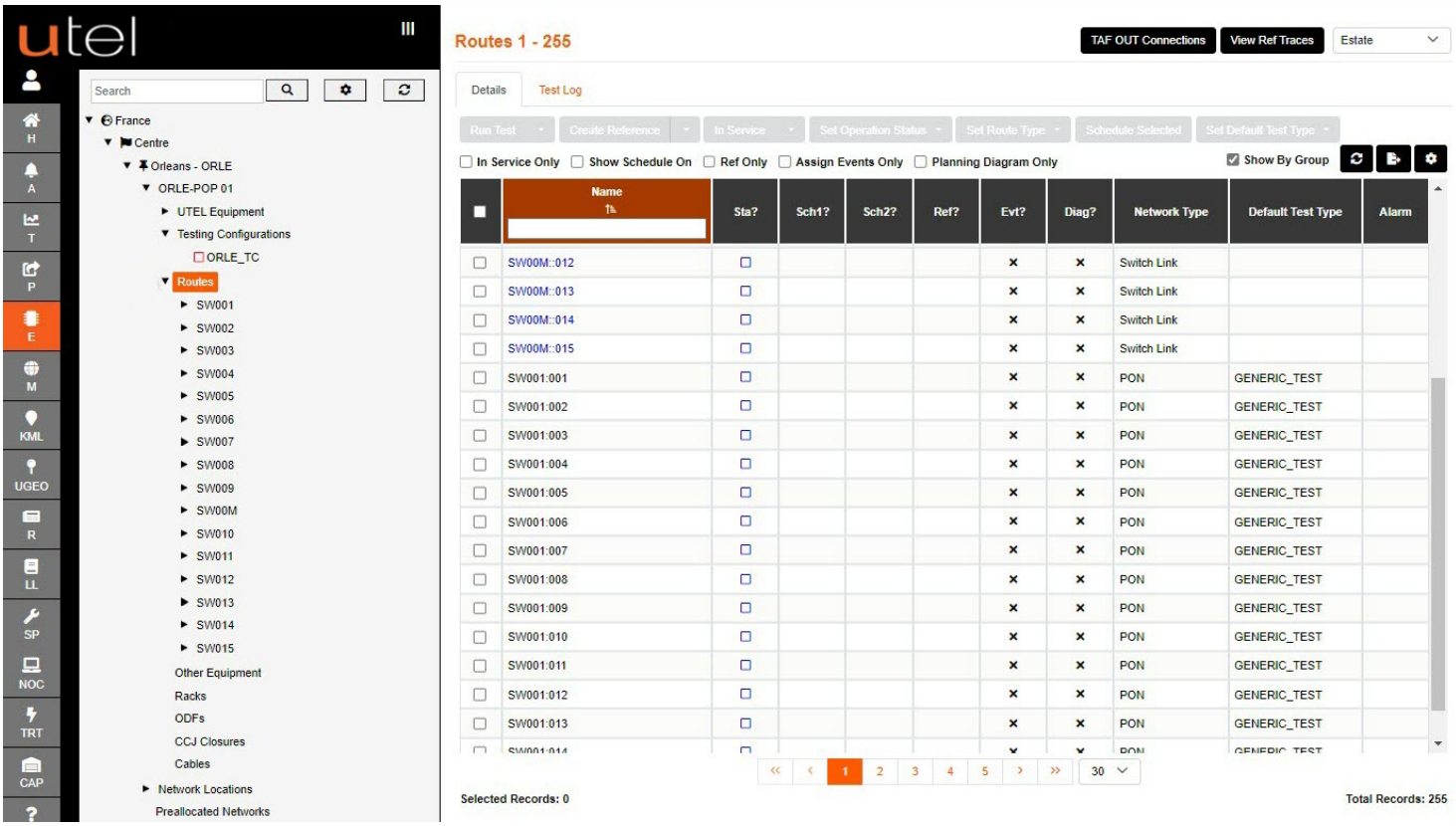
Create Other Equipment



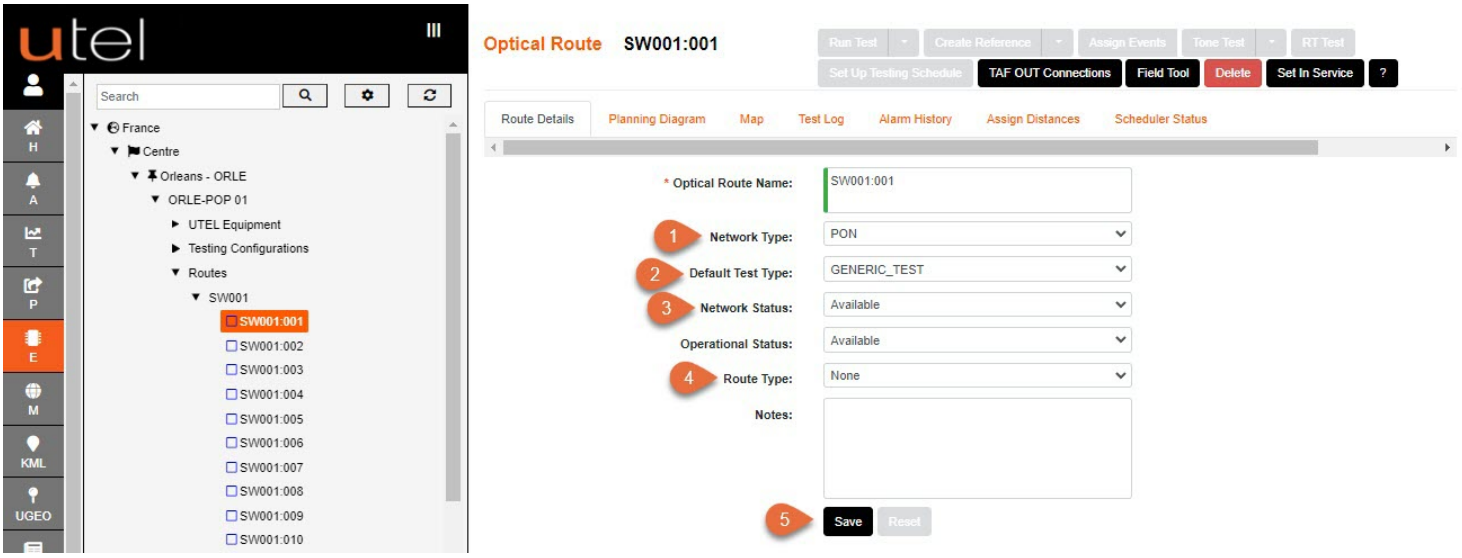
6. Click on **Save**, or Save & Back, once you have finished connecting up the paths you require.

8 Routes

The creation of the Routes between the equipment are automatically created with the creation of the Test Configuration, but to add more you will need to edit the Test Configuration.

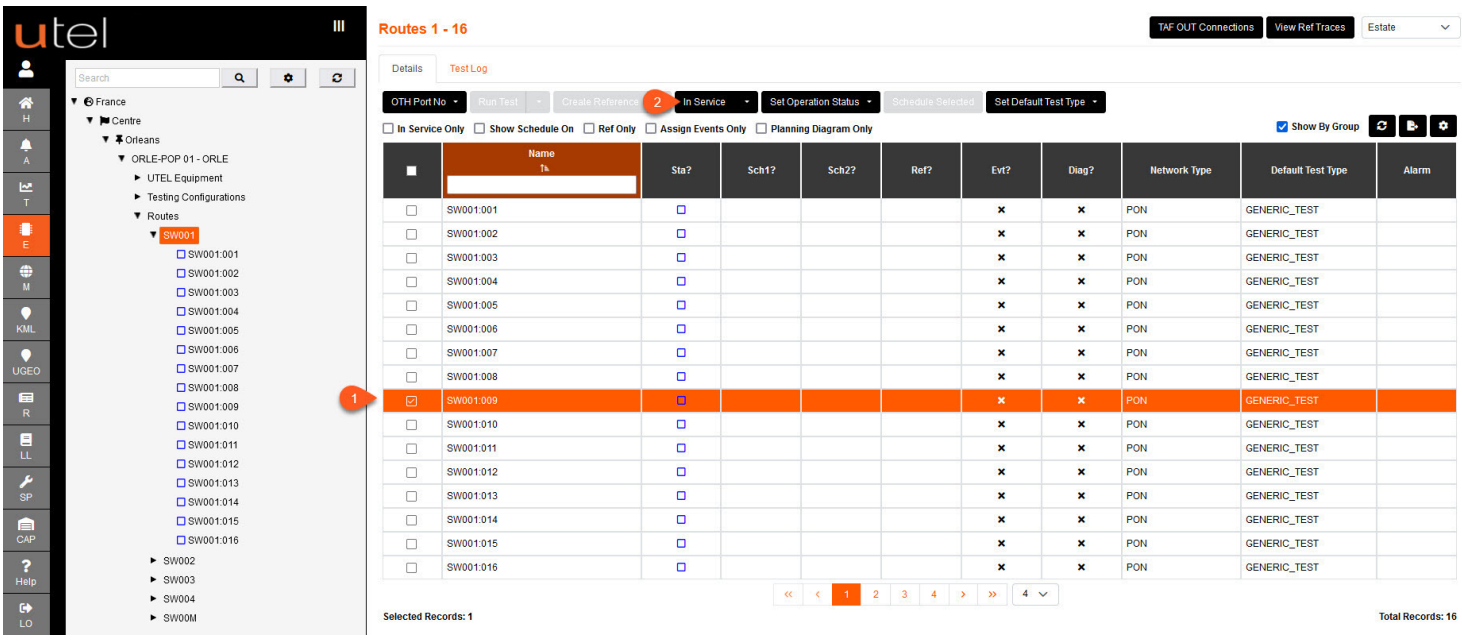


1. Select **Element Manager** from the Menu bar.
2. In the Tree, select the POP Site and navigate down to the **Routes/Switch** required to view.
3. You can change the **Name** filtering of routes by using this button. Choice between or all; Estate, OLT and Switch.

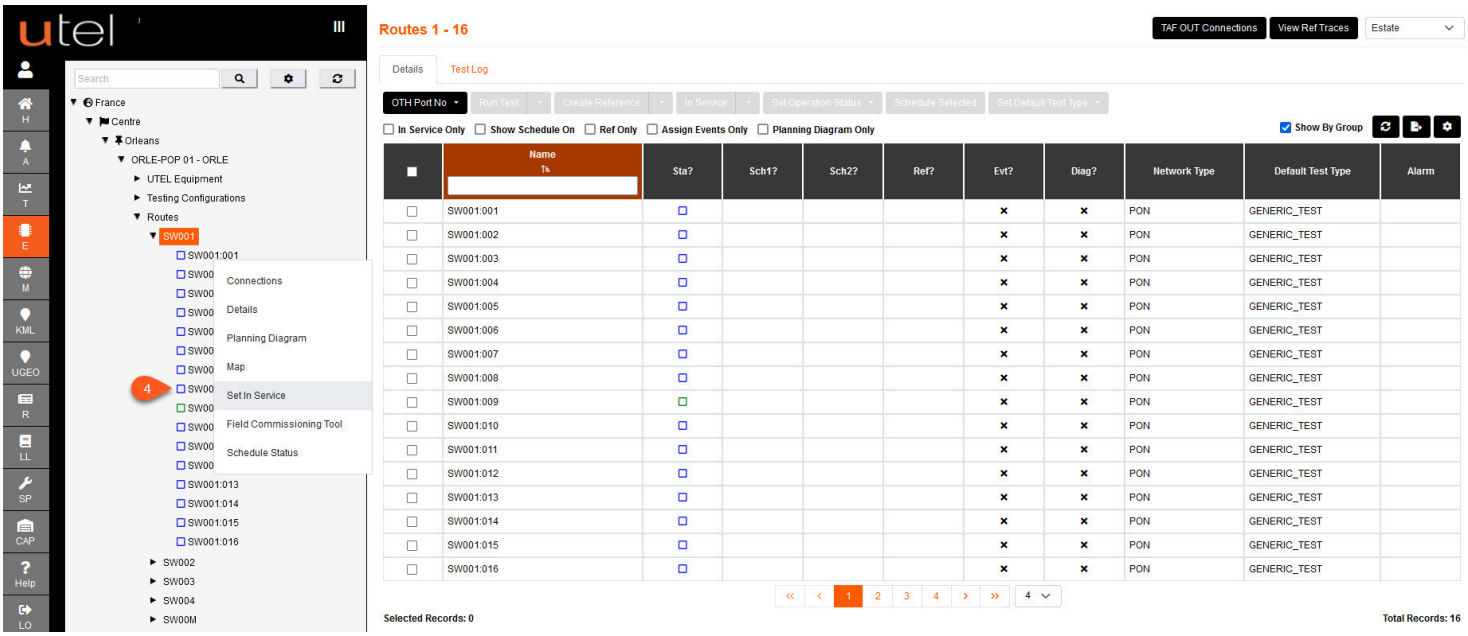


1. Select the **Network Type** from the drop-down menu.
2. Select the **Default Test Type** from the drop-down menu.
   Note: you will only get the option to select a CUSTOM_TEST if you have already created one in the Testing section which will be covered in a separate guide.
3. Choose the appropriate **Network Status** and **Operational Status** of the route using the drop-down menus provided.
4. Optional to give the route a unique **Type.** This will help filter of the different types in the tree and the table.
5. To save your Routes, select **Save**. To go back to default settings then select **Reload**.

8.1 To Set a Route In Service



1. Select the required **Route** from the table or Tree. You can do multiple at one time.
2. Press the **In Service** button.
3. This will turn the **icon** next to its name from black to green.
   Hover over icon and see the Network Status and Operational Status.
4. Another way to navigate Routes is to **right click** on it from the tree, and click Set In Service.

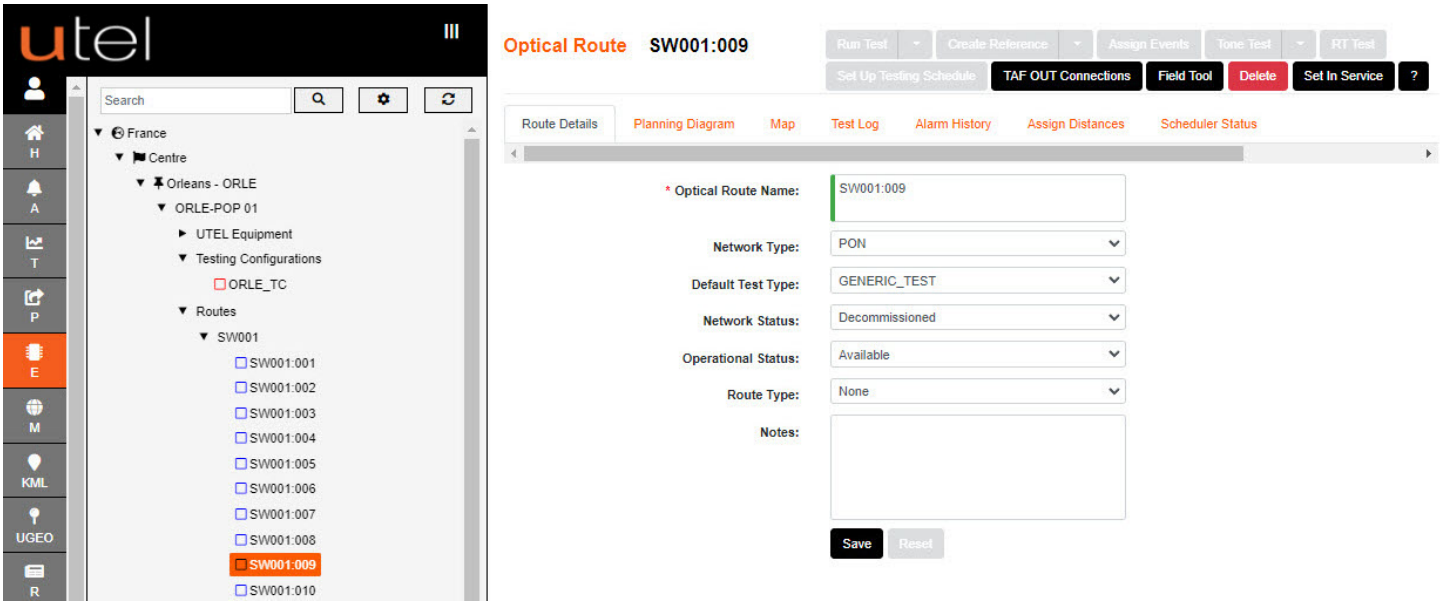


8.2 Deleting Routes

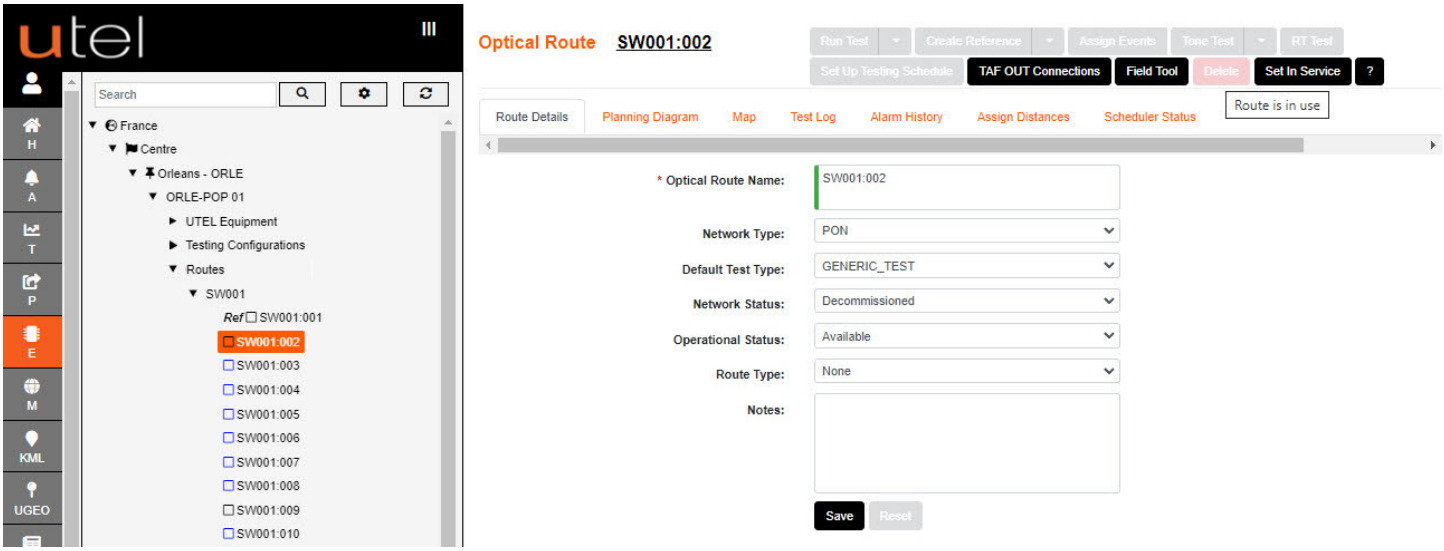
If there is any need to delete the Routes created then the most straight forward way is to delete the Test Configuration that created them To Edit or Delete a Test Configuration 32

This however becomes trickier when routes have been *connected*, set to *'In Service'*, and/or *tests have been run*.

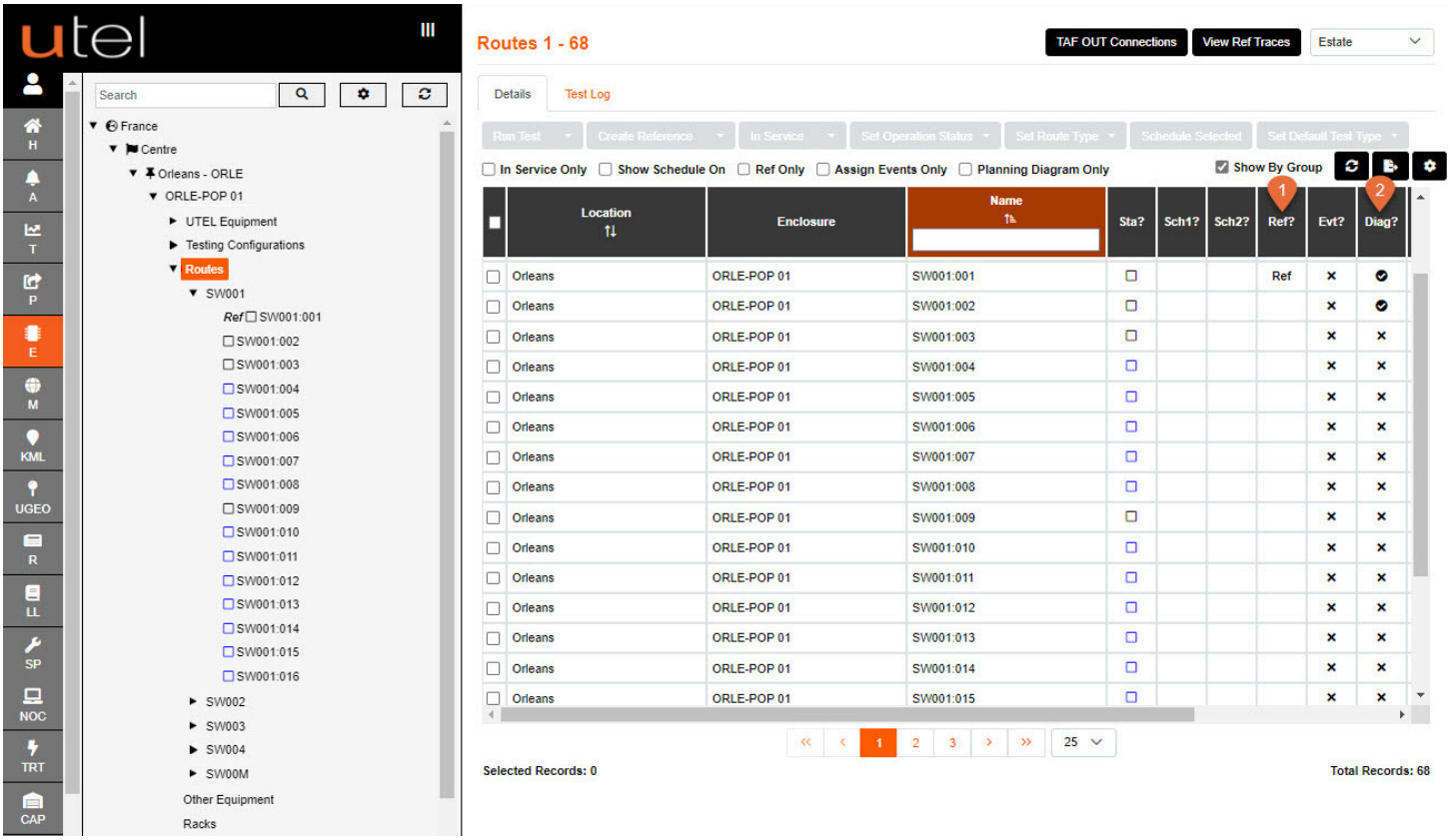
All routes set to anything other than 'Available', need to be set to **Decommissioned** before the Delete is enabled.



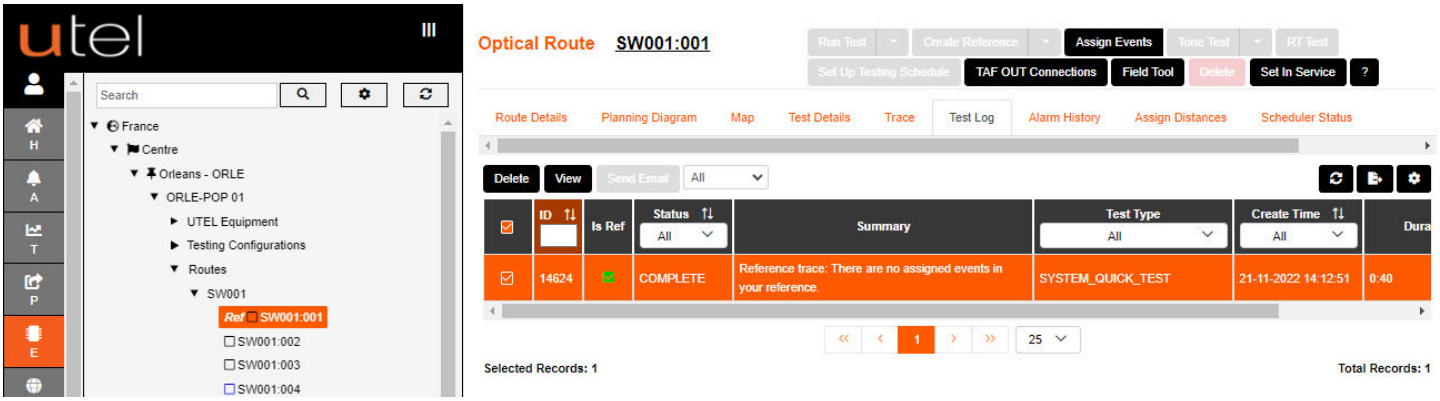
If the Delete is not available then the route is possibly connected to a cable, ie: *'Route is in use'*.
Navigate to the **TAF OUT Connection** screen (POP TAF Out Connections) 61
Disconnect the Route's TAF to the cable.



If tests have been run on the route then the tests need to be deleted before the Routes (and Test Configuration) can be deleted.
The easiest way to see which routes have had a test run (or is connected) is to navigate to the **Routes folder**.
The columns **Ref? (1)** will indicate tests run, and **Diag? (2)** will indicate if the route has a diagram ie: connected out from the TAF.



Navigate to the routes **Test Log** and delete the tests from the table.
The user will then be allowed to delete the route.

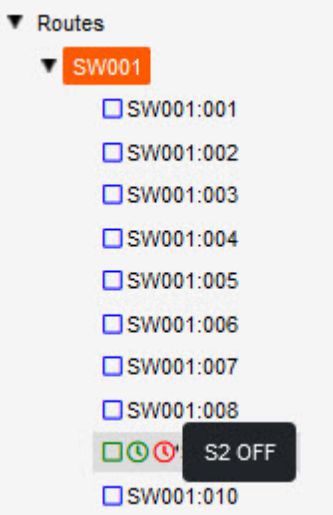


When all the routes are open for deletion; the *Test Configuration can be deleted to clear them all*.

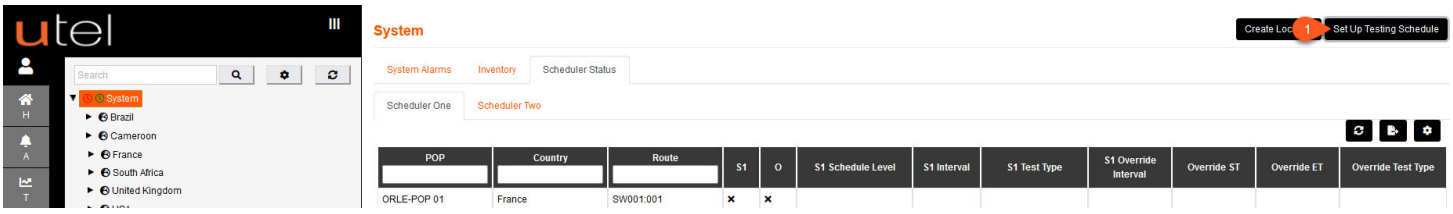
9 Schedule

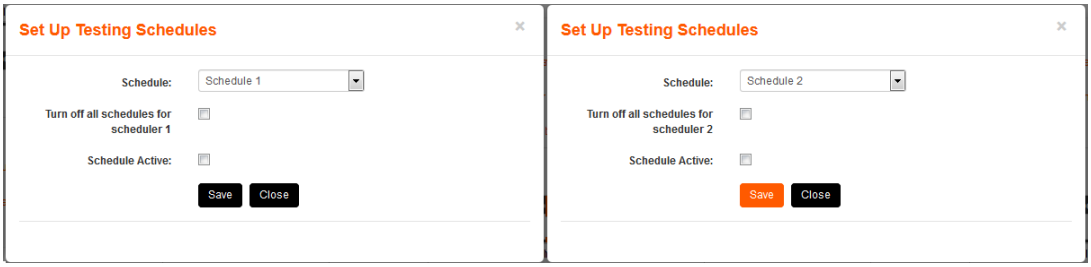
There are two Schedules available and they can be set at four tree node levels: **System, Country, POP and Route**.

The statuses set up will be indicated in the tree.

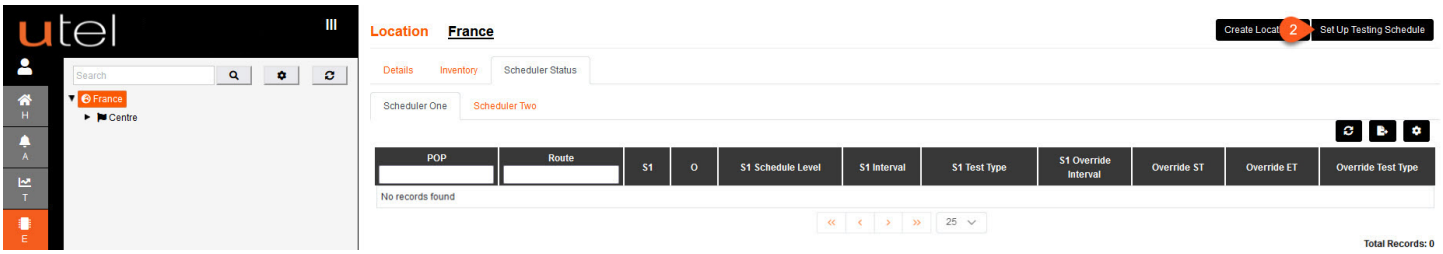


1. At **System level** the Schedule overrides all Country, POP and Route Schedules.

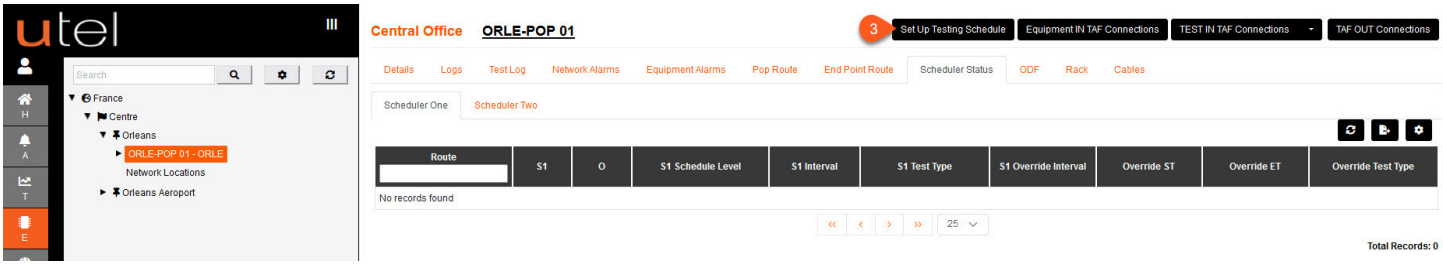


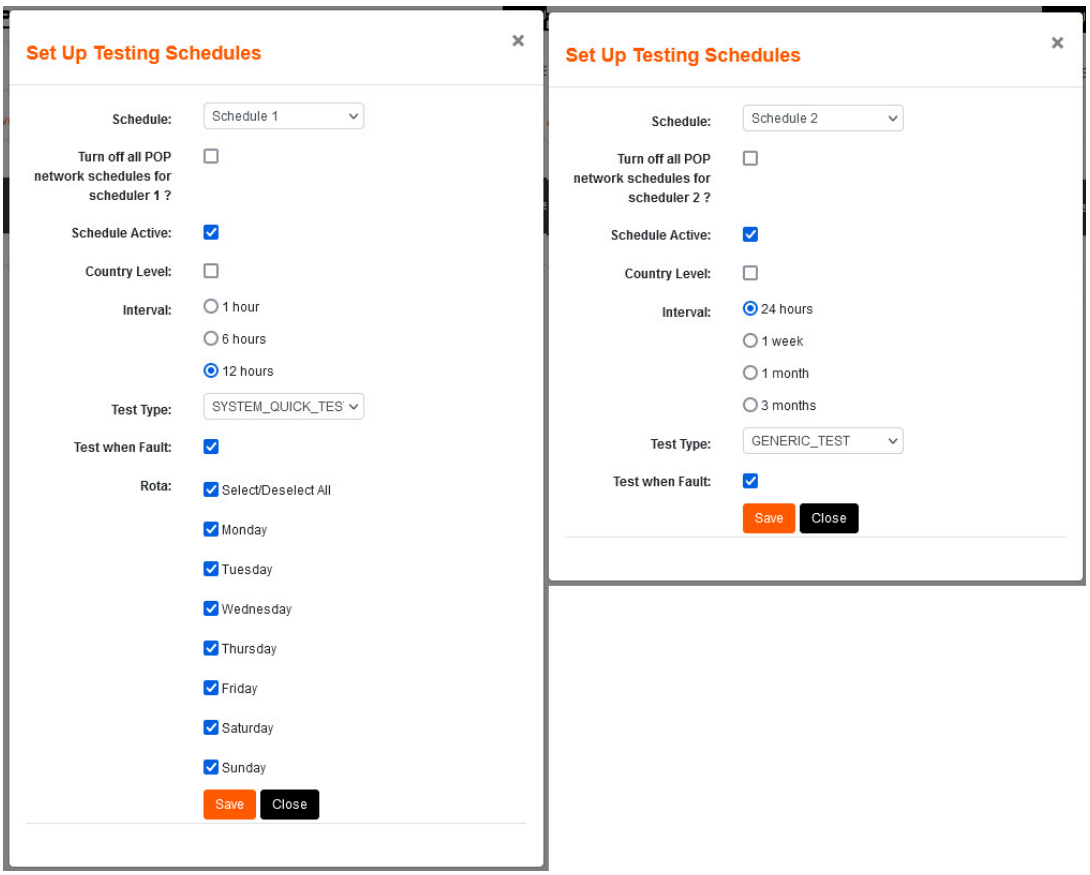


2. At **Country level** the Schedule overrides all POP and Route Schedules.



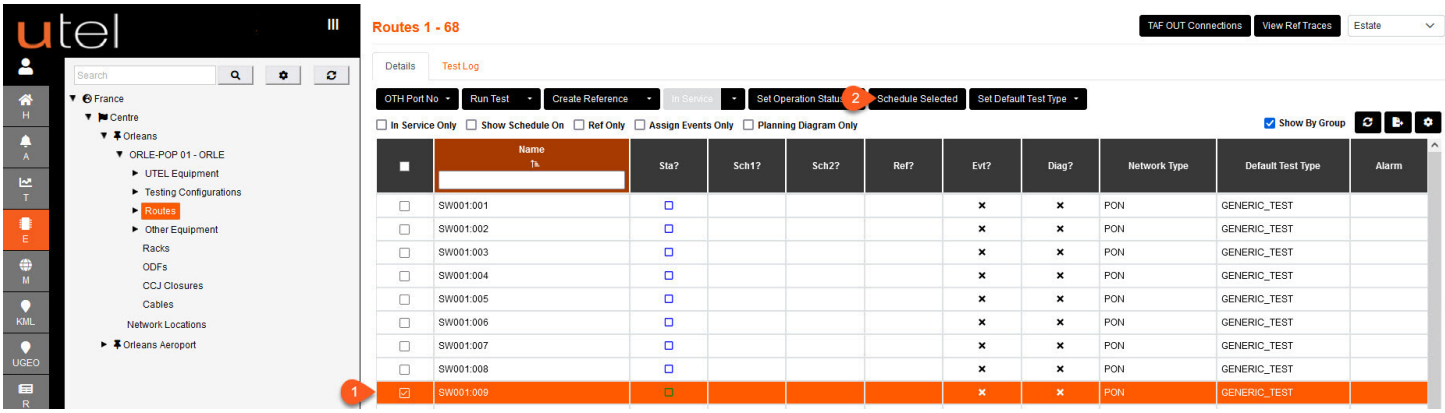
3. At **POP level** the Schedule overrides all Route Schedules.



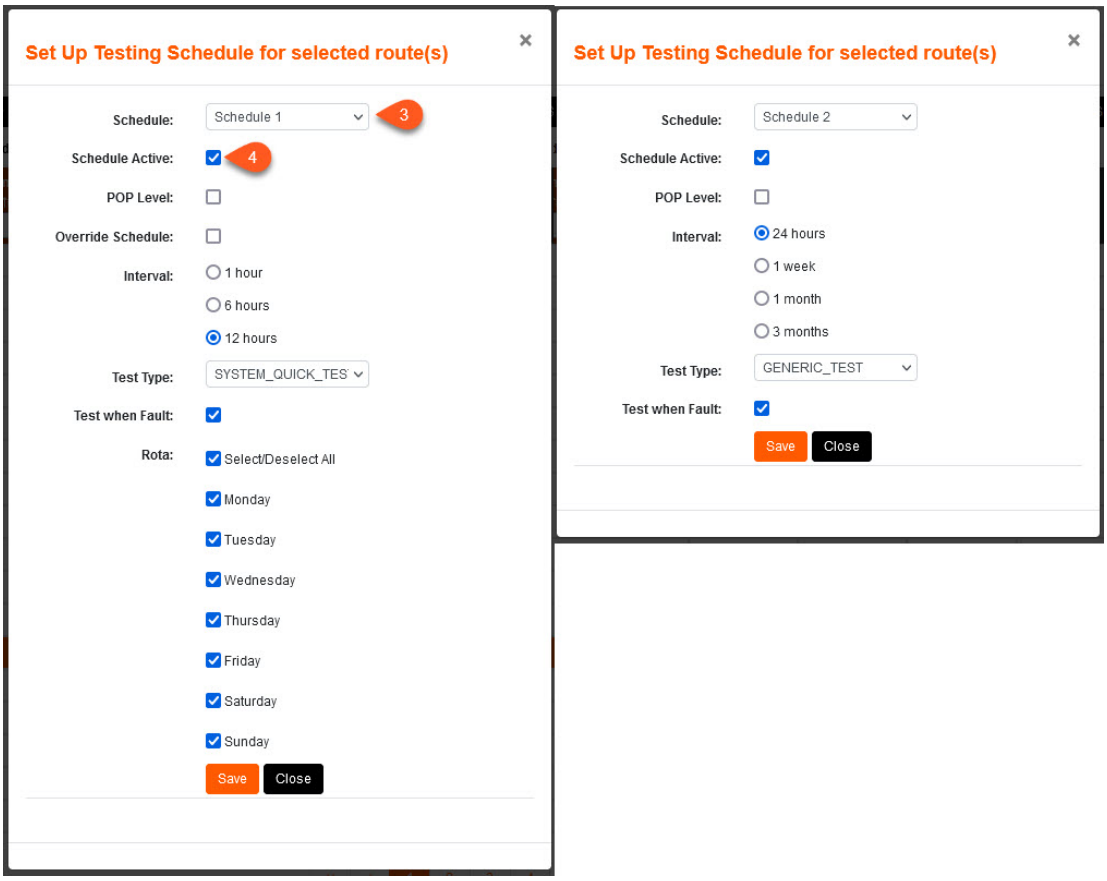


9.1 Schedule Route

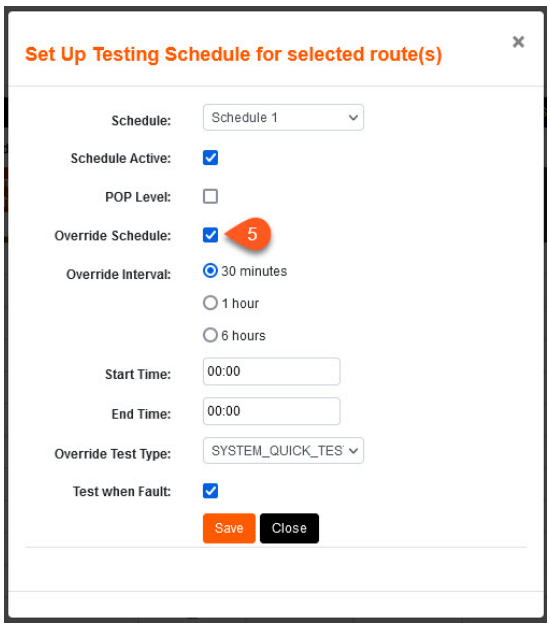
The fourth Schedule set up available is at **Route level**.



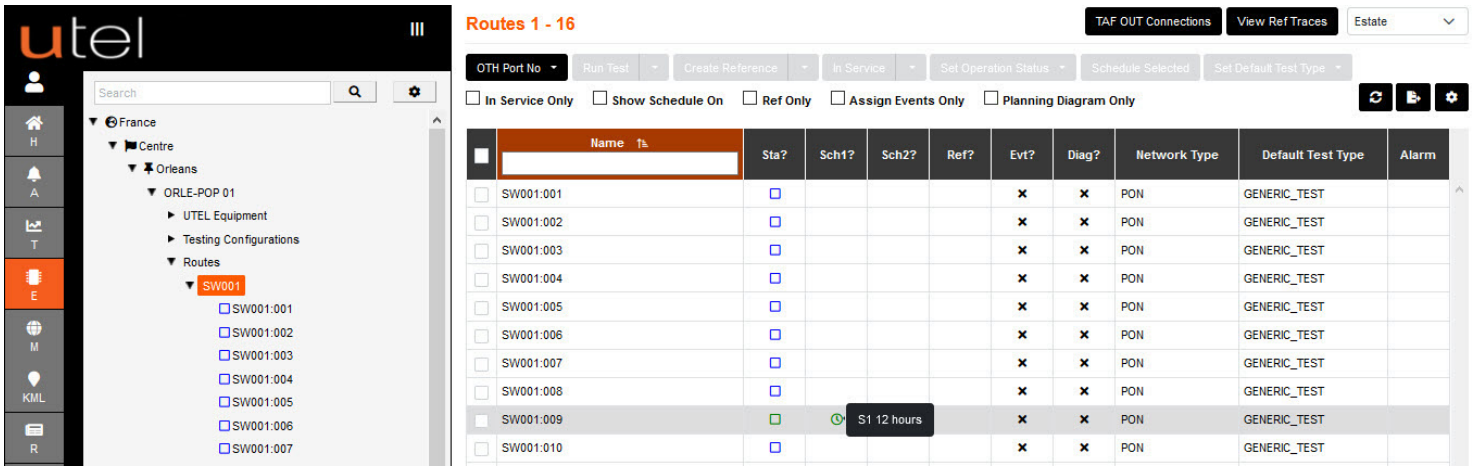
1. Select the required **Route** to run a Schedule from the tree, clicking onto the route in the table, or ticking in the box.
   The Route can only be Scheduled if it is In Service. The option will not be available otherwise.
2. Select **Schedule selected**. A pop up allows you to choose the required Schedule to be performed.
3. Select from drop down which **Schedule** to set.
4. Tick the **Schedule Active** to turn it on.



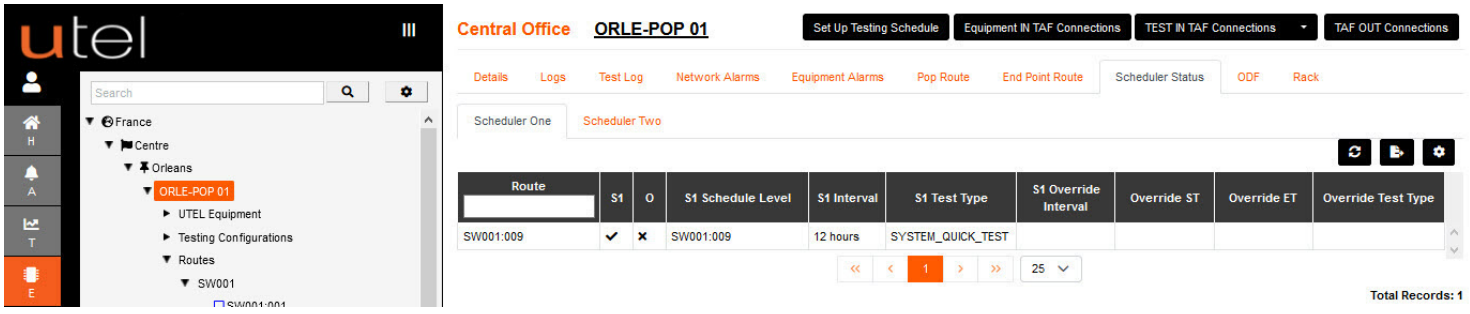
5. At route level there is an option to **Override Schedule**.
   A Start Time and End Time can be set when to override, with a shorter interval of 15 minutes available.



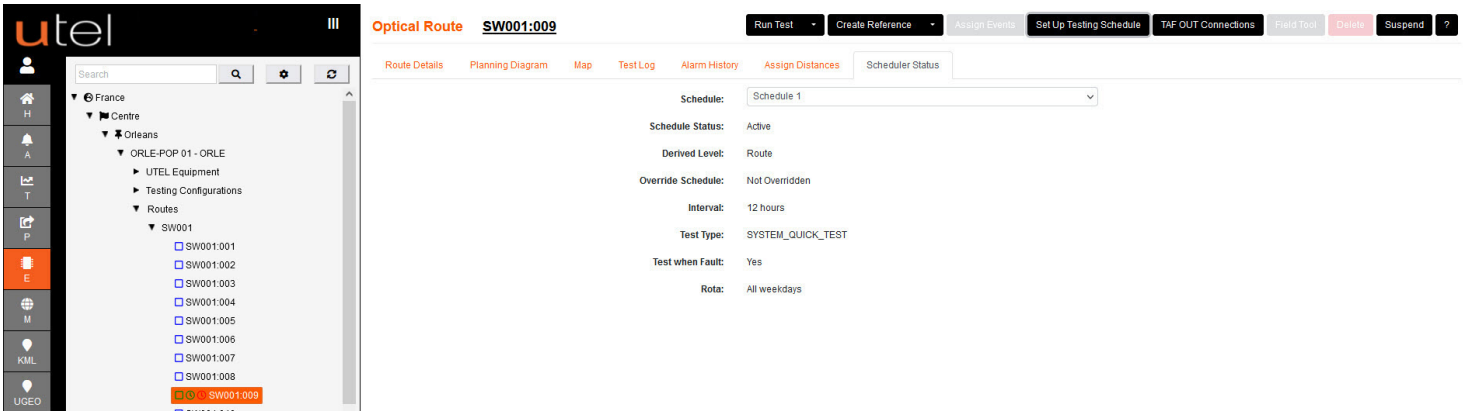
1. Once the scheduling is decided press **Save**.
2. The **status** of the Schedule is indicated next to the Route in the table.



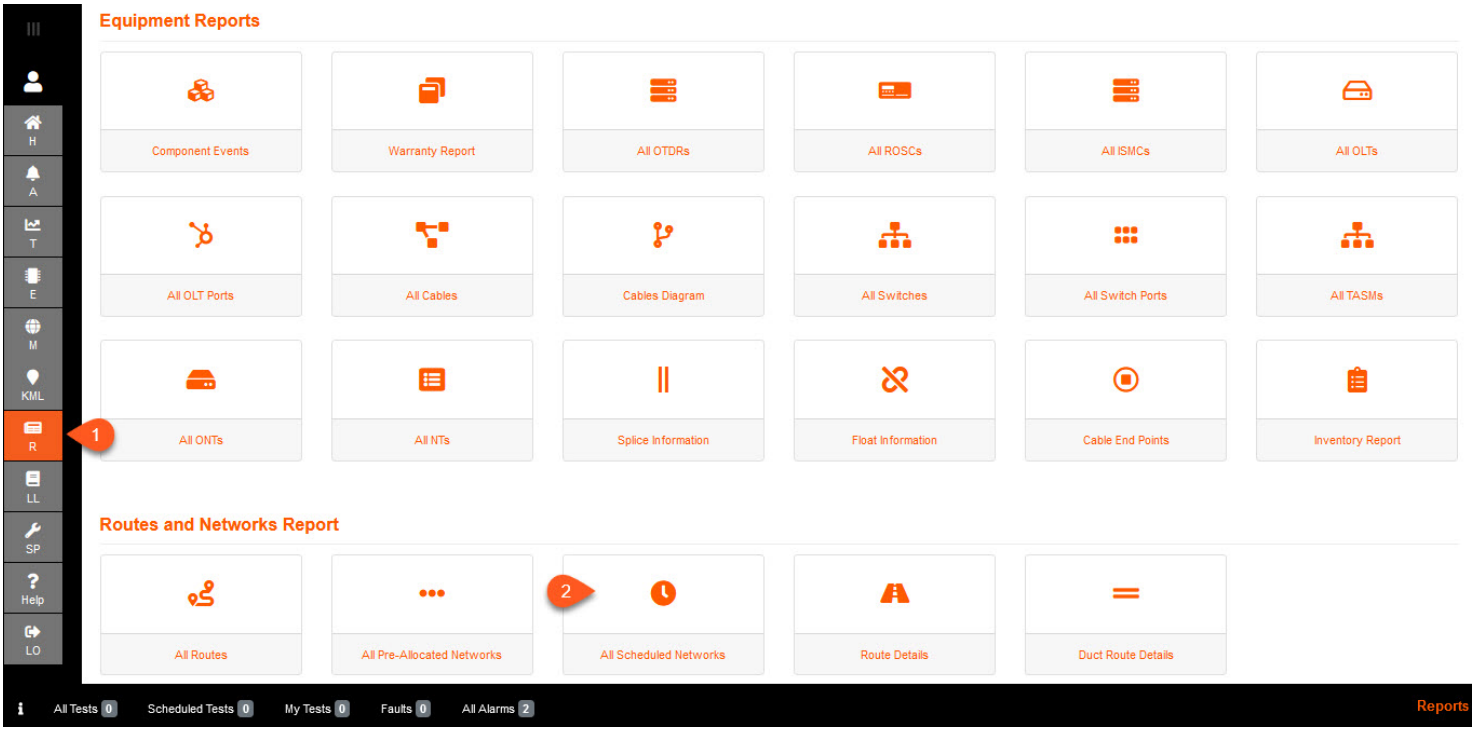
Schedule Status tab navigating to the POP.



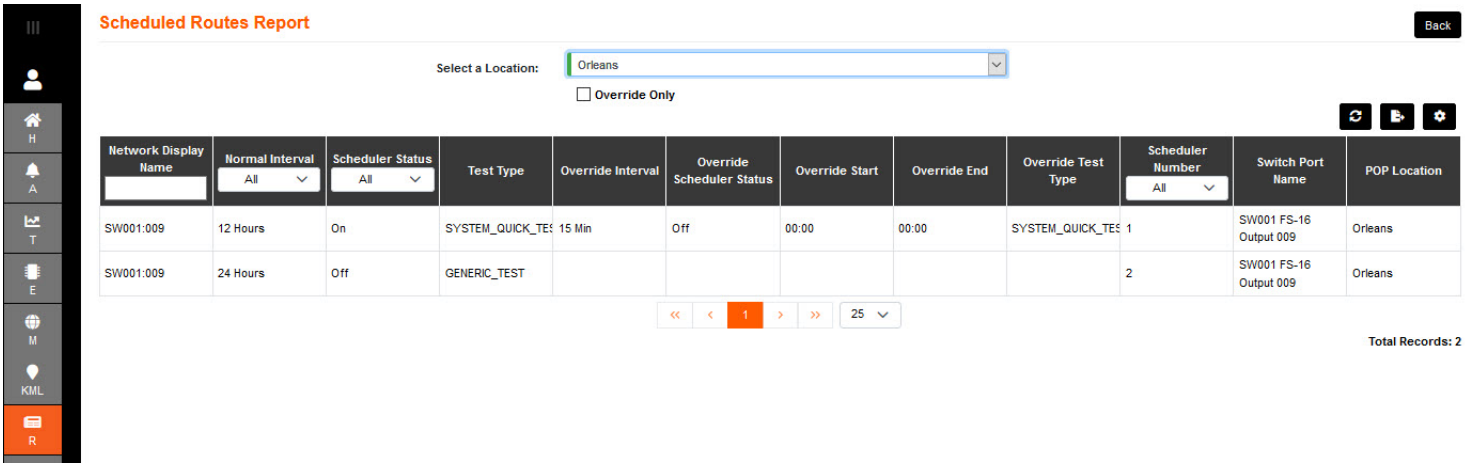
The Schedule Status tab navigating to the Route.



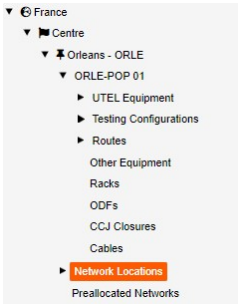
The **Reports** also has details of Schedules that are set up.



Select the Location that you would like to see details of the schedules set up.



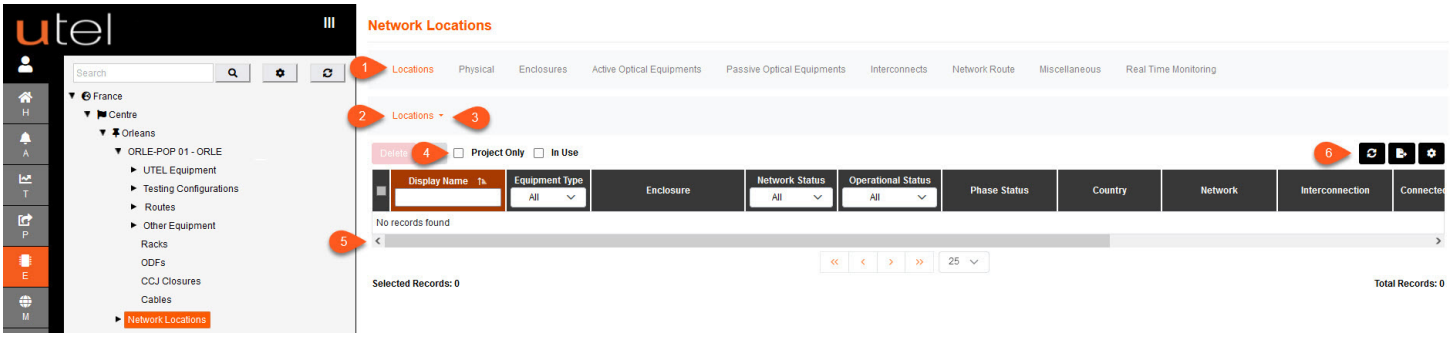
10 Network Locations



To add the smaller elements of your Network can all be found within the *Network Locations* folder, in the tree located on the left hand side, as it appears automatically when you create your POP

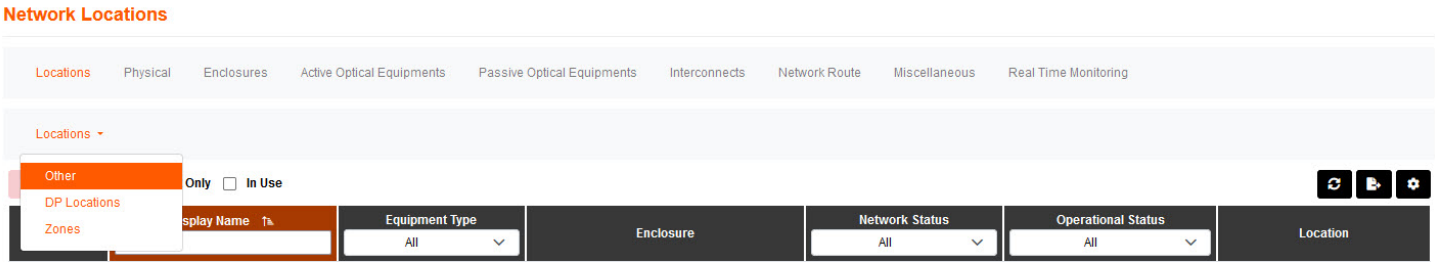
Adding these items will automatically update in the Network Locations where the details can be accessed by exploring into each folder.

Network Locations are created via GIS Mapping or Projects, but details can also be modified via the Element Manager.



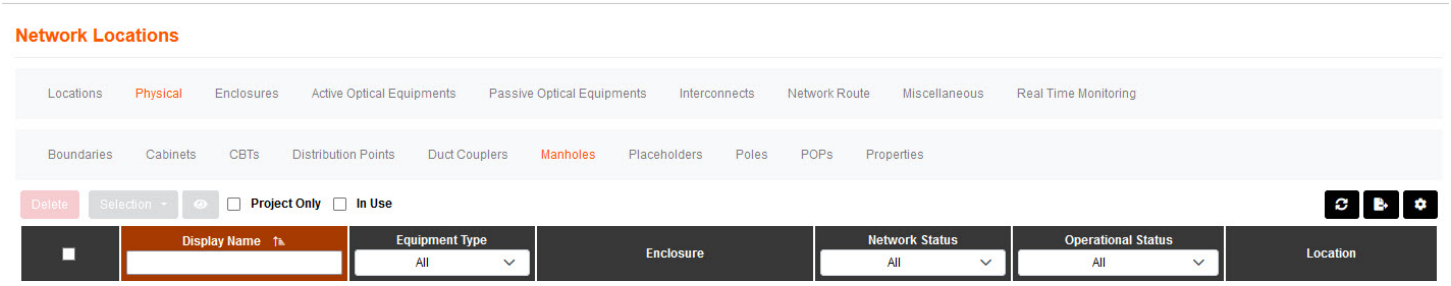
1. **Group Tab** - All items in Fastlight are grouped in Network Locations in order to find them easier.
2. **Sub Tab** - These groups are then subdivided into the same item groups.
3. **Drop Down** - The same item groups might have many variations of the same kind to filter further.
4. **Filters** - ticking 'Projects Only' will display items in the table that are related to planning.
   'In Use' displays items that are linked to other items and no longer available.
5. **Table** - clicking on each item in the table will navigate the user to view it in the tree.
   This will allow you to return back to the Network Locations screen.
6. **Refresh** - Refresh allows real time loading of items created by other users.
   Import/Export - Export all data or page in csv format in the desired location on the hard drive.
   Advanced Table Settings - Select the informational columns you would like to view for the items by tick box on the drop down.

Items listed as presented:



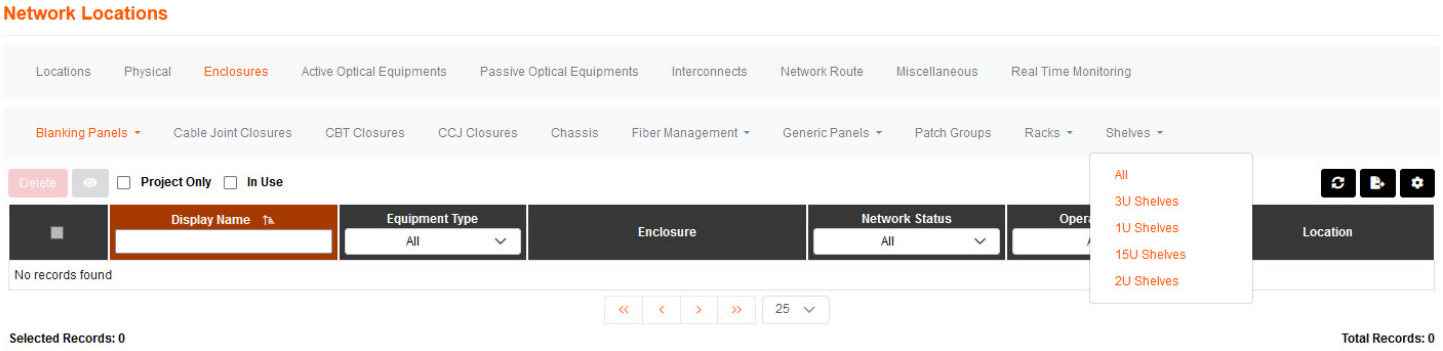
Locations:
DP Locations - view all details specific to the DP locations's set up within the POP Location.
Zones - view all details specific to the Zones set up within the POP Location.

Network Locations



Physical:

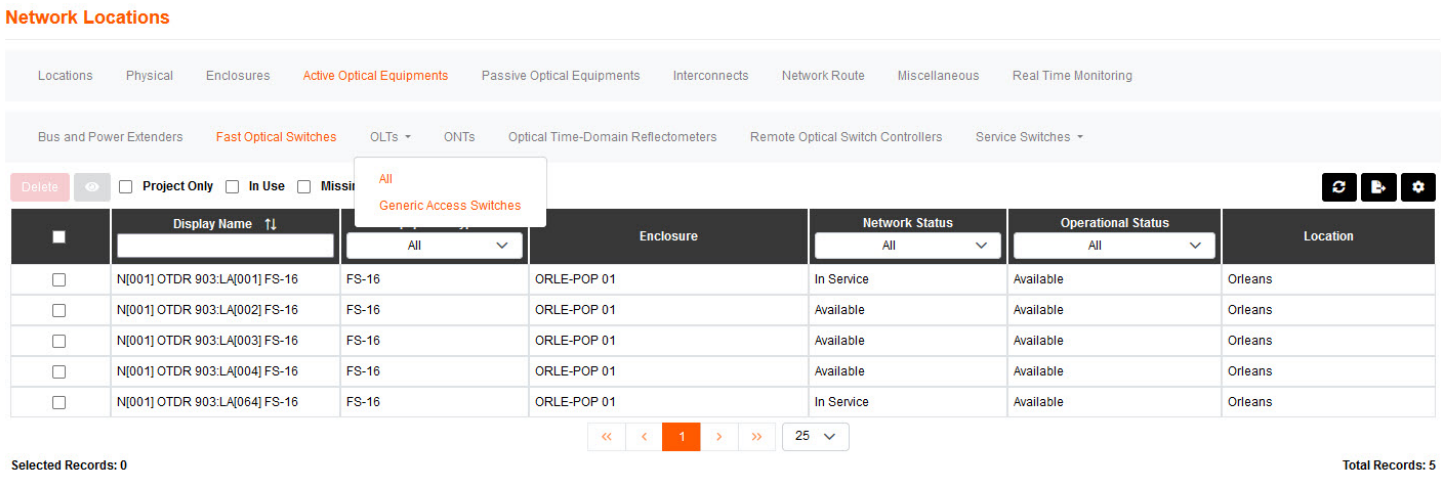
Boundaries - view all details specific to the boundaries set up in the POP Location.
Cabinets - view all details specific to the cabinets set up in the POP Location.
CBTs - view all details specific to the CBT's set up in the POP Location.
Distribution Points - view all details specific to the DP's set up in the POP Location.
Duct Couplers - view all details specific to the couplers used on the duct tubes set up within the POP Location.
Manholes - view all details specific to the manholes set up in the POP Location.
Placeholders - view all details specific to the placeholders set up within the POP Location.
Poles - view all details specific to the poles set up in the POP Location.
POPs - view all POP's set up specific to the POP Location.
Properties - view all details specific to the buildings placed in the POP Location



Enclosures:

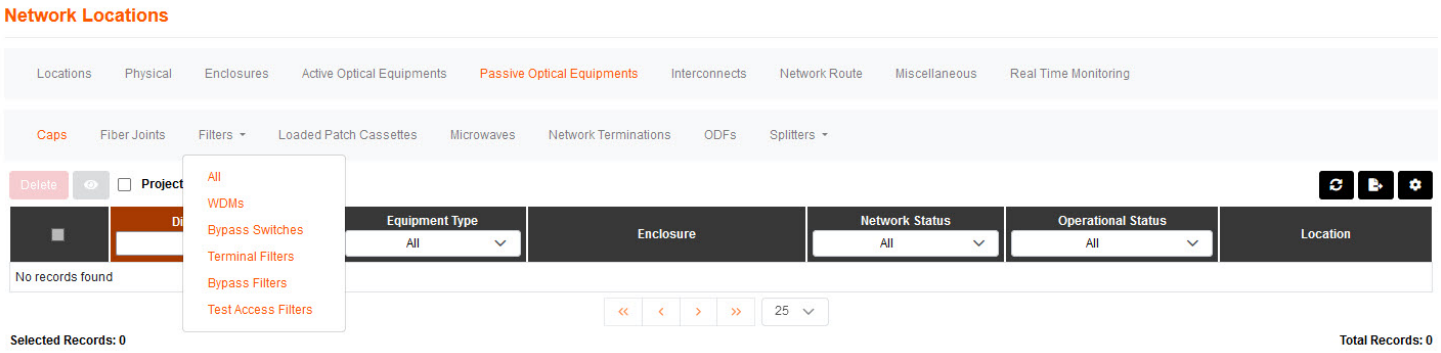
Blanking Panels - view all details specific to the blanking panels used in the racks set up in the POP.
Cable Joint Closures - view all details specific to the joint closures within the manholes set up in the POP Location.
CBT Closures - view all details specific to the CBT Closures set up within the POP Location.
CCJ Closures - view all details specific to the CCJ Closures set up in the POP.
Chassis - view all details specific to the chassis used for the racks set up in the POP Location.
Fiber Management - view all details specific to the Fiber Management used in the racks set up in the POP.
Generic Panels - view all details specific to the generic panels used in the racks set up in the POP.
Patch Groups - view all details specific to the patch groups within the cabinets set up in the POP Location.
Racks - view all details specific to the racks set up in the POP.
Shelves - view all details specific to the shelves used in the racks set up in the POP.

Network Locations



Active Optical Equipments:

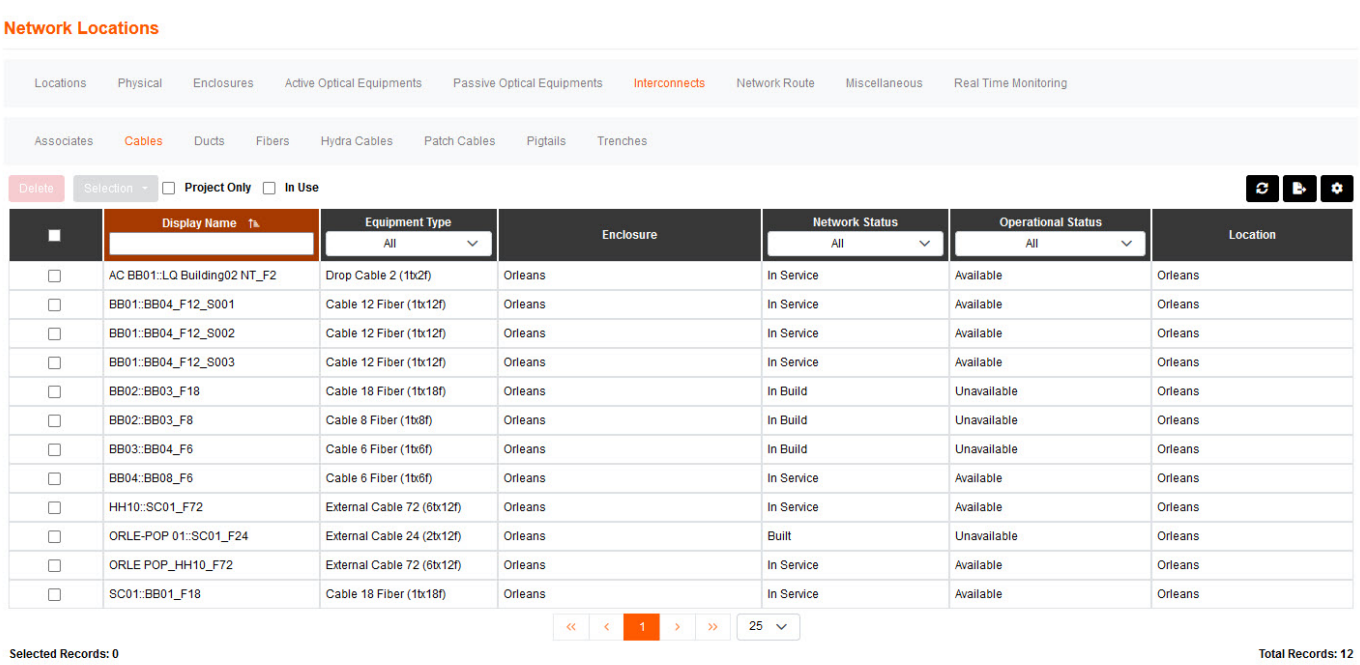
Bus and Power Extenders - view all details specific to the Optical Power Trays used in the POP.
Fast Optical Switches - view all details specific to the FS switches used in the POP.
OLTs - view all details specific to the OLTs used in the POP.
ONTs - view all details specific to the ONTs used in the POP Location.
Optical Time-Domain Reflectometers - view all details specific to the OTDRs used in the POP.
Remote Optical Switch Controllers - view all details specific to the ROSCs used in the POP.
Service Switches - view all details specific to the services switches used in the POP.



Passive Optical Equipments:

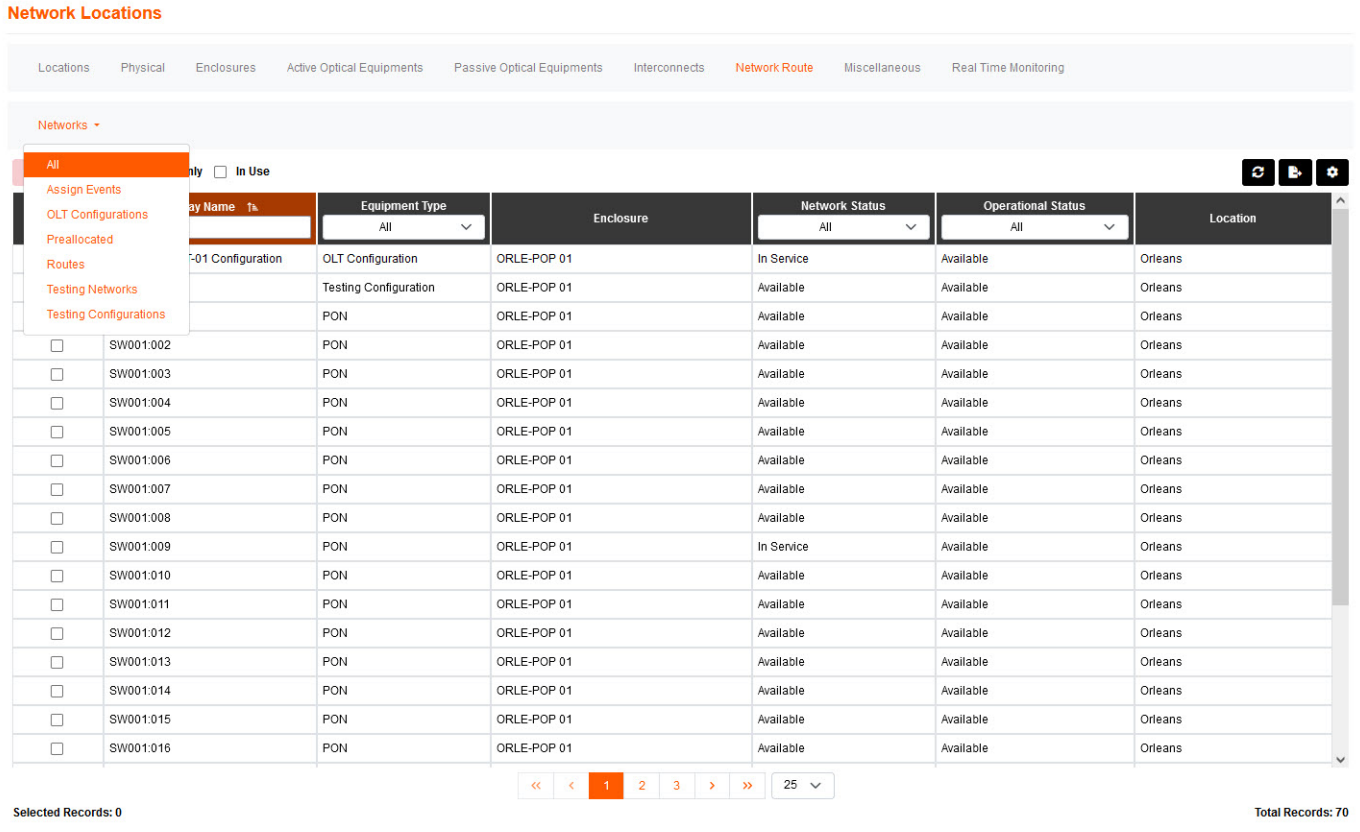
Caps - view all details specific to the caps used on the duct tubes set up within the POP Location.
Fiber Joints - view all details specific to the joints used on the fibers in the cables created within the POP Location.
Filters - view all details specific to the WDMs, Bypass Switches, Terminal Filters, Bypass Filters and TAFs.
Loaded Patch Cassettes - view all details specific to the patch cassettes used in the POP Location.
Microwave - view all details specific to the NT's used in the POP Location.
NTs - view all details specific to the NT's used in the POP Location.
ODFs - view all details specific to the Optical Distribution Frames set up in the POP.
Splitters - view all details specific to the splitters within the DP's or manholes set up in the POP Location.

Network Locations

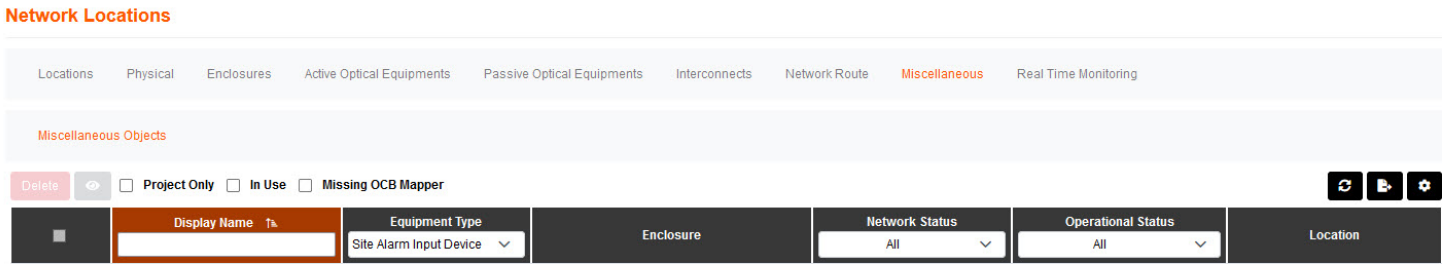


Interconnects:

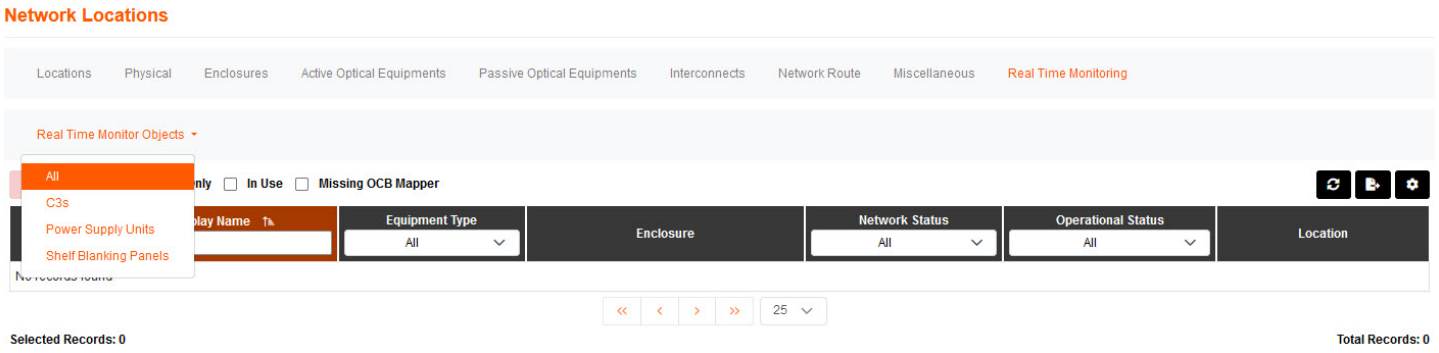
Associates - view all details specific to the associates within the POP Location.
Cables - view all details specific to the cables created in the POP Location.
Ducts - view all details specific to the ducts within the cables set up in the POP Location.
Fibers - view all details specific to each fiber in the cables set up in the POP Location.
Hydra Cables - view all details specific to the hydra cables created in the POP.
Patch Cables - view all details specific to the patch cables within the cabinets set up in the POP Location.
Pigtails - view all details specific to the pigtails created within the POP Location.
Trenches - view all details specific to the trenches in the POP Location.



Network Route:
Assign Events - view all assign events within the POP Location.
OLT Configuration - view all OLT Configurations within the POP Location.
Preallocated - view all preallocated routes within the POP Location.
Routes - view all routes within the POP Location.
Testing Networks - view all testing networks set up within the POP Location
Testing Configurations - view all Test Configurations set up within the POP Location.



Miscellaneous:
Miscellaneous Objects - view all details specific to the Site Alarm Input Device in the POP Location.

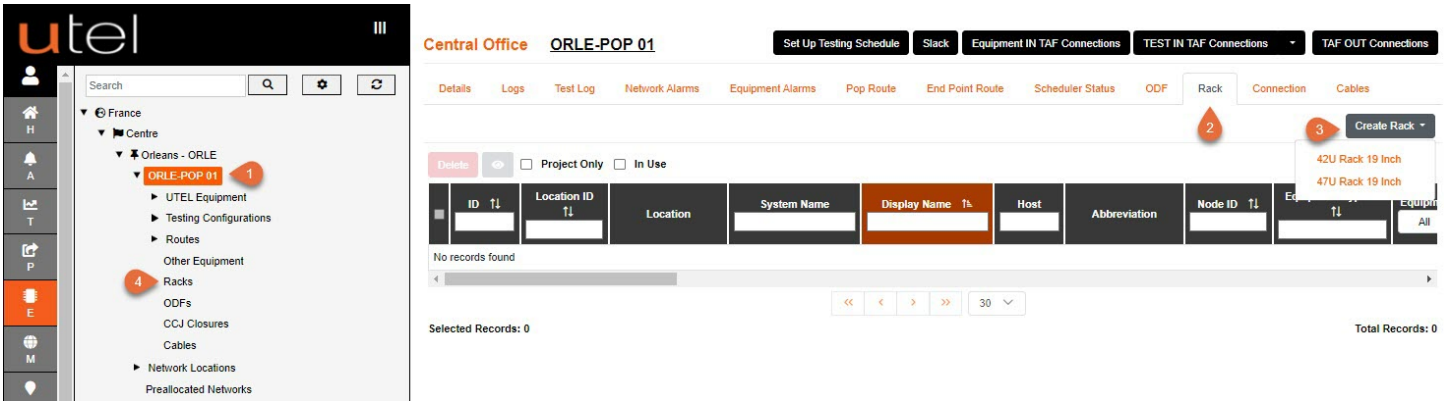


Real Time Monitoring:
C3s - view all C3s units added to the POP.
Power Supply Units - view all PSUs added to the POP.
Shelf Blanking Panels - view all blanking panels available for the shelving within the POP.

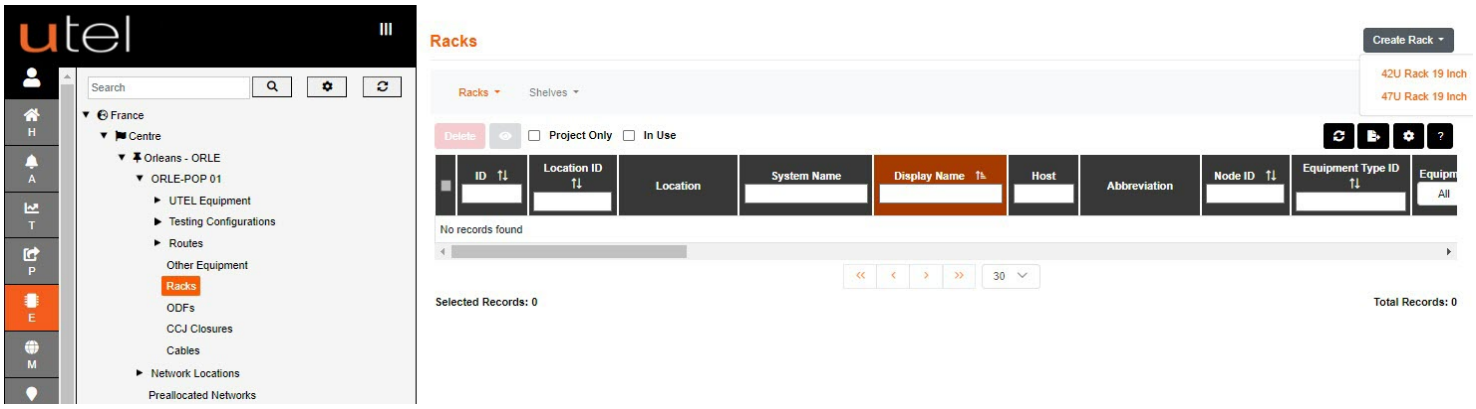
11 Create Racks

1. In the Tree, select the **POP Site** that you wish to add the Rack information to.
2. Click the **Create Rack** button.
3. A **drop-down menu** will appear with all the Rack options available in your Network. Select the one you require. For this example; we will add an 42U Rack 19 Inch.

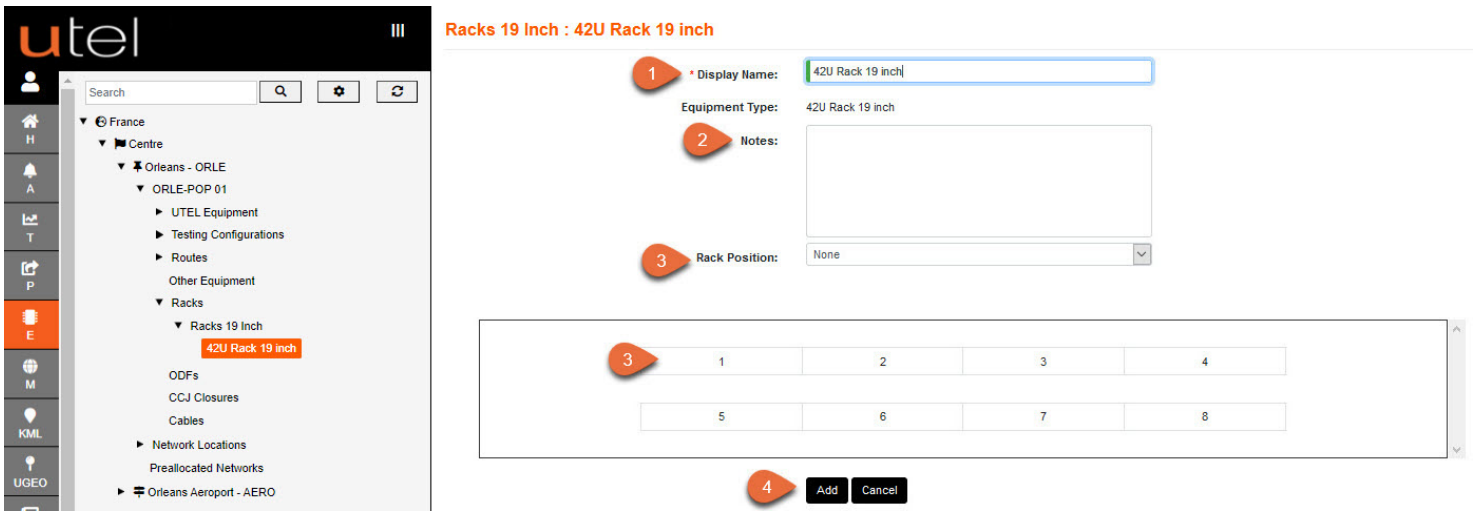
Create Racks



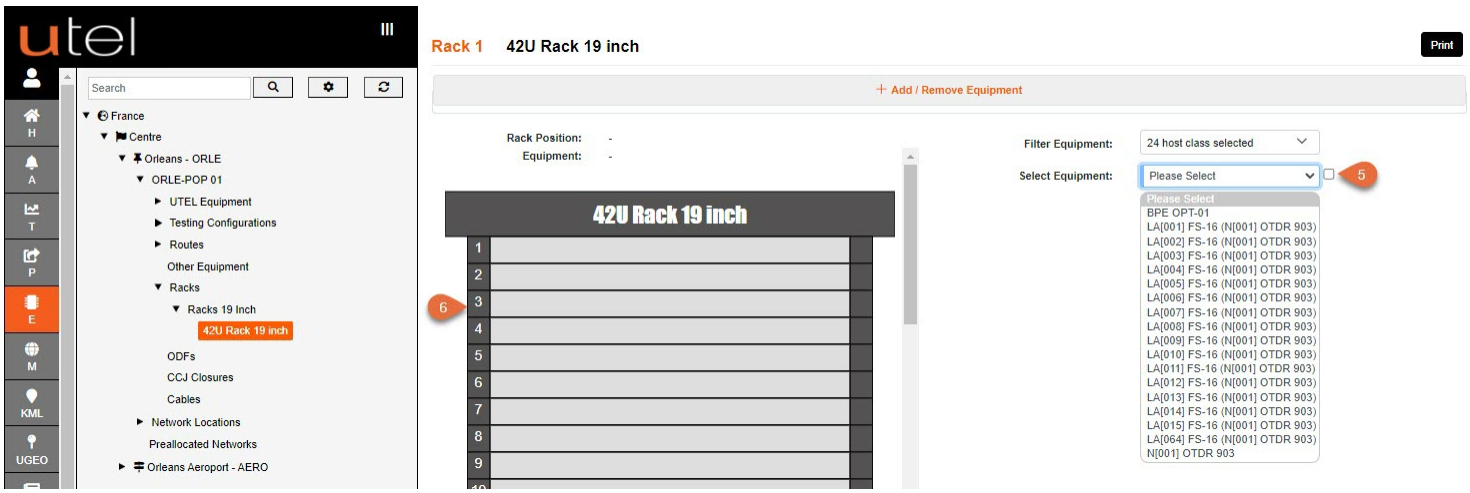
4. Alternately, you can navigate to **Rack**, in the tree, and add one from the drop down.



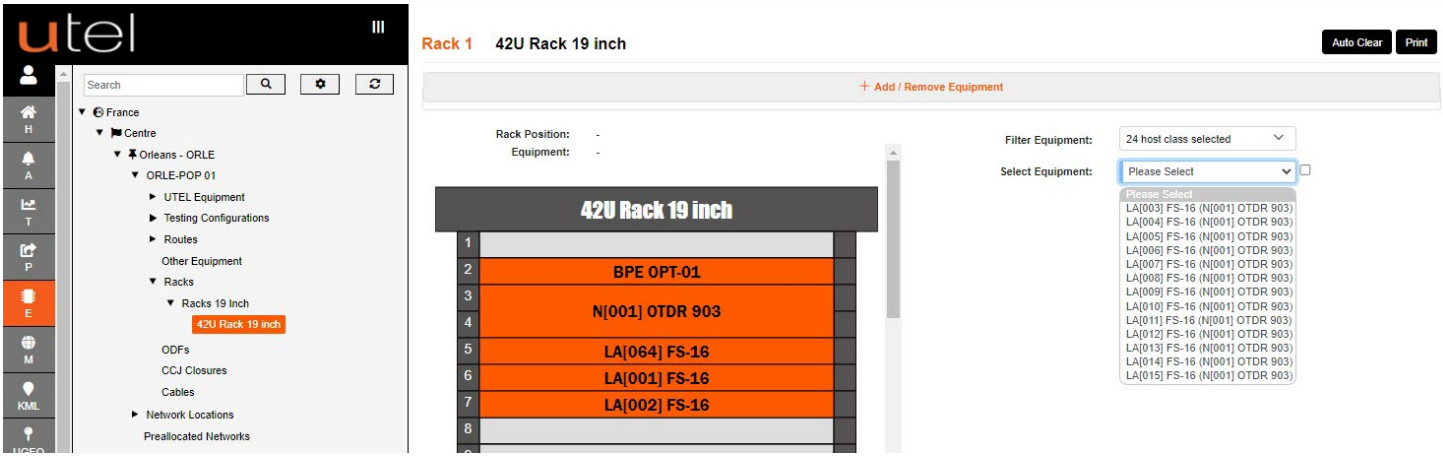
1. Enter the **Display Name** as you would like it to be displayed in the Tree.
2. Add any **Notes** if required.
3. Choose the **Rack Position** in the room scenario, either by drop down or box selection.
4. Once completed, to save this entry click **Add**. You will now see it displayed in the Tree.
   To move away from this page without saving, select **Cancel**.



5. Choose the **Equipment** you would like to add to the Rack
6. Select the **slot** you would like to place the Equipment in.
   In this example we will place the OTDR in the 14th 'U' slot.

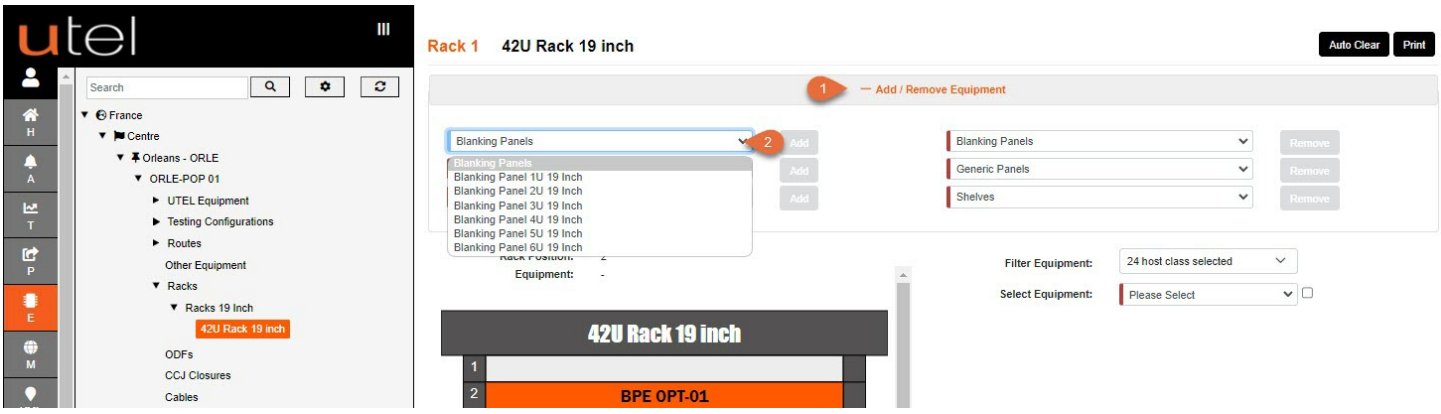


The ODTR is now added to the rack, and this can be moved at any time - space providing.



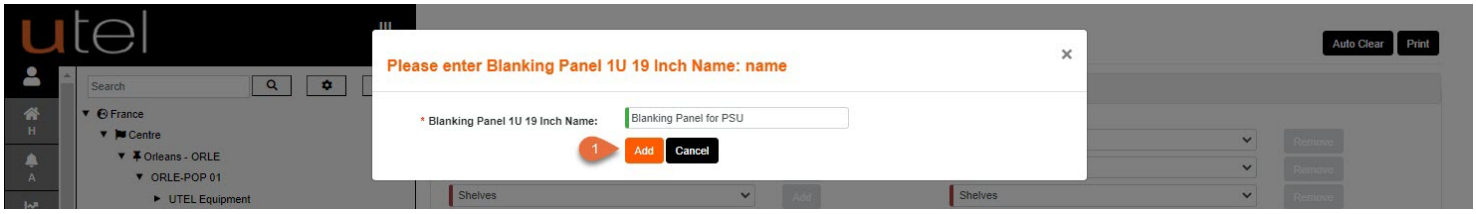
11.1 Add or Edit additional Equipment

1. Expand the **Add/Remove Equipment** Panel view
2. **Add** any Blanking Panels, Generic Panels and Shelves that are available in the Equipment list.

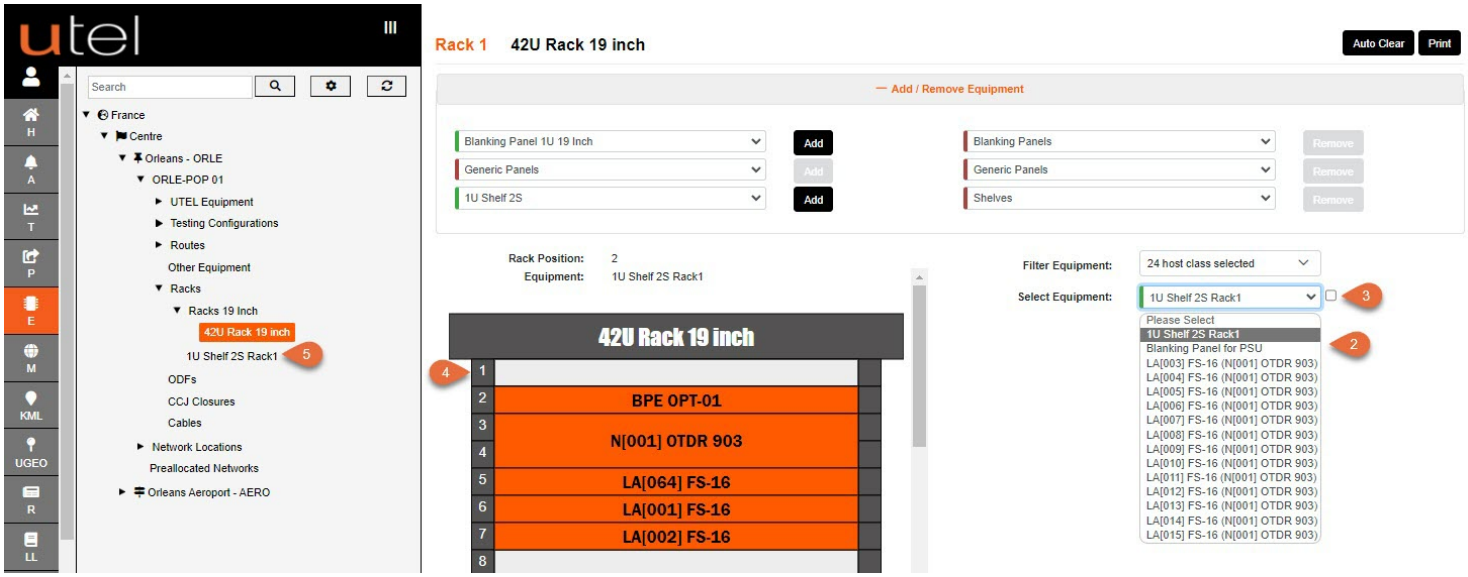


1. Add the Equipment with the required **Name**.

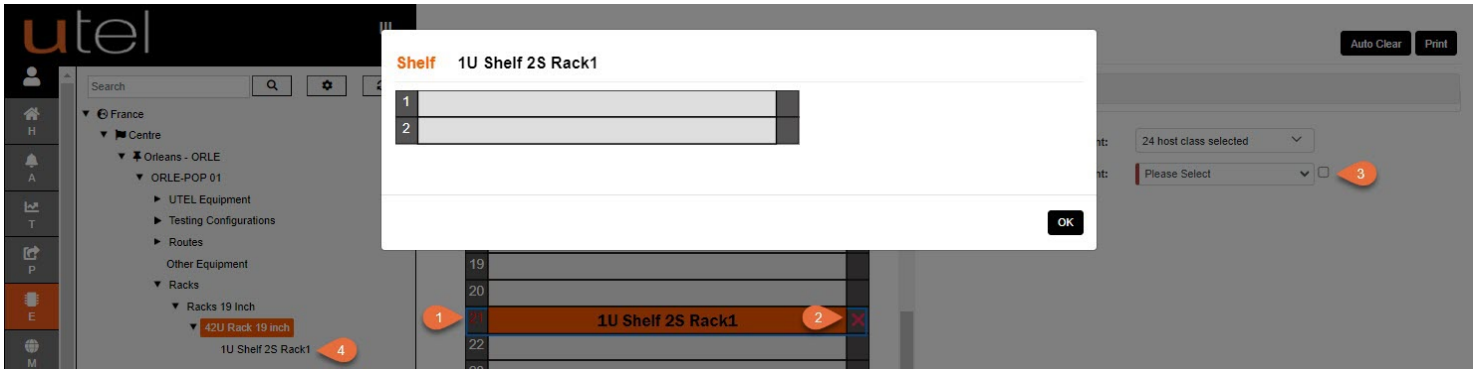
Create Racks



1. After adding the equipment they will then become available in the **Select Equipment** drop down.
2. You can add multiple items at once by ticking **Multi Selection** box
   Select the items in the drop down, in order of their placement.
3. The equipment will **slot** into the Rack if adequate space is available.
4. **Shelves** will be added to the tree as further equipment can be added to them with vertical slots, in this example there will be 1x 1U opening available.
5. Pressing **Auto Clear** will clear the whole rack and all the equipment will be added to the Select Equipment drop down to reassign.
   At this point the equipment added from this screen can be removed from their respective drop downs.



1. To see details of the shelf - **click** on the number of the shelf on the rack and a **pop up** will be presented.
2. To edit the placement of the equipment - **click** on the equipment on the rack and an **x** will become visible.
3. **Click on the x** and the equipment will be removed from rack, and **added back** to the drop down.
4. The shelf will be added under the rack, in the **tree**, that it has been placed in.



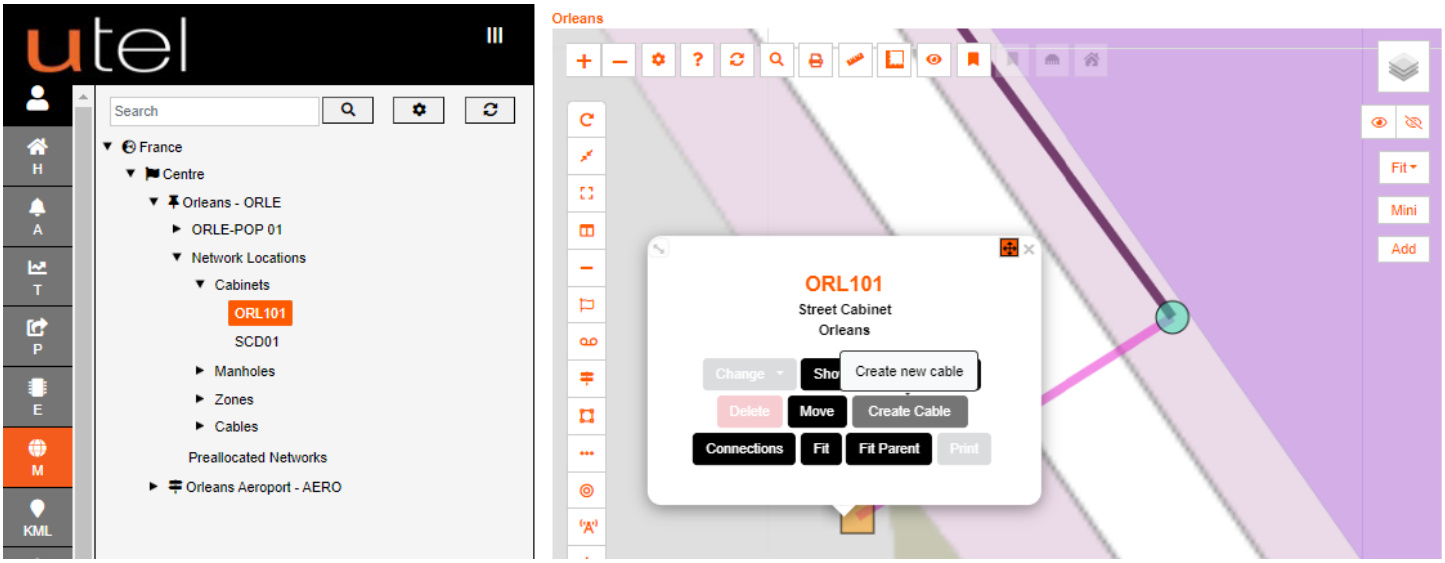
To **add** equipment into the shelf - select the shelf in the tree.
The process will be the same.

12 Connections and Cables

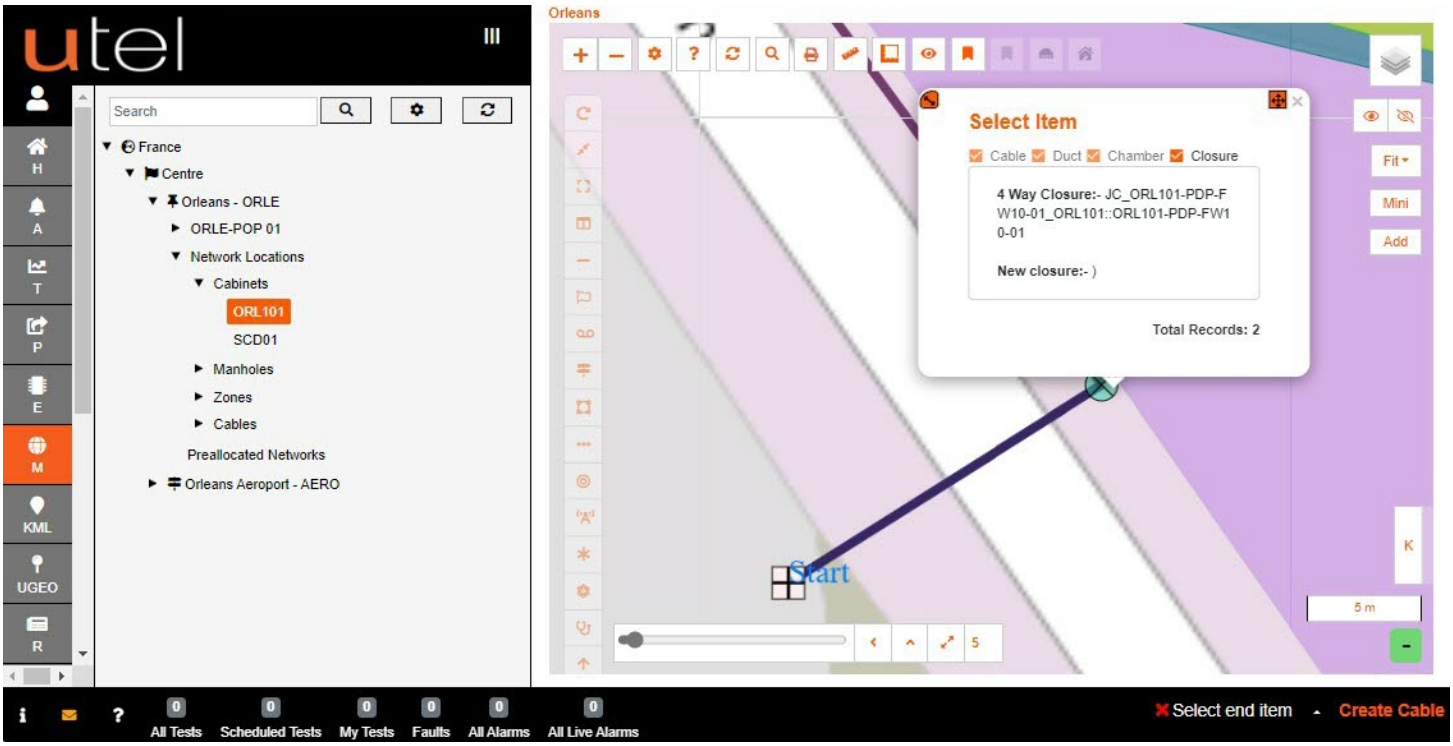
As soon as you have created a cable from the POP then you can complete the set up of the route within the POP.
Note: Cables can be created without the Map, in Network Locations, if by any chance Map/Project is not enabled.

Cables can be easily created via the GIS Mapping function which will be covered in *GIS Mapping Data Build Guide.*

Click on an item on the map from which you wish to start creating your cable from.
Click on the **Create Cable** button.

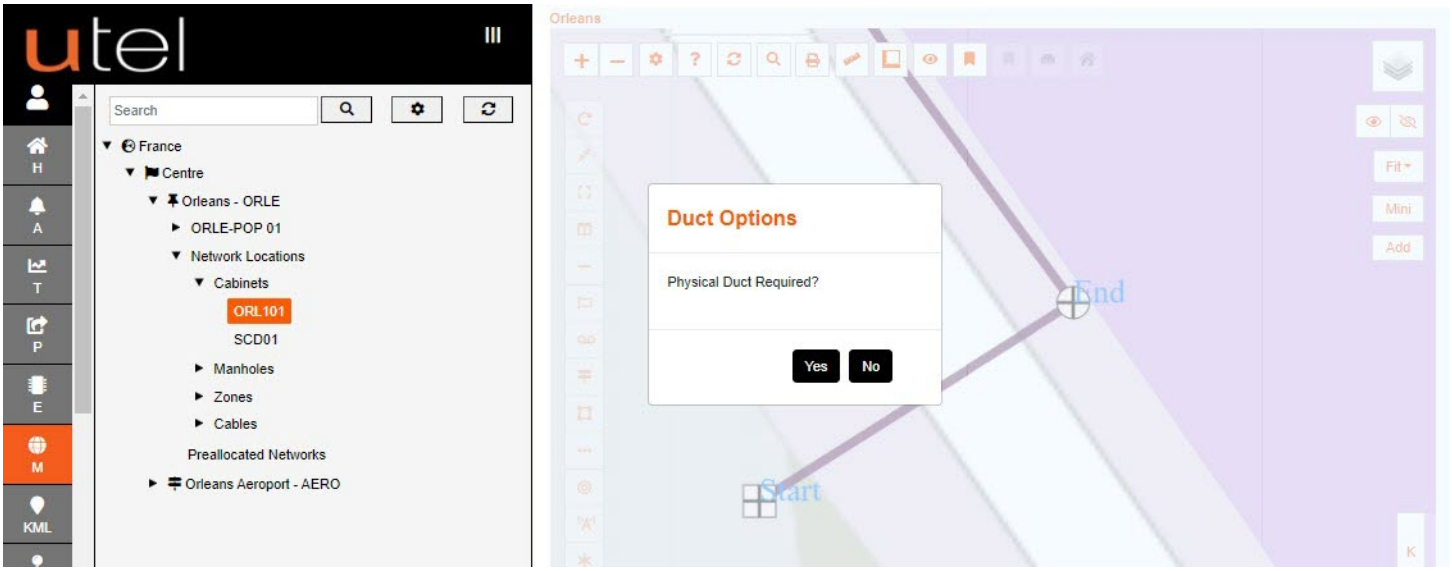


Select End Item, option will be presented if an existing joint closure exists.

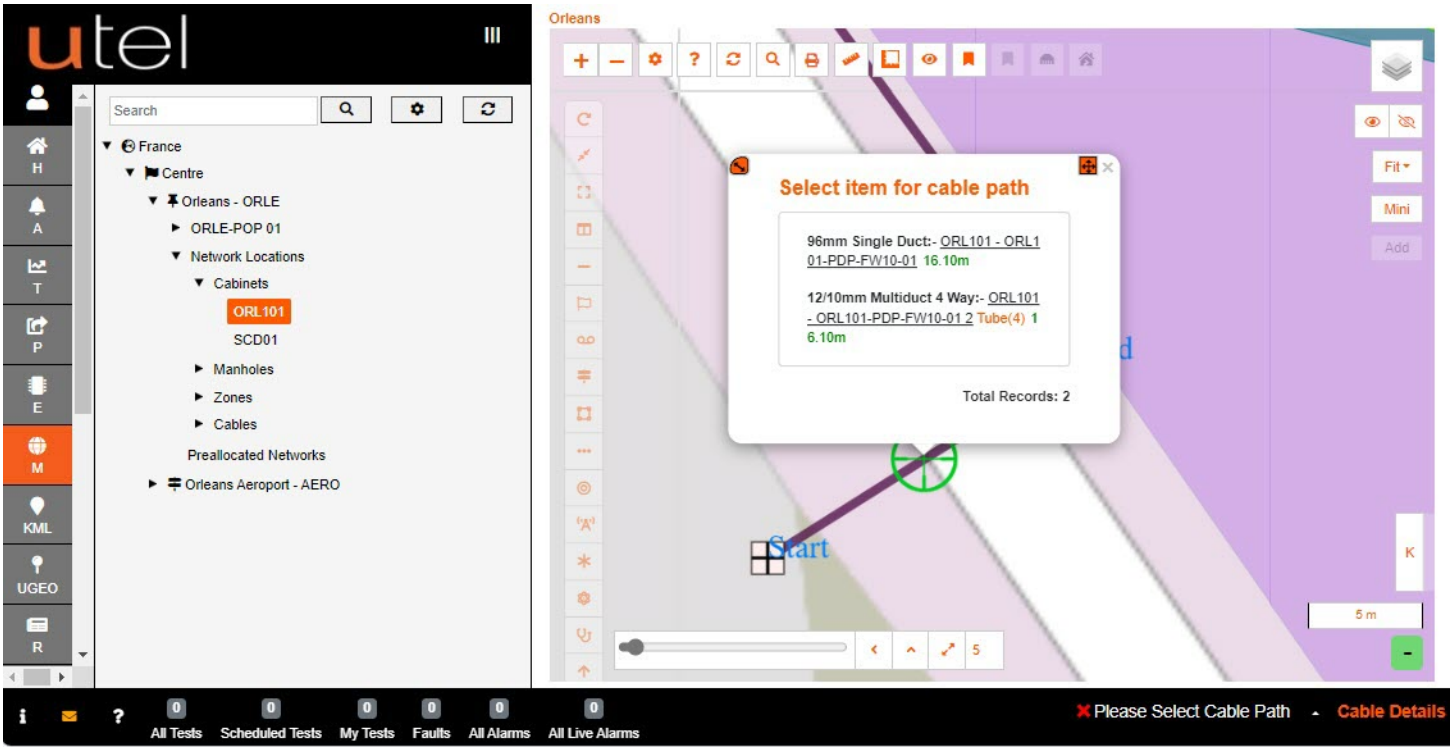


Connections and Cables

Some cables can be created without the need of a duct, but due to the fact that the cable is not known at this point the option is presented.
Select Yes to use the **Physical Duct**, and No if not.
In this example we are using a duct.



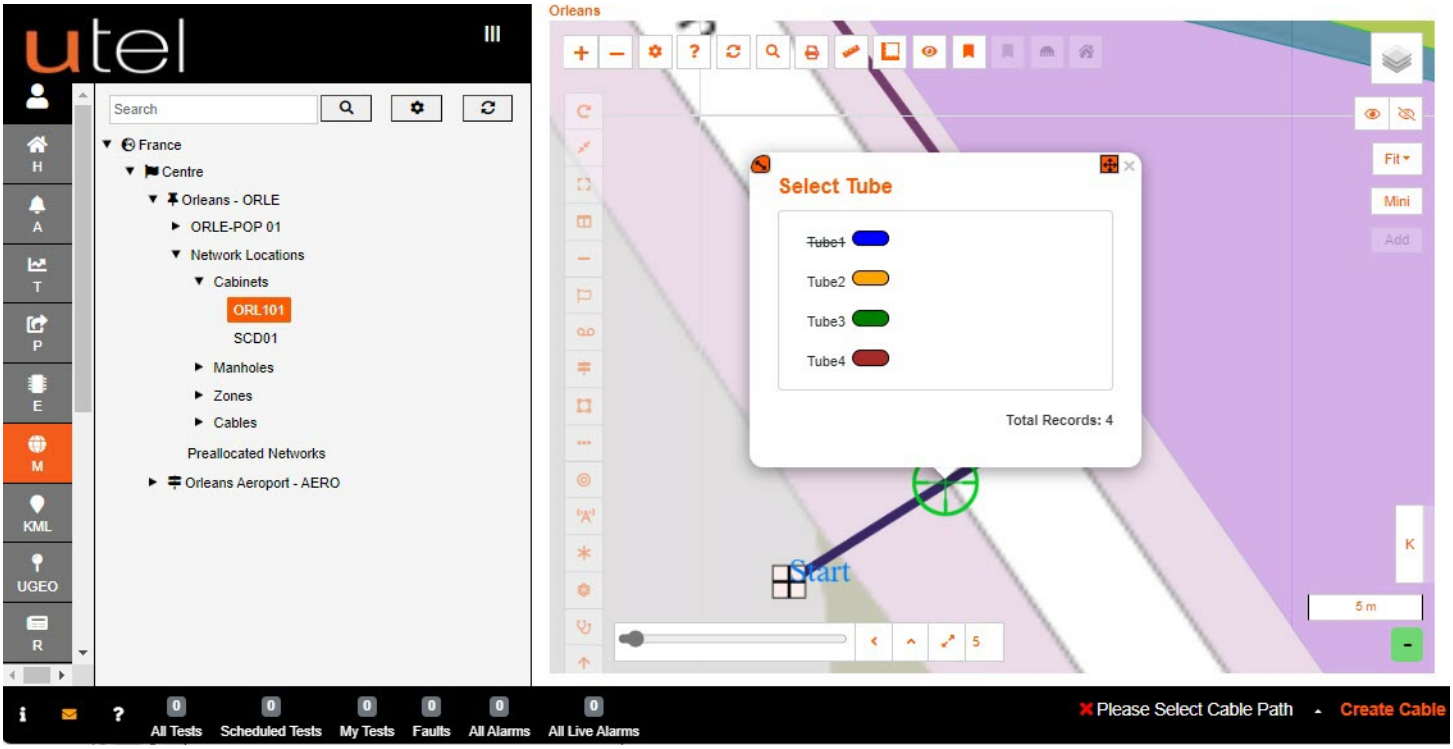
Click on the **Green Target** on the correct path, as there might be multiple paths to the point seelcted.
If there is a *Microduct* or *Multiduct* within a *Singleduct* path, then all items will be presented to select.
For this example we are using the Multiduct.



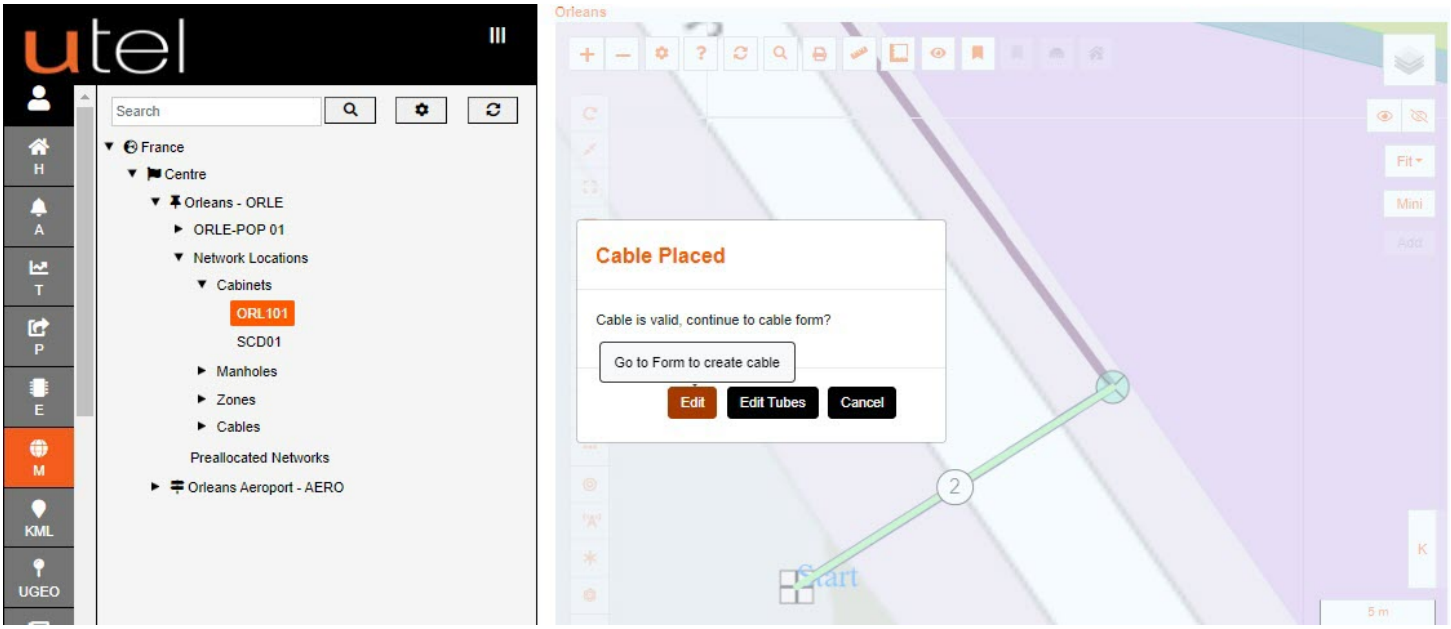
The option to choose the **tube** that the cable is to lay in is then presented.

Select the Tube required to use, any crossed through means that the tube is already used.
The tube selected will be displayed on the highlighted section chosen as the cable path.

With a cable along multiple ducts, the Advanced Settings **'Auto Select Next Tube'** will select the ripple down the same tube selected in the first instance;
On allows each click of the path to use the same tube, without presenting the tube pop up after the first selection.
Off allows you to choose the tube you need to use; if they are not the same throughout each section of duct.



Having chosen the tubes, the user is prompted to **Edit** to navigate to the cable form, **Edit Tube**, or **Cancel**.



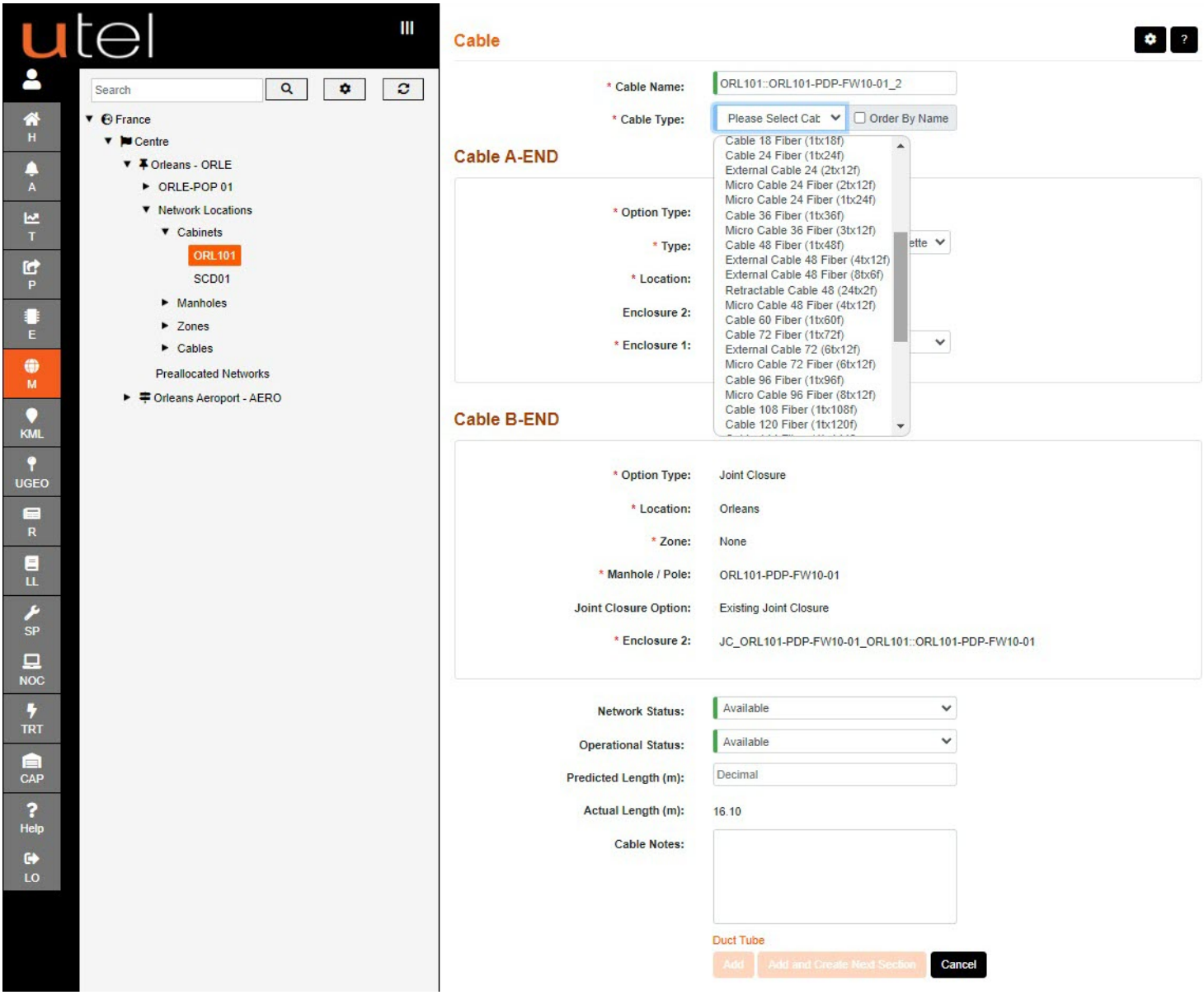
Selecting **Edit Tube** will allow the user to edit any tubes selected along the path.
'Cancel' to exit cable creation all together.

When creating cable via the button, rather than from the toolbar, the user needs to select the **cable type** in the form.

If you have the 'Default Name' enabled in your user account a suggested Cable Name will be filled in for you, once you have filled in the desired options.

Any field with a * before the name means it is a compulsory field and you must input something here e.g. **Cable Name*.*
When you enter text here, this will then turn the red marker line at the start of the field to green.
Only when all the lines are green will the **Add** button appear orange allowing you to press and save your entry.

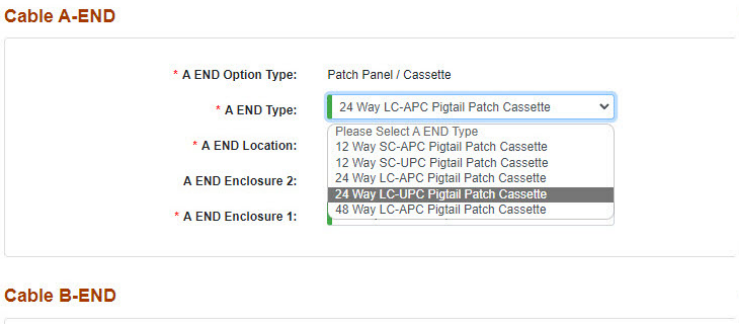
Create a **Cable Name** according to your *Naming Convention* 68.
Select a **Cable Type** from the drop-down menu.

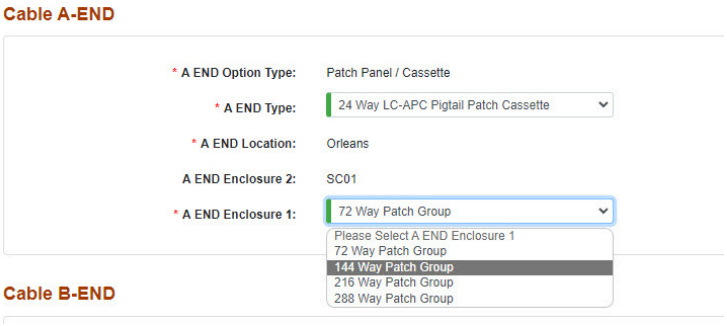


The ‘A END’ of the cable is the start of the cable, building from the Central Office out towards the Customer.
The B END is the end of the cable.

The details will automatically be filled in from the point you chose to create the cable from.

If the cable starts or ends at a Cabinet or POP, then the type defaults to Patch Panel/Cassette, and can be easily modified to the following options in the drop down.





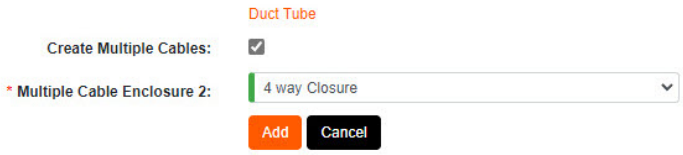
The default is to a New Joint Closure if Manhole/Pole was selected, or Existing if you chose to use an existing Joint Closure in the Manhole/Pole.

Choose the appropriate **Network Status** and **Operational Status** of the Cable using the drop-down menus provided.
The default being Available if created directly from the Map function.

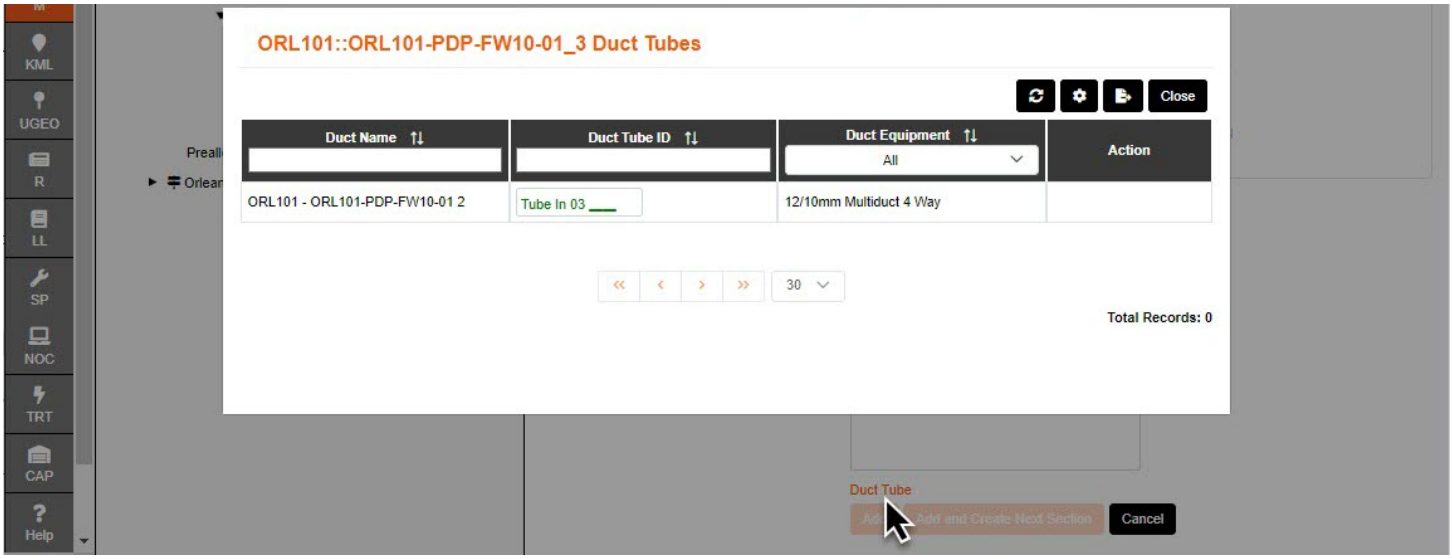
If created from Projects; the status will be Planning and Unavailable.

There are two more optional fields to complete: *Predicted Length* and *Notes*.

There is an option to **create multiple cables** if intermediate Manholes/Poles are on the duct route, that the cable is getting laid into.
Selecting this option automatically creates Joint Closures, including their splices, and individual cables between these points.



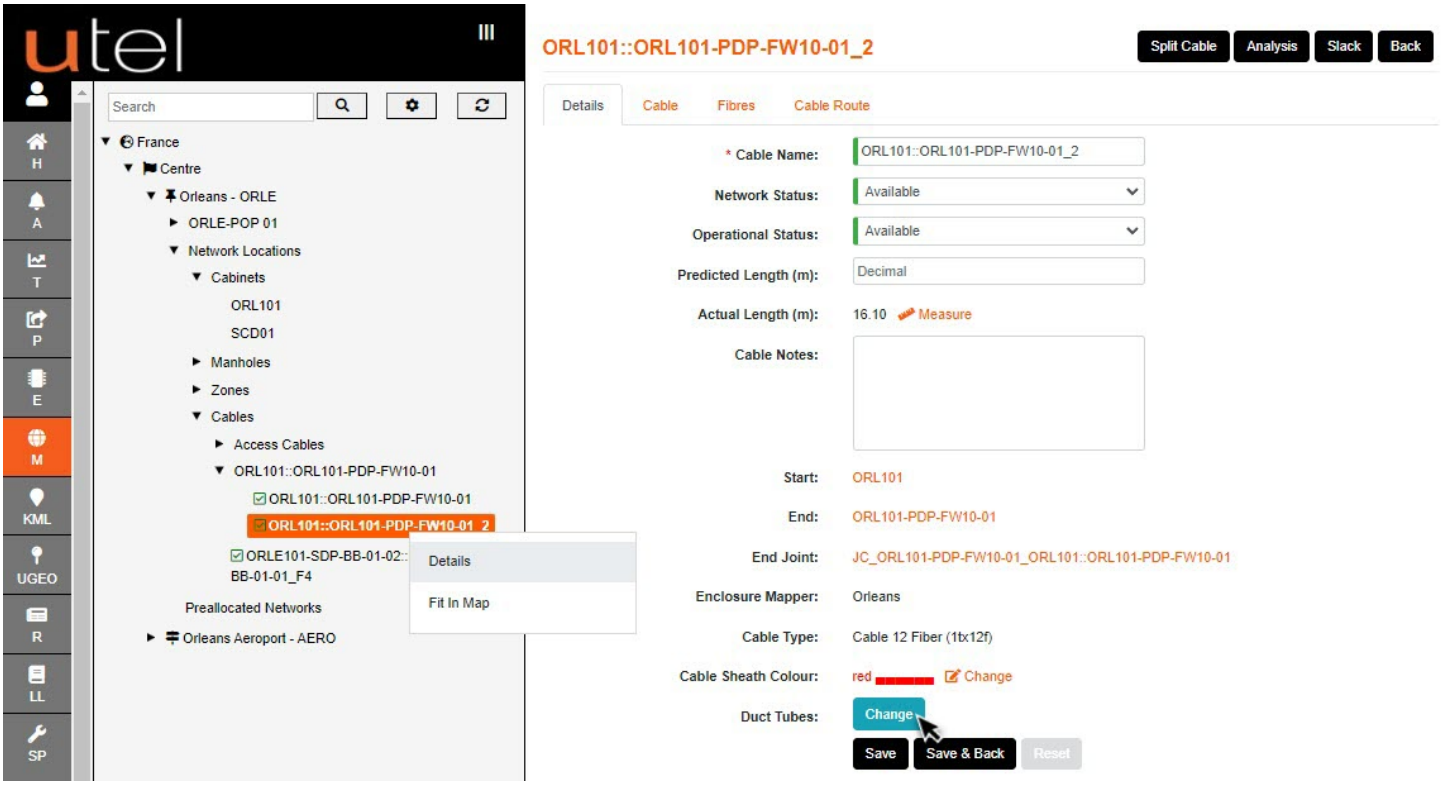
Select **Duct Tube** to see list of tubes selected - this helps if the cable is laying in multiple ducts.



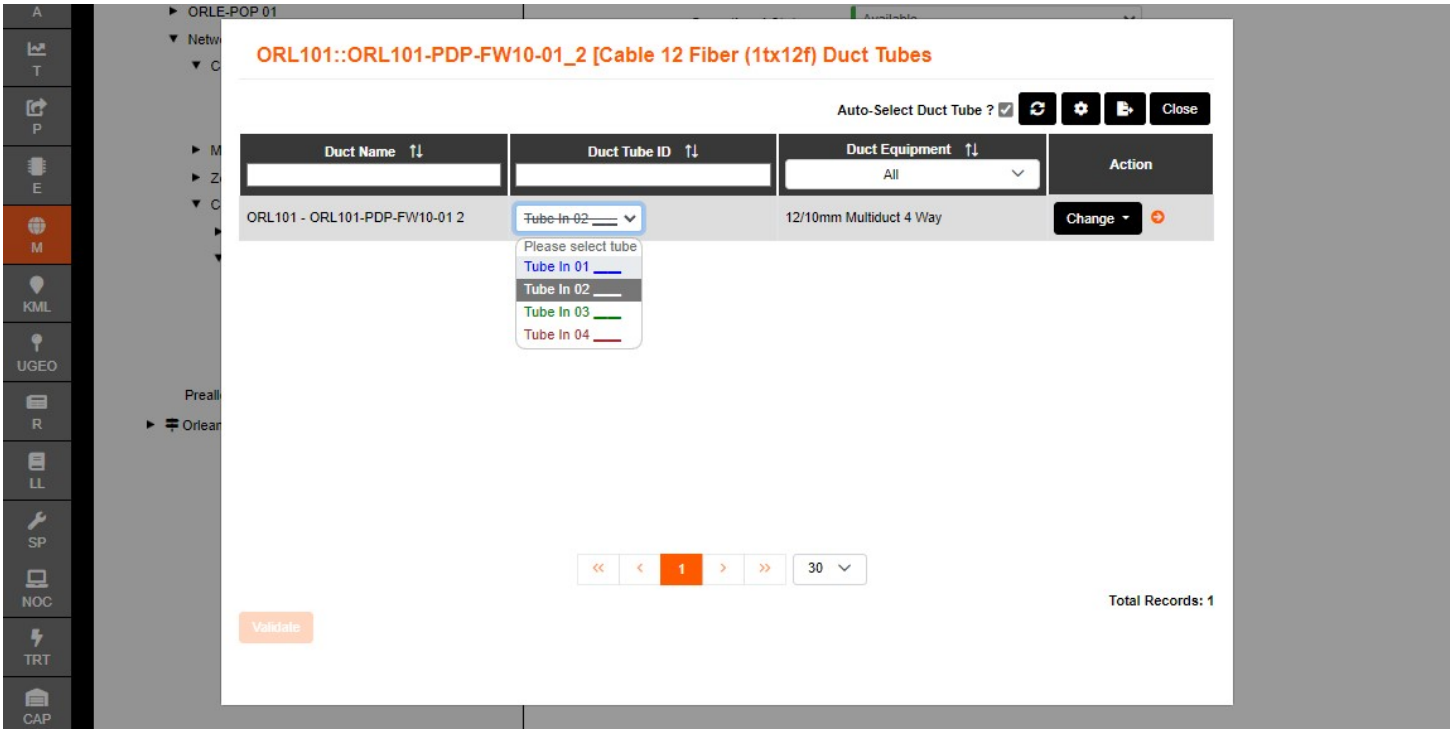
To save the cable, select the **Add** button. The **Add and Create Next Section** button will present you with another form to enter details for the next section of cable.

FastLight will build this cable into your Network which may take a couple of seconds.
The Cable will show in the **Tree**, along with the Joint Closures created in the relevant Manholes.

Cables can edit their tubes at any time by navigating to **Details** (either via Map, Tree or Element), and select Duct Tube '**Change**'.

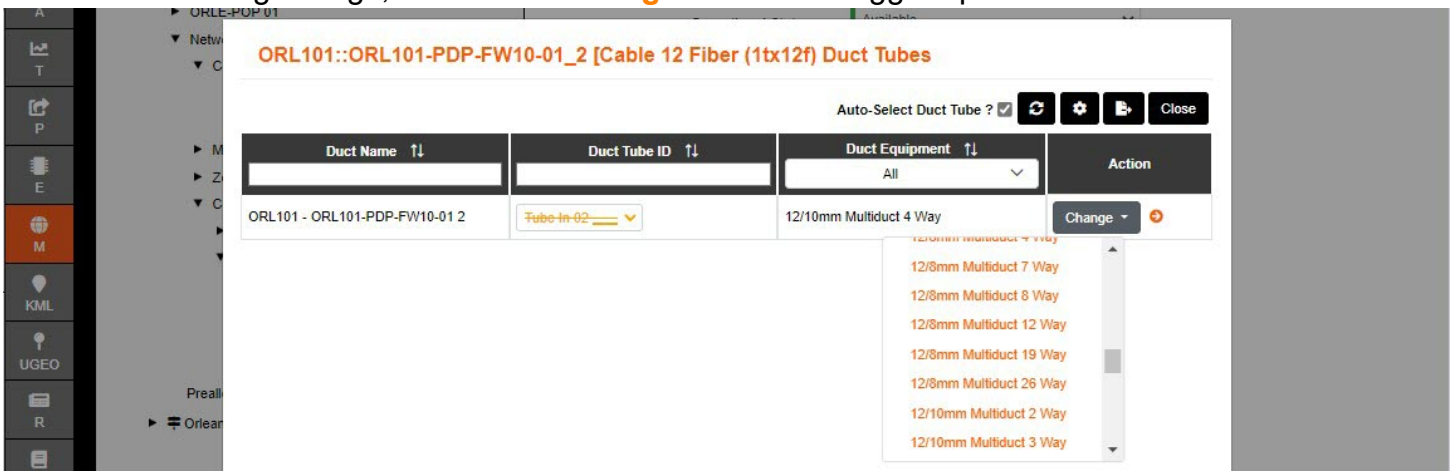


Duct Tube drop down shows the options to choose another tube.
The ducts that have been auto selected will be highlighted, with the options not including a duct that has already been selected (and occupied).



All the details displayed in the summary can be directly edited on this screen.
The tubes can be modified at any point. Select from the drop down, and then **'Validate'**.

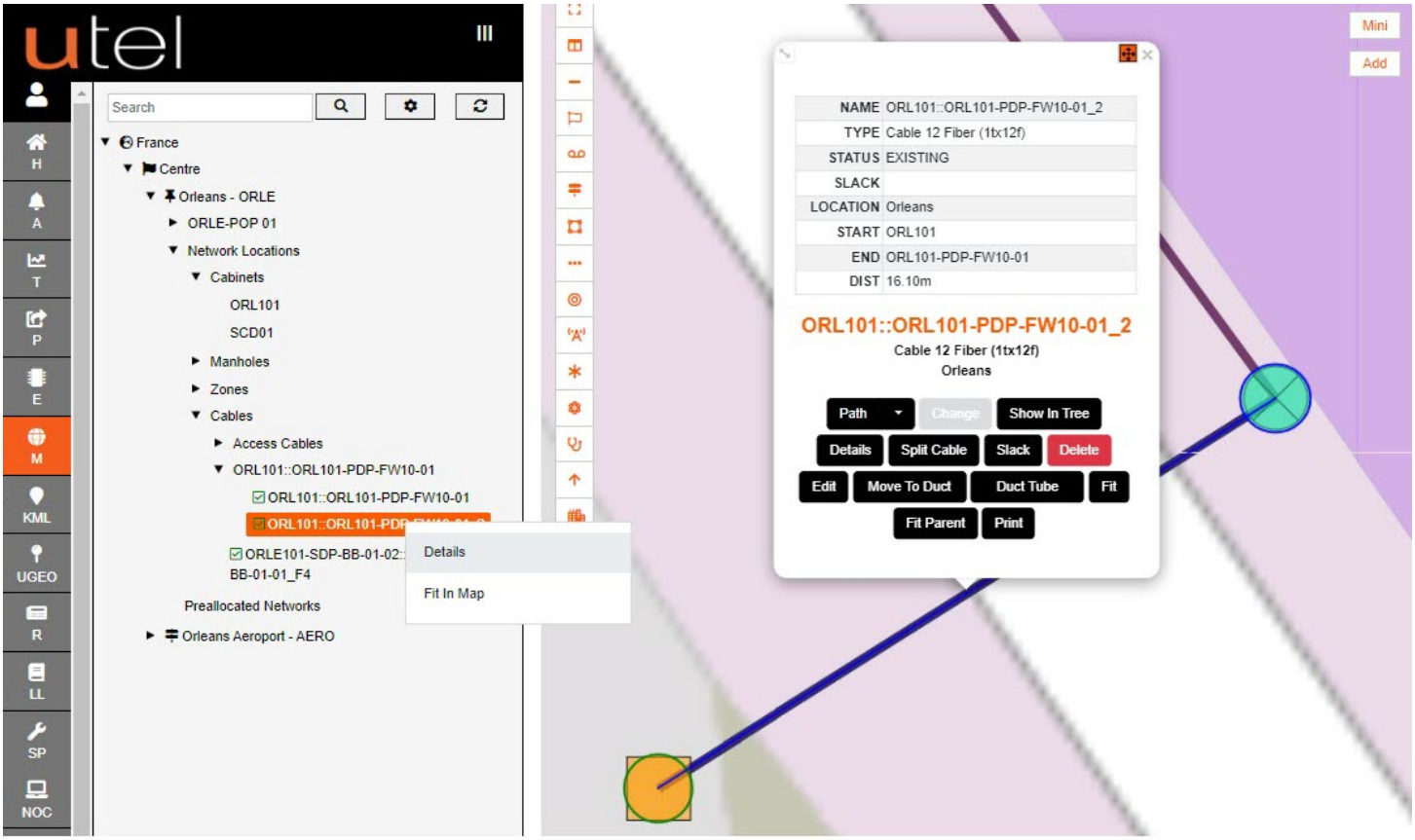
If the Duct is not big enough, then select '**Change**' to select a bigger option.



Should you make any changes, the **Save** button will highlight orange to remind you to save.

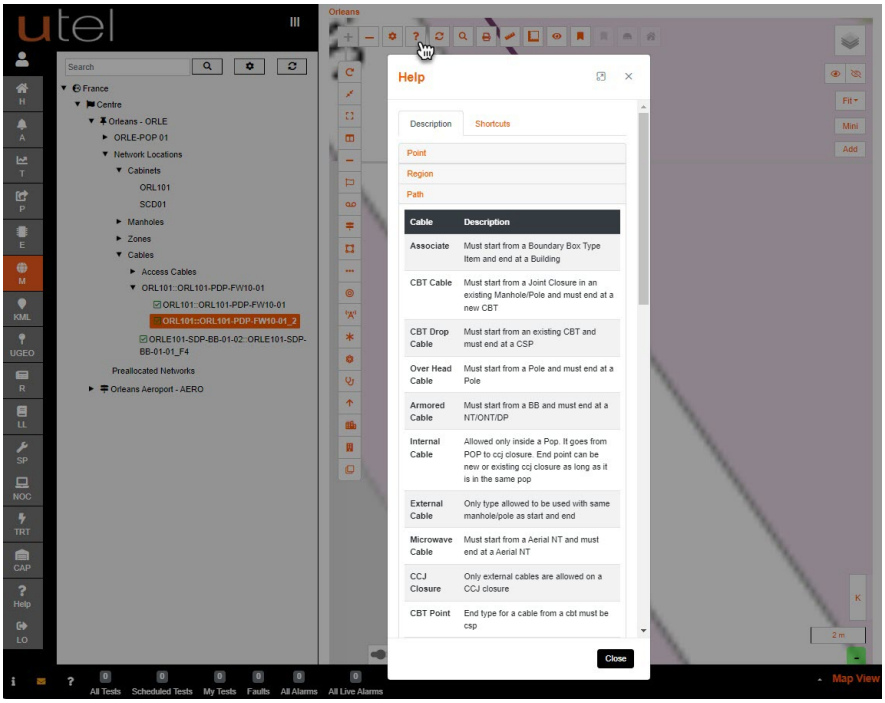
A cables information can be viewed at any time. Clicking on a cable presents a **pop up**.
Hovering over the orange name will present a **table** (similar to Google map).

Connections and Cables



If any **help** is required to understand the rules around creating with different types of cables - the *Help button on the top right of the form* when creating a cable will present a helpful pop up.

There is also help for all items on the map; select the **?** or press **h** on your keyboard.

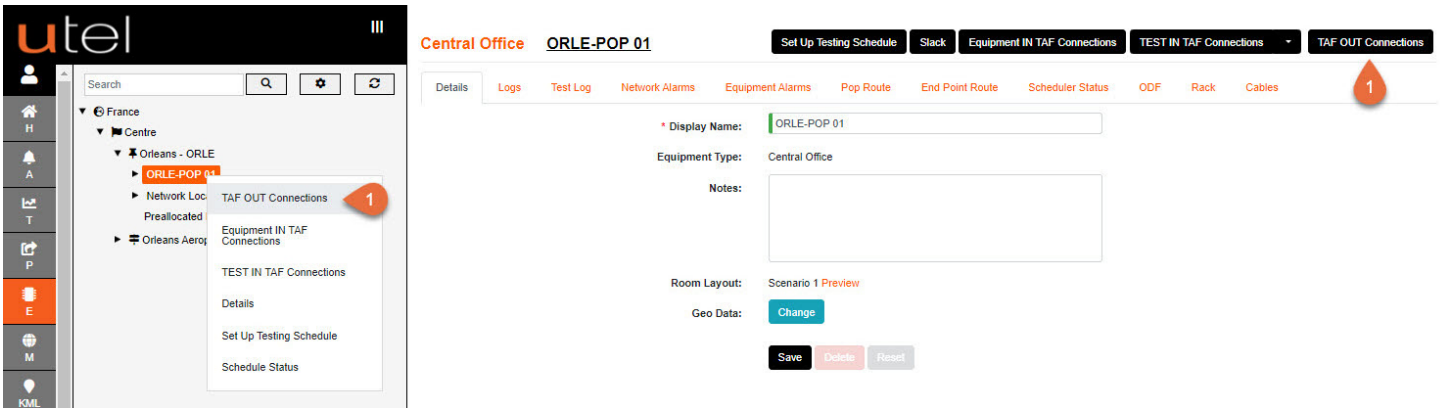


12.1 POP TAF Out Connections

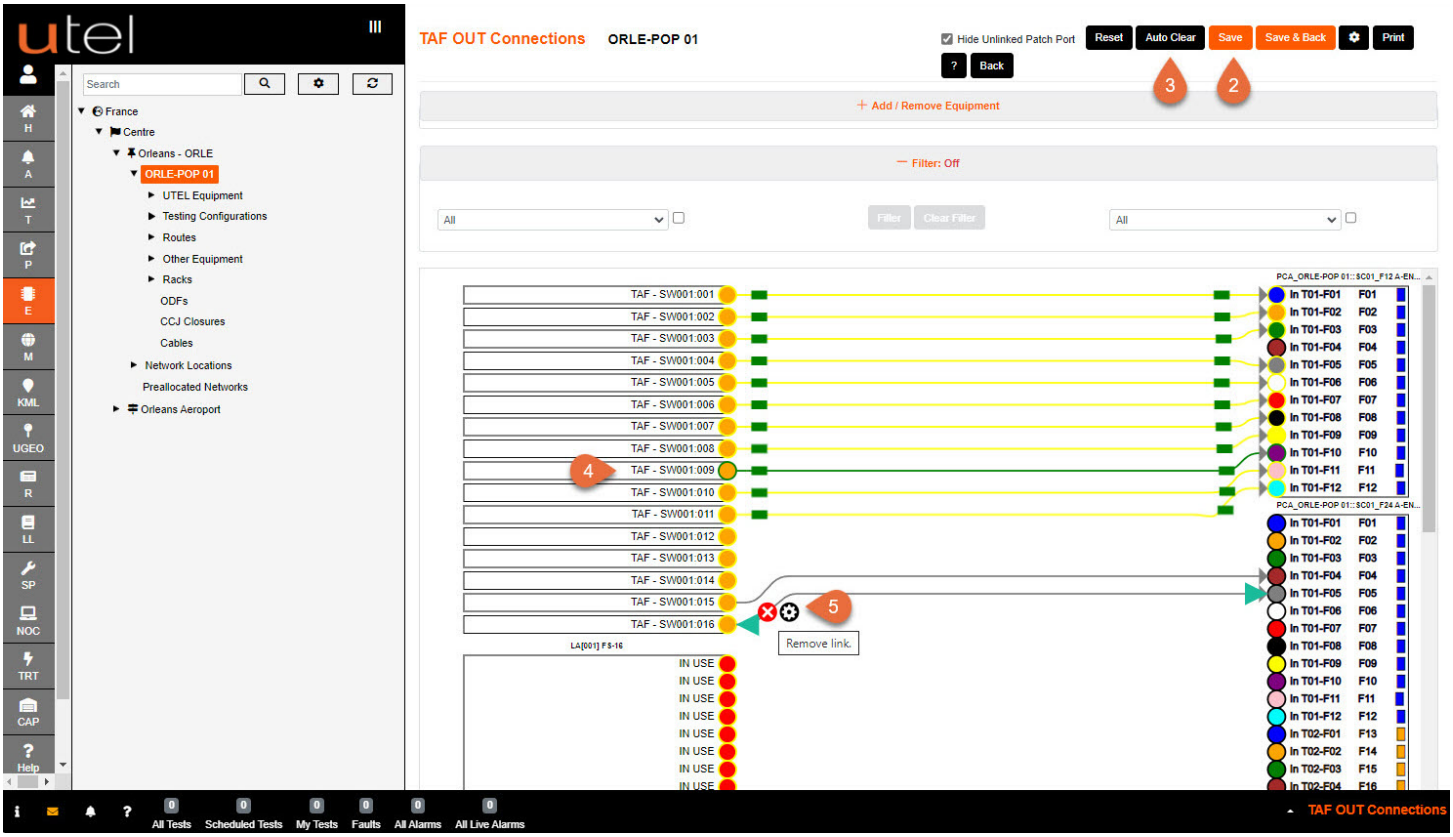
The routes path needs to be manually set between the TAF and the cables' Patch Cassette.

Select the POP of the required route in the tree.

1. Select the **TAF Out Connections** button, or right click on the POP in the tree,

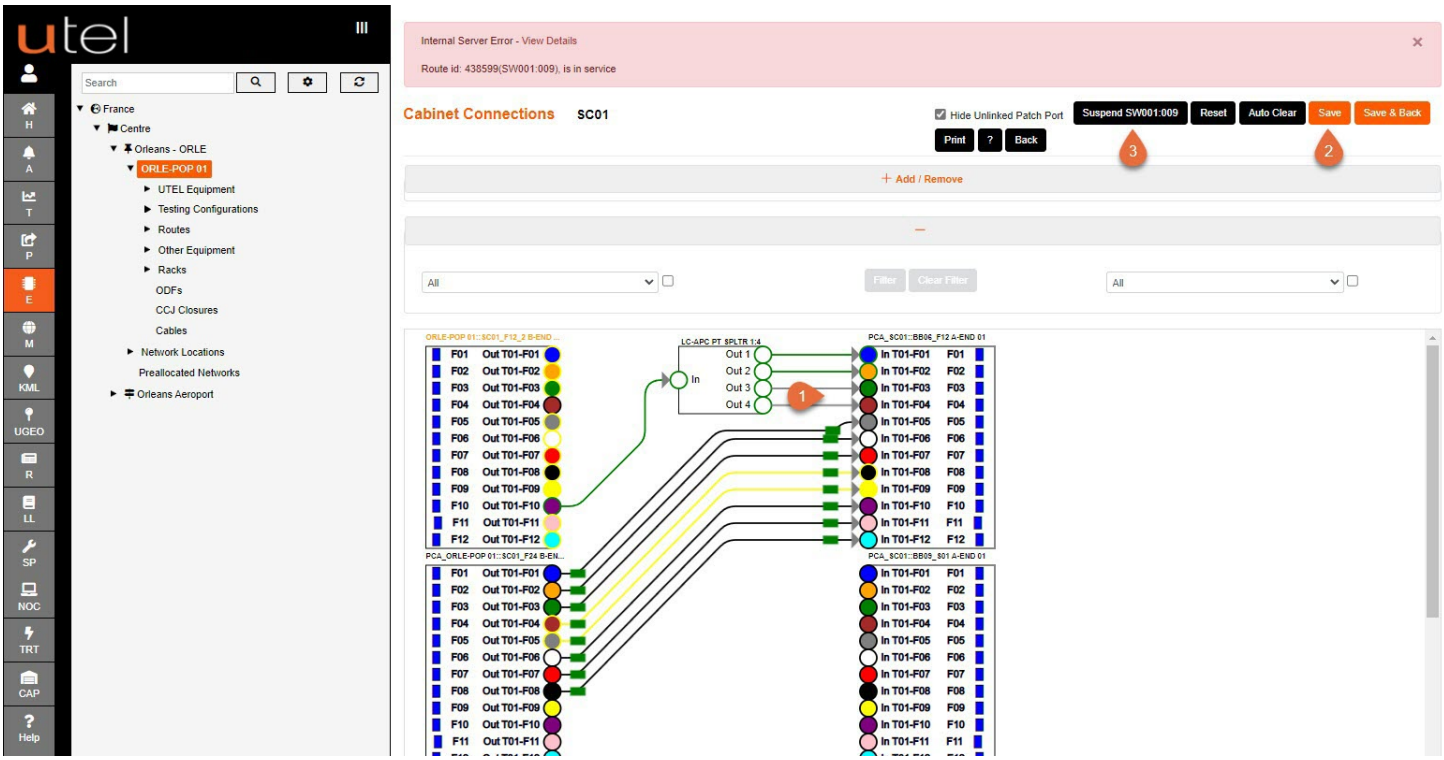


2. Click on **Save** once you have finished connecting up the paths you require.
3. **Auto Create** will connect all available one-to-one paths (if no connections have been made), and **Auto Clear** will clear all free connections.
4. Any **ports** that are *green* indicates that those routes are already *In Service* and no connections can be made.
5. It is able to delete links made by clicking the **red cross**. To access this just hover over the patch cord.

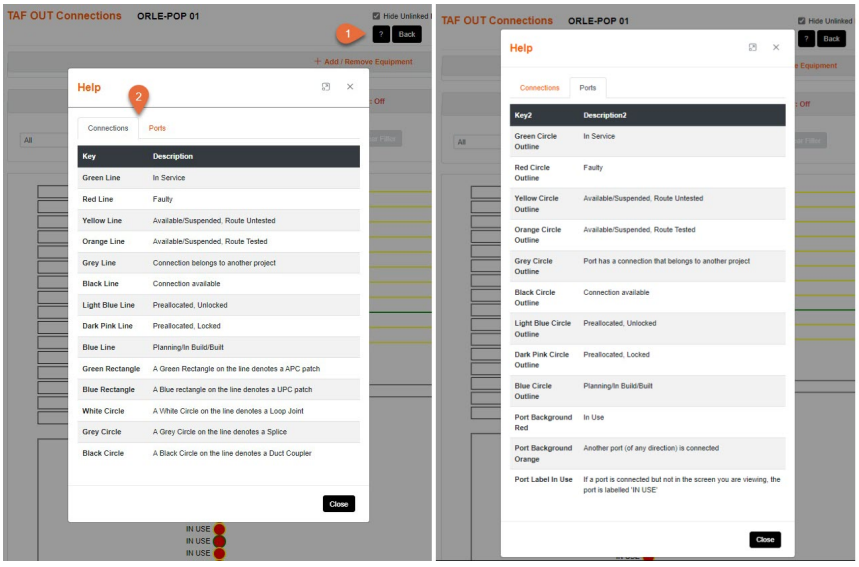


When a route is already *In Service* the user will need to *Suspend* the route to modify it.
The option is presented in the Connection Screens for ease of use.

1. Adding (or removing) **connection** to a network connected to a route *In Service*
2. Select **Save** and a message is presented indicating the route is *In Service*
3. A '**Suspend**' button is presented. Select it and then **Save** the connection.
   That same button will have **'Set In Service'** to reset it.



1. A helpful guide to *Connection Screen* colouring is found via the **?** button.
2. The **tabs** have both Connection and Ports to view.

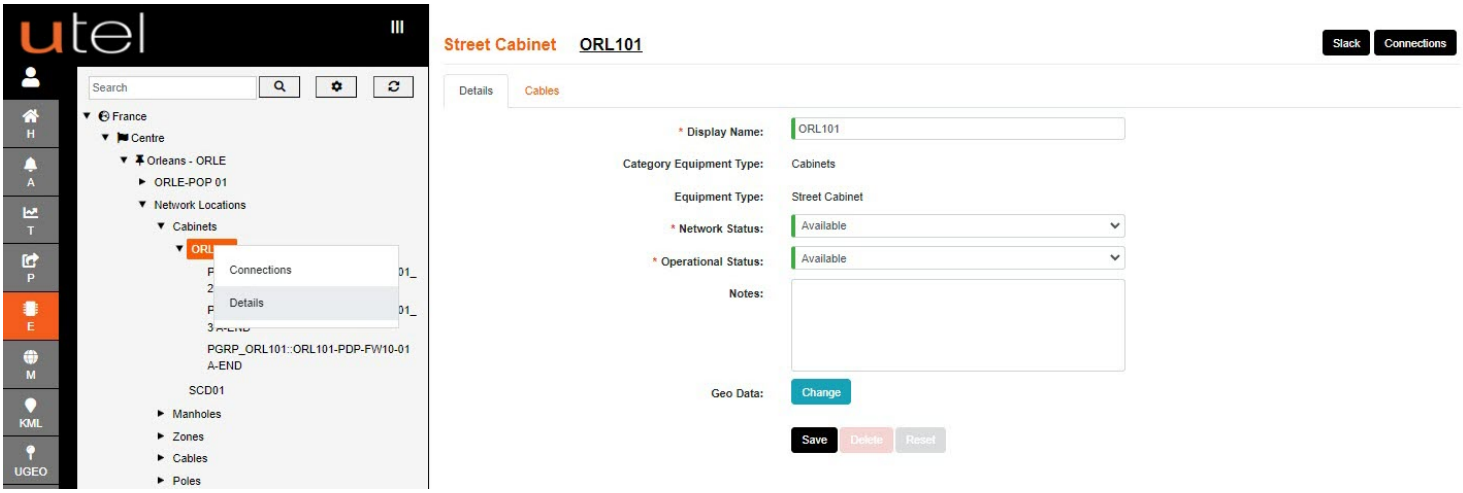


12.2 Connecting Cables

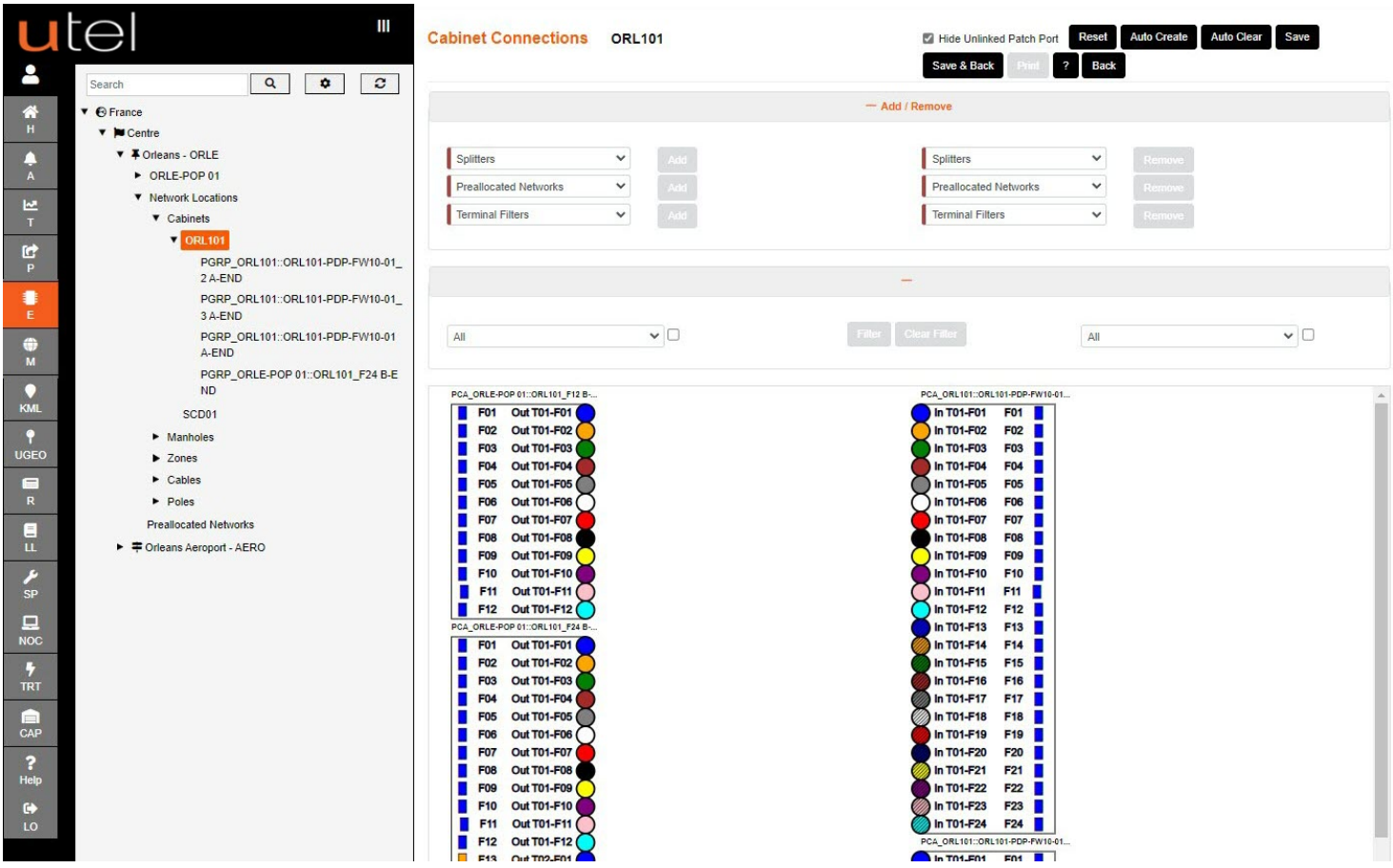
Within a Cabinet, Manhole Joint Closure/CBT, Pole Joint Closure/CBT, Distribution Point, Network Termination or a POP where cables are connected, you can draw in the connections between the cable ends to show how it's been spliced or connected together.

Connections and Cables

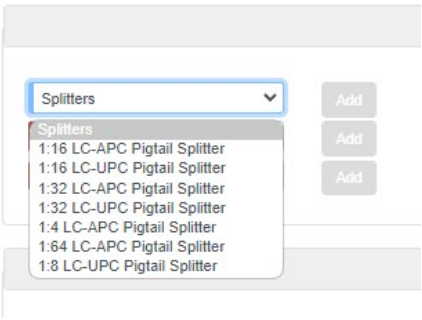
From the tree navigate to the name of the Network Location you wish to modify/view.
Click the **Connections** button in the top right-hand corner of the screen.
There is also an option to hyperlink to the **Connections** screen (and Details) upon right clicking on the name in the tree.



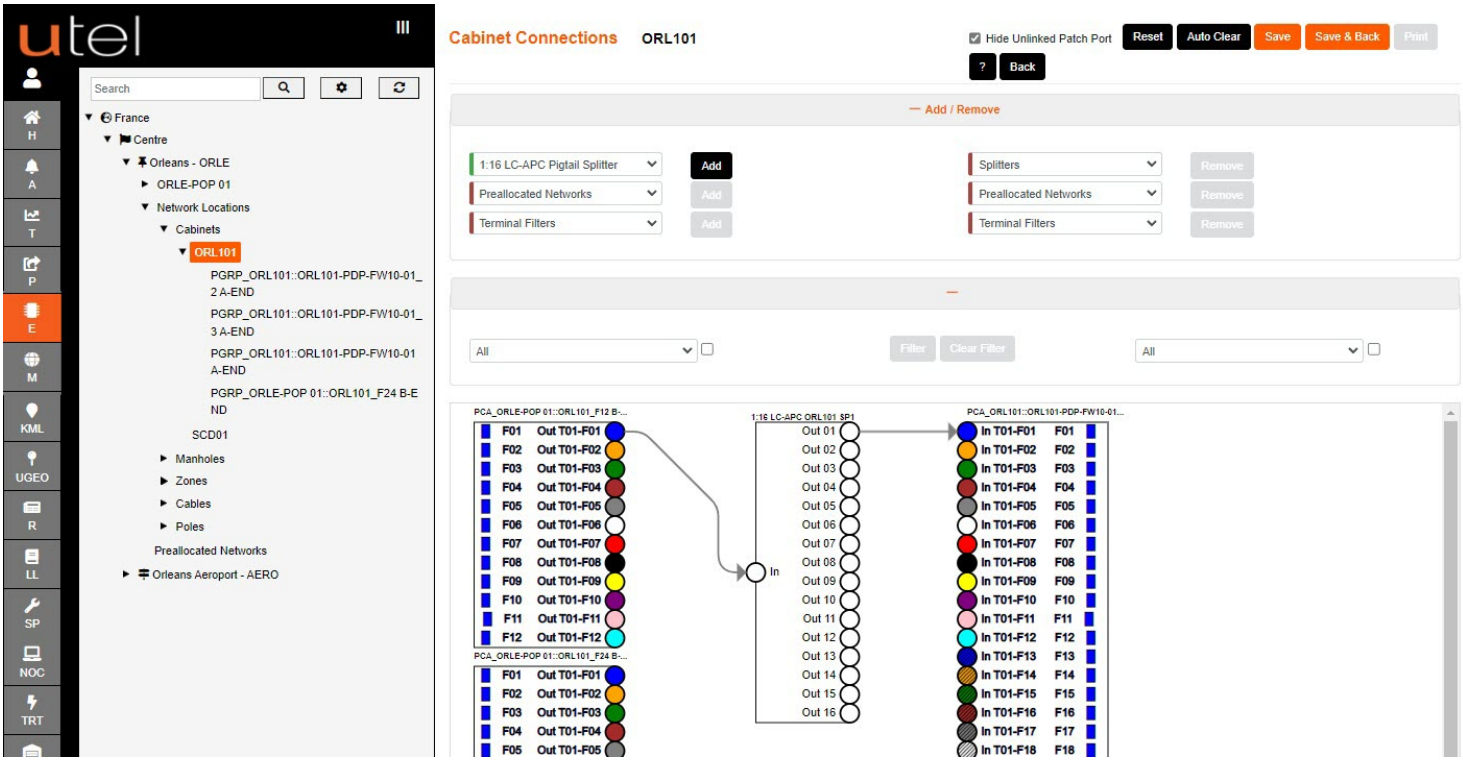
Click on the left-hand cable and drag across to the right-hand side to create a connecting cable.



You can add Splitters by selecting the size of the Splitter from the minimized menu, naming it and clicking on **Add Splitter**.



Then drag the Splitter to the correct place in the diagram, and drag and drop to draw in the connections. When you have finished drawing, select **Save**.

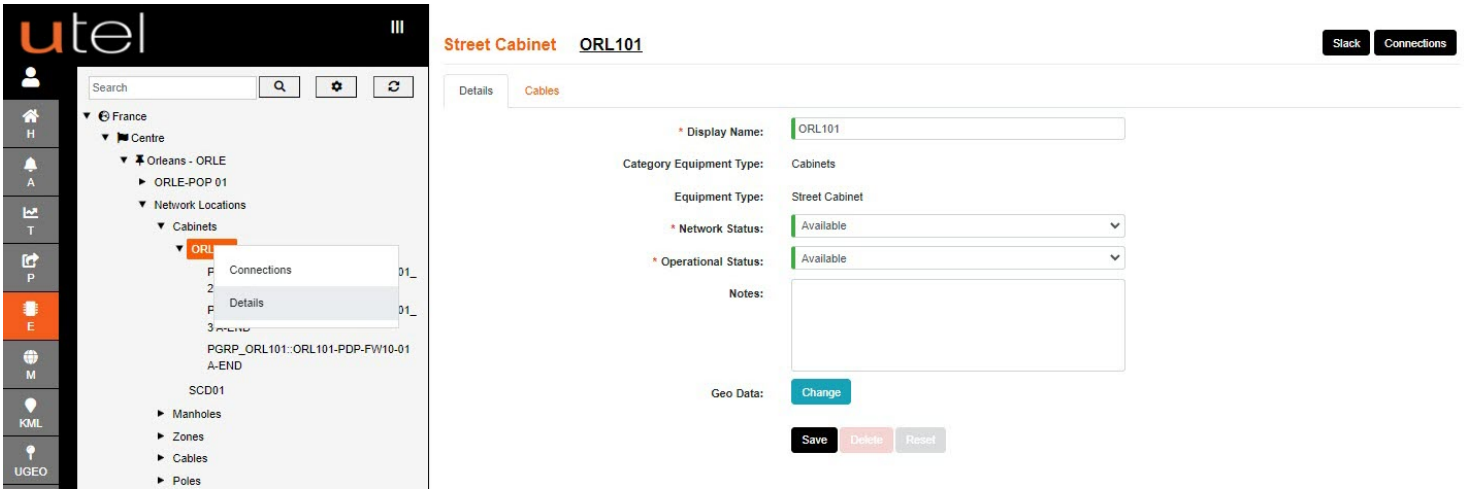


There is the option on every Connection Screen to **double click** on the cables A-END or B-END to go to next or previous Connection Screen.

12.3 Cable Slack

Within a Cabinet, Manhole and Cables, you can add **slack** at each of the cable ends.

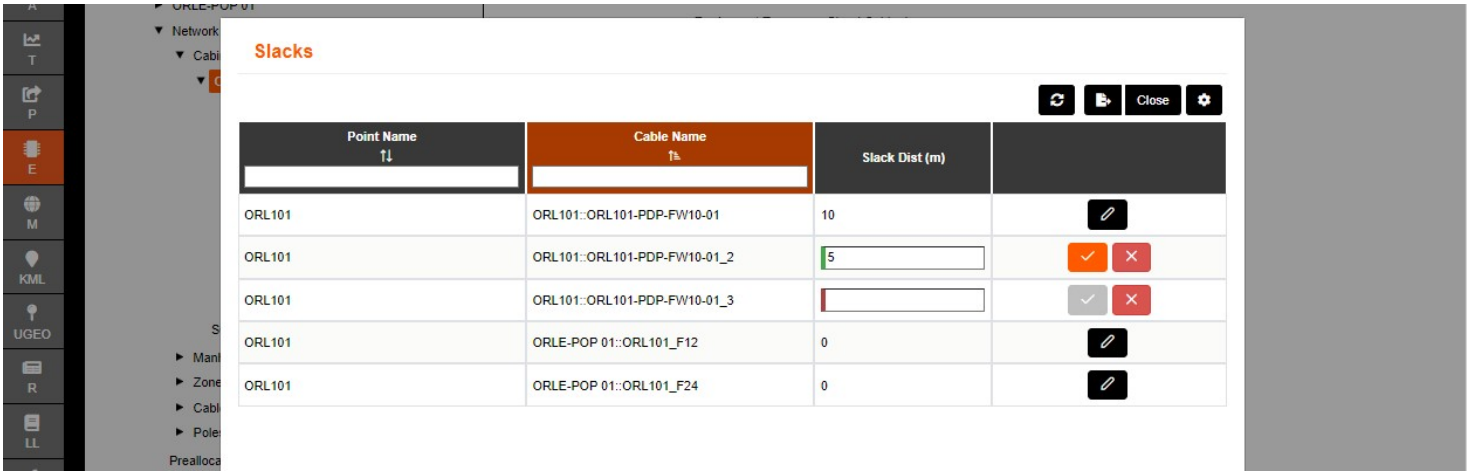
From the tree navigate to the name of the Network Location you wish to modify/view.
Click the **Slack** button in the top right-hand corner of the screen.



Click on the **right-hand pen symbol** to modify the Slack Distance.

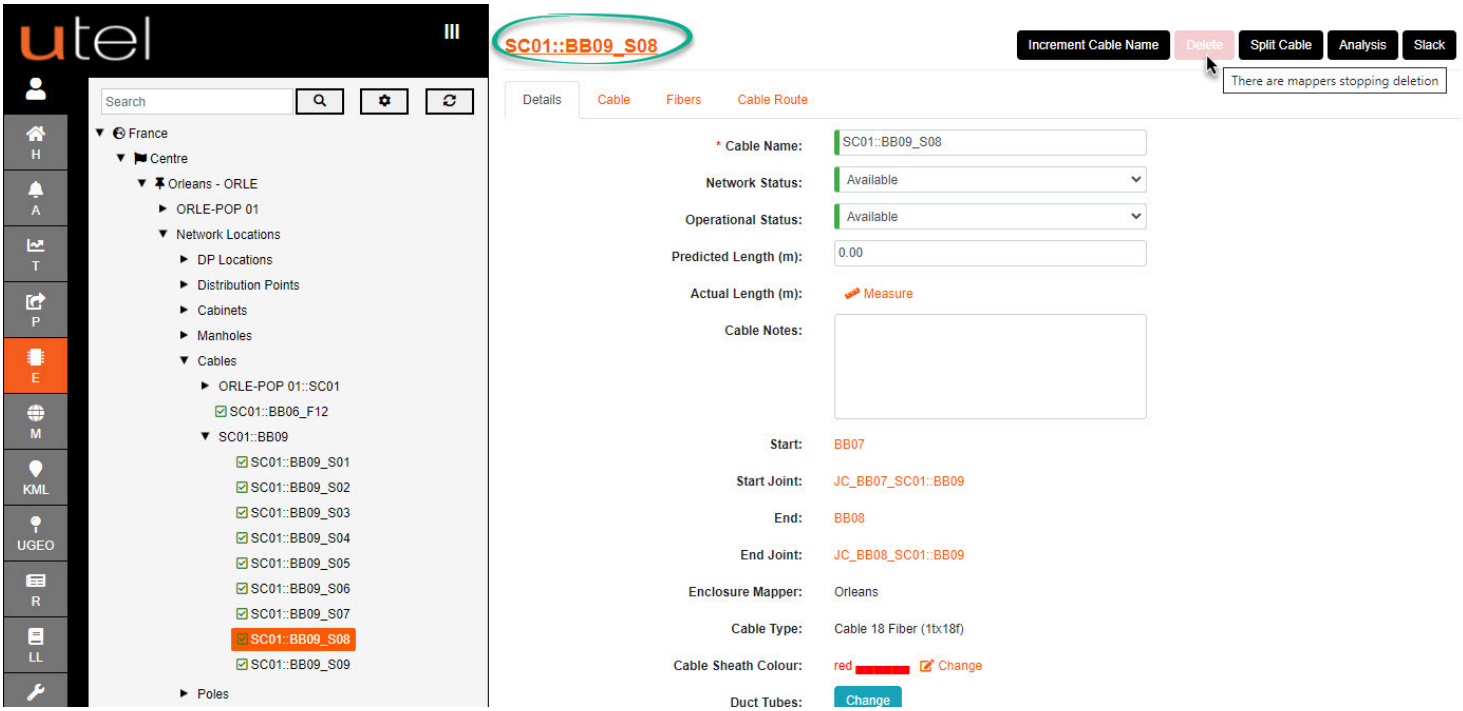
Enter the slack required, in meters, in the editable column.

Click on the **orange tick** when modified.
Close when done. The slack can be edited at any time.



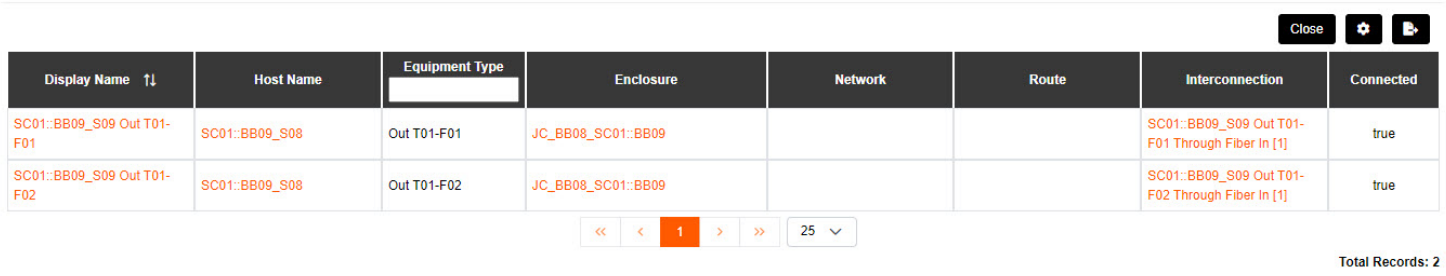
12.4 To Edit or Delete a Cable

In Element Manager, select the **cable name** from the Tree.



To delete this cable, select the **Delete** button in the top right-hand corner, and confirm in the pop-up that you wish to delete.

If the delete is unavailable, the user can select the name to see what is connected (circled in green). Hyperlink (orange text) to any of those items, and disconnect them, before the delete can be available.

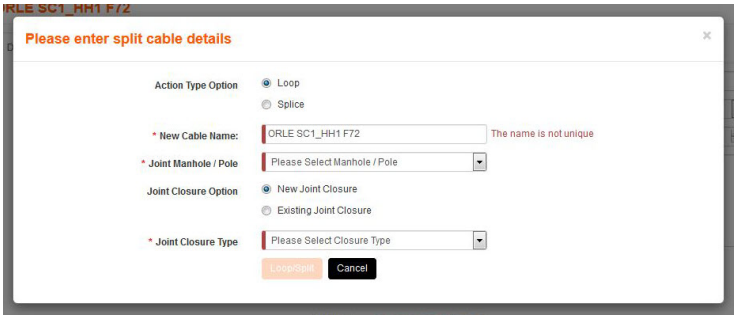


To change the Duct Tubes of this cable, select the **Change** button.

To split this cable, select the **Split Cable** button in the top right-hand corner.
*Note: You will need to make sure that the Manhole you are about to use has been connected to the corresponding duct path in the **GIS Mapping** section.*

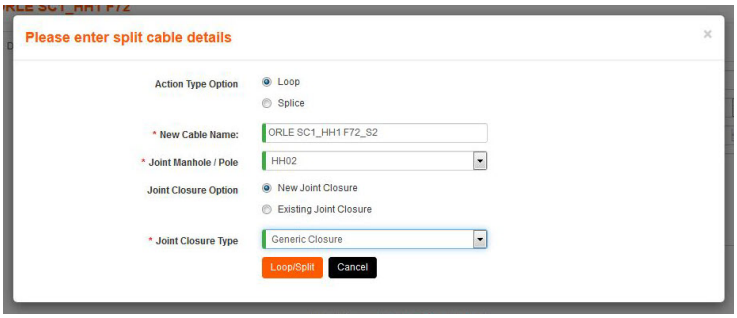
A pop-up will request whether you would like to **Loop** or **Splice** the cable.

The new cable will be the second section of the cable you selected to modify.



If you **Splice** the cable then a full new Joint Closure will be created in the Manhole you selected, with patch cords automatically joining each new section with Splice Joints.

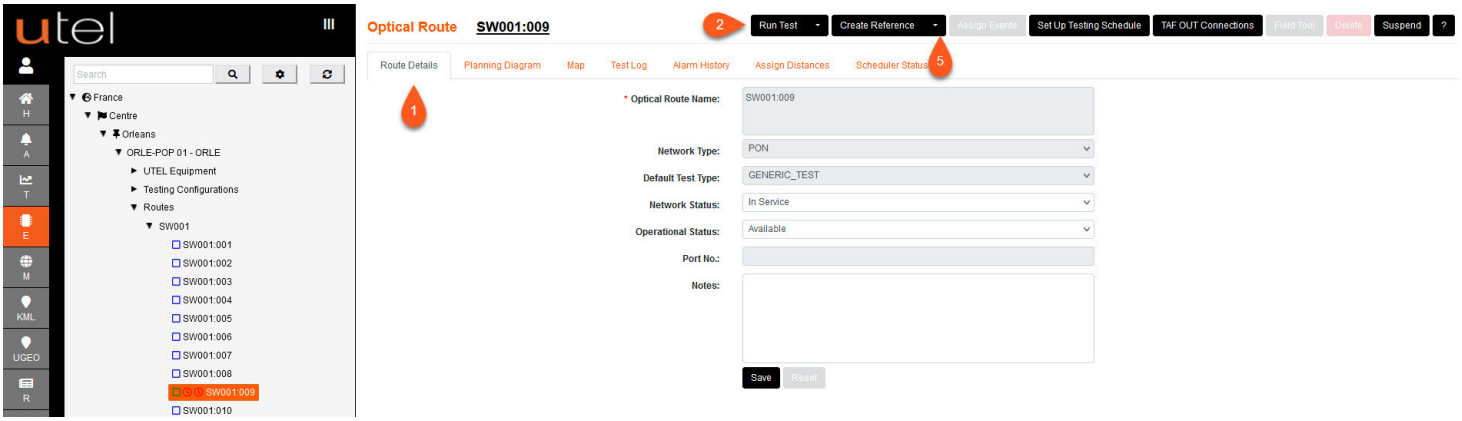
If you **Loop** the cable then a full new Joint Closure will be created in the Manhole you selected, with patch cords automatically joining each new section with Loop Joints.

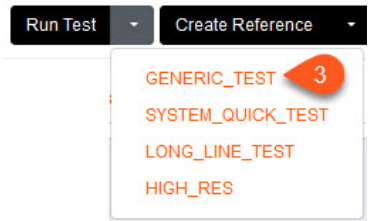


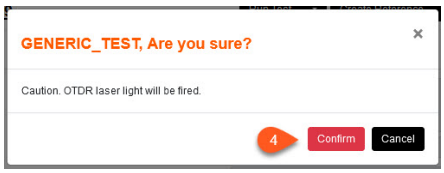
13 Run a Test

Before a Test is allowed to proceed, the Route to be tested must be **In Service**.

1. When you select your route, the **Route Details** is viewed on a tab for each route.
2. When you are ready to run a test then click on the **Run Test** button.
3. **Select the Test** you would like to run, or just **Run the Test** and the default set up on the **Route Details** tab will be selected.
   If the test is the first one run on a particular Test Type the default is that a Reference Test is run.
4. Select **Confirm** and the test will run.
5. If you want to create another Reference Trace then select **Create reference** and choose the type of test you require as above.

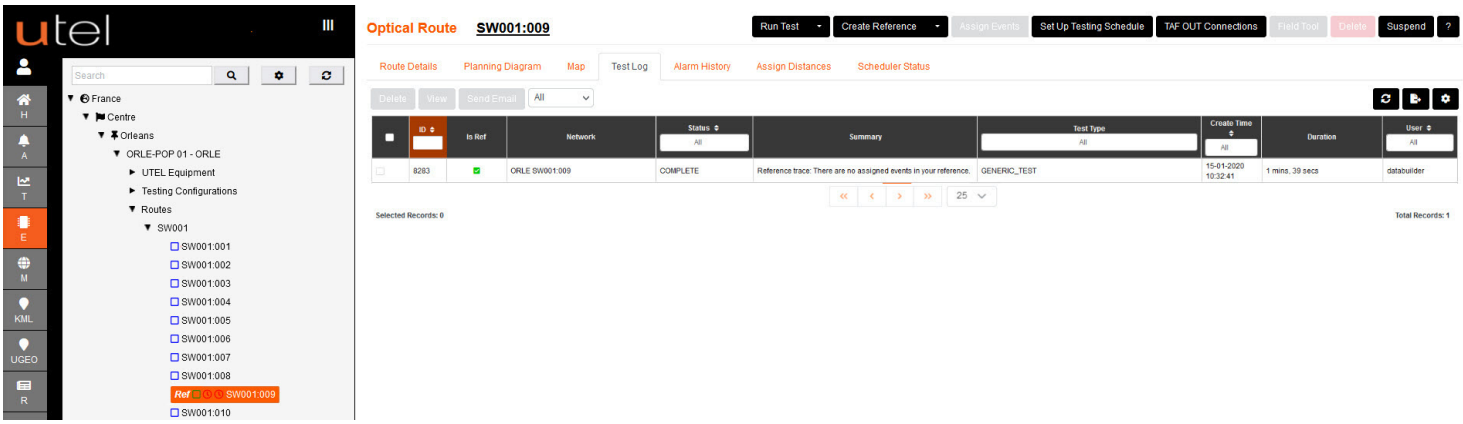






If this is the first test on the route, it will come back with a Reference Trace.
This is the model trace of the network and will be compared with future traces to detect changes.
When the Test has completed a screen will open up on the **Test Log**.

Each route allows more than one test to be run, which is added to the **Routes** test list in the Elements Manager and also the **Testing** tab.



Refer to the *Testing Guide* for further details, including assigning events.

14 Quick Guide: Naming Conventions

We know each customer is unique. Your Network is structured in a way that works for you and FastLight has been designed to work WITH your system, not AGAINST it.

Agreeing on a format for naming components in your Network should take place as part of the Network Planning stage BEFORE installation has even taken place. From the country as a whole all the way down to individual fibers within cables, everything needs to be clearly identified. Having this in place from Day 1 means it can be used from the outset in its correct form, and there will be no last minute rushed decisions which may cause problems further down the line.

FastLight can discover a fault in your system and pin point where it is if the architecture is done correctly.

We recommend naming your Location and Sub-Locations in full for complete clarity. For example, England rather than 'Eng.'

It is only once you get to POP level and beyond that abbreviations may be helpful to keep your names short and simple, yet easy to identify.

14.1 Abbreviations and Numbering

For all our naming conventions we recommend beginning with a 3 or 4 letter abbreviation. This should be a shortened version of where the POP Site is found. For example, if the POP-Location Westminster, then this could be abbreviated to WMST or WSTM.

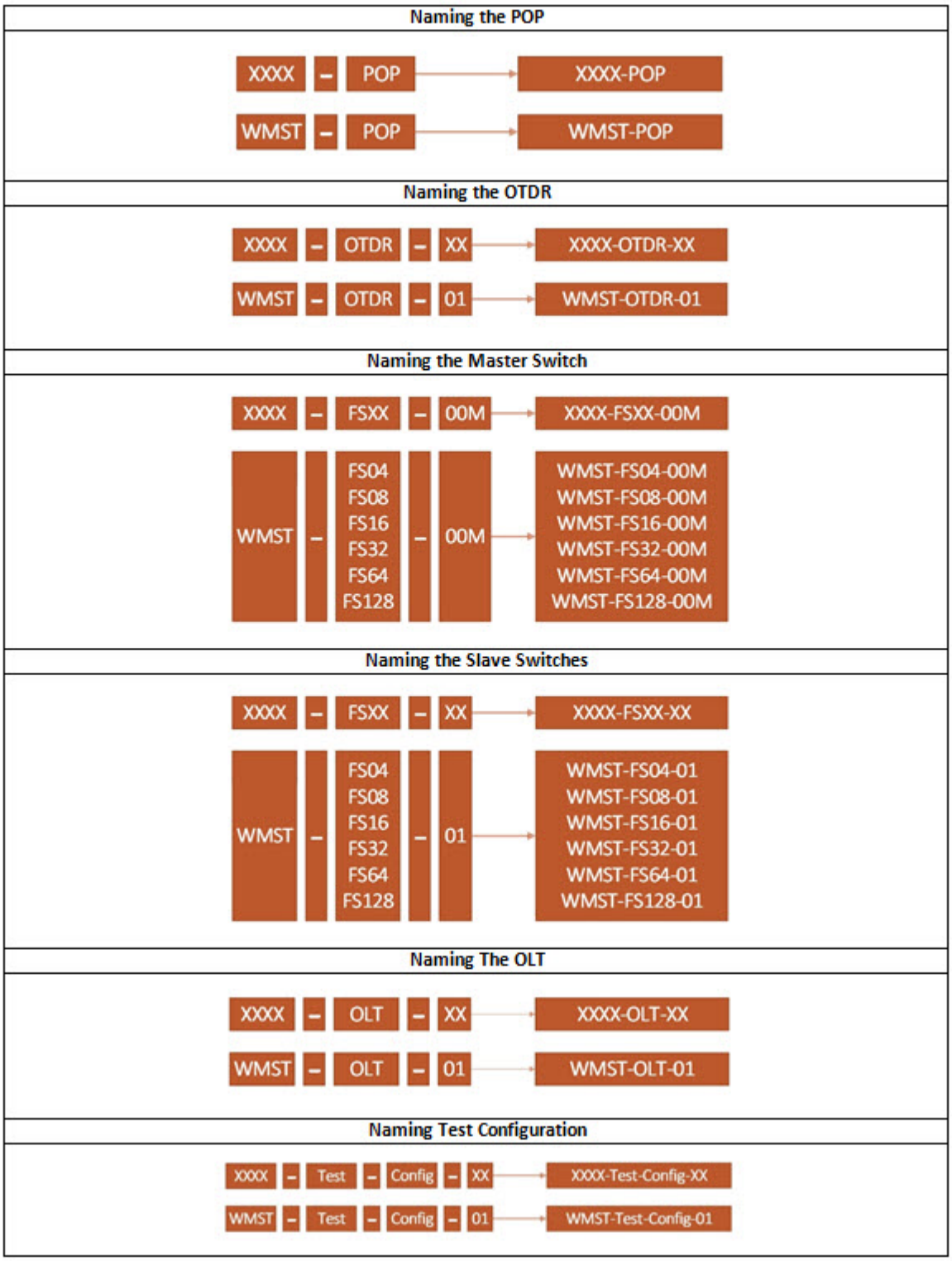
This 4-letter abbreviation will then form the basis for all component names within it, such as the OTDR, OLT and Network names, helping you to identify any component within that POP-Location.

To allow for the maximum deployment, we suggest all numbers use at least two digits, preceding a single digit number with a zero if necessary. For example, eight would be 08.

The following sections outline UTEL's recommendations for naming components for ease of identification. This can be adapted and discussed with the customer at the pre-installation stage, but has proven to be a method that works.

14.2 UTEL Recommendations

UTEL's Recommended Naming Conventions



UTEL Laboratories
Wolves Farm Lane
Hadleigh
Suffolk
IP7 6BH
United Kingdom

Tel: +44 (0)1473 828 909
Email: training@utel.co.uk

www.utel.co.uk