itdesign

itd Portfolio Optimizer 1.0.0

User and Administrator Manual

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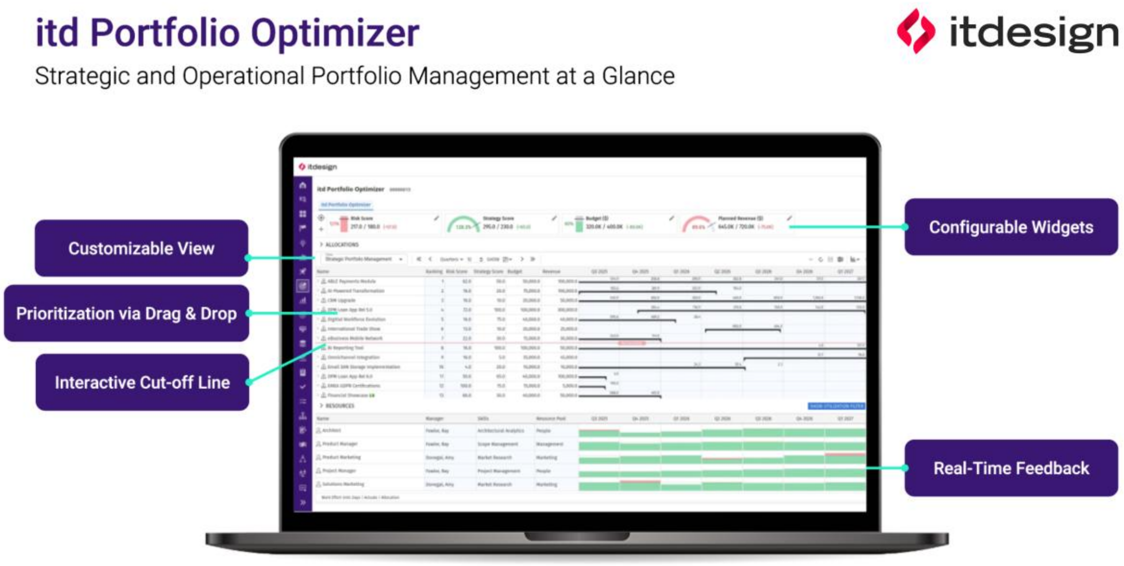
Contents

1 Short Description

Plan what's possible, cut what's not – with the itd Portfolio Optimizer.
Take your portfolio management to the next level with this intelligent add-on for Clarity that empowers you to make confident, data-driven investment decisions.



Whether you're managing strategy or operations – with this tool you will always be one step ahead.

- Focus on what matters most by prioritizing your investments.
- Fine-tune your portfolio with a simple cut-off line.
- Instantly visualize the impact on your resource utilization.
- Optimize across multiple dimensions with powerful, interactive widgets.

1.1 Main Features

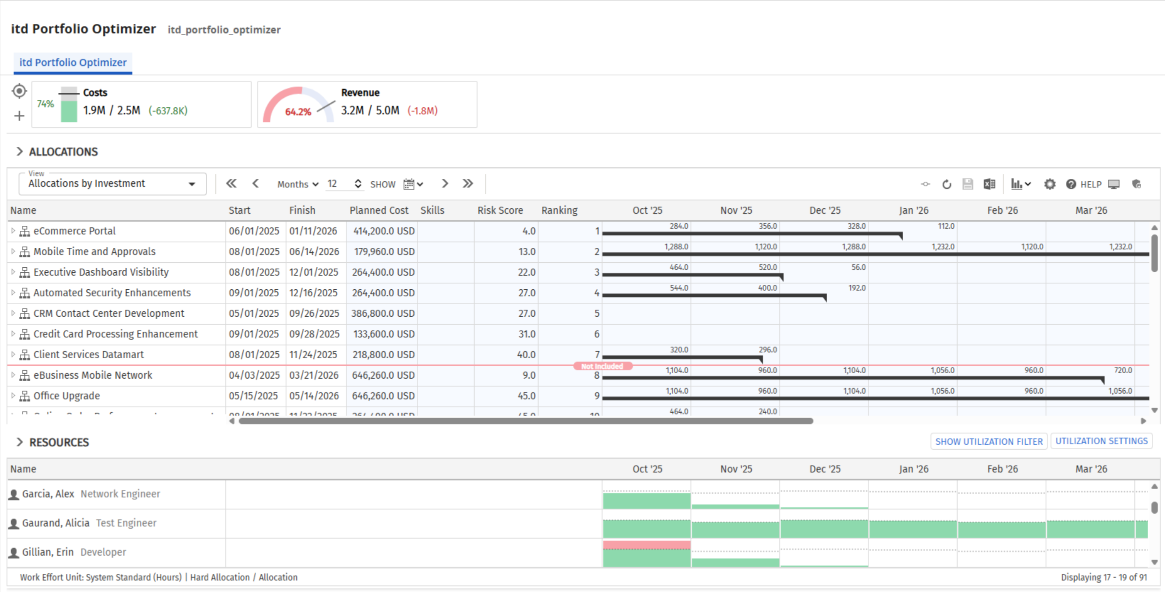
- Sort Investments by Drag & Drop – Prioritize with Ease
- Target Widgets – Visualize Portfolio KPIs
- Cut-off Line – Define What's In

1.2 Additional Features

- Investment Highlighting for Selected Resources
- Initial Ranking Generator
- Synchronization to Work Status
- Jump to Cut-off Line
- Hierarchy Module Integration

2 Overview

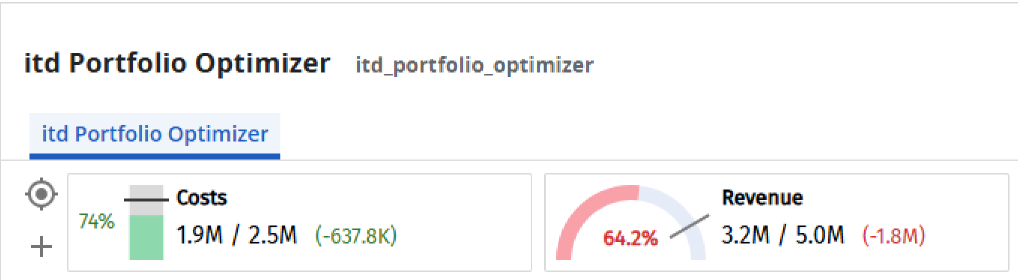
With the itd Portfolio Optimizer, you have access to all features in one comprehensive view.



The following sections outline the various controls in this view.

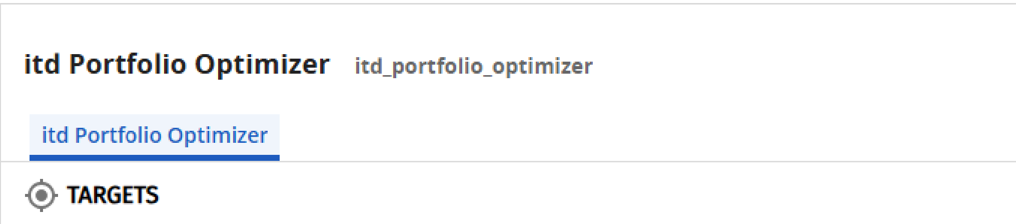
2.1 Targets

At the top left, you can display up to five widgets which indicate whether you're on track.



Note that the **Costs** constraint should stay below and the **Revenue** goal should rise above.

When this section isn't displayed, you can expand it by clicking on the **Targets** button.



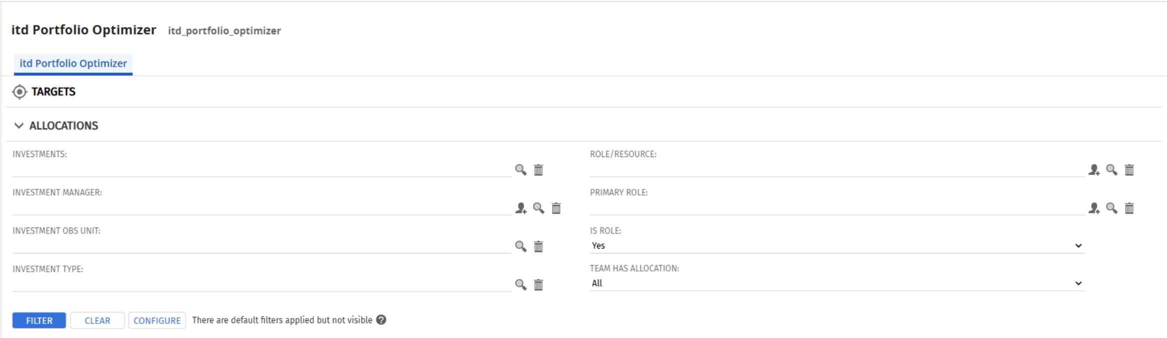
2.2 Portfolio Filter

By default, all investments you have access to are displayed in the list.

Expand the **Allocations** section at the top of the page to define your portfolio via filter settings:

> Select specific **Investments** or investment properties to filter investments directly.
> Select resource/role or team entry properties to filter both allocations and investments by them.

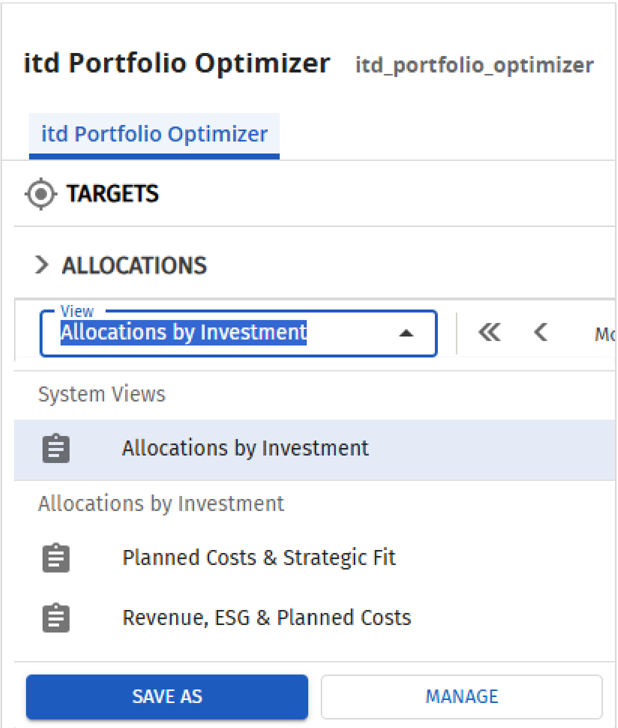
Example: *set* ***Is Role*** *to* ***No*** *to display only investments with resource allocations.*
All investments without resource allocations and all role allocations will be hidden.



Click on **Filter** to apply your filter settings. **Clear** resets all filters. **Configure** lets you select additional filter fields. Administrators can add almost any field to the selection of available filter fields.

2.3 Views

The itd Portfolio Optimizer supports multiple views, listed in the **View** menu.



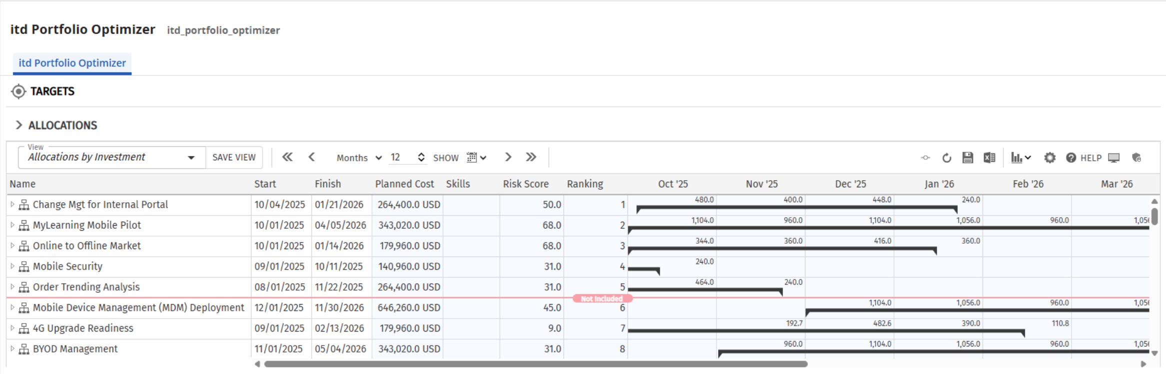
A view stores almost all settings you can make in the itd Portfolio Optimizer, including but not limited to target widgets and your portfolio and resource filter settings.

Administrators can preconfigure the system view to best suit the needs of your company.

Additionally, users may save any number of custom views, choosing for each if only they can see it or if they want to share it with other users. The order of views in the menu is also customizable.

2.4 Portfolio Overview

The upper section of the itd Portfolio Optimizer represents your portfolio of investments.



Investments are ranked by priority. The red cut-off line defines the lowest priority actually included, which is rank 5 in the screenshot. Everything below that line is considered not important enough to do and will be ignored in all other view sections such as target widgets and resource utilization.

This section contains a lot of information about your projects and other investments, such as:

> Team entries with allocations (expand investment in tree view)
> **Start**, **Finish** and other investment fields
> Priority **Ranking**
> Gantt chart with durations and allocation figures per investment, resource and period

The view is also highly interactive:

> Drag and drop investments to change their priority **Ranking**.
> Drag and drop the red cut-off line to define what's in your portfolio and what's not, with direct feedback in target widgets above and resource utilization below.
> Can't find the cut-off line? The left-most button in the right toolbar will take you there instantly:

> The toolbars also let you change the display period and access additional actions and settings.
> Hover over an investment or team entry to display a hotspot for a context menu with available actions for that investment or team entry.
  Administrators can reorder, restrict or remove standard actions and add custom actions
> You can directly edit most list fields that aren't calculated.
> You can move, stretch and shrink investments in the Gantt chart, with direct feedback in the resource utilization view below.

2.5 itd Advanced Resource Planning Integration

The itd Portfolio Optimizer is based on itd Advanced Resource Planning, a powerful tool for planning resource utilization, scheduling investments and tasks and editing allocations and assignments.

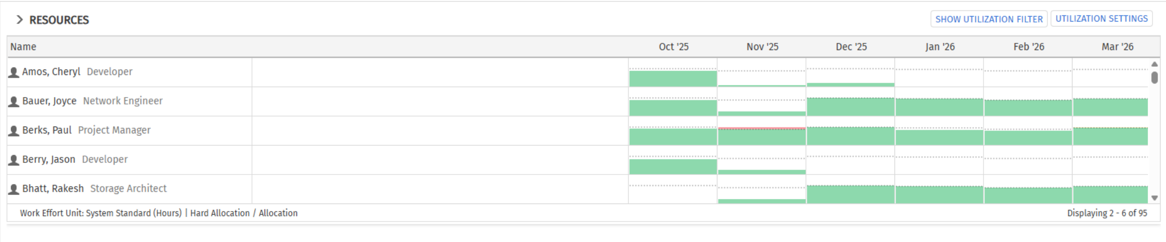
When itd Advanced Resource Planning is licensed for your company as well, you have access to the following additional features in the itd Portfolio Optimizer:

> Edit resource and role allocations in a grid view you can display instead of the Gantt bars.
> Visual trend arrow comparison of the left (read-only) and right (editable) grid values.
> Additional context menu actions to update planning values for investments and team entries.
> Create team entries and replace allocated resources, roles and teams by dragging resource list items on investments or team entries in the portfolio overview.

2.6 Resource Utilization and Capacity

The resource utilization view displays your filtered selection of resources and roles, with utilization and capacity according to your portfolio, regarding only investments above the **Cut-off Line**.

Please note that this may include investments from other portfolios that are not currently displayed due to your portfolio filter or access rights.

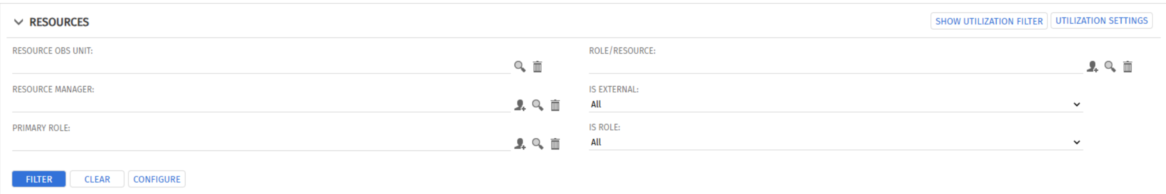


> The display period is aligned with the upper view and reacts to the left toolbar.
> Click on the name of a resource, role or team in the list to access their detail view.
> Click in the row of a resource, role or team in the list to highlight associated investments.
> Hover over a utilization segment to view calculation details.
> Click on a utilization segment to view allocated investments.

2.7 Resource Filter

Regardless of your portfolio filter, the resource list displays all resources and roles you have access to by default.

Expand the **Resources** section above the resource list to filter the displayed resources and roles. This lets you select specific resources and roles or filter the list by resource or role properties.



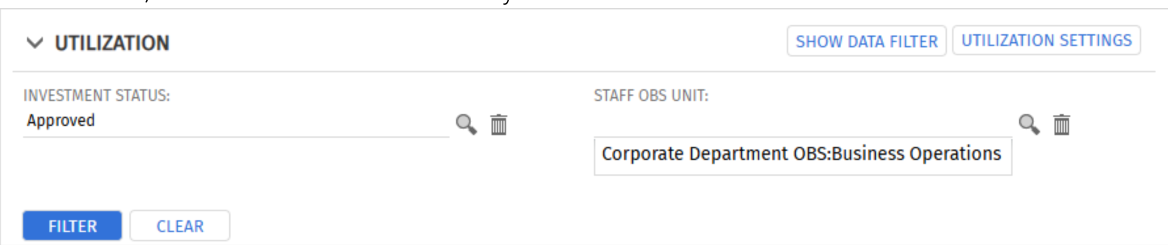
Click on **Filter** to apply your filter settings. **Clear** resets all filters. **Configure** lets you select additional filter fields. Administrators can add almost any field available for resources or roles to the selection of available filter fields.

2.8 Utilization Filter

In addition to the resource filter, you can also filter the utilization by investment status and OBS unit.

Click on the **Show Utilization Filter** above the resource list to switch to this filter.

In this mode, the **Show Data Filter** will take you back to the resource filter.



When utilization filters are active, the displayed utilization will only include matching allocations:

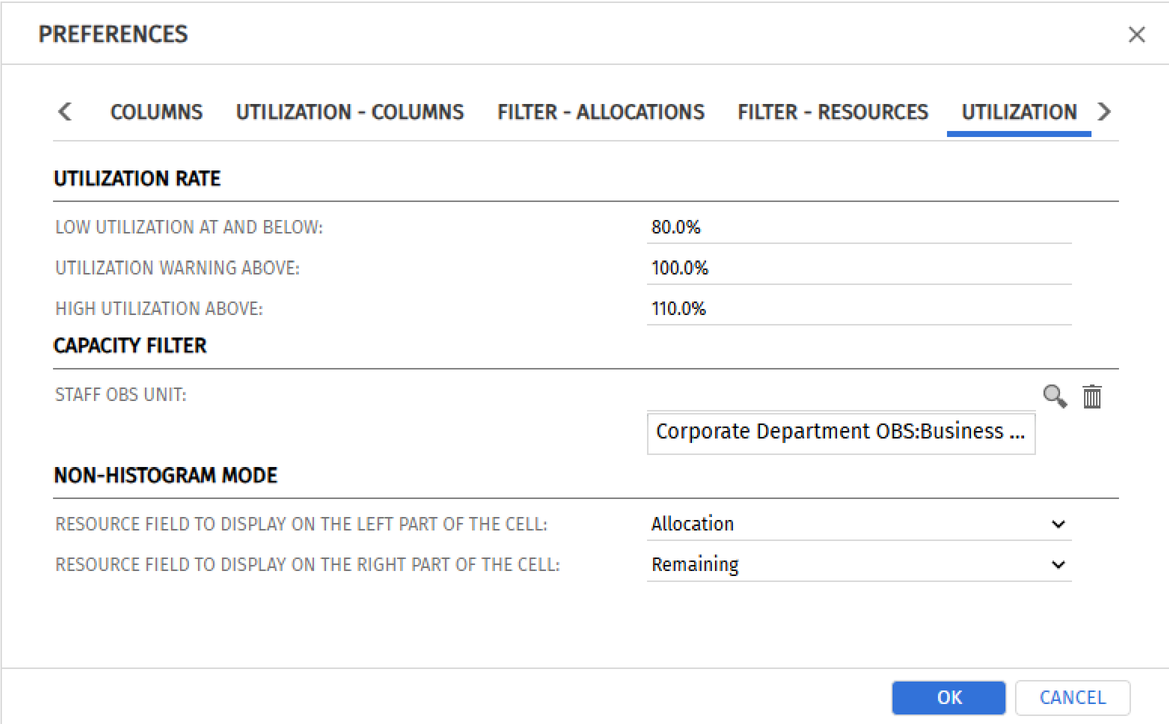
> Only allocations for investments with a selected **Investment Status**, e.g., **Approved**.
> Only allocations for team entries with a selected **Staff OBS Unit** or any of its sub-units.

2.9 Capacity Filter

You can combine the **Staff OBS Unit** utilization filter with a matching capacity filter to limit the capacity displayed for roles to the selected department.

For instance, you want the total capacity displayed for the **Developer** role to match the total capacity of developers in your selected department, not the capacity of all developers in your company.

The **Utilization Settings** button above the resource list opens the **Utilization** tab of the **Preferences**.



Here you can enter a capacity filter by **Staff OBS Unit**. This setting is independent from the utilization filter by the same field. With this filter, capacity will only be displayed for resources and teams with selected OBS units or any of their sub-units as **Department OBS**. This also affects associated roles.

2.10 Hierarchy Integration

You can integrate the itd Portfolio Optimizer in the **Hierarchies** module for **Investment** hierarchies.

Please note that the hierarchy mode feature is only available after adding an itd Portfolio Optimizer channel to the hierarchy blueprint (see "12.7.2 Hierarchy Mode" on page 57).

Once integrated, the itd Portfolio Optimizer is available via an additional tab in the hierarchy view.

In this mode, the view is automatically filtered to display only investments included in the hierarchy.

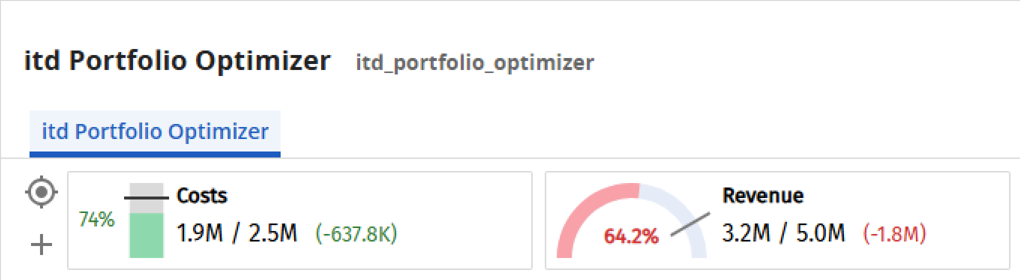
The selection for the **Investments** filter field is also reduced to include only these investments.

The **Hierarchy Level** field displays an investment's hierarchy level. In the itd Portfolio Optimizer, investments are automatically sorted by **Ranking** and can't be sorted by **Hierarchy Level**.

With the **Resource – Only Hierarchy Team** filter, the lower list will only display resources, roles and teams allocated to investments in the hierarchy via team entries.

3 Targets

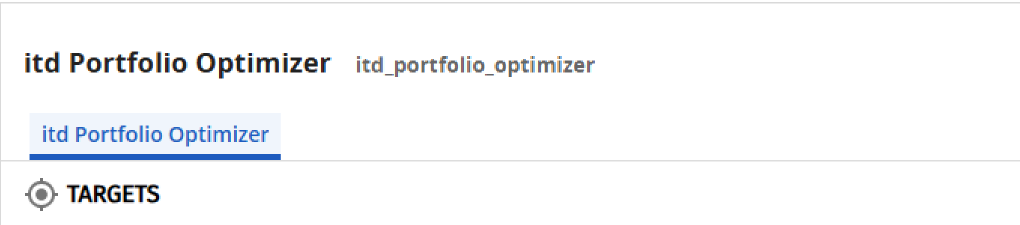
At the top left, you can display up to five widgets which indicate whether you're on track.
These widgets sum up data from all investments above the cut-off line that are currently displayed.



Note that the **Costs** constraint should stay below and the **Revenue** target should rise above.

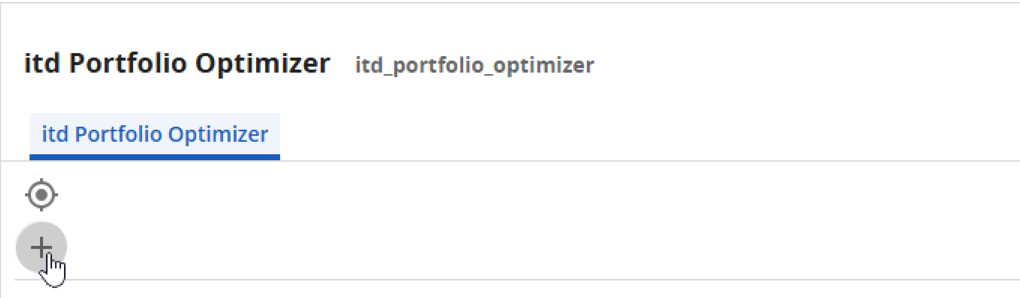
3.1 Displaying Targets

When this section isn't displayed, click on the **Targets** button to expand it.

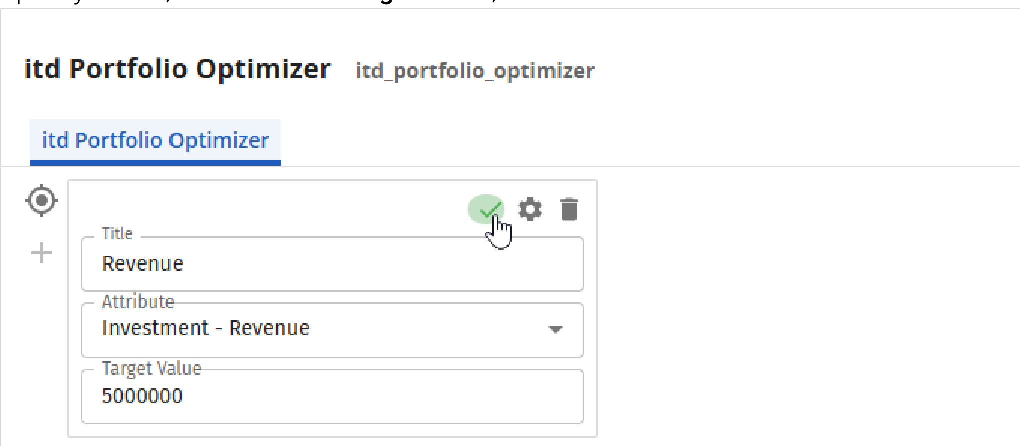


3.2 Adding a Target

If the **Targets** section isn't expanded, click on the **Targets** button to open it.
Then click on the + button to add a new target:

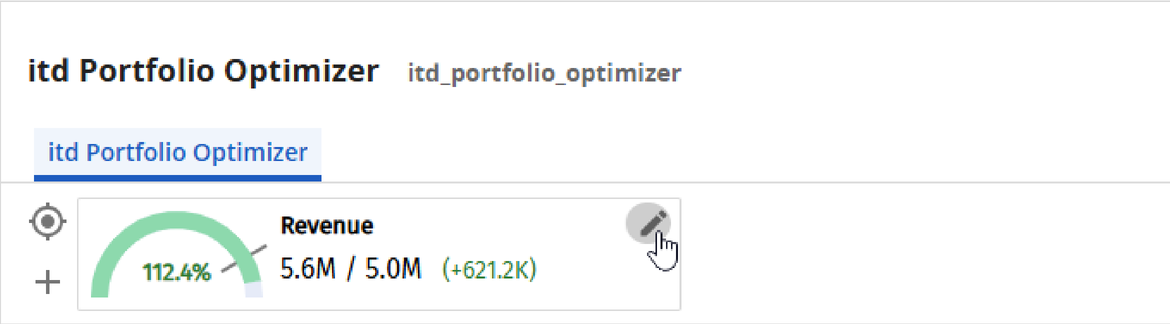


Specify a **Title**, **Attribute** and **Target Value**, then click on the check mark to confirm:

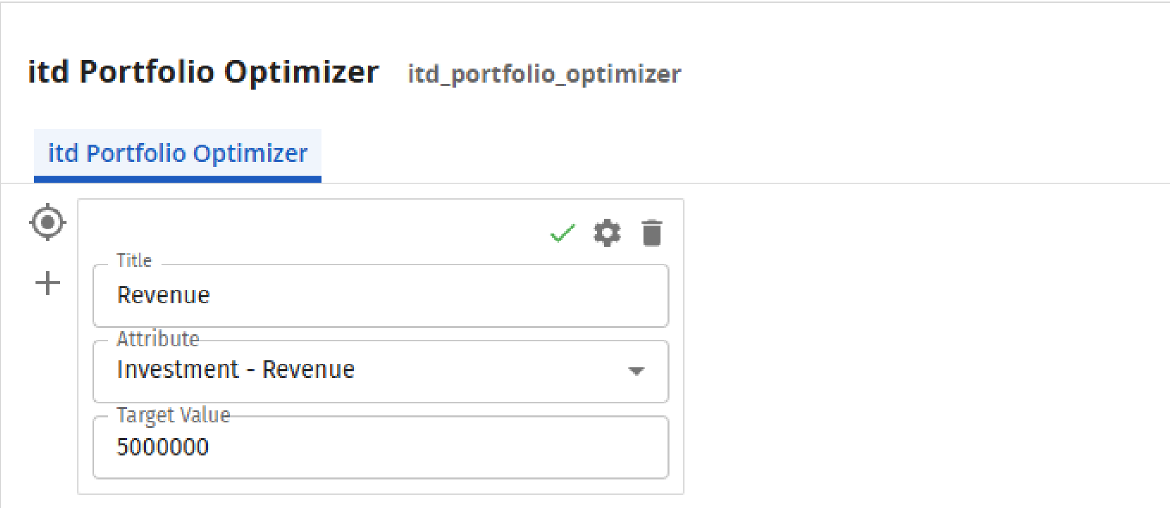


3.3 Editing a Target

To edit, configure or delete a target, hover over it and click on the pen icon:



This will open the edit view for the target with the following options:



> Edit **Title**, **Attribute** or **Target Value**

✓ Confirm changes.

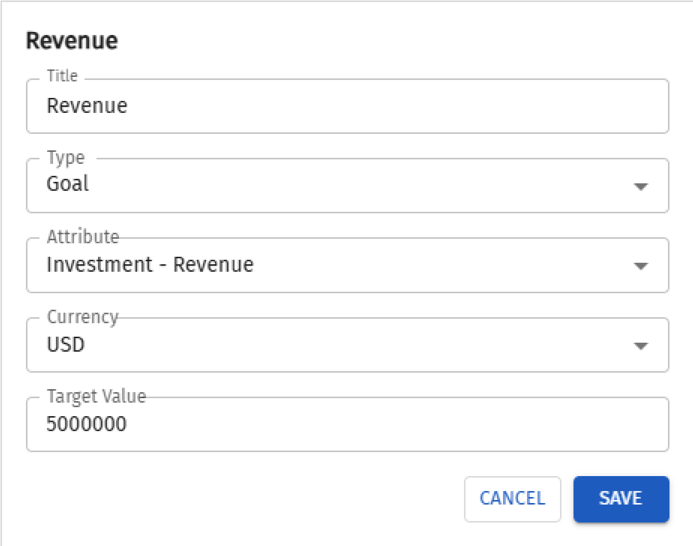
Open configuration view with additional options.

Delete this target. Clicking on this button turns it into a check mark. Click again to confirm.

Click on the left hand side target icon to cancel editing and discard all changes.

3.4 Target Configuration

Clicking on the cog icon in the edit view for a target opens the configuration view with these options:



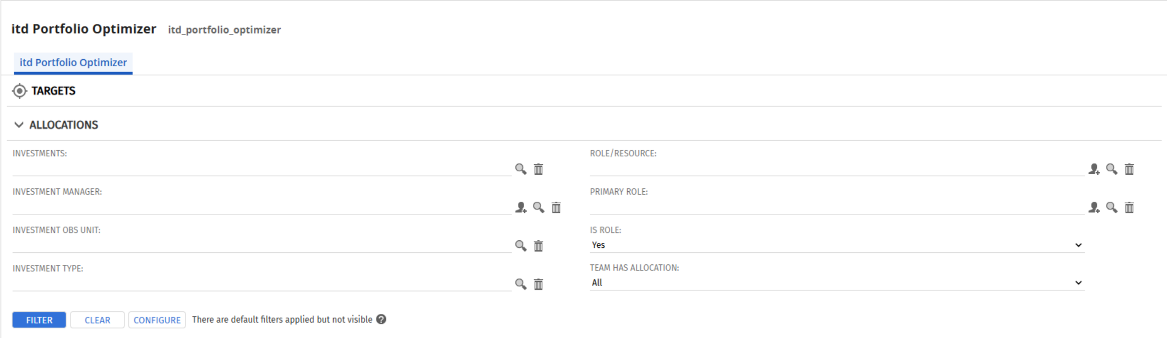
- **Title:** label displayed in the expanded **Targets** section.
- **Type: Constraint** (should stay below) or **Goal** (should rise above). Also affects the visual style. Constraints will be displayed as bar charts. Goals will be displayed as gauge charts.
- **Attribute:** select the figure to display from among available numeric investment attributes.
- **Currency:** for currency attributes, select the currency. This isn't displayed for other attributes.
- **Target Value:** upper boundary for a **Constraint** or target value for a **Goal**.

Click on **Cancel** to return to the edit view without applying your changes. If you do, clicking on the cog icon again will retain any changes you've already made.

Click on **Save** to save all changes and return to the expanded **Targets** section.

4 Portfolio Filter

The portfolio filter area is displayed at the top when expanded. You can display or hide the filter area by expanding the **Allocations** section at the top of the page.



Enter filter conditions and click on **Filter** to filter the view by investment, resource/role and team entry properties.

Which filter fields are available in what order is defined per user and view in the **Preferences**.

Click on the **Configure** button on the filter panel to open the selection of available filter fields.

By default, the filter fields listed in sections 4.4 to 4.6 below will be available for the portfolio filter.

itd Portfolio Optimizer Admins may add other investment, investment sub-type, resource/role/team and team entry fields to the selection of available filter fields (see "12.11 Configuring List and Filter Fields" on page 60). Most Clarity PPM standard fields may be added, as well as most custom fields defined for these objects.

4.1 Clarity PPM Lookups

Some filter fields are backed by a Clarity PPM lookup.

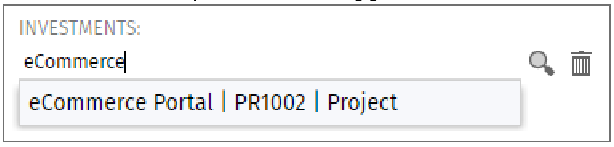
This icon is available for fields that support entering a Clarity PPM user. This enters the **Current User** placeholder. It will be replaced by the currently logged-on Clarity PPM for filtering.

Click on the magnifier icon to access the lookup browse window for a field and select values.

Click on the trashcan icon to empty a field. If you only want to delete some items, click on the field first, select the items to remove and then click on the trashcan icon.

All lookup filters are multi-valued and will display an empty list box when selected. This is where selected values go. Multiple selected values will always be connected with a logical "or", i.e., all investments or resources, roles and teams matching any selected value will be displayed.

As with all lookups, a list of suggested values will be displayed when typing in the text box.



Select a suggestion by clicking on it or via the arrow keys and [RETURN].

4.2 Filter, Clear and Configure

Use the buttons at the lower left of the filter panel to apply or reset filters and configure filter fields.

> Click on **Filter** to apply and hide the filter settings.
> Click on **Clear** to delete all filter conditions.
> Click on **Configure** to change the selection of available filter fields.

4.3 Default Investment Filters

By default, the following kinds of investments will be filtered out in global views:

> Investments from the past
> Inactive investments
> Project templates

This applies when the associated filter fields are not displayed and is indicated in the filter panel.

Hover over the "?" icon to display the active default filters that apply.

Please note: *these default filters don't apply to the Hierarchy mode, which will display all included investments by default, even if they are completely in the past, inactive or project templates.*

4.4 Default Investment Filter Fields

Any investments selected via the following filter fields will be displayed on the top level.

Sub-Types: You can also filter investments by fields of investment sub-types. If you do, only investments of that sub-type which match the filter will be displayed.

> **Investment – Investments:** display only selected investments.
In the Hierarchy mode, this selection is reduced to investments included in the hierarchy.

The lookup browse window lets you filter the selection of available investments by name, investment ID, investment type and status ("active?").

Click here to remove selected values or to clear the field, if no value is selected.

> **Investment – Investment Name:** enter a search term which occurs in the investment name. Use the asterisk character "*" as a placeholder for an arbitrary number of characters. Search terms will be treated as if ending with "*". (e.g., "*CRM" will find investment names containing "CRM" , while "CRM", without the asterisk, will find only investment names starting with "CRM").

> **Investment – Investment ID:** enter a search term which occurs in the investment ID. Use the asterisk ("*") as a placeholder for an arbitrary number of characters. Search terms will be treated as if ending with "*".(e.g., "*007" will find any investment whose ID contains "007", while "007", without the asterisk, will find only investments whose IDs begin with "007").

> **Investment – Investment Manager:** display only investments of selected investment managers.

Click on this icon to enter the **Current User** placeholder. It will be replaced by the currently logged-on Clarity PPM user when the filter is applied.

The lookup browse window lets you filter the selection of available investment managers by last name, first name, user name, resource ID, type and status.

Click here to remove selected values or to clear the field, if no value is selected.

> **Investment – Investment OBS Unit:** display only investments belonging to a selected OBS unit or one of its sub-units.

The lookup browse window lets you select the desired OBS top level, sub levels and units.

Click here to remove selected values or to clear the field, if no value is selected.

> **Investment – Investment Type:** display only investments of selected types (**Application**, **Asset**, **Idea**, **Other Work**, **Product**, **Project**, **Service** or custom investment types).

The lookup browse window lets you filter the selection of investment types.

Click here to remove selected values or to clear the field, if no value is selected.

> **Investment – Investment Status:** display only investments with a selected status.

The lookup browse window lets you filter the selection of investment status values.

Click here to remove selected values or to clear the field, if no value is selected.

> **Investment – Hierarchy:** display only investments of selected hierarchies.

The lookup browse window lets you filter the hierarchy selection by name and ID.

Click here to remove selected items or to clear the field, if no value is selected.

> **Investment – Roadmap:** display only investments of selected roadmaps.

The lookup browse window lets you filter the roadmap selection by name and ID.

Click here to remove selected items or to clear the field, if no value is selected.

> **Investment – Hide Investments from the Past:** select this to hide investments ending before the start of the previous month.

Without this filter field, a default filter may apply, see "4.3 Default Investment Filters" on page 17.

> **Investment – Inactive Investments (allocation filter only):** use this to display or hide investments deactivated via **Properties - Settings – General – Active**.

- With the default setting **Hide**, inactive investments won't be displayed.
- Select **Show** to display inactive investments.
- Select **Show if relevant** to display inactive investments only if they have team entries that are partly or completely in the selected time period.

Without this filter field, a default filter may apply, see "4.3 Default Investment Filters" on page 17.

> **Project – Project Templates:** use this to display or hide project templates, i.e., projects for which **Properties - Settings – General – Template** has been selected.

- With the default setting **Hide Project Templates**, project templates won't be displayed.
- Select **Show All** to display any investments, including project templates.
- Select **Show Only Project Templates** to display no investments but project templates.

Without this filter field, a default filter may apply, see "4.3 Default Investment Filters" on page 17

4.5 Default Resource, Role and Team Filter Fields

Any resources, roles and teams selected via filters that have team entries for displayed investments will be displayed under the investments they belong to. If you enter any of these filters, investments without team entries of selected resources, roles and teams won't be displayed.

> **Resource – Role/Resource:** display only selected resources, roles and teams.

The lookup browse window lets you filter the selection of available available resources, roles and teams by last name, first name and resource ID.

Click here to remove selected values or to clear the field, if no value is selected.

> **Resource – Is Role:** display only roles or only resources and teams.

- With the default setting **All**, this filter doesn't apply
- Select **Yes** to display only roles.
- Select **No** to display only resources and teams.

> **Resource – Is Team:** display only teams or only resources and roles.
- With the default setting **All**, this filter doesn't apply.
- Select **Yes** to display only teams.
- Select **No** to display only resources and roles.

> **Resource – Resource Name:** filter by resource, role or team name. Use the asterisk ("*") to replace with any number of characters (e.g., "*son" will find "Harrison" and "Jackson"). Search terms will be treated as if ending with "*" (e.g. "Jack" will also find "Jackson").

> **Resource – Resource Manager:** display only resources and teams of selected resource managers.
Roles have no resource manager and will therefore not be displayed with this filter.

Click on this icon to enter the **Current User** placeholder. It will be replaced by the currently logged-on Clarity PPM user when the filter is applied.

The lookup browse window lets you filter the selection of available resource managers by last name, first name, full name, resource ID and employment type.

Click here to remove selected values or to clear the field, if no value is selected.

> **Resource – Booking Manager:** display only resources and roles of selected booking managers.
Teams have no booking manager and will therefore not be displayed with this filter.

Click on this icon to enter the **Current User** placeholder. It will be replaced by the currently logged-on Clarity PPM user when the filter is applied.

The lookup browse window lets you filter the selection of available booking managers by last name, first name and resource ID.

Click here to remove selected values or to clear the field, if no value is selected.

> **Resource – Resource OBS Unit:** display only resources, roles and teams with a selected OBS unit or one of its sub-units.

The lookup browse window lets you select the desired OBS top level, sub levels and units.

Click here to remove selected values or to clear the field, if no value is selected.

> **Resource – Resource Type:** display only resources, roles and teams of selected resource types (**Equipment**, **Expense**, **Labor** or **Material**).

The lookup browse window lets you select the desired resource types.

Click here to remove selected values or to clear the field, if no value is selected.

> **Resource – Primary Role:** select roles to display only the following resources and roles.
- **Resource Primary Role:** all resources having any of the selected roles as their primary roles.
- **Role:** all selected roles.
- **Role Parent Role:** all roles having any of the selected roles as their parent roles.

Teams have no primary role and will therefore not be displayed with this filter.

Click on this icon to enter the **Current User** placeholder. It will be replaced by the currently logged-on Clarity PPM user's primary role when the filter is applied.

The lookup browse window lets you filter the selection of available roles by role name.

Click here to remove selected values or to clear the field, if no value is selected.

- **Resource – Skills:** filter resources, roles and teams by skills.
  This uses the new Modern UX skills by default, but also supports the legacy skills hierarchy. Refer to section "12.12.6 Use Old Skills Hierarchy" on page 66 for information about how administrators can activate the legacy mode.
  By default, all resources, roles and teams with at least one selected skill will be displayed. Alternatively, you can set the filter to require all skills to match via the **Skill Matching** field.
- **Resource – Skill Matching:** here, you determine the mode for the skill filter, **Match at least one skill** or **Match all skills**. Without this filter field, the **Match at least one skill** mode will be used, such that resources, roles and teams with any selected skill will be displayed.
- **Resource – Is External:** filter resources, roles and teams by the **External** property of resources (selected via **Properties – General – Resource Management – External**).
  - With the default setting **All**, any resources, roles and teams will be displayed.
  - Select **Yes** to display only external resources. With this setting, roles and teams won't be be displayed.
  - Select **No** to display only roles, internal resources and teams.

4.6 Default Team Entry Filter Fields

The following team entry filter fields are available by default.

- **Team – Booking Status:** display only team entries with a selected booking status.
  The lookup browse window lets you filter the selection by booking status name.
  Click here to remove selected values or to clear the field, if no value is selected.
- **Team – Request Status:** display only team entries with a selected request status.
  The lookup browse window lets you filter the selection by request status name.
  Click here to remove selected values or to clear the field, if no value is selected.
- **Team – Staff OBS Unit:** display only team entries with a selected OBS unit or one of its sub-units.
  The lookup browse window lets you select the desired OBS top level, sub levels and units.
  Click here to remove selected values or to clear the field, if no value is selected.
- **Team – Team Has Allocation:** display only team entries with **Allocation** and/or **Hard Allocation** in the selected time period:
  - **All:** don't filter.
  - **Team Has Allocation:** display only team entries with **Allocation**.
  - **Team Has Hard Allocation:** display only team entries with **Hard Allocation**.
  - **Team Has Both Allocation AND Hard Allocation:** display only team entries with both **Allocation** and **Hard Allocation**.
  - **Team Has Allocation OR Hard Allocation:** display only team entries with either **Allocation** or hard **Hard Allocation**.

  This filter requires **Calculate Sums** to be set to **On** or **Filtered** (see "Calculate Sums" in page 44).

5 Views

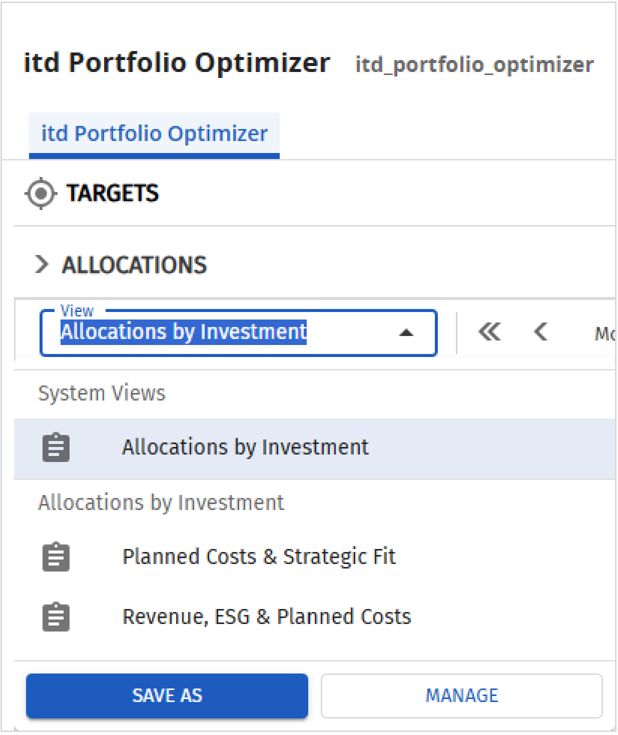
You can create any number of custom views and share them with other users.
Administrators may also save changes to the **Allocations by Investment** system view and recommend views, setting them as default views for new users.

5.1 Saved Custom View Settings

A custom view stores all changes you make to the view, such as portfolio and resource filters, the time period, most other settings in the toolbar and your **Preferences**.

5.2 Selecting a View

You can find the following sections in the **View** menu, in this order.



> Your **Favorites** are always displayed on top of the list in alphabetical order.
> Views **Recommended** by **itd Portfolio Optimizer Admins** are listed next, or on top of the list if you have no favorites. The first recommended view is the default for new users. When you open the itd Portfolio Optimizer again, it will load the last view you were using.
> The default **System View** is listed next, or on top of the list if you have no favorites and there are no recommended views. If you've selected the system view as a favorite or if it has been recommended, it will appear in the respective list instead.
> Any other custom views created by you or shared with you are listed next, under the heading of the system view they are based on.

5.3 Saving a View

If you have made any changes to a view that can be saved, the view's name in the **View** menu will appear in italics to indicate this, and a **Save View** button will appear next to the **View** menu.

If you don't save the changes you have made to an unsaved view, all view settings will still be retained until you select another view, even if you log out and log on again.

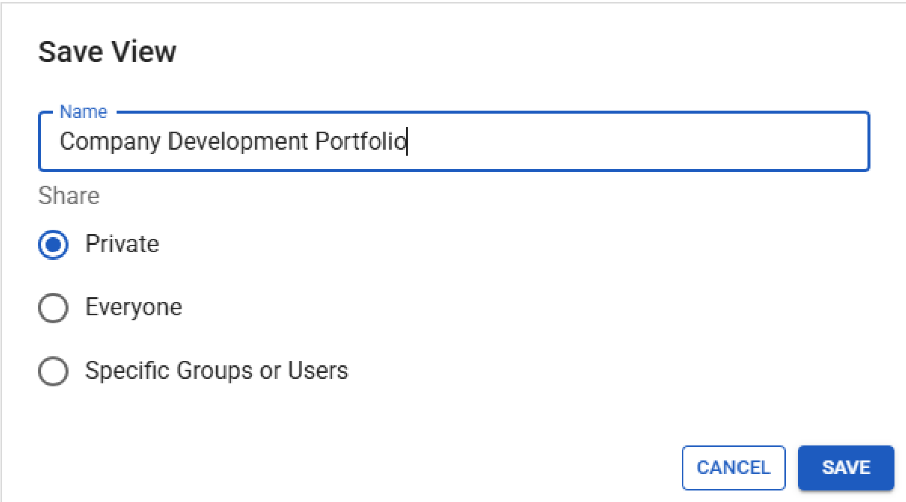
The **Save View** button will only be enabled if you have the rights to change the view:

> Saving changes to a view is only allowed if you have created the view yourself.

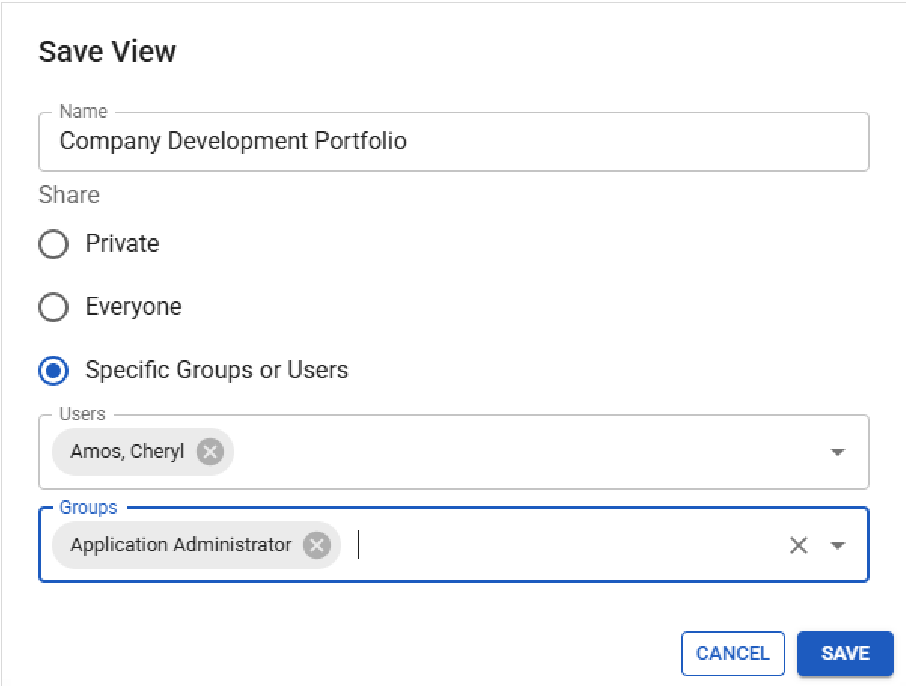
> The system view may only be changed by **itd Portfolio Optimizer Admins**.

If you don't have the right to change a view you want to save, open the **View** menu and click on the **Save As** button.

This will open the **Save View** dialog. Name the new view here and select the sharing mode.

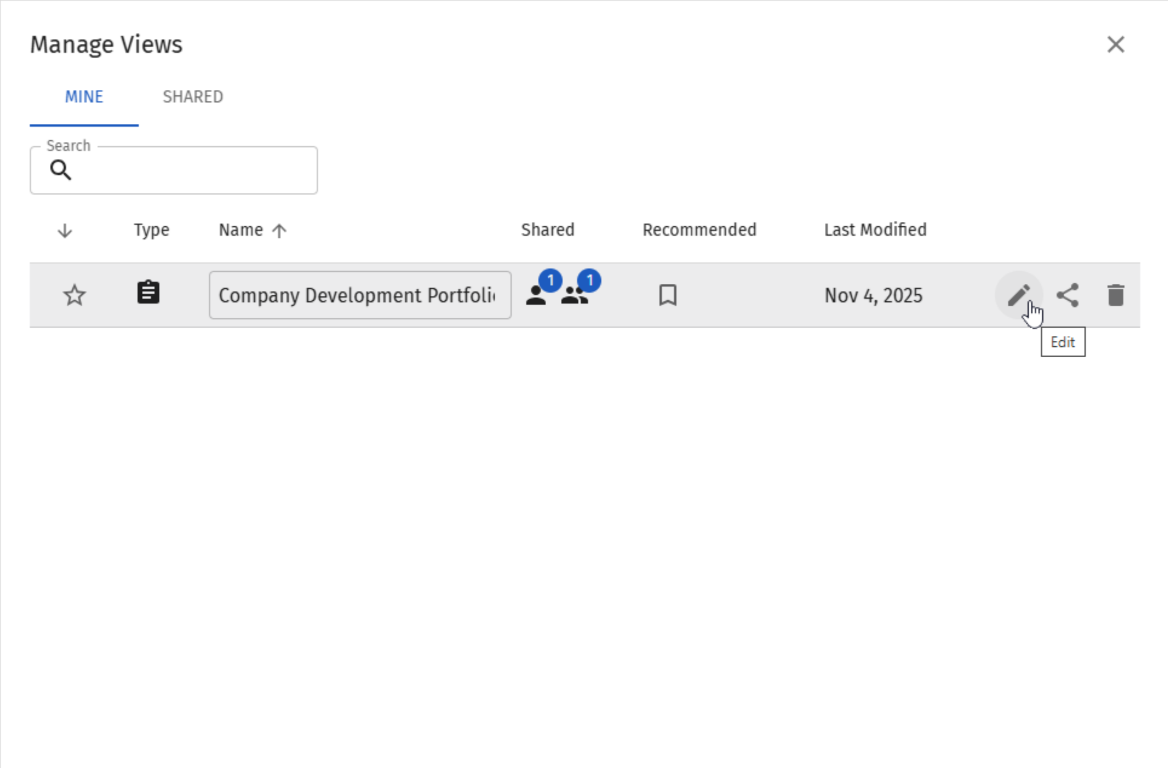


The **Specific Groups or Users** option lets you select groups and/or users to share the view with.



5.4 Managing Views

Click on the **Manage** button in the **View** menu to open the **Manage Views** dialog.



Views you have created are listed under **Mine**.

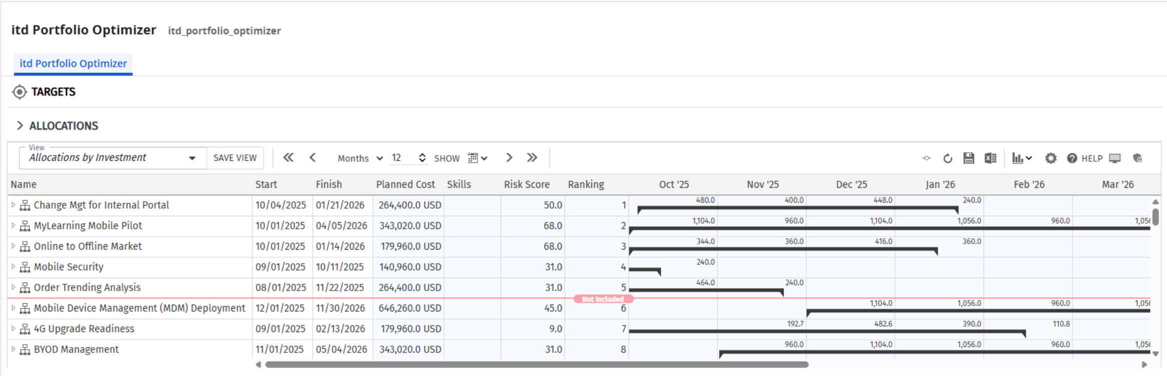
- Click on the star icon to add a view to the favorites or to remove it from there.
- Click in the **Name** column to rename the view.
- The **Shared** column shows if and with whom you have shared the view, with icons and numbers representing specific groups and/or users. Hover over the icon to display a list.
- **itd Portfolio Optimizer Admins** may **Recommend** views they have created as well as views shared with them and the system view, putting them on top of the **View** list.
  The topmost recommended view will be the default view for new users. After the first start, the last used view will be selected when opening the itd Portfolio Optimizer.
- Click on the pen icon to select the sharing mode and/or groups and users to share the view with.
- Click on the share icon to copy a link to the view into the clipboard.
- To delete the view, click on the wastebasket icon and then confirm by clicking on the checkmark.

Views shared with you and the system view are listed under **Shared**.

- Click on the star icon to add a view to the favorites or to remove it from there.
- **itd Portfolio Optimizer Admins** may **Recommend** views they have created as well as views shared with them and the system view, putting them on top of the **View** list.
  The topmost recommended view will be the default view for new users. After the first start, the last used view will be selected when opening the itd Portfolio Optimizer.
- For any views shared with them, **itd Portfolio Optimizer Admins** can change the access settings via the pen icon or delete them via the wastebasket icon.
- The system view is always public and can't be deleted.

6 Portfolio Overview

The upper section of the itd Portfolio Optimizer represents your portfolio of investments.



6.1 Priority Ranking

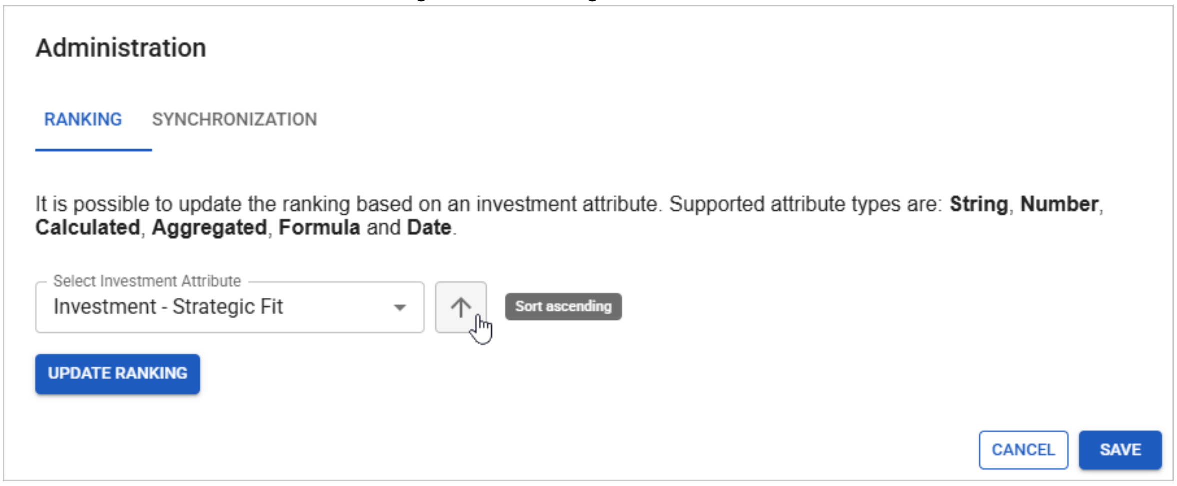
Investments displayed in the portfolio overview are ordered by priority from top to bottom.
This order is defined via the **Ranking** column and is initially in alphabetical order.

6.1.1 Update Ranking

itd Portfolio Optimizer Admins may update the ranking based on an investment field of these types:

- String
- Number
- Calculated
- Aggregated
- Formula
- Date

The global ranking all all investments will be updated according to the sort oder of the selected investment field, sorted in ascending or descending order, as selected.



6.1.2 Change Ranking via Drag-and-Drop

To change an investment's rank in the view, click on it in the list, hold the mouse button and drag it to the desired position. Release the mouse button to assign the new ranking.
All investment ranks will be updated accordingly.

6.2 Cut-off Line

The red cut-off line defines which investments are actually included in your portfolio.

Everything below that line is considered not important enough to do and will be ignored in all other view sections such as target widgets and resource utilization.

Drag and drop the red cut-off line to define what's in your portfolio and what's not, with direct feedback in target widgets above and resource utilization below.

Can't find the cut-off line? The left-most button in the right toolbar will take you there instantly:

6.2.1 Multiple Portfolios and Global Ranking

Multiple people in your company may use the itd Portfolio Optimizer with different portfolio filters or with different access rights for investments. While overlaps are possible, each portfolio manager will usually work with a separate portfolio of investments.

In such an environment, all of these portfolios will internally be combined to a global ranking which constitutes the company's overall portfolio and has a specific cut-off line position.

The global ranks of investments from different portfolios depend on their initial ranking, as usually defined by an itd Portfolio Optimizer Admin, see section "6.1.1 Update Ranking" on page 24.

Any change of an investment's rank in any portfolio changes the global ranking accordingly.

With sufficient access rights, an unrestricted portfolio filter will show the full global ranking and the global cut-off line position.

6.2.2 Invisible Investments and Resource Utilization View

When you change the portfolio filter to exclude investments that were previously above the cut-off line, they still stay in the overall portfolio as defined by the global ranking and cut-off line position.

Invisible investments in the overall portfolio still affect the resource utilization view. This applies to investments removed via the portfolio filter settings without moving them below the cut-off line and investments from other portfolios you can't see due to your portfolio filter settings or access rights.

To remove an investment from the overall portfolio and as such from the resource utilization view, you need to move it below the cut-off line, or move the cut-off line above it, while it is visible.

6.2.3 Disabling the Cut-off Line

Deselect **Show Cut-off Line** in the right toolbar's **Visualization** menu to disable the cut-off line's effects in the current view until you reselect the option.

Everything will behave as if the position of the cut-off line was at the bottom of the global ranking without actually changing its position or anything else in the current, overall or any other portfolio.

All visible investments will be considered included in the current portfolio, affecting target visuals.

All investments will be considered included in the overall portfolio, affecting resource utilization.

6.2.4 Work Status Synchronization

itd Portfolio Optimizer Admins may toggle **Work Status** synchronization, as described in section "10.10.2 Toggle Work Status Synchronization" on page 43.

This will automatically set investments above the cut-off line to **Active** and investments below the cut-off line to **Requested**. The mapping will be updated for all visible investments that are moved above or below the cut-off line, either by moving these investments or by moving the cut-off line.

6.3 Displayed Data

The following data will be loaded and displayed without a filter:

> Any investments to which you have access (custom types included)
> Resources, roles and teams with team entries for displayed investments
> Associated team entries with **Allocation** or **Hard Allocation**

You can limit the selection of data records via the portfolio filter.

6.3.1 Access Rights and Query Limits

The amount of data that will actually be loaded is limited by your access rights and by the query limits entered by an administrator via the governors lookup:

> **Access Rights:** data records to which you have no access in Clarity PPM will not be displayed in the itd Portfolio optimizer either (see "12.5 User Access Rights" on page 56).
> **Query Limits:** limit for the number of investments to load at the same time, entered by an administrator via the governors lookup (see "12.14.1 Query Limits" on page 73).
If data records aren't displayed due to query limits, this will be indicated.

6.3.2 Team Entry Data

Displayed resources, roles and teams represent team entries.

6.4 Values per Period

In the **Layout** tab of your **Preferences**, you can select up to two values for the allocation grid (see "Cell Configuration" on page 52). Hover over the grid to see the configured values.

> **Left value (always read-only): Allocation**, **Hard Allocation**, **ETC**, **Actuals**, **Actuals + ETC**, **Requested** or **Capacity**
> **Right value (editable with itd ARP): Allocation** or **Hard Allocation**; base of displayed utilization (see "7 Resource Utilization and Capacity" on page 33)

Please note: *The allocation grid is only available with itd Advanced Resource Planning.*

When Gantt bars are displayed, only the right value will be displayed.

6.5 Displaying Trend Arrows (with itd ARP)

Via the **Visualization** menu, you can display trend arrows comparing the left and right cell values, see "Visualization > Cell" on page 42.

For instance, this can help you to easily compare actuals with the originally planned values.

Wherever both values are present and different, a little arrow at the left cell edge visualizes a negative or positive deviation of the left cell value from the right cell value.

In the **Layout** tab of the **Preferences**, you can set a threshold percentage for the minimal deviation to visualize via arrows, see "Tolerance of Deviation" on page 52.

6.6 Allocation, Hard Allocation and Actuals

In the **Columns** tab of your **Preferences**, you can display or hide the **Allocation**, **Hard Allocation** and **Actuals** list fields (see "11.3 Columns" on page 46). These show the sums per team entry.

With **Calculate Sums** in the **General** tab of your **Preferences** set to **On** or **Filtered**, aggregated sums will also be calculated and displayed per investment. **On** will show global investment sums. **Filtered** will filter investment sums according to your portfolio filter (see "Calculate Sums" on page 44).

6.7 Editing Allocations (with itd ARP)

In the right half of the allocations view, you can see and edit team entries for resources, roles and teams, grouped by the associated investments or by the allocated resources, roles and teams.

Without selection of the **Show Gantt Bars for Team Members** option in the **Visualization** menu in the toolbar, you can enter the desired allocation values in the right hand side grid. Extending a team entry by entering values in grid cells outside the duration of the associated investment will also extend the investment such that the duration of the investment includes the team entry.

Changes made in the allocation grid will only be applied when you save them via the toolbar. You can easily identify unsaved changes via the red triangle in a field.

Refresh the view without saving to revert your changes.

Projects will automatically be locked for editing by other users while unsaved changes exist. This is indicated by a padlock icon. Saving or reverting your changes will unlock the project. If your session is interrupted before a project is unlocked, you or any **itd Portfolio Optimizer Admin** can unlock it via the context menu. Please note that this is only possible for projects that were locked due to changes made in the itd Portfolio Optimizer or itd Advanced Resource Planning.

6.8 Editing List Fields

In the left hand side hierarchic list, you can edit the **Name**, **Investment Status**, **Start** and **Finish** fields of investments. You can also edit the **Start**, **Finish** and **Staff OBS Unit** fields of team entries here.

Most additional fields may also be made editable by **itd Portfolio Optimizer Admins** (see "6.8.6 Editing Additional Fields" on page 28).

Changes will only be applied when you save them via the toolbar. You can easily identify unsaved changes via the red triangle in a field.

Refresh the view without saving to revert your changes.

Projects will automatically be locked for editing by other users while unsaved changes exist. This is indicated by a padlock icon. Saving or reverting your changes will unlock the project. If your session is interrupted before a project is unlocked, you or any **itd Portfolio Optimizer Admin** can unlock it via the context menu. Please note that this is only possible for projects that were locked due to changes made in the itd Portfolio Optimizer or itd Advanced Resource Planning.

6.8.1 Renaming Investments

You can rename investments as follows.

> Click in the associated row in the **Name** column and press [F2] or [Return].

> Enter the desired name.

> Press [Return] to confirm or [Esc] to cancel.

Alternatively, you can rename investments via the context menu.

6.8.2 Editing the Investment Status

You can edit the **Investment Status** of investments. Click in the field to select a value.

6.8.3 Editing the Start and Finish of Investments

You can change the duration of investments via the the **Start** and **Finish** list fields.
If applicable, this will change the duration of all associated team entries proportionally (e.g., changing the total duration from 8 to 6 weeks will reduce a team entry spanning 4 weeks to 3 weeks).
For each team entry that is changed in the process, the **Allocation** and **Hard Allocation** values will also be redistributed over the new duration with the same proportions as before the change.
Therefore, shortening a team entry will raise the allocation per period while extending will lower it.

6.8.4 Editing the Start and Finish of Team Entries

You can change the duration of team entries via the **Start** and **Finish** list fields.
This will redistribute associated **Allocation** and **Hard Allocation** values over the new duration with the same proportions as before the change. Therefore, shortening a team entry will raise the value per period while extending will lower it.
Extending a team entry beyond the associated investment's **Start** or **Finish** will also extend the investment, such that it includes that team entry.
Reducing the durations of team entries won't reduce the investment's duration.
Team entries without a **Start** or **Finish** will adopt these values from the associated investment.

6.8.5 Editing the Staff OBS Unit of Team Entries

You can edit the **Staff OBS Unit** field of team entries in the list. To do this, click in the field.
Click on the magnifier icon to select an OBS unit or the trashcan icon to clear the field.

6.8.6 Editing Additional Fields

You can also edit any other list fields made editable by **itd Portfolio Optimizer Admins**.

6.8.7 Copying List Fields

You can copy editable field values up or down via drag-and-drop. This feature supports lookup fields and respects restrictions on column values.
Copying field values this way requires the start and target row to be of the same type, i.e., investment or team entry. For investments, the investment type must also be the same, e.g., project or idea. All custom investment types are considered to be the same type for this feature.

6.9 Investment Actions

Hover over an investment and click on the three dots to open the associated context menu.

itd Portfolio Optimizer Admins can reorder, restrict or remove the standard actions listed here and add custom actions (see "12.10 Defining Actions" on page 58).

6.9.1 Open Properties

Here you open the selected investment's detail view in a new browser tab.

6.9.2 Allocate From Estimates (with itd ARP)

Enter the **Estimated Effort** of associated assignments as **Allocation** for all team entries of the selected investment.

This action will be directly applied without further confirmation.

6.9.3 Commit Allocation (with itd ARP)

Enter the **Allocation** as **Hard Allocation** for all team entries of the selected investment.

This action will be directly applied without further confirmation.

6.9.4 Accept Hard Allocation (with itd ARP)

Enter the **Hard Allocation** as **Allocation** for all team entries of the selected investment.

This action will be directly applied without further confirmation.

6.9.5 Remove Lock

The **Remove lock** action is available in the context menu of projects locked due to changes made by users in the itd Portfolio Optimizer.

Every user may unlock projects via the context menu that were locked due to their own changes made in the itd Portfolio Optimizer.

itd Portfolio Optimizer Admins may unlock any projects via the context menu that were locked due to changes made by any user in the itd Portfolio Optimizer.

Projects locked due to changes made outside of the itd Portfolio Optimizer can only be unlocked via the associated button in the project's properties.

6.9.6 Expand All

Select this to expand an investment, such that all associated team entries are dispayed.

6.9.7 Rename

Select this to rename an investment. Press [Return] to confirm or [Esc] to cancel.

The change will only be applied when saving via the toolbar. Refresh without saving to undo.

6.9.8 Show Investment Team

This filters the resource list by the selected investment, such that only that investment's team members are displayed.

6.9.9 Move Above/Below Cut-off Line

This moves the selected investment directly above or directly below the cut-off line.

The investment will therefore instantly be either included in or excluded from your portfolio.

This will consequently update target widgets, resource utilization and work status, if configured.

6.10 Team Entry Actions

Hover over a team entry and click on the three dots to open the associated context menu.

itd Portfolio Optimizer Admins can reorder, restrict or remove the standard actions listed here and add custom actions (see "12.10 Defining Actions" on page 58).

6.10.1 Open Properties

Here you open the selected team entry's detail view on top of the itd Portfolio Optimizer.

6.10.2 Create Requisition (with itd ARP)

Create a new requisition for the **Allocation** of the selected team entry.

This action will be directly applied without further confirmation.

6.10.3 Allocate From Estimates (with itd ARP)

Enter the **Estimated Effort** of associated assignments as **Allocation** for the selected team entry.

This action will be directly applied without further confirmation.

6.10.4 Commit Allocation (with itd ARP)

Enter the **Allocation** as **Hard Allocation** for the selected team entry.

This action will be directly applied without further confirmation.

6.10.5 Accept Hard Allocation (with itd ARP)

Enter the **Hard Allocation** as **Allocation** for the selected team entry.

This action will be directly applied without further confirmation.

6.10.6 Delete (with itd ARP)

The **Delete** action is available in the context menu for team entries without actuals. Once you select the **Delete** action, the selected team entry will instantly be deleted without further confirmation.

6.10.7 Unstaff to Effective Role (with itd ARP)

The **Unstaff to Effective Role** action is available for team entries of resources and teams without actuals. The team entry will be reset to its effective role. If that role already as a team entry in the investment, a new team entry will be created for a copy of the role.

6.10.8 Show candidates (by Role, OBS and Skills)

The **Show candidates (by Role, OBS and Skills)** action is available for role team entries.

This will apply the following filters to the **Resources** list, adding missing filter fields automatically:

- **Primary Role** will be selected role.
- **Resource OBS Unit** will be the **Staff OBS Unit** of the associated team entry, if selected.
- **Skills** will be the skills selected for the associated team entry, if any.
- **Skill Matching** will require to match all skills (alternatively, you can require to match at least one).

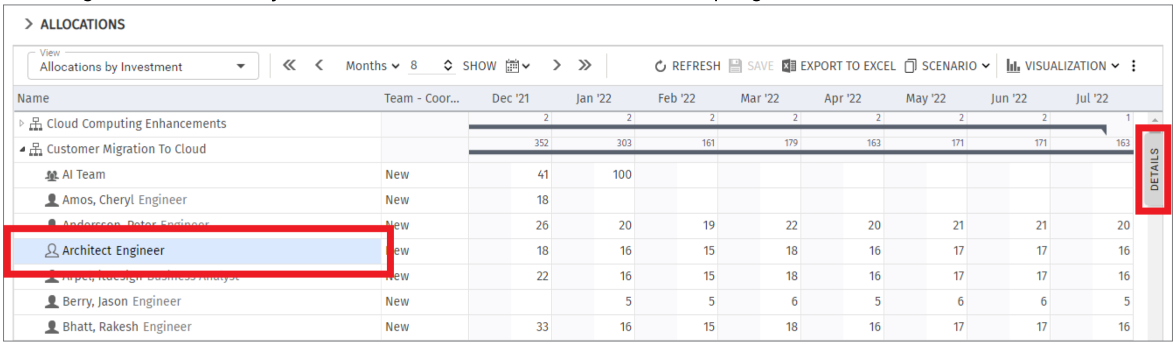
Please note: *The **Skills** filter and matching aren't available by default due to a switch from the **Skills Hierarchy** to the flat MUX skill system in Clarity 16.2.3. However, you can either enable the old **Skills Hierarchy** or add a **Skills** field to role team entries to use MUX skills via these feature toggles:*

- 12.12.6 Use Old Skills Hierarchy: see page 66.
- 12.12.7 Use MUX Skills on Role Team Entries: see page 66.

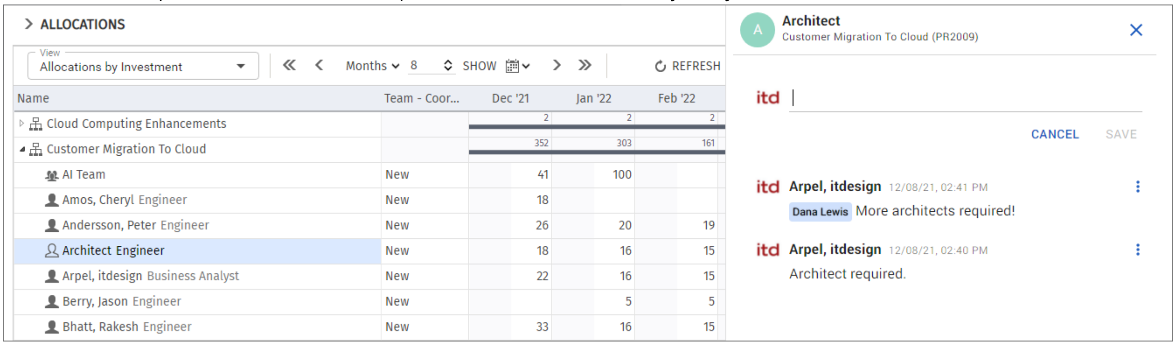
6.11 Conversations

The standard MUX conversations for team entries are available in the itd Portfolio Optimizer.

Clicking on a team entry adds a small **Details** button at the top right side of the view.



This button opens a conversation panel for this team entry only.



6.12 Interactive Gantt Bars

With itd Advanced Resource Planning, you can toggle the display of Interactive Gantt bars separately for investments and team entries via the **Visualization** menu in the toolbar.

Without itd Advanced Resource Planning, both Gantt options in the **Visualization** menu are always selected and greyed out.

6.12.1 Gantt Bars for Investments

Gantt bars for investments will be displayed when selecting **Show Gantt Bars for Investments** in the **Visualization** menu in the toolbar.

When Gantt bars for investments are displayed, you can shift or resize them via drag-and-drop.

Changes made to investments will also be applied to all associated team entries, even if they aren't displayed. Shifting an investment will shift all associated team entries accordingly. Resizing an investment will resize all associated team entries proportionally (e.g., reducing an investment's duration from 8 to 6 weeks will reduce an associated team entry from 4 weeks to 3 weeks).

This will also redistribute the allocation values displayed per period for associated team entries, planned or hard, over the capacity of the respective resource, role or team during the new duration with the same proportions as before the change.

6.12.2 Gantt Bars for Team Entries

Gantt bars for team entries will be displayed when selecting **Show Gantt Bars for Team Members** in the **Visualization** menu in the toolbar.

While Gantt bars are displayed for team entries, you can't edit the planned or hard allocation values displayed per period directly.

You can shift and resize team entries via drag and drop of their Gantt bars.

This will redistribute the allocation values displayed per period for the respective team entry, planned or hard, over the capacity of the respective resource, role or team during the new duration with the same proportions as before the change.

Shifting or extending a team entry beyond the associated investment's **Start** or **Finish** will also extend the investment, such that it includes the team entry.

Reducing the durations of team entries won't reduce the investment's duration.

Team entries without a **Start** or **Finish** will adopt these values from the associated investment.

6.12.3 Saving or Reverting Changes

Changes made to Gantt bars won't be saved directly

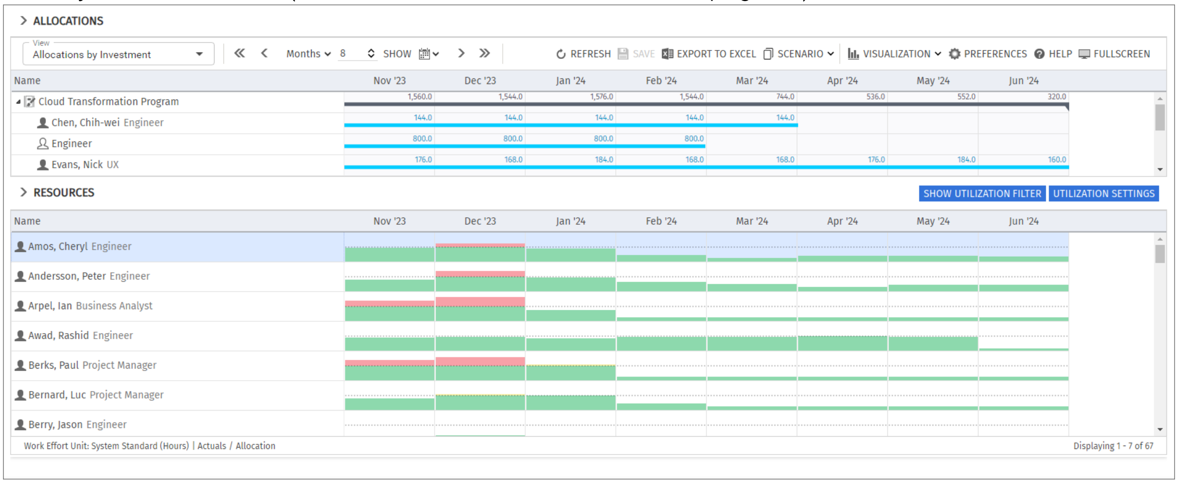
- Your changes will only be applied when you save them via the toolbar. You can easily identify unsaved changes via the red triangle in a field.
- Refresh the view without saving to revert your changes.
- Projects will automatically be locked for editing by other users while unsaved changes exist. This is indicated by a padlock icon. Saving or reverting your changes will unlock the project. If your session is interrupted before a project is unlocked, you or any **itd Portfolio Optimizer Admin** can unlock it via the context menu. Please note that this is only possible for projects that were locked due to changes made in the itd Portfolio Optimizer or itd Advanced Resource Planning.

7 Resource Utilization and Capacity

The global utilization and capacity of resources, roles and teams are displayed in a separate view. This view includes the allocations of all investments above the cut-off line in the global ranking or overall portfolio, regardless of your portfolio/allocation filter. When the cut-off line isn't displayed, all investments in the global ranking or overall portfolio are included (see "6.2 Cut-off Line" on page 25).

The utilization and remaining capacity displayed for resources, roles and teams are based on the right or editable allocation value, **Allocation** or **Hard Allocation**, selected in the **Layout** tab of your **Preferences** (see "Cell Configuration" on page 52).

Without a resource filter, any resources, roles and teams for which you have access rights will be displayed. Roles are listed at the end. Select resource fields to display in the **Utilization – Columns** tab of your **Preferences** (see "11.4 Utilization – Columns" on page 47).



7.1 Visualization: Histogram or Color-Coded Grid

There are two display modes for the utilization, histogram or color-coded grid. You can edit coloring thresholds for both in the **Utilization** tab of your **Preferences** (see "11.7 Utilization" on page 50).

> With **Show Histogram** in the **Visualization** menu in the toolbar, the global utilization and capacity of resources, roles and teams will be displayed per period as a histogram chart.
  The utilization is based on the right or editable allocation value, **Allocation** or **Hard Allocation**.
  - The dotted horizontal line displays the total capacity for resources and teams and the free capacity for roles (see "7.7 Role Capacities" on page 34).
  - Workload below the utilization warning threshold is colored green.
  - Further workload is colored yellow if it is between the utilization warning and high utilization thresholds or red if it is above the high utilization threshold.
  - The low utilization threshold has no effect here.

> Without the histogram, the global utilization and/or capacity of the listed resources, roles and teams will be displayed per period in a grid. You can configure the left and right hand side values of this grid in the **Utilization** tab of your **Preferences** (see "Non-Histogram Mode" on page 51).
  Available values are **[Total] Capacity**, **Remaining [Capacity]** (total capacity minus editable value, **Allocation** or **Hard Allocation**), **Allocation** and **Hard Allocation**.
  Cell colors indicate a low (white), optimal (green), high (yellow) or very high (red) utilization of a resource, role or team in a period, based on their total capacity and the right or editable allocation value, **Allocation** or **Hard Allocation**.

7.2 Filtering the View

The following filters are available for the resource list, utilization and capacity.

- Resource list filter by resources, roles and teams, see "8 Resource Filter" on page 36.
- Resource list filter by investment team: hover over an investment **Name** and click on the three dots, then select the **Show Investment Team** action from the context menu.
- Utilization and/or capacity filter, see "9 Utilization and Capacity Filters" on page 39.

7.3 Displaying Utilization and Capacity Details

Hover over a grid cell or histogram segment to display the associated values. Click on a grid cell or histogram segment to display a list of associated investments. Click on a column header to sort this list. Select columns to display in your preferences, see "11.4 Utilization – Columns" on page 47.

7.4 Opening Resource, Role or Team Properties

Click on the name of a resource, role or team in the list to open their properties in a new browser tab.

7.5 Selecting a Team Entry's Resource, Role or Team

When you select a team entry in the upper view section, the associated resource list item will be scrolled to and selected in the utilization view. Other than by clicking on resource list items directly, this selection will not trigger the investment highlighting described in the following section.

7.6 Investment Highlighting

When you click in the row of a resource, role or team in the resource list:

- … all investments with associated team entries will be highlighted in the upper view section.
- … all other investments will be greyed out in the upper view section unless they're expanded.
- … clicking on another resource, role or team will highlight their investments instead.
- … clicking on a highlighted investment will preserve the highlighting.
- … clicking on another investment will remove the highlighting.

Please note: *This works only for one resource list item at a time. Multiple selection isn't supported.*

7.7 Role Capacities

The total capacity of a role is the total capacity of all resources with that primary role and, if configured, all resources with any of its sub-roles (see "Role Capacity Calculation" on page 50).

The free capacity of a role is its total capacity less the right or editable value, **Allocation** or **Hard Allocation**, from all allocations of its resources and, if configured, its sub-roles and their resources.

The remaining capacity of a role is its free capacity less all allocations of the role itself.

In grid mode, you can configure the utilization view to always show the remaining capacity for roles when you select either non-histogram capacity value, **Capacity** or **Remaining**, in the **Utilization** tab of your **Preferences** (see "12.12.15 Role Capacities in Allocations by Investment Mode" on page 69).

7.8 Team Utilization

For a resource allocated to a team, that allocation is included as a percentage of the resource's capacity as entered in the team (e.g., if a resource is allocated to a team with 50%, in a week where that resource has a capacity of 40 hours, an allocation of 20 hours will be included for the team).

7.9 Creating & Replacing Allocations (with itd ARP)

You can create team entries and replace allocated resources, roles and teams by dragging resource list items on investments or team entries in the portfolio overview.

See the following sections for details about the individual processes that are available in this way.

Team entries and allocations will only be created when saving via the toolbar. You can easily identify unsaved team entries via the red triangle.

Refresh the view without saving to revert your changes.

Projects will automatically be locked for editing by other users while unsaved changes exist. This is indicated by a padlock icon. Saving or reverting your changes will unlock the project. If your session is interrupted before a project is unlocked, you or any **itd Portfolio Optimizer Admin** can unlock it via the context menu. Please note that this is only possible for projects that were locked due to changes made in the itd Portfolio Optimizer or itd Advanced Resource Planning.

7.9.1 Allocating a New Resource, Role or Team

Drag a resource, role or team from the utilization view on an investment to create a new team entry.

Without Gantt bars, you can enter the **Allocation** or **Hard Allocation** for that team entry in a grid.

7.9.2 Replacing a Resource, Role or Team Allocation

Drag a resource, role or team from the utilization view on an existing team entry to replace the allocated resource, role or team.

If you drag a resource or team on a role allocation, a menu will open offering **Replacement Options**:

> **Total Capacity** allocates the resource or team up to their total capacity.

> **Remaining Capacity** allocates the resource or team up to their remaining capacity.

> **Complete** gives the resource or team the full allocation, ignoring total and remaining capacities. Additionally, the role will be replaced by the resource or team in all associated assignments. This is only available with timeslice periods **Months**, **Quarters**, **Calendar Years** and **Fiscal Period**.

The allocation distributed this way is deducted from the role's team entry. By default, that team entry is then deleted if no hours remain, which is always the case when selecting **Complete**.

The following feature toggles apply to this feature:

> 12.12.16 Disable Replacement Options, page 70.

> 12.12.17 Disable Role Allocation Replacement, page 70.

> 12.12.18 Remaining Capacity: Don't Remove Team Role Entry, page 70.

> 12.12.19 Remaining Capacity: Only Shift Editable Value, page 71.

7.9.3 Creating Multi-Role Allocations

You can allocate a role to the same investment multiple times via dra-and-drop, copying the role with an index. For example, "Architect" becomes "Architect (2)".

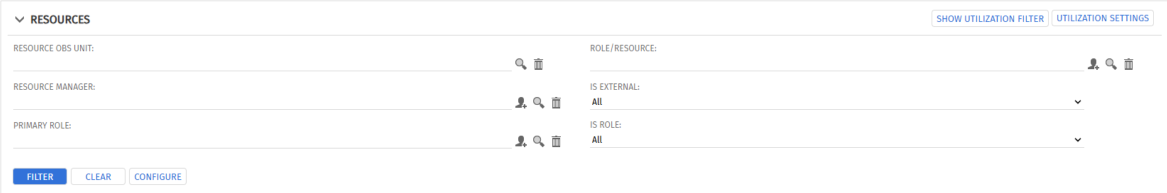
> Drag the role from the resource list onto the investment.

> If the role already has a team entry in the investment, you will be prompted to create a new one.

> Confirm to create a new team entry for a copy of the selected role.

8 Resource Filter

The resource list displays all resources, roles and teams you have access to by default.
Expand the **Resources** section above the resource list to filter the displayed resources and roles.
This lets you select specific resources and roles or filter the list by resource or role properties.



Click on **Filter** to apply your filter settings. **Clear** resets all filters. **Configure** lets you select additional filter fields. Contact us if your desired filter field isn't available and we'll help you add it.
Which filter fields are available in what order is defined per user and view in the **Preferences**.
Click on the **Configure** button on the filter panel to open the selection of available filter fields.
By default, the filter fields listed in section "8.4 Default Resource, Role and Team Filter Fields" on page 37 will be available for the resource filter.
itd Portfolio Optimizer Admins may add other resource, role and team fields to the selection of available filter fields (see "12.11 Configuring List and Filter Fields" on page 60). Most Clarity PPM standard fields may be added, as well as most custom fields defined for these objects.

8.1 Investment Team Filter

To filter the list by an investment's team members, hover over its **Name** and click on the three dots, then select the **Show Investment Team** action from the investment's context menu.

8.2 Clarity PPM Lookups

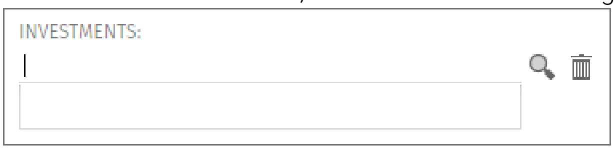
Some filter fields are backed by a Clarity PPM lookup.

This icon is available for fields that support entering a Clarity PPM user. This enters the **Current User** placeholder. It will be replaced by the currently logged-on Clarity PPM for filtering.

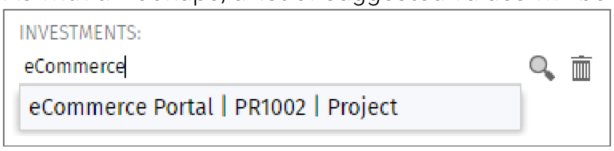
Click on the magnifier icon to access the lookup browse window for a field and select values.

Click on the trashcan icon to empty a field. If you only want to delete some items, click on the field first, select the items to remove and then click on the trashcan icon.

All lookup filters are multi-valued and will display an empty list box when selected. This is where selected values go. Multiple selected values will always be connected with a logical "or", i.e., all investments or resources, roles and teams matching any selected value will be displayed.



As with all lookups, a list of suggested values will be displayed when typing in the text box.



Select a suggestion by clicking on it or via the arrow keys and [RETURN].

8.3 Filter, Clear and Configure

Use the buttons at the lower left of the filter panel to apply or reset filters and configure filter fields.

> Click on **Filter** to apply and hide the filter settings.
> Click on **Clear** to delete all filter conditions.
> Click on **Configure** to change the selection of available filter fields.

8.4 Default Resource, Role and Team Filter Fields

For the resource, role and team list, the same default filter fields are available as for filtering resources, roles and teams in the main view,

> **Resource – Role/Resource:** display only selected resources, roles and teams.

The lookup browse window lets you filter the selection of available available resources, roles and teams by last name, first name and resource ID.

Click here to remove selected values or to clear the field, if no value is selected.

> **Resource – Is Role:** display only roles or only resources and teams.

- With the default setting **All**, this filter doesn't apply
- Select **Yes** to display only roles.
- Select **No** to display only resources and teams.

> **Resource – Is Team:** display only teams or only resources and roles.

- With the default setting **All**, this filter doesn't apply.
- Select **Yes** to display only teams.
- Select **No** to display only resources and roles.

> **Resource – Resource Name:** filter by resource, role or team name. Use the asterisk ("*") to replace with any number of characters (e.g., "*son" will find "Harrison" and "Jackson"). Search terms will be treated as if ending with "*" (e.g. "Jack" will also find "Jackson").

> **Resource – Resource Manager:** display only resources and teams of selected resource managers.
Roles have no resource manager and will therefore not be displayed with this filter.

Click on this icon to enter the **Current User** placeholder. It will be replaced by the currently logged-on Clarity PPM user when the filter is applied.

The lookup browse window lets you filter the selection of available resource managers by last name, first name, full name, resource ID and employment type.

Click here to remove selected values or to clear the field, if no value is selected.

> **Resource – Booking Manager:** display only resources and roles of selected booking managers.

Teams have no booking manager and will therefore not be displayed with this filter.

Click on this icon to enter the **Current User** placeholder. It will be replaced by the currently logged-on Clarity PPM user when the filter is applied.

The lookup browse window lets you filter the selection of available booking managers by last name, first name and resource ID.

Click here to remove selected values or to clear the field, if no value is selected.

> **Resource – Resource OBS Unit:** display only resources, roles and teams with a selected OBS unit or one of its sub-units.

The lookup browse window lets you select the desired OBS top level, sub levels and units.

Click here to remove selected values or to clear the field, if no value is selected.

> **Resource – Resource Type:** display only resources, roles and teams of selected resource types (**Equipment**, **Expense**, **Labor** or **Material**).

The lookup browse window lets you select the desired resource types.

Click here to remove selected values or to clear the field, if no value is selected.

> **Resource – Primary Role:** select roles to display only the following resources and roles.

- **Resource Primary Role:** all resources having any of the selected roles as their primary roles.
- **Role:** all selected roles.
- **Role Parent Role:** all roles having any of the selected roles as their parent roles.

Teams have no primary role and will therefore not be displayed with this filter.

Click on this icon to enter the **Current User** placeholder. It will be replaced by the currently logged-on Clarity PPM user's primary role when the filter is applied.

The lookup browse window lets you filter the selection of available roles by role name.

Click here to remove selected values or to clear the field, if no value is selected.

> **Resource – Skills:** filter resources, roles and teams by skills.
This uses the new Modern UX skills by default, but also supports the legacy skills hierarchy.
Refer to section "12.12.6 Use Old Skills Hierarchy" on page 66 for information about how administrators can activate the legacy mode.
By default, all resources, roles and teams with at least one selected skill will be displayed.
Alternatively, you can set the filter to require all skills to match via the **Skill Matching** field.

> **Resource – Skill Matching:** here, you determine the mode for the skill filter, **Match at least one skill** or **Match all skills**. Without this filter field, the **Match at least one skill** mode will be used, such that resources, roles and teams with any selected skill will be displayed.

> **Resource – Is External:** filter resources, roles and teams by the **External** property of resources (selected via **Properties – General – Resource Management – External**).

- With the default setting **All**, any resources, roles and teams will be displayed.
- Select **Yes** to display only external resources. Roles and teams won't be be displayed.
- Select **No** to display only roles, internal resources and teams.

> **Resource – Investment Team:** display only resources, roles and teams with team entries for selected investments.

The lookup browse window lets you filter the selection of available investments by name, investment ID, investment type and status ("active?").

Click here to remove selected values or to clear the field, if no value is selected.

> **Resource – Only with Capacity:** use this to hide resources, roles and teams for which no capacity is displayed when a capacity filter is active.
See "9 Utilization and Capacity Filters" on page 39 for details and an example.

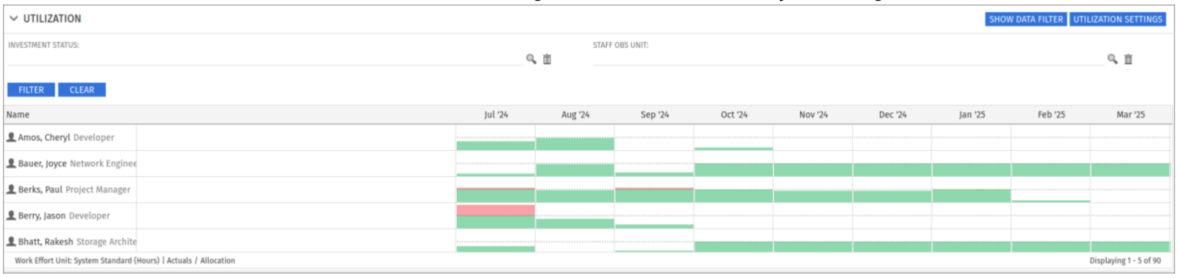
> **Resource – Only Hierarchy Team (Hierarchy Mode only):** display only resources, roles and teams with team entries for investments in the hierarchy.

9 Utilization and Capacity Filters

The following settings are available for filtering the displayed utilization and capacity.

9.1 Utilization Filter Settings

Via the **Show Utilization Filter** button at the top right above the resource list, you can switch to the utilization filter. You can switch back to the regular resource filter by clicking on **Show Data Filter**.



By default, you can filter the utilization displayed for team entries by the following fields.

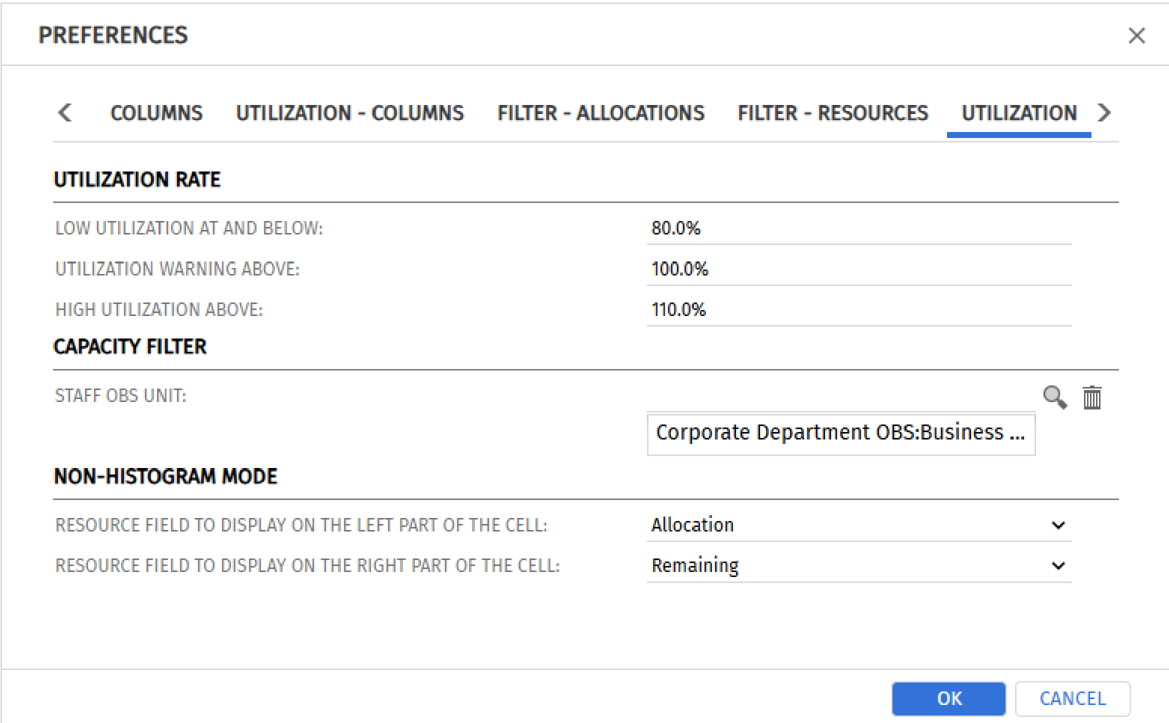
> **Investment Status** of associated investments, e.g., **Approved**.

> **Staff OBS Unit** of team entries. With this filter, utilization will also be displayed for team entries associated with any sub-unit of a selected OBS unit.

itd Portfolio Optimizer Admins may add other **Lookup** and **Boolean** fields available for investments and team entries, see "12.11 Configuring List and Filter Fields" on page 60.

9.2 Capacity Filter Settings

The **Utilization Settings** button above the resource list opens the **Utilization** tab of the **Preferences**. Here you can enter a capacity filter by **Staff OBS Unit**. This setting is independent from the utilization filter by the same field. With this filter, capacity will only be displayed for resources and teams with selected OBS units or any of their sub-units as **Department OBS**. This also affects associated roles.



9.3 Effects of the Utilization and Capacity Filters

The utilization and capacity displayed for roles include only team entries and resources matching the selected utilization and capacity filters.

The remaining capacity displayed for resources, roles and teams is also based on the filtered utilization as displayed according to the selected utilization filter.

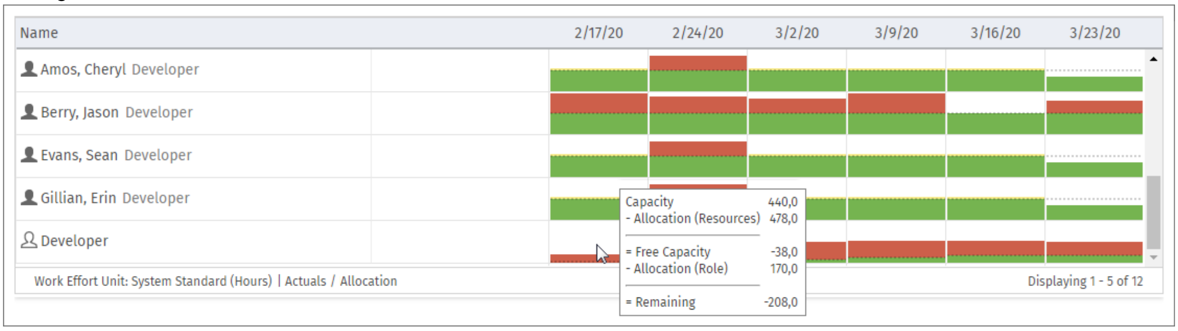
The utilization and capacity filters only affect the utilization, capacity and remaining capacity displayed for resources, roles and teams. Resources, roles and teams not matching the utilization filter as well as associated team entries and allocations will still be displayed.

9.4 Hiding Roles, Resources and Teams

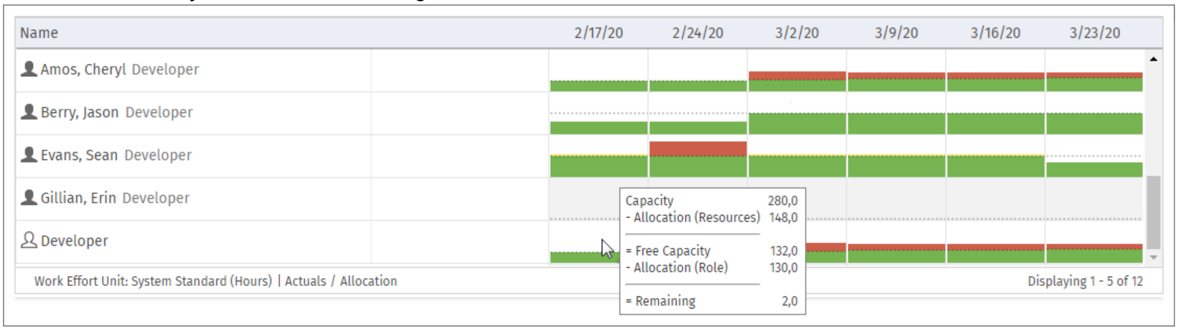
With an active capacity filter, you can hide resources, roles and teams for which no capacity is displayed using the **Only with Capacity** resource filter field (see "Only with Capacity" on page 38).

9.5 Utilization and Capacity Filter Example

The global view shows 170 hours of allocation and an overallocation of 208 hours:



The filtered view shows the allocation and capacity for the selected department and for approved investments only. The role is no longer overallocated:



Note that no more capacity or utilization are displayed for **Gillian, Erin** because she doesn't belong to the selected department.

Selecting the **Only with Capacity** resource filter field removes the associated row and any other resources, roles and teams without capacity (see "Only with Capacity" on page 38).

10 Toolbar Features

The following features are available in the toolbar.

10.1 View

The **View** menu at the top left displays the active view and allows switching views, saving the current view under a new name and editing your favorites and view sharing settings under **Manage**.
If you have the right to save changes to the current view, the **Save View** button is active. If it isn't, you can still save a copy of the current view.
You can find details of the features available here under "5 Views" on page 21.

10.2 Display Period

To the right of the **View** menu, you have access to various controls for changing the display period.
The slice period and number of slices are saved with the view and are synchronized with the **Timeslices** tab of the **Preferences** (see "11.2 Timeslices" on page 45).
Most options available there are also available in the toolbar, with the exception of fiscal periods as slice periods.
The start date won't be saved. The view automatically starts with the current date.

Previous Periods: Here you switch back by the selected display period (e.g., 6 months).

Previous Period: Here you switch back by the selected slice period (e.g., 1 month).

Slice Period and Number of Slices: Select the slice period (e. g, months) and enter the number of slices in the field or use the buttons to raise or lower the number.
Then click on **Show** to update the view with the new slice settings.

Jump to a Certain Date: Here you select the view's start date in a calendar view.

Next Period: Here you switch ahead by the selected slice period (e.g., 1 month).

Next Periods: Here you switch ahead by the selected display period (e.g., 6 months).

10.3 Cut-off Line

Can't find the cut-off line? The left-most button in the right toolbar will take you there instantly:

Navigate to Cut-off Line Position: This will scroll the page to the position of the cut-off line.

10.4 Refresh and Save

Use the **Refresh** and **Save** buttons to discard or save your changes.

Refresh: This will reload all data. If there are unsaved changes, you will be asked if you want to save first. Answering no will discard your changes.

Save: This will save all unsaved changes you have made in the current view.

10.5 Export to Excel

You can export all rows and columns of the upper view to Microsoft Excel.

Export to Excel: Here you export the upper view to Microsoft Excel.
The data will be exported as displayed, with the same filter settings and with all rows and columns that are currently displayed. For list items with sub-elements, these sub-elements will only be exported if their parent item has been expanded, such that they are currently visible.
The Excel export is limited to a maximum of 15,000 rows.

10.6 Visualization

The following options are available under **Visualization**.
Please note that some features are only available with itd Advanced Resource Planning.

Visualization > Cell (with itd ARP): Here you toggle the display of trend arrows for deviations of the left cell value from the right one, see "6.5 Displaying Trend Arrows (with itd ARP)" on page 26.

Visualization > Gantt Bars (with itd ARP): Here you toggle the display of Gantt bars for investments and team entries, see "6.12 Interactive Gantt Bars" on page 32.

Visualization > Utilization

- **Show Histogram:** Here you switch between the two display modes for the utilization and capacity of resources, roles and teams, see "7 Resource Utilization and Capacity" on page 33.

Visualization > Portfolio Management Mode

- **Show Cut-off Line:** Here you toggle the display of the cut-off line. This will effectively disable the cut-off line when not displayed. All investments that are currently displayed in the view will be considered included in the current portfolio, affecting target visuals. All investments in the global ranking will be considered included in the overall portfolio, affecting resource utilization.

10.7 Preferences

Preferences: Here you configure other view settings such as display fields and filter fields, see "11 Preferences" on page 44. Preferences will be saved separately for each view.

10.8 Help

Help: Here you can find information about the itd Portfolio Optimizer and about asking for support. If you do, please always specify your version, which you can find under **Info**.

10.9 Fullscreen

Fullscreen: In full screen mode, the Clarity PPM navigation will be hidden, such that more items can be displayed in the itd Portfolio Optimizer.
You can turn the navigation back on using the same button.

10.10 Administration

itd Portfolio Optimizer Admins may preset the ranking and toggle **Work Status** synchronization:

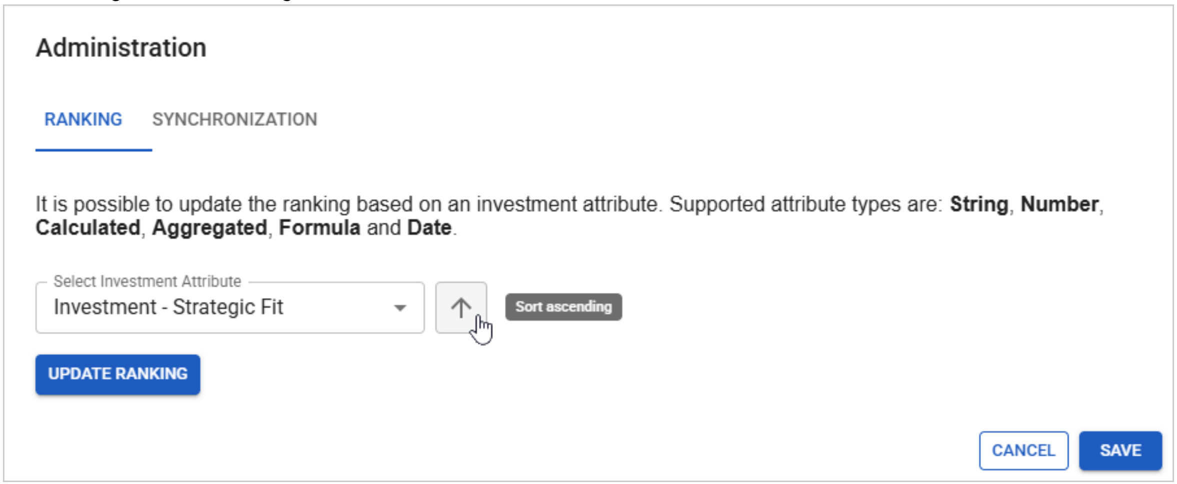
Administration: This will open the following Administration settings.

10.10.1 Update Ranking

itd Portfolio Optimizer Admins may update the ranking based on an investment field of these types:

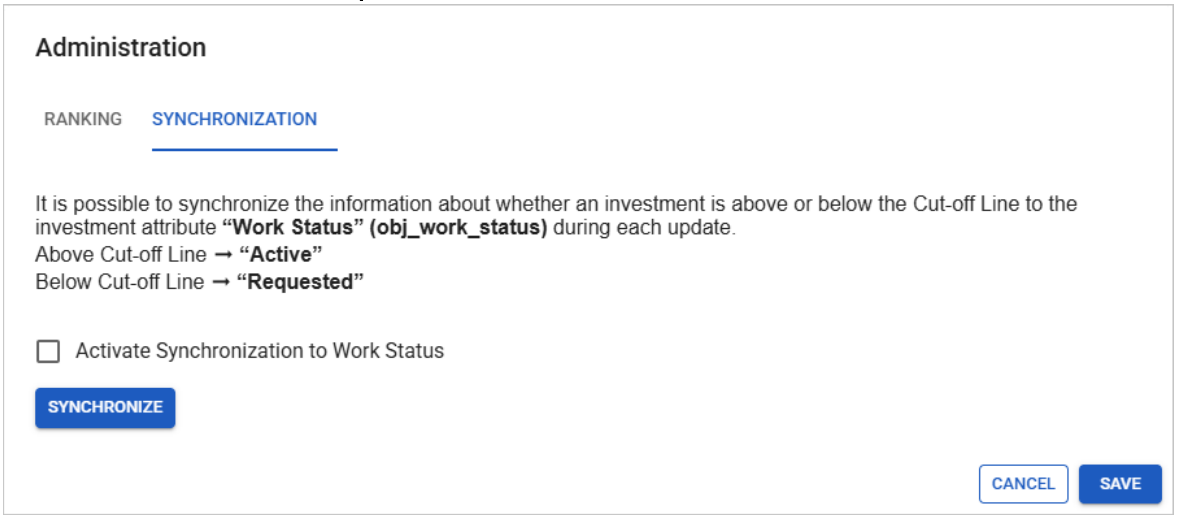
> String
> Number
> Calculated
> Aggregated
> Formula
> Date

The ranking will be set according to the sort oder of the selected investment field, sorted in ascending or descending order, as selected.



10.10.2 Toggle Work Status Synchronization

Switch to the **Synchronization** tab to activate the synchronization of investments with **Work Status**. This will automatically set investments above the cut-off line to **Active** and investments below the cut-off line to **Requested**. The mapping will be updated whenever you move investments above or below the cut-off line, or when you move the cut-off line.

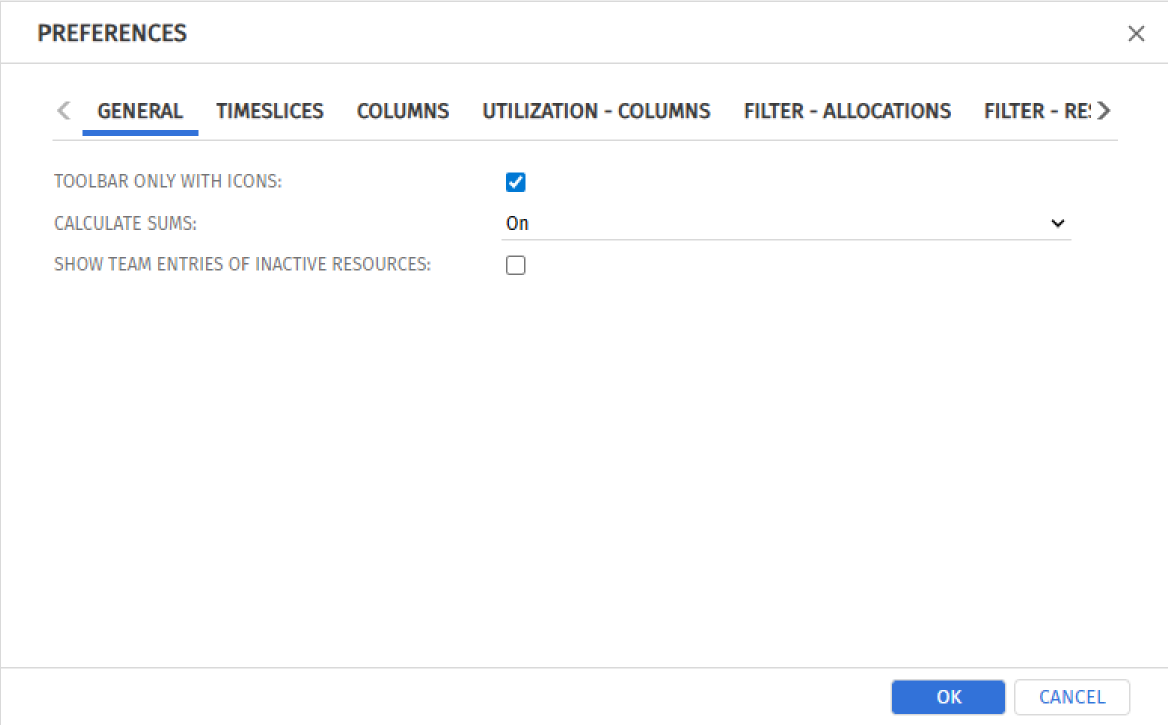


11 Preferences

Click on the **Preferences** button in the toolbar to edit view options.

11.1 General

Settings in the **General** tab control the display and behavior of the current view.



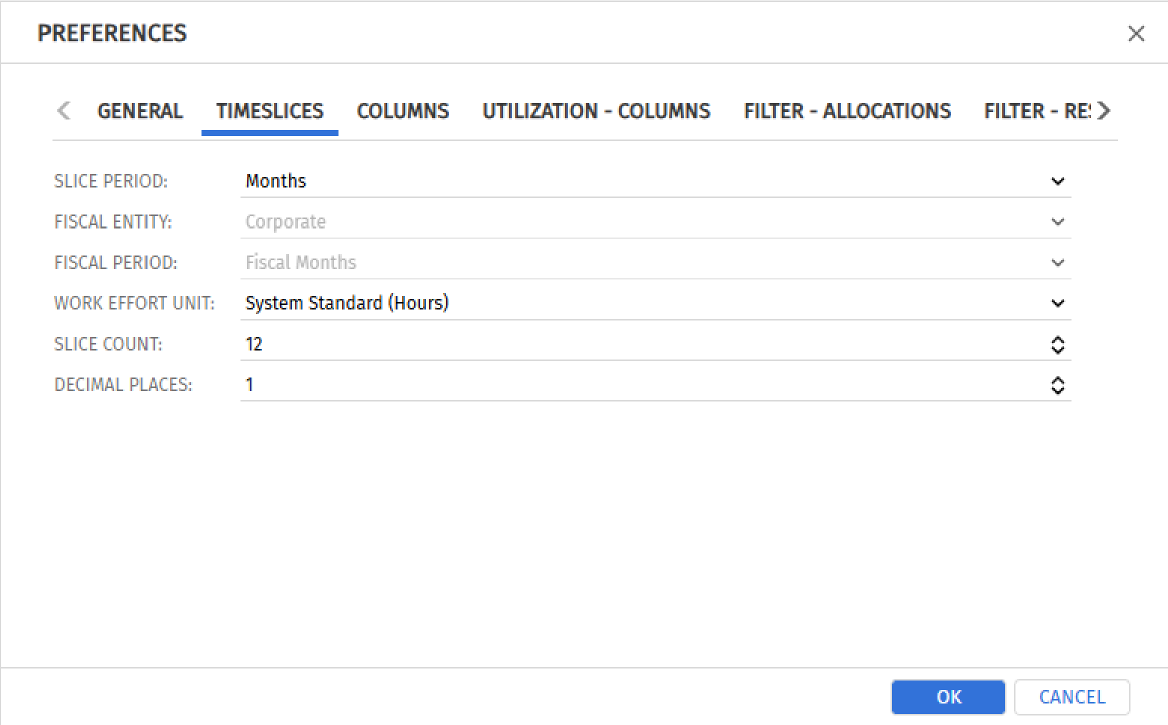
> **Toolbar Only with Icons:** select this to hide the captions on buttons with icons, reducing the width of the toolbar.

> **Calculate Sums:** this displays investment totals of **Allocation**, **Hard Allocation** and **Actuals**:
> - **On:** display global sums.
> - **Filtered:** apply allocation filter to global sums.
> - **Off:** don't calculate sums.
>
> This setting affects the loading time, with **Off** being the fastest and **Filtered** the slowest method. The **Team has Allocation** filter (see page 20) is only available when you set this to **On** or **Filtered**.

> **Show Team Entries of Inactive Resources:** display or hide team entries of inactive resources.

11.2 Timeslices

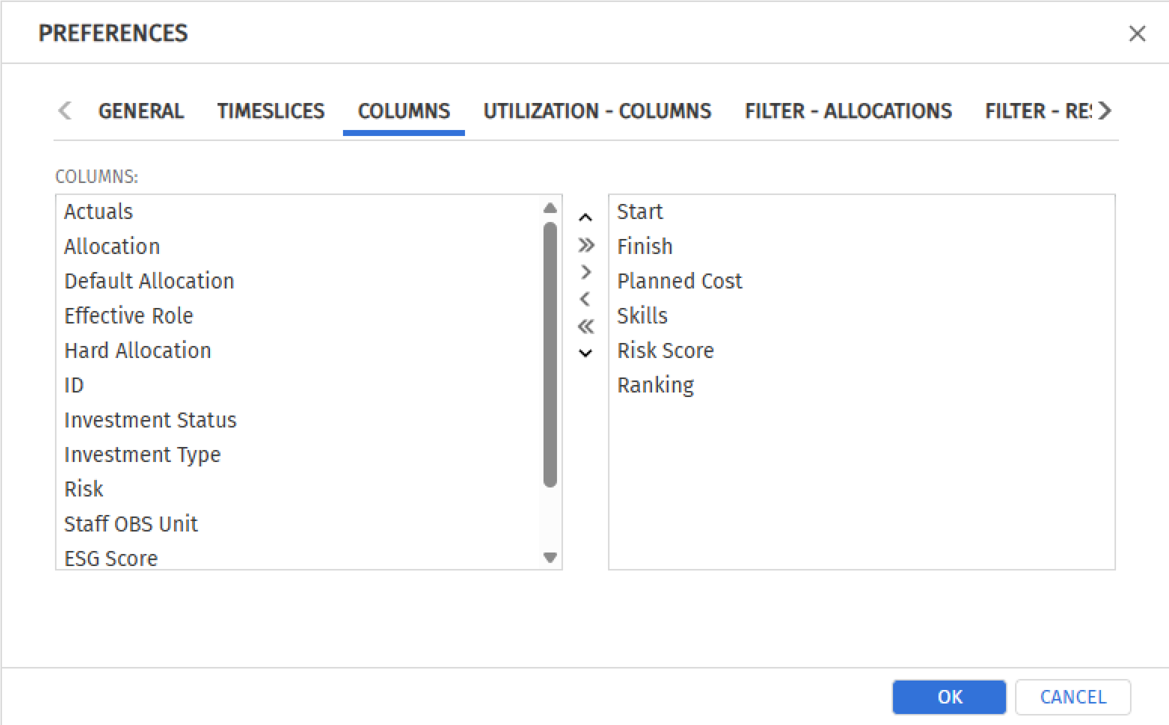
Settings in the **Timeslices** tab control the time axis scale and display period.



- **Slice Period:** enter the planning period here. Possible settings are **Days**, **Weeks**, **Months**, **Quarters**, **Calendar Years** and, if configured, **Fiscal Period**.
  The selection of available slice periods may be limited by Clarity PPM application administrators via the **itd AE Preferences** lookup (see "12.12.3 Restrict Time Slice Periods in the Preferences and in the Toolbar" on page 65). In this case, only options enabled via the associated lookup value will be available here and in the toolbar of the itd Portfolio Optimizer.
- **Fiscal Entity** and **Fiscal Period:** with the **Fiscal Period** setting, if multiple fiscal entities or periods have been defined in your Clarity PPM system, select the desired fiscal entity and period here.
- **Work Effort Unit:** specify the unit for efforts here. By default, the **System Standard** will be applied. Alternatively, **Hours**, **Days** or full time equivalents (**FTE**) are available for selection here.
- **Slice Count:** enter the amount of slices to be displayed.
- **Decimal Places:** enter the desired number of decimals for entering and displaying allocations.

11.3 Columns

In the **Columns** tab, you select the columns to display in the list at the top left of the current view.



The following fields are always displayed in the first column:

- **Name (investment, resource/role/team)**
- **Primary role (resource), parent role (role):** for resources, the primary role is displayed next to the resource name. For roles, the parent role is displayed next to the role name, if applicable.

The following fields can be selected for display by default:

- **Actuals, Allocation, Hard Allocation (investment, team entry):** worked, planned and booked hours for investments (first level), or team entries (second level)
- **Default Allocation (team entry):** editable; this applies in periods during the team entry where no allocation segments have been defined.
- **Effective Role (team entry):** resource, role or team investment role
- **ID (investment)**
- **Investment Status (investment):** editable
  In scenario mode, you can change this field for investments in the scenario.
- **Investment Type (investment)**
- **Planned Cost, ESG Score, Revenue, Strategic Fit (investment):** additional attribute examples
- **Ranking (investment):** portfolio rank
- **Risk, Risk Score (investment)**
- **Skills (role team entry):** editable; only with additional configuration, see page 66.
- **Staff OBS Unit (team entry):** editable
- **Start, Finish (investment, team entry):** investment or team entry duration.
  In scenario mode, you can change these fields for investments and team entries in the scenario.

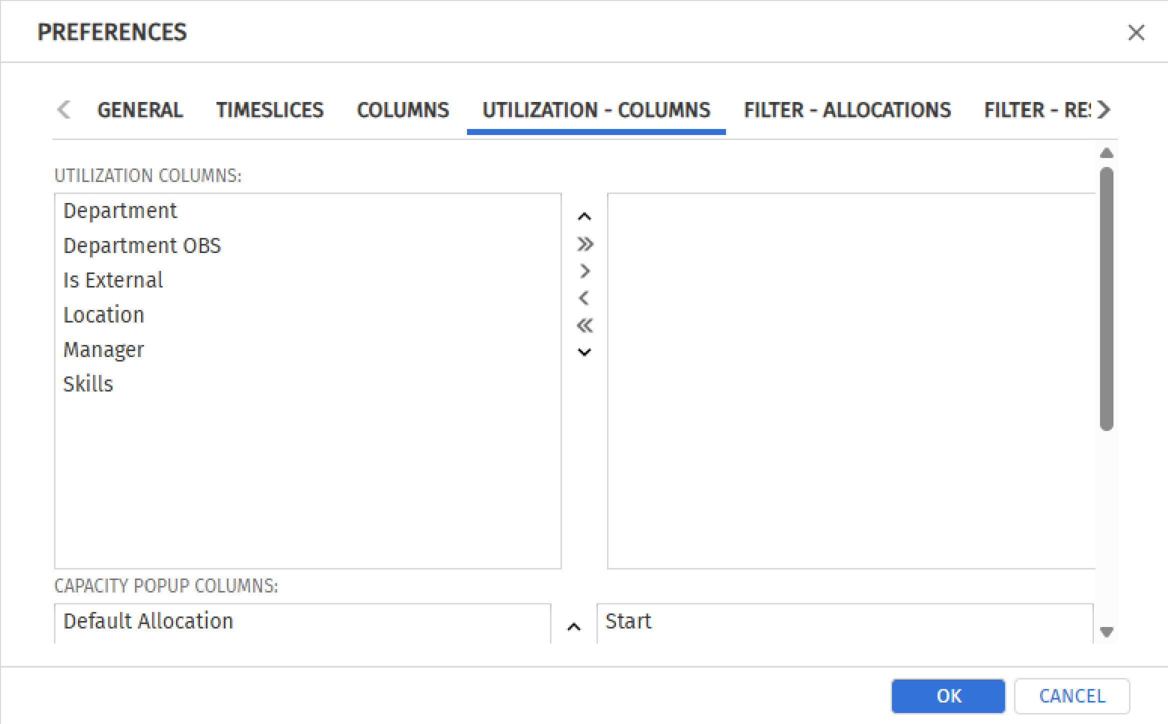
itd Portfolio Optimizer Admins may add to the selection and enable editing for other fields available for investments, investment sub-types, resources, roles, teams and team entries.

This includes most Clarity PPM standard fields and most custom fields defined for these objects.

See section "12.11 Configuring List and Filter Fields" on page 60 for details.

11.4 Utilization – Columns

In the **Utilization – Columns** tab, you select the columns to display in the utilization view's resource list at the bottom left and in the capacity popup that opens when clicking on a utilization segment.



The following information is always displayed in the first column of the resource list:

> **Icon (resource/role/team)**

> **Name (resource/role/team)**

> **Primary role (resource), parent role (role):** for resources, the primary role is displayed next to the resource name. For roles, the parent role is displayed next to the role name, if applicable. You can turn this off via a feature toggle, see "12.12.5 Hide Primary/Parent Role Name" on page 65.

The following additional resource list fields can be selected by default:

> **Department (resource/team)**

> **Department OBS, Location (resource/team)**

> **Is External (resource/role/team)**

> **Manager (resource/role/team)**

> **Skills (resource/role/team)**

The following information is always displayed in the capacity popup:

> **Type Icon and Name (investment)** – first column

> **Segment Utilization (allocations)** – last column

The following additional team entry fields can be selected for the capacity popup by default:

> **Start, Finish (team entry)**

> **Staff OBS Unit (team entry)**

> **Default Allocation (team entry)**

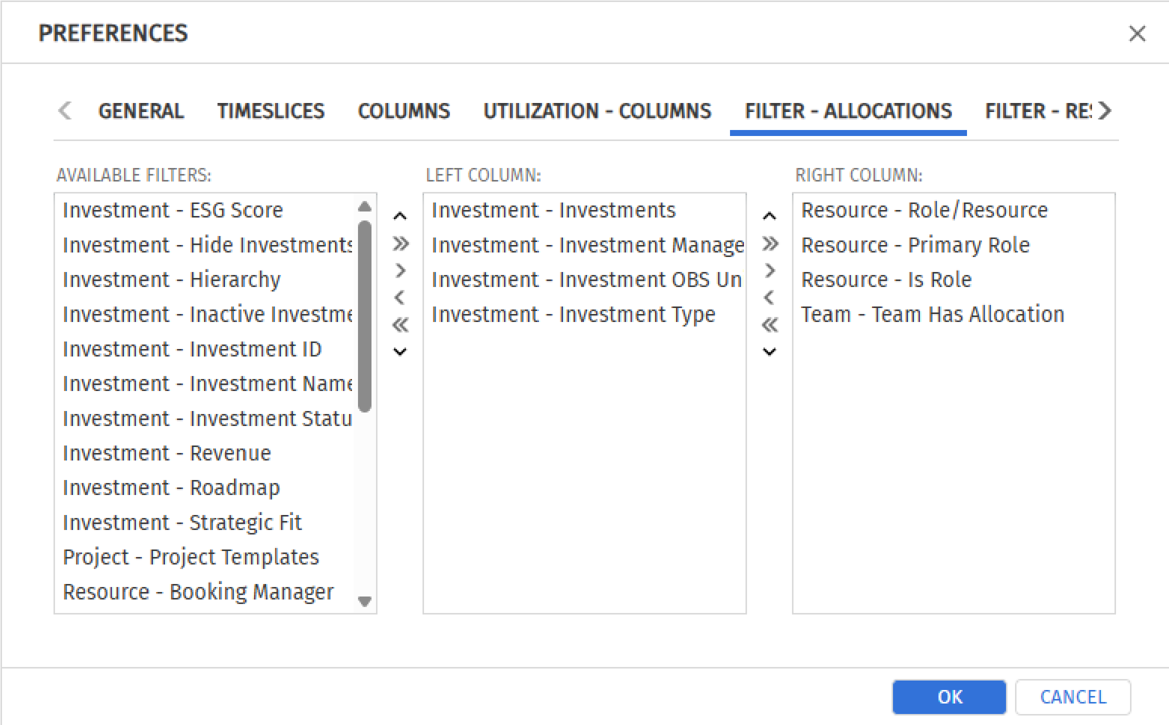
> **Effective Role (team entry)**

> **Skills (role team entry):** only with additional configuration, see page 66.

itd Portfolio Optimizer Admins may add other fields available for resources, roles and teams or for team entries to these selections. This includes most Clarity PPM standard fields and most custom fields defined for these objects. See "12.11 Configuring List and Filter Fields" on page 60 for details.

11.5 Filter – Allocations

In the **Filter – Allocations** tab, you select filter fields for the allocation filter. This lets you filter the current view by investments, resources/roles/teams and team entries.



Select the available filter fields for the left and right column of the allocation filter.

> You can add filter fields to either column as well as determine their order via drag-and-drop:
- Drag filter fields from the **Available Filters** list to either column to add them.
- Drag filter fields from either column to the **Available Filters** list to remove them.
- Drag filter fields between columns or within a column to change their position.

> Alternatively, you can use the buttons to the left of a column list in order to…
- … add fields selected in its left neighbor list (right arrow).
- … remove fields selected in the list and add these fields to its left neighbor list (left arrow).
- … change the field order by moving selected fields up or down in the list (up/down arrow).

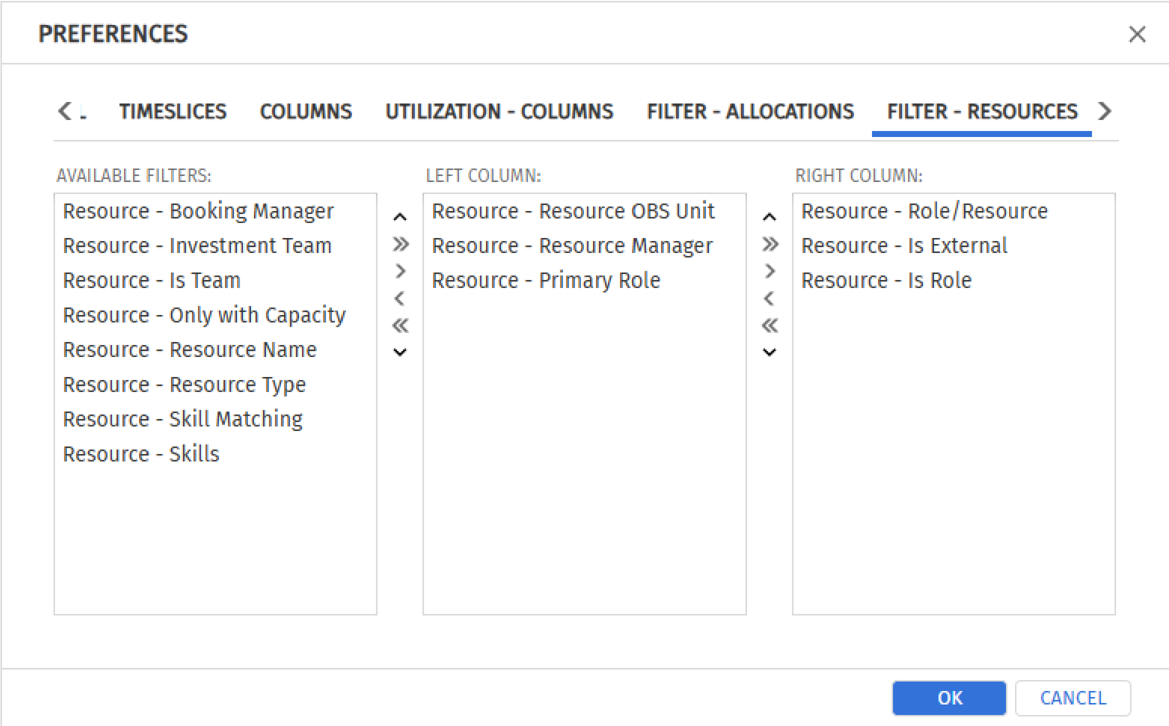
See chapter "4 Portfolio Filter" on page 16 for details about the allocation filter, its configuration, effects and default filter fields.

itd Portfolio Optimizer Admins may add to the selection other fields available for investments, investment sub-types, resources, roles, teams and team entries.

This includes most Clarity PPM standard fields and most custom fields defined for these objects. For details about the required procedure and supported fields and objects, see "12.11 Configuring List and Filter Fields" on page 60.

11.6 Filter – Resources

In the **Filter – Resources** tab, you select filter fields for the resource panel.
This lets you filter the displayed resources, roles and teams.



Select the available filter fields for the left and right column of the resource filter.

> You can add filter fields to either column as well as determine their order via drag-and-drop:
- Drag filter fields from the **Available Filters** list to either column to add them.
- Drag filter fields from either column to the **Available Filters** list to remove them.
- Drag filter fields between columns or within a column to change their position.

> Alternatively, you can use the buttons to the left of a column list in order to…
- … add fields selected in its left neighbor list (right arrow).
- … remove fields selected in the list and add these fields to its left neighbor list (left arrow).
- … change the field order by moving selected fields up or down in the list (up/down arrow).

See chapter "8 Resource Filter" on page 36 for details about the resource filter, its configuration, effects and default filter fields.

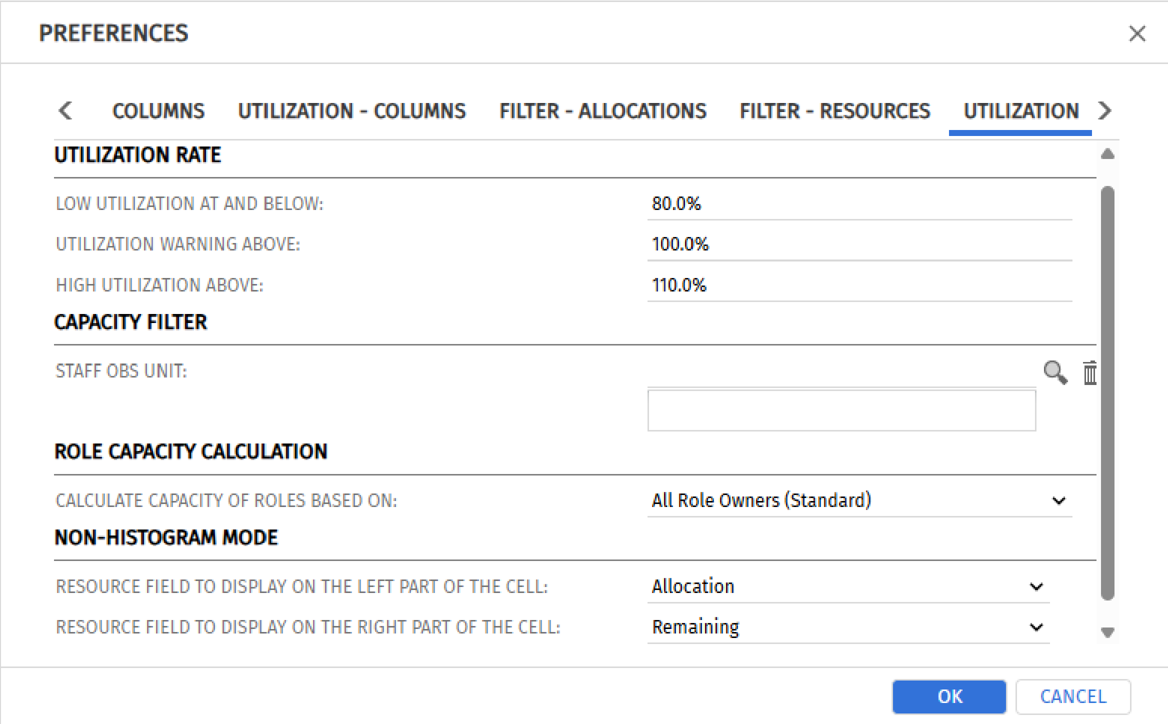
itd Portfolio Optimizer Admins may add to the selection other fields available for resources, roles and teams.

This includes most Clarity PPM standard fields and most custom fields defined for these objects.

For details about the required procedure and supported fields and objects, see "12.11 Configuring List and Filter Fields" on page 60.

11.7 Utilization

Settings in the **Utilization** tab control the display and calculation of the utilization from allocations.



> The **Utilization Rate** controls the visualization of low or high utilization.

- **Low Utilization at and Below:** upper utilization boundary below which resources, roles and teams will be marked as lowly utilized with a grey background in the respective period. Utilization between the thresholds for low utilization and utilization warning (e.g., above 80% to 100% as according to the screenshot) will be marked as optimal with a green background. This threshold value has no effect in the histogram.
- **Utilization Warning Above:** lower utilization boundary above which resources, roles and teams will be marked as slightly over-utilized with a yellow background in the respective period. This applies as long as the utilization stays at or below the lower boundary for high utilization. In the histogram, workload is colored green up to this threshold value.
- **High Utilization Above:** lower boundary above which resources, roles and teams will be marked as highly over-utilized with a red background in the respective period. In the histogram, workload is colored yellow up to this threshold value and red above.

> The **Capacity Filter** by **Staff OBS Unit** is applied to the capacity displayed for resources, roles and teams, such that only resources and teams with a selected **Department OBS** will be displayed as available and included in the capacity of associated roles. Additionally, you can filter the utilization. See "9 Utilization and Capacity Filters" on page 39.

> The **Role Capacity Calculation** option is only available after activation by a CA PPM application administrator in the **itd AE Preferences** lookup (see "12.12.14 Include Sub-Roles in Role Capacity in Allocations Modes" on page 69). It controls the inclusion of sub-roles in role capacities. Under **Calculate Capacity of Roles Based On**, select:

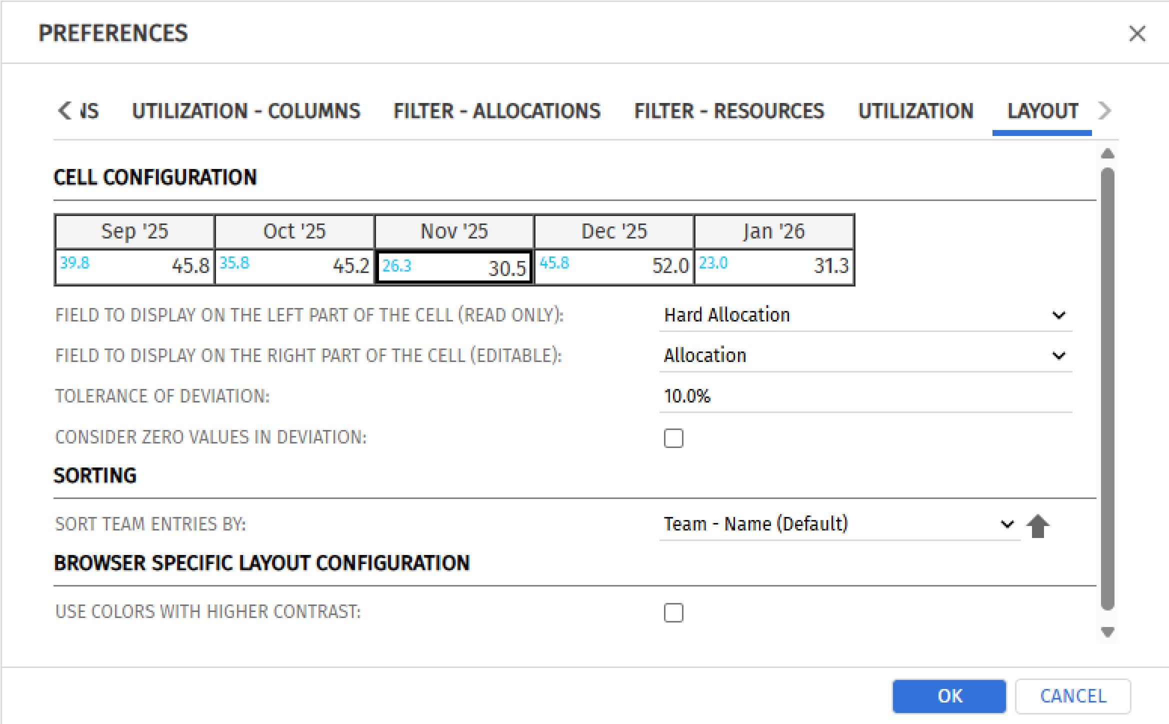
- **All Role Owners (Standard):** with the default setting, the capacity of a role is calculated based only on resources with that primary role.
- **All Role Owners and Sub-Roles:** select this option to include sub-role resources.

> Under **Non-Histogram Mode**, you can configure the left and right hand side values in the utilization grid that is displayed when the histogram is turned off.
Available values:
  - **Capacity**
  - **Remaining**
  - **Allocation**
  - **Hard Allocation**

  Remaining is the **Capacity** less the editable value, **Allocation** or **Hard Allocation**.

11.8 Layout

Settings in the **Layout** tab control the display values and the editable value for allocations in the right hand side allocation grid as well as the sorting field for team entries.



- **Cell Configuration:** here you configure the values used in the right hand side allocation grid. The displayed utilization is always based on the editable value.
  - **Field to Display on the Left Part of the Cell (Read Only): Empty**, **Allocation**, **Hard Allocation**, **ETC**, **Actuals**, **Actuals + ETC**, **Requested** or **Capacity**
  - **Field to Display on the Right Part of the Cell (Editable): Allocation** or **Hard Allocation**
  - **Tolerance of Deviation:** Treshold value for displaying trend arrows to indicate a deviation of the left cell value from the right one when activated via **Visualization**.
  - **Consider Zero Values in Deviation:** Display an arrow even if one of both values is zero.

  The left hand side sum columns (**Allocation**, **Hard Allocation**, **Actuals**) can be displayed or hidden via the **Columns** tab (see "11.3 Columns" on page 46).

  To display aggregated totals for investments in the allocation grid and sum columns, set **Calculate Sums** to **On** or to **Filtered** in the **General** tab (see "Calculate Sums" on page 44).
- **Sorting:** In addition to the fields listed here, any custom fields without lookups are available. If you don't select the respective default field, items will be sorted by that field on the second level.
  - **Sort Team Entries By: Effective Role**, **Finish Date**, **Name (Default)** or **Start Date**.

  Investments will always be sorted by priority rank.
- **Browser Specific Layout Configuration:** Here you can select to **Use Colors with Higher Contrast**. This setting will affect all your views in the itd Portfolio Optimizer.

12 Administration

12.1 Requirements

itd Portfolio Optimizer 1.0.0 requires Clarity PPM 16.2.2 or newer.

When using itd Advanced Resource Planning, version 12.3.1 or newer is also required.

12.2 Supported Locales

The following locales are currently supported:

- Danish, Danish(Denmark)
- Dutch, Dutch(Netherlands), Dutch(Belgium)
- English, English(United Kingdom), English(United States)
- Finnish, Finnish(Finland)
- French, French(Belgium), French(France)
- German(Germany), German(Switzerland)
- Italian(Switzerland)
- Norwegian, Norwegian(Norway)
- Spanish, Spanish(Spain)
- Swedish, Swedish(Sweden)

12.3 User and Administrator Groups

This section describes groups for users and administrators of the itd Portfolio Optimizer application.

12.3.1 itd Portfolio Optimizer Users Group

Add users to this group to grant them access to the itd Portfolio Optimizer application.

Please note that users may also be able to use the application if they have general page and portlet access rights. In this case, these users will be added to the **itd Portfolio Optimizer Users** group when accessing the application in order to keep track of who is using the application in your organization.

Please also note that, in order to access individual itd Portfolio Optimizer features, users also need the required resource and investment rights listed in section "12.5 User Access Rights" on page 55.

The **itd Portfolio Optimizer Users** group grants users the following rights.

> **Instance Access Rights**
- Access itd Portfolio Optimizer pages and portlets.

12.3.2 itd Portfolio Optimizer Admins Group

The **itd Portfolio Optimizer Admins** group grants users the following administrative rights.

> **Instance Access Rights**
- Access itd Portfolio Optimizer pages and portlets.
- Edit and define itd Portfolio Optimizer pages and portlets.

> **Global Access Rights**
- Full rights for **itd AE Actions** (define menu actions)
- Full rights for **itd AE Attribute Configuration** (add list fields, editable fields and filter fields)
- Full rights for **itd AE Attribute Source** (add additional Clarity PPM standard fields to the list of available fields, please contact us if you wish to do this.)

> **Other Administrative Features in the itd Portfolio Optimizer**
- **Unlock projects** locked due to changes made in the itd Portfolio Optimizer by other users (any user may unlock projects locked due to their own changes made in the itd Portfolio Optimizer).
- **Administration settings:** initial ranking and **Work Status** synchronization, accessible via the right-most toolbar button, see section "10.10 Administration" on page 43.
- **`&flushCaches=true` URL parameter:** apply newly added fields and changed settings.

  12.11 Configuring List and Filter Fields, page 60.

  12.12 itd AE Preferences Lookup, page 64.

  12.13 itd AE Included Investment Types Lookup, page 72.

  12.14 Governors Lookup (Limits and Caches), page 73.

12.4 Lookup Access

Some settings are managed via lookups. Editing them requires the global **Administration – Application Setup** right, which Clarity PPM application administrators have by default.

12.4.1 itd AE Preferences Lookup

Some application settings are managed via the **itd AE Preferences** lookup.

The **ID (code)** of this lookup is **PL.ITD.AE.LKP.PREFERENCES**.

It is used for both itd Advanced Resource Planning and the itd Portfolio Optimizer.

See "12.12 itd AE Preferences Lookup" on page 64 for details.

12.4.2 itd AE Included Investment Types Lookup

Use the **itd AE Included Investment Types** lookup to filter investments by type.

The **ID (code)** of this lookup is **PL_ITD_AE_LKP_INCLUDED_INV_TYPES**.

It is used for both itd Advanced Resource Planning and the itd Portfolio Optimizer.

Please note: *This configuration works only for the global mode, not for the hierarchy mode.*

See "12.13 itd AE Included Investment Types Lookup" on page 72 for details.

12.4.3 Governors Lookup (Limits and Caches)

Some database access and memory usage settings may be managed by creating a lookup with the **ID (code) = PL_ITD_AE_LKP_GOVERNORS**.

It is used for both itd Advanced Resource Planning and the itd Portfolio Optimizer.

See "12.14 Governors Lookup (Limits and Caches)" on page 73 for details.

12.5 User Access Rights

The following user access rights are required for itd Portfolio Optimizer Features. Please note that some features are only available when itd Advanced Resource Planning is also licensed.

Features	Resource Access Rights	Investment Access Rights
• View team entries of investments and associated allocations	• None, all team entries for all visible investments and associated allocations will be displayed.	• View[1]
• View resources, roles and teams with total utilization and total capacity	• Resource - Soft Book OR Resource – View[2]	• None
• Show team entries (investments) when clicking on histogram segments	• Resource - Soft Book OR Resource – View OR Investment – View[2]	
• Add new resources, roles and teams[3] • Replace allocation via drag-and-drop from the resource/role/team view[3]	• Resource – Soft Book • Resource – Hard Book[4]	• Edit • View
• Edit Allocation • Allocate from Estimates • Accept Hard Allocation	• Resource – Hard Book[5]	• View (no resource right required with **Edit**)[5]
• Move team entry without hard allocation (change start or finish date)	• Resource – Hard Book[5]	• View (no resource right required with **Edit**)[5]
• Move team entry with hard allocation (change start or finish date) • Edit Hard Allocation • Commit Allocation	• Resource – Hard Book[5]	• View[5]
• Create Requisition	• None	• Project – Create/Edit Requisition

12.5.1 Access Rights for Resource Managers

Please note that while **Resource Managers** always have the **Hard Book** and **View/View Financial** resource rights, they still require the listed access rights for viewing and editing investments.

[1] Viewing team entries and associated allocations requires the respective investment type's **View** right (e.g., **Project – View**).

[2] Required rights may be configured via feature toggles, see items 12.12.10, 12.12.11 and 12.12.12 in section "12.12 itd AE Preferences Lookup" on pages 65ff.
Role capacities include all associated resources regardless of access rights for these resources.

[3] These actions are available with both combinations of access rights listed here.

[4] **Resource – Hard Book** includes **Resource – Soft Book**.

[5] With the **Edit** right for an investment type (e.g., **Project – Edit**), no resource right is required for editing team entries (except for editing the **Hard Allocation**, which requires **Resource – Hard Book**).

12.6 Integration and Invocation

The itd Portfolio Optimizer is implemented as a standard Clarity PPM HTML portlet.

- **Name:** itd Portfolio Optimizer, **ID:** pl.itd.opti.prt
- The portlet can be added to any portlet page.
- The portlet is accessible to users with appropriate access rights, similar to any other Clarity PPM portlet. Add users to the **itd Portfolio Optimizer Users** group to grant them access to the itd Portfolio Optimizer application (see "12.3.1 itd Portfolio Optimizer Users Group" on page 54).

12.7 Planning Modes

The itd Portfolio Optimizer supports two planning modes, depending on how it is integrated.

12.7.1 Global Mode

The global mode is evoked when the itd Portfolio Optimizer is opened from any portlet page that is not an investment portlet page. In this mode, multiple investments and associated data will be displayed, depending on your filter settings.

12.7.2 Hierarchy Mode

The hierarchy mode is evoked when the itd Portfolio Optimizer is integrated as a channel in a hierarchy blueprint in the Modern UX as follows, replacing **`[clarity_url]`** by your Clarity URL:

```
https://[clarity_url]/niku/nu#action:pl.itd.opti.page&puiFullscreen=on&puiHidePPMTabs=on&hierarchyId=${_internalId}
```

12.8 Administration Settings in the Application

Some administration settings are accessible via the right-most toolbar button in the application, see section "10.10 Administration" on page 43:

- **10.10.1 Update Ranking (page 43):** automatically rank projects based on a selected property.i
- **10.10.2 Toggle Work Status Synchronization (page 43):** when active, investment **Work Status** is updated automatically whenever an investment moves above or below the cut-off line.

12.9 Changing Text Labels

Any text labels displayed in itd Advanced Resource Planning and the itd Portfolio Optimizer can be changed via a custom lookup.
Please contact us if you wish to do so.

12.10 Defining Actions

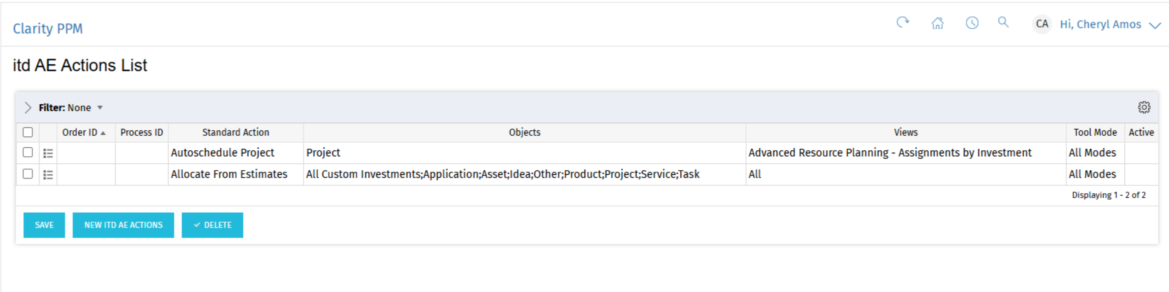
itd Portfolio Optimizer Admins may reorder, remove or restrict standard context menu actions and add custom actions for itd Advanced Resource Planning and the itd Portfolio Optimizer.

12.10.1 Accessing the Action Configuration

In the Classic UI, select **Home – Custom Objects – itd AE Actions List**.

12.10.2 Action Overview

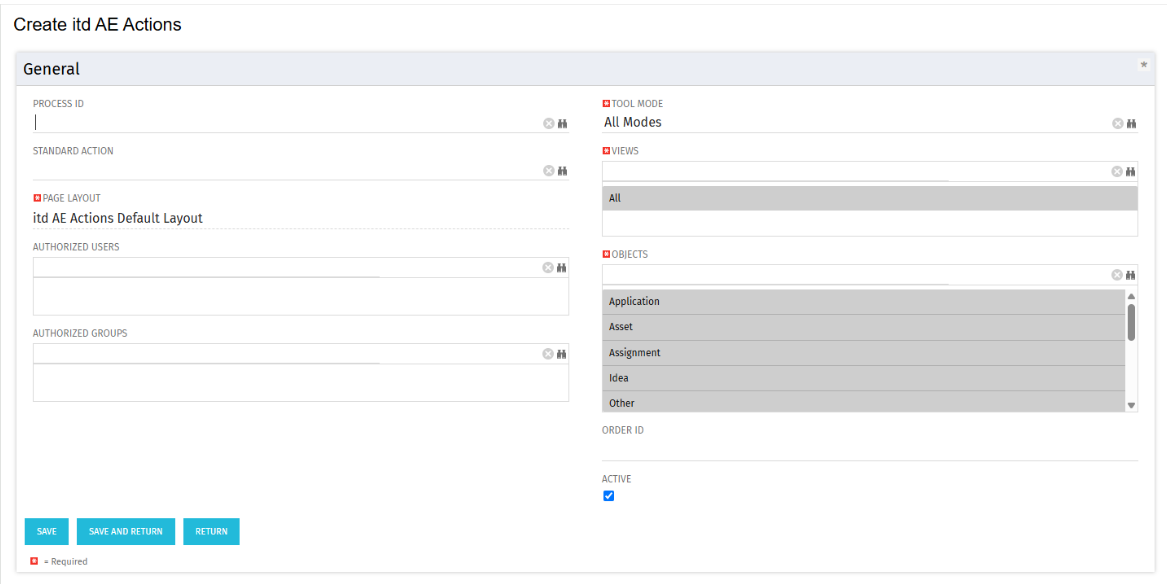
The action list provides an overview of defined actions.



- **Order ID**: determines the order of the actions. The lowest ID will be placed first. To reorder standard actions, add them and order them via this field.
- **Process ID** and **Standard Action:** these columns define the type of the action.
- **Objects:** object types for which the action will be available.
- **Views:** this column shows in which applications and view modes the action will appear. Only the **itd Advanced Resource Planning – Allocation by Investment** view mode applies to the itd Portfolio Optimizer.
- **Tool Mode:** this column shows in which tool mode the action will be available. Only the **All Investments Mode** and **Hierarchy Mode** apply to the itd Portfolio Optimizer. Each action can only be enabled for either all modes or for exactly one mode.
- **Active:** deactivate actions altogether, regardless of selected filters.

12.10.3 Adding an Action Object

Click **New itd AE Actions** to create a new action object.



- Select a **Process ID** to add a process action or select a **Standard Action** to configure.

> **Process Action:** invokes a Clarity PPM process when the user invokes the action.
  - The data of the current model is transferred to the process as parameters.
  - To support processes covering different object types, we transfer the **OBJECT_TYPE** and **OBJECT_ID** of the objects for which the process should be called.
  - Select for which **Users**, **Groups**, **Tool Mode**, **Objects** and **Views** the action should be visible.
    If you select neither **Users** nor **Groups**, the action will be available to all users and groups.
    For all other filters, you need to select the **All** option or select all items to disable them.

> **Standard Action:** select an existing standard actions to …
  - … reorder actions via the **Order ID** column. The lowest ID will be placed first.
  - … remove a standard action altogether by deselecting **Active**.
  - … restrict it to selected **Users**, **Groups**, **Tool Mode** (**All Investments** or **Hierarchy**), **Objects** and **Views** (only **Advanced Resource Planning – Allocation by Investment** applies).
    If you select neither **Users** nor **Groups**, the action will be available to all users and groups.
    For all other filters, you need to select the **All** option or select all items to disable them.

  Please note: *although all tool modes, objects and views will initially be selected when adding a standard action, most standard actions are only available for some objects (listed under* ***Description*** *in the lookup browse window for selecting a standard action) and views.*
  You can't add an action for an object or view for which it isn't available by default.
  Deleting a Standard Action item will reset to the default for that action.

12.10.4 Updating the itd Portfolio Optimizer

To update the itd Portfolio Optimizer after changing the action configuration, simply refresh your browser by pressing [F5].
Resetting the cache for the itd Portfolio Optimizer is not required.

12.11 Configuring List and Filter Fields

itd Portfolio Optimizer Admins may add list and filter fields to the itd Portfolio Optimizer in the attribute configuration list.

> For list fields, you can also determine whether they are editable.

> Use the `&flushCaches=true` URL parameter to update the applications with newly added fields (see section "12.11.11 Updating the itd Portfolio Optimizer" on page 63).

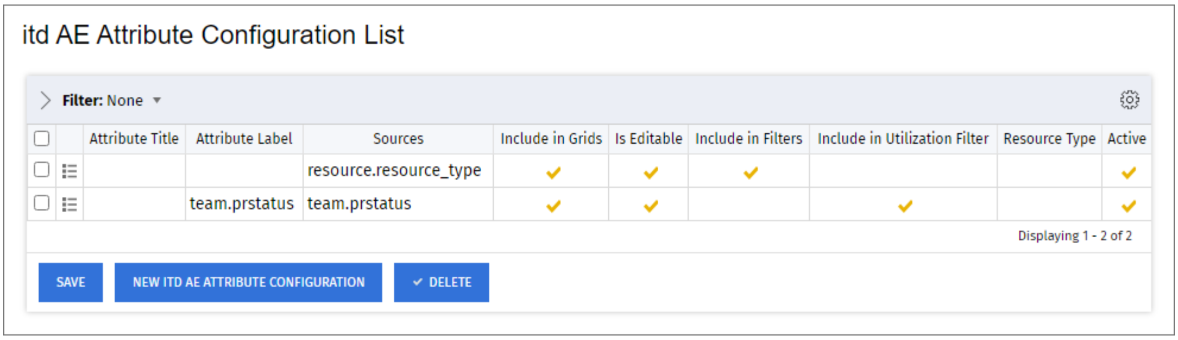
12.11.1 Accessing the Attribute Configuration List

In the Classic UI, select **Home – Custom Objects – itd AE Attribute Configuration List**.

12.11.2 Attribute Configuration List View

The attribute configuration list displays additional list and filter fields.

Here, you can edit, deactivate or remove fields and add new fields.



The following properties control where each field is available in the itd Portfolio Optimizer:

> **Include in Grids:** field may be added to displayed **Columns** or **Utilization – Columns**.
Exactly where a field will be available as a column depends on the objects of the associated view. For example, only resource fields will be available under **Utilization – Columns**.

> **Is Editable:** field may be edited in the list. This is only relevant when **Include in Grid** is selected.
Attributes configured as **Read-Only** in the **Studio** will never be editable, even if selected here.
Some attribute types don't support editing and will never be editable, even if selected here (see "12.11.5 Supported Attribute Types" on page 62).
This also applies to a small number of Clarity PPM default attributes.

> **Include in Filters:** field may be selected as a filter field.
Some attribute types don't support filtering and will never be available as filter fields even if selected here (see "12.11.5 Supported Attribute Types" on page 62).
This also applies to a small number of Clarity PPM default attributes.

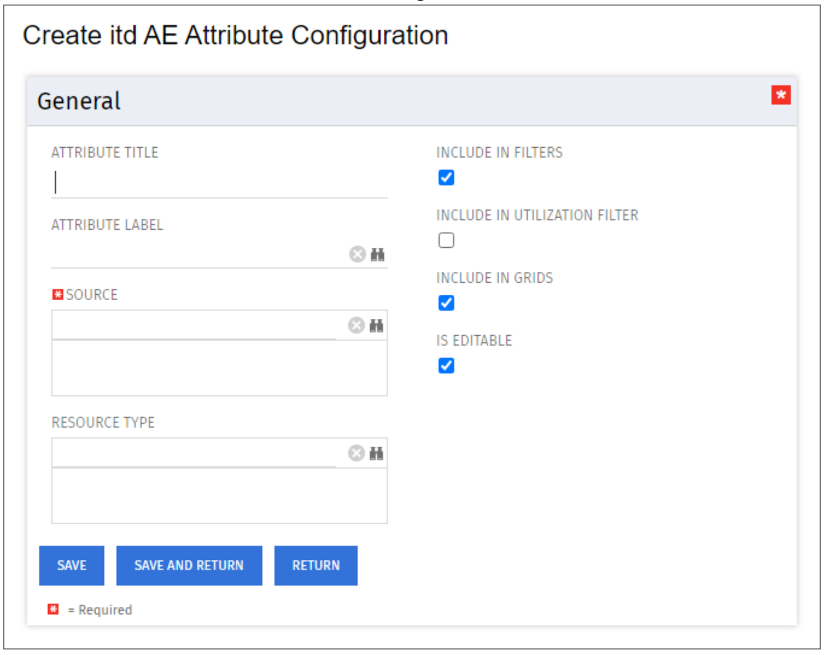
> **Include in Utilization Filter:** field is included in the utilization filter. This is currently supported for **Lookup** and **Boolean** fields of the **Investment** and **Team** objects.

> **Resource Type:** this only applies to custom time scaled monetary values which aren't available in the itd Portfolio Optimizer but only in the assignment modes of itd Advanced Resource Planning.

> **Active:** deselect this to remove a field from the selection of columns and filter fields without deleting the associated configuration.

12.11.3 Adding Fields

Click on **New itd AE Attribute Configuration** to add a new field.



> **Attribute Title:** field name to display. This is only required if you don't wish to display the name of the field specified as **Attribute Label** or **Source** field.

> **Attribute Label:** field whose name to display. This is only required if you don't wish to display the name of the field specified as **Source** field, or if you are defining a field with multiple sources. ***Please note:*** *for merged fields (fields with multiple sources), the* ***Attribute Label*** *also determines the views in which the field may be added as a* ***Visible Column****. See following section for details.*

> **Source:** field or fields to display. You can merge fields by selecting more than one field here to display fields for multiple objects in the associated rows or to filter by multiple objects at once. In this case, consider the following:

- Use no more than one field from each object.
  Additional fields from the same object will be ignored.
- Use the same data type for all source fields (e.g., String or Number).
  Merged fields with multiple data types won't be selectable as columns or filter fields.
- Select a field as **Attribute Label** to display as column header in the list. If you don't specify a label field, a random source field will automatically be selected as label field.
  Please note: *The label field not only determines the displayed column header but also whether the merged field will be available for selection under* ***Columns***.
  The label field's object must be generally available in the respective view:
  - **Allocations by Investment:** investments & sub-types, team entries

  Examples:
  - A field with label `Project.field` will be available.
  - A field with label `Resource.field` won't be available.

  Merged fields will always be available as filter fields for all view modes regardless of the selected label field.
- If you also specify an **Attribute Title**, that will be displayed as column header in the list instead of the **Attribute Label**. In this case, the **Attribute Label** will still determine the views in which the merged field will be available.

12.11.4 Supported Object Types

The following object types are currently supported:

> Application
> Asset
> Assignment
> Idea
> Investment
> Other
> Product
> Project
> Resource
> Service
> Task
> Team

12.11.5 Supported Attribute Types

The following attribute types are currently supported:

- String
- Large String
- Number
- Percent
- Calculated (see "12.11.6 Restrictions for Calculated and Formula Attributes" on page 63)**
- Formula (see "12.11.6 Restrictions for Calculated and Formula Attributes" on page 63)**
- Money
- Boolean
- Date
- Static Lists:
  - Single Value Number, String
  - Multi Value Number, String
- Static Dependent Lists:
  - Single Value Number, String
  - Multi Value Number, String
- Dynamic SQL (also with parameters)
  - Single Value Number, String
  - Multi Value Number, String
- URL*

* This type doesn't support editing.

** This type doesn't support editing or filtering.

12.11.6 Restrictions for Calculated and Formula Attributes

Most of the attributes which can be used in a **Calculated** or **Formula** attribute are supported.

Attributes which the custom calculated/formula columns do not support:

- All Lookup attributes
- Assignment – Has Guidelines
- Investments – Business Alignment
- Investments – Include Sub-Departments
- Project – Schedule to Baseline
- Project – Schedule Variance %
- Resource – Capacity Rate
- Resource – Show Resources in Sub-departments

12.11.7 Restrictions for Virtual Attributes

Virtual attributes are generally supported.

The following restrictions currenty apply:

- Virtual attributes on custom investments are not yet supported.
- Virtual attributes on other virtual attributes are not yet supported.

12.11.8 Custom Investment Types

You can't directly add attributes for custom investment types. However, custom investment types automatically inherit any attributes you add on the **Investment** object level.

12.11.9 Supported Attributes

You can add most Clarity PPM standard attributes and any custom attributes of supported objects and types (see sections "12.11.4 Supported Object Types" and "12.11.5 Supported Attribute Types" on page 62).

12.11.10 Adding Additional Clarity PPM Standard Attributes

Please contact us if you wish to add a Clarity PPM standard attribute that isn't currently supported.

12.11.11 Updating the itd Portfolio Optimizer

After adding new attributes, you need to reset the cache for the itd Portfolio Optimizer to make them available in the application.

This requires membership in the **itd Portfolio Optimizer Admins** group.

To do so, call the portlet with `&flushCaches=true`, replacing **`[clarity_url]`** by your Clarity URL:

`https://`**`[clarity_url]`**`/niku/nu#action:pl.itd.opti.page&flushCaches=true`

Please note that the parameter won't be passed to an embedded page in the Modern UX.

You need to open the portlet in the Classic UI with `&flushCaches=true` to reset the cache.

12.12 itd AE Preferences Lookup

Some application settings are managed via the **itd AE Preferences** lookup:

> The **ID (code)** of this lookup is **PL.ITD.AE.LKP.PREFERENCES**.
> Creating and editing lookups requires the global **Administration – Application Setup** right, which Clarity PPM application administrators have by default.
> This lookup is used for itd Advanced Resource Planning and the itd Portfolio Optimizer. Please note that not all settings apply to all views in all applications (see **Scope**).
> Use the `&flushCaches=true` URL parameter to update the applications with changed settings (see section "12.12.20 Updating the itd Portfolio Optimizer" on page 71).

12.12.1 Hide Preferences Tabs

Scope: itd Advanced Resource Planning and itd Portfolio Optimizer

ID (LOOKUP_CODE): hidden_preference_tabs

Initial Setting: active with **Description = query_limits**

Activate: set **Active = true** AND add elements to **Description**, separated by commas ","

Deactivate: set **Active = false** (will apply default) OR remove elements from **Description**

Possible Elements: (default: query_limits)

> general: **General**
> time_slice: **Timeslices**
> visible_columns: **Columns**
> filter_layout_config: **Filter** / **Filter – Assignments** / **Filter – Allocations**
> utilization_layout_config: **Filter – Resources**
> utilization: **Utilization**
> layout: **Layout**
> query_limits: **Query Limits**

Effect:

> Hide **Preferences** tabs listed in **Description**

12.12.2 Hide Toolbar Buttons

Scope: itd Advanced Resource Planning and itd Portfolio Optimizer

ID (LOOKUP_CODE): hidden_toolbar_buttons

Initial Setting: active with **Description = expand_all, collapse_all**

Activate: Active = true AND add elements to **Description**, separated by commas ","

Deactivate: Active = false (will apply default) OR remove elements from **Description**

Possible Elements: (default: expand_all, collapse_all)

> preferences: **Preferences**
> visualization: **Visualization**
> export_to_excel: **Export to Excel**
> scenario: **Scenario**
> expand_all: **Expand all** (this may affect the performance when expanding many items)
> collapse_all: **Collapse all** (this may affect the performance when collapsing many items)
> detailed_view: **Detailed view** of assignments in **Assignments by Investment** mode.

Effect:

> Hide toolbar buttons listed in **Description**

12.12.3 Restrict Time Slice Periods in the Preferences and in the Toolbar

Scope: itd Advanced Resource Planning and itd Portfolio Optimizer

ID (LOOKUP_CODE): preference_tab_time_slice

Initial Setting: deactivated with **Description = timeslice_mode: month, year, quarter**

Activate: Active = true AND add elements to **Description**, separated by commas ","

Deactivate: Active = false (will apply default) OR remove elements from **Description**

Possible Elements: (default: all)

> day: **Days**
> week: **Weeks**
> month: **Months**
> quarter: **Quarters**
> year: **Calendar Years**
> fiscal_period: **Fiscal Period**

Effect:

> Only time slice periods listed in the **Description** will be available for selection in the **Preferences** and in the toolbar.

12.12.4 Prevent Editing by Work Effort Unit

Scope: itd Advanced Resource Planning and itd Portfolio Optimizer

ID (LOOKUP_CODE): read_only_work_effort_units

Initial Setting: inactive (lookup value doesn't exist)

Activate: create lookup value with **Lookup Value Name = 1** AND **Active = true** AND add elements to **Description**, separated by commas ","

Deactivate: Lookup Value Name = 0 OR **Active = false** OR remove elements from **Description**

Possible Elements: (default: none)

> UNIT_SYSTEM: **System Standard** (configurable)
> UNIT_HOURS: **Hours**
> UNIT_DAYS: **Days**
> UNIT_FTE: **FTE** (full time equivalents)

Effect:

> When an entered unit is selected for the itd Portfolio Optimizer, it is no longer possible to enter, delete or modify workloads. Additionally, it is no longer possible to change the start or finish of any object in the list or Gantt view or rename investments or tasks. Please note that editing workloads is generally not possible without an itd Advanced Resource Planning license.
> It is still possible to add, replace or copy assignments and team entries.

12.12.5 Hide Primary/Parent Role Name

Scope: itd Advanced Resource Planning and itd Portfolio Optimizer

ID (LOOKUP_CODE): hide_primary_role_name

Initial Setting: inactive (lookup value doesn't exist)

Activate: create lookup value with **Lookup Value Name = 1** AND **Active = true**

Deactivate: Lookup Value Name = 0 OR **Active = false**

Effect:

> By default, the **Name** column displays a resource's primary role or a role's parent role, if applicable, next to their name in all modes.
> With this setting, primary roles for resources and parent roles for roles won't be displayed.

12.12.6 Use Old Skills Hierarchy

Scope: itd Advanced Resource Planning and itd Portfolio Optimizer

ID (LOOKUP_CODE): use_old_skills_hierarchy

Initial Setting: inactive (lookup value doesn't exist)

Activate: create lookup value with **Lookup Value Name = 1** AND **Active = true**

Deactivate: Lookup Value Name = 0 OR **Active = false**

Effect:

> By default, Clarity 16.2.3 and up uses the new skills defined in the modern UX.
> As the new skills, unlike the **Skills Hierarchy**, are not supported on team entries by default, you can switch back to the old **Skills Hierarchy** with this feature toggle.
> Alternatively, you can enable MUX skills on team entries, as described in the following section.

12.12.7 Use MUX Skills on Role Team Entries

Scope: itd Advanced Resource Planning and itd Portfolio Optimizer

ID (LOOKUP_CODE): team_attr_id_mux_skills

Initial Setting: inactive (lookup value doesn't exist)

Activate:

> Create a **Skills** attribute for the **Team** object. In the following example, we will use **Name = Skills** and **ID = z_skills**. Use **Data Type = Multi Valued Lookup** with **Lookup ID = LOOKUP_SKILLS**.
> Create a preferences lookup value with **Lookup Value Name = [Skills ID]** AND **Active = true**. If you are using the values from our example, set **Lookup Value Name = z_skills**.

Deactivate: Active = false

Effect:

> This configuration enables MUX skills on role team entries via the newly created **Skills** attribute. This includes displaying skills in the **Skills** column, using the lookup UI to enter, edit or remove skills and matching role team entry skills against resource skills via **Show candidates**.

12.12.8 Show Grid Hints for by Investment Views

Scope:

> itd Advanced Resource Planning, Allocations/Assignments by Investment
> itd Portfolio Optimizer

ID (LOOKUP_CODE): layout_option_tooltip_invest

Initial Setting: inactive (lookup value doesn't exist)

Activate: create lookup value with **Lookup Value Name = 1** AND **Active = true**

Deactivate: Lookup Value Name = 0 OR **Active = false**

Effect:

> With this setting, hovering over the allocation or assignment grid will show a hint listing the displayed values as configured in the **Layout** tab of the **Preferences**, such as **ETC / Capacity**. This doesn't affect the hints for the grid in the resource list, which are always displayed.

12.12.9 Initially Load Investment Structure in Investment Modes

Scope:

- itd Advanced Resource Planning, Allocations/Assignments by Investment
- itd Portfolio Optimizer

ID (LOOKUP_CODE): calc_inv_has_children_flag

Initial Setting: active (lookup value doesn't exist)

Activate: Lookup Value Name = 1 OR **Active = false**

Deactivate: create lookup value with **Lookup Value Name = 0** AND **Active = true**

Effect:

- By default, in the investment modes, opening or refreshing the view will load the complete sub-structure of each displayed investment. In **Assignments by Investment** mode, this includes sub investments, phases, tasks and assignments. In **Allocations by Investment** mode, this includes sub investments and team entries.
  The expand icon will then only be displayed for investments with a sub-structure.
  Loading the complete sub-structure of each investment can take considerable time, depending on the exact data structure.
- Create a lookup value with **Lookup Value Name = 0**, **ID = calc_inv_has_children_flag** and **Active = true** to prevent loading the full sub-structure of each investment when the view is opened or refreshed, saving some loading time.
  The expand icon will then be displayed for all investments without checking whether they do have a sub-structure. Clicking this icon will load existing sub-structures or hide the icon where no sub-structure exists.

12.12.10 Configure by Investment Resource View Rights

Scope:

- itd Advanced Resource Planning, Allocations/Assignments by Investment
- itd Portfolio Optimizer

ID (LOOKUP_CODE): check_res_view_right_for_util

Initial Setting: inactive (lookup value doesn't exist)

Activate: create lookup value with **Lookup Value Name = 1** AND **Active = true**

Deactivate: Lookup Value Name = 0 OR **Active = false**

Effect:

- By default, the resource utilization histogram will display the utilization for any resource, role or team for which the user has at least the **Resource – Soft Book** right.
- With this setting, the resource utilization histogram will display only the utilization for resources, roles and teams for which users have at least the **Resource – View** right.

12.12.11 Configure by Investment Resource View Popup Rights

Scope:

- itd Advanced Resource Planning, Allocations/Assignments by Investment
- itd Portfolio Optimizer

ID (LOOKUP_CODE): capacity_popup_with_soft_book

Initial Setting: inactive (lookup value doesn't exist)

Activate: create lookup value with **Lookup Value Name = 1** AND **Active = true**

Deactivate: Lookup Value Name = 0 OR **Active = false**

Effect:

- By default, clicking on utilization histogram slices will display only team entries and investments for resources, roles and teams for which the user has at least the **Resource – View** right.
- With this setting, clicking on utilization histogram slices will display team entries and investments for resources, roles and teams for which the user has at least the **Resource – Soft Book** right.
- Depending on the **resource_view_right_all_by_inv** and **resource_view_right_ass_by_inv** settings, investment rights may apply for team entries of resources, roles and teams for which users have no resource rights, see section 12.12.12 and itd Advanced Resource Planning manual.

12.12.12 Configure Allocations by Investment View Resource Rights

Scope:

- itd Advanced Resource Planning, Allocations by Investment
- itd Portfolio Optimizer

ID (LOOKUP_CODE): resource_view_right_all_by_inv

Initial Setting: inactive (lookup value doesn't exist)

Activate: create lookup value with **Lookup Value Name = 1** AND **Active = true** AND add elements to **Description**, separated by commas ","

Deactivate: Lookup Value Name = 0 OR **Active = false** OR remove elements from **Description**

Possible Elements: (add both to apply to both modes)

- SINGLE_INV: apply setting to single investment mode
- ALL_INV: apply setting to multiple investment mode

Effect:

- By default, clicking on utilization histogram slices will display team entries for investments for which the user has at least the **Investment – View** right as well as team entries of any resource, role and team for which the user has at least the **Resource –View/Soft Book** right (see 12.12.11).
- With this setting, clicking on utilization histogram slices in the **Allocations by Investment** view will only consider resource rights and ignore any additional investment rights.
- The setting may be activated for single investment mode and multiple investment mode independently by adding either or both of **SINGLE_INV** and **ALL_INV** to the **Description**.

12.12.13 Disable Resource List Links in Investments Modes

Scope:

> itd Advanced Resource Planning, Allocations/Assignments by Investment
> itd Portfolio Optimizer

ID (LOOKUP_CODE): disable_link_in_util_panel

Initial Setting: inactive (lookup value doesn't exist)

Activate: create lookup value with **Lookup Value Name = 1** AND **Active = true**

Deactivate: Lookup Value Name = 0 OR **Active = false**

Effect:

> With this setting, it is no longer possible to open the associated properties by clicking on a resource, role or team in the resource list.

12.12.14 Include Sub-Roles in Role Capacity in Allocations Modes

Scope:

> itd Advanced Resource Planning, Allocations by Investment/Resource
> itd Portfolio Optimizer

ID (LOOKUP_CODE): calc_role_availability_option

Initial Setting: inactive (lookup value doesn't exist)

Activate: create lookup value with **Lookup Value Name = 1** AND **Active = true**

Deactivate: Lookup Value Name = 0 OR **Active = false**

Effect:

> By default, the capacity of a role is calculated based only on associated resources.
> Activating this lookup value adds the **Role Capacity** setting to the **Utilization** tab of the user preferences for the **Allocations by Investment** and **Allocations by Resource** view modes.
> Use this setting to enable the inclusion of sub-role resources in the role capacity calculation.
> The setting will be saved per view.

12.12.15 Role Capacities in Allocations by Investment Mode

Scope:

> itd Advanced Resource Planning, Allocations by Investment
> itd Portfolio Optimizer

ID (LOOKUP_CODE): raw_avail_in_utilization

Initial Setting: activated with **Lookup Value Name = 1**

Activate: Lookup Value Name = 1 AND **Active = true**

Deactivate: Lookup Value Name = 0 OR **Active = false**

Effect:

> When this lookup value is active, the utilization grid In **Allocations by Investment** views will show the non-histogram mode capacity value selected in the **Utilization** tab of the **Preferences** for both resources and roles, **Capacity** or **Remaining**.
> When you deactivate this lookup value, either capacity value will show up as the remaining capacity for roles. Resources will still use the selected value.
  - **Capacity** will show the total capacity for resources and the remaining capacity for roles.
  - **Remaining** will show the remaining capacity for both resources and roles.

> The histogram is not affected by this setting.

12.12.16 Disable Replacement Options

Scope:

- itd Advanced Resource Planning, Allocations by Investment
- itd Portfolio Optimizer

ID (LOOKUP_CODE): disable_replacement_option

Initial Setting: inactive (lookup value doesn't exist)

Activate: create lookup value with **Lookup Value Name = 1** AND **Active = true** AND add elements to **Description**, separated by commas ","

Deactivate: Lookup Value Name = 0 OR **Active = false** (will apply default) OR remove elements from **Description**

Possible Elements: (default: none)

- TotalAvailability: **Total Capacity**
- RemainingAvailability: **Remaining Capacity**
- Complete: **Full**

Effect:

- Deactivated replacement options are disabled when replacing allocations in **Allocations by Investment** mode, with a hint stating they have been deactivated by an administrator.

12.12.17 Disable Role Allocation Replacement

Scope:

- itd Advanced Resource Planning, Allocations by Investment
- itd Portfolio Optimizer

ID (LOOKUP_CODE): disable_role_replacement_alloc

Initial Setting: inactive (lookup value doesn't exist)

Activate: create lookup value with **Lookup Value Name = 1** AND **Active = true**

Deactivate: Lookup Value Name = 0 OR **Active = false**

Effect:

- In **Allocations by Investment** mode, roles can no longer be replaced in an allocation via drag-and-drop of other roles, resources or teams from the resource list.

12.12.18 Remaining Capacity: Don't Remove Team Role Entry

Scope:

- itd Advanced Resource Planning, Allocations by Investment
- itd Portfolio Optimizer

ID (LOOKUP_CODE): keep_role_with_remain_avail_op

Initial Setting: inactive (lookup value doesn't exist)

Activate: create lookup value with **Lookup Value Name = 1** AND **Active = true**

Deactivate: Lookup Value Name = 0 OR **Active = false**

Effect:

- In **Allocations by Investment** mode, completely replacing a role allocation via **Remaining Capacity**, such that there is no role allocation left, will no longer remove the role's team entry.

12.12.19 Remaining Capacity: Only Shift Editable Value

Scope:

- itd Advanced Resource Planning, Allocations by Investment
- itd Portfolio Optimizer

ID (LOOKUP_CODE): only_read_value_remain_avail

Initial Setting: inactive (lookup value doesn't exist)

Activate: create lookup value with **Lookup Value Name = 1** AND **Active = true**

Deactivate: Lookup Value Name = 0 OR **Active = false**

Effect:

- In **Allocations by Investment** mode, replacing a role via **Remaining Capacity** will only replace the editable value in the right-hand side of the cell, **Planned** or **Hard**, not the respective other value.

12.12.20 Updating the itd Portfolio Optimizer

After changing settings for the itd Portfolio Optimizer via the **itd AE Preferences** lookup, you need to reset the cache to apply the new settings.

This requires membership in the **itd Portfolio Optimizer Admins** group.

To do so, call the portlet with `&flushCaches=true`, replacing **`[clarity_url]`** by your Clarity URL:

`https://[clarity_url]/niku/nu#action:pl.itd.opti.page&flushCaches=true`

Please note that the parameter won't be passed to an embedded page in the Modern UX.

You need to open the portlet in the Classic UI with `&flushCaches=true` to reset the cache.

12.13 itd AE Included Investment Types Lookup

Investment types can be filtered via the **itd AE Included Investment Types** lookup.

The **ID (code)** of this lookup is **PL_ITD_AE_LKP_INCLUDED_INV_TYPES**.

Here you can filter selected view modes by investment type. Modes for which you define no filters won't be filtered by investment type.

Please note: *This configuration works only for the global mode, not for the hierarchy mode.*

12.13.1 Configuring Included Investment Types

To configure an investment type filter, add a lookup value with the following field values:

> **ID** equal to the Clarity **object code** of the investment type you want to include (usually the investment type name in lower case, e.g., "asset" for the **Asset** investment type).

> **Name** has no effect other than being displayed in the lookup value list.

> **Description** specifies all view modes to include the investment type and needs to be spelled exactly as follows, in capital letters.
  Only this item is relevant for the itd Portfolio Optimizer:
  - ALLOCATION_BY_INVESTMENT_ASE

  If you are specifying multiple view modes, you may choose any separator, such as a space or comma, as long as all required view modes are present in the correct spelling.

> **Active** can be removed to disable a lookup value, as if it wasn't there.

12.13.2 Filtering in Views

If an investment type is configured for a specific view mode, the **Investment Type** filter is effectively prefilled with the configured investment types. However, this is not visualized in the **Investment Type** filter control, which can still be used to filter by the configured investment types.

12.13.3 Utilization

The utilization that is calculated and displayed on the resource level isn't affected by the filter.

Therefore, filtered out investments will still be displayed in the flyout when hovering over associated utilization segments in **by Investment** views.

12.13.4 Updating the itd Portfolio Optimizer

After changing settings for the itd Portfolio Optimizer via the **itd AE Included Investment Types** lookup, you need to reset the cache to apply the new settings.

This requires membership in the **itd Portfolio Optimizer Admins** group.

To do so, call the portlet with `&flushCaches=true`, replacing **`[clarity_url]`** by your Clarity URL:

`https://`**`[clarity_url]`**`/niku/nu#action:pl.itd.opti.page&flushCaches=true`

Please note that the parameter won't be passed to an embedded page in the Modern UX.

You need to open the portlet in the Classic UI with `&flushCaches=true` to reset the cache.

12.14 Governors Lookup (Limits and Caches)

Some database access and memory usage settings may be managed via the governors lookup:

> The governors lookup doesn't exist by default. To change associated settings, create a new lookup with **ID (code) = PL_ITD_AE_LKP_GOVERNORS**.
> Creating and editing lookups requires the global **Administration – Application Setup** right, which Clarity PPM application administrators have by default.
> This lookup is used for both itd Advanced Resource Planning and the itd Portfolio Optimizer. Please note that not all lookup values apply to both applications.
> Use the `&flushCaches=true` URL parameter to update the applications with changed settings (see section "12.14.4 Updating the itd Portfolio Optimizer" on page 74).

The governors lookup can be used to control the amount of results returned by database queries, the amount of data contained in the applications' caches as well as load batch sizes with **Calculate Sums** set to **On** or **Filtered**.

Similar to the preferences lookup, the settings controlled via the governors lookup need to be created as lookup values with the **ID (code)** set to the property name and the **name** set to the desired value (e.g. the investment limit can be shifted from the default value of 150 to 300 by creating a lookup value with **ID (code) = query.limit.investments** and **name = 300**).

This section lists all settings relevant for the itd Portfolio Optimizer and their defaults.

12.14.1 Query Limits

When Investments are retrieved from the database, the query limit parameter will limit the number of records held in memory and returned to the client.

You can control this via the following property:

```
query.limit.investments=150
```

12.14.2 Cache Sizing

The server-side caching mechanism we use (Guava Caches) allows for the definition of the Cache's maximumSize().

You can edit these values via the `cache.max.*` properties:

```
cache.max.clarity.system.attrs=1 [system attributes]
cache.max.loading.pattern.lkp=1 [loading pattern lookup]
cache.max.investment=10 [investments]
cache.max.glob.rights.by.user=100 [global rights by user]
cache.max.object.perm.by.user=40 [object permissions by user]
cache.max.translation.cache=20 [translation cache]
cache.max.preference.lkp=300 [preferences lookup]
cache.max.calender=1 [calendar]
cache.max.project.hpd.factor=1 [project hours per day factor]
cache.max.custom.inv=1 [custom investments]
```

Please note: *Changing these values will not impact the amount of data loaded and used, only the amount of data that is cached for later use. Raising these values will take up more working memory. Lowering these values will result in reduced performance.*

12.14.3 Load Batch Sizing

With **Calculate Sums** set to **On** or **Filtered** in the **General** tab of the **Preferences**, aggregated values will be calculated and displayed per investment. These data will be loaded from Clarity PPM curves. Curves will be loaded in batches to save heap space.

You can configure the size of these batches via the following property:

`cache.max.batch.curve.inv=100 [investments]`

Please consider the following when adjusting this number:

- Lower values will cause more frequent requests to the database
- Higher values will increase the amount of working memory used during these calculations.

12.14.4 Updating the itd Portfolio Optimizer

After changing settings for the itd Portfolio Optimizer via the governors lookup, you need to reset the cache to apply the new settings.

This requires membership in the **itd Portfolio Optimizer Admins** group.

To do so, call the portlet with `&flushCaches=true`, replacing **`[clarity_url]`** by your Clarity URL:

`https://[clarity_url]/niku/nu#action:pl.itd.opti.page&flushCaches=true`

Please note that the parameter won't be passed to an embedded page in the Modern UX.

You need to open the portlet in the Classic UI with `&flushCaches=true` to reset the cache.