User Guide

Kryon Process Discovery

V. 21.6

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Contents

Introduction

Purpose

This document is the User Manual of the Process Discovery Console. It is intended to provide all the necessary information to use this software to discover processes in your organization.

Scope

This guide covers the Process Discovery console configuration end-to-end.

Intended audience

This guide is intended for business analysts in-charge of process discovery and process mapping.

In this Chapter:

System Architecture Components

Discovery Robots

Lightweight clients installed on employee desktops that silently monitor business-related activities without impacting end-user productivity. They provide full visibility into all business activities at the application level by collecting behavioral data about every user, process, and application across the entire business unit or organization – even when the user's computer is off-network and offline. The data collected by **Discovery Robots** (a screen shot/metadata for each user action) is sent to the **Discovery Server** for analysis. The raw data collected by the **Discovery Robot** is comprised of:

1. A screenshot for each user action; *and*
2. Detailed metadata corresponding to each screenshot, including –
    - Application name
    - User name
    - Event type (e.g., mouse wheel, left mouse click)
    - Mouse position (e.g., x:933, y:637)
    - Time stamp

The System Admin defines the desktop and web applications that are monitored by the **Discovery Robots**.

Discovery Server

The **Discovery Server** utilizes the data collected by the robots perform complex algorithmic processes, including:

- **Image Analysis** – extraction of relevant information from every screen shot
- **Image Clustering** – identification of repeated actions
- **Discovery** – Identifying highly repeated processes and calculating statistical information on duration, actions, applications, etc.
- Output of process and variant data to the **Process Library**

The **Discovery Server** includes **Application Databases**. These are the databases (either MariaDB or MySQL) in which all the data collected by the **Discovery Robots** is stored. The data collected by the **Discovery Robots** is immediately encrypted and transferred to the application databases and remains on the client machine for a short time.

Process Discovery User Management Tool

Kryon Process Discovery User Management Tool grants user access to the Process Library (**Keycloack Service**).

Process Discovery Console

A browser-based application providing an overview of discovered processes selected and saved by the Business-Analyst (you), with the ability to drill down into all the underlying details.

Using the Process Discovery Console you can:

1. Set and configure the collected data:
    - Manage Teams and user access
    - Define applications for discovery
    - Manage the recorded data
    - Manage the **Discovery Robots** and their licenses
2. Discover the best candidate processes for automation
3. Select and add the desired processes to the **Process Library** for further analysis and for mapping
4. Generate processes files for automation (used in **Kryon Studio**) and supporting documents.

The Process Discovery Console can be accessed using the Chrome or Edge web browsers from any machine with access to the **Discovery Server**.

About Automation and Integration

Integration with RPA studio

RPA Studio is an Integrated Development Environment (IDE) that enables easy creation and editing of simple and advanced automation wizards.

The integration between the **Process Library** and **Studio** allows managers to send processes directly to automation as pre-developed wizards, including wizards steps, action variations, decision points, and application data manipulations. Automation developers can then use Studio's intuitive interface and robust toolbox of available commands to make any necessary revisions.

Basic Terminology

Process

A **process** is a repeating business workflow (i.e., it has been executed at least twice). A process is defined by a common start point and end point.

Process Occurrence

Process occurrence refers to the number of times a process has occurred and identified.

Process Variant

A **variant** is a sequence of steps (actions) by which a user executes a process. A single process can have many variants – i.e., many different ways by which the users got from the common start point to the common end point.

Action

An **action** is single step in a process.

Team

Teams are organizational segments or units that share a single **Discovery Server**. All Kryon Process Discovery settings and data are managed individually by Team. Process Discovery Console users may have permissions to access the data of one or more Teams. You can think of a Team as a department in your organization, e.g., Finance, Sales, etc. One reason you would want to have several Teams is to divide between the processes data collected on each department/division/team/group (AKA **Team**) in your organization. This way, when viewing or selecting a process, you can know which Team it was collected from.

Teams are basically organizational segments or units that share a single **Discovery Server**. Kryon Process Discovery settings and data are managed individually per Team:

- User permissions
- Managing applications for discovery
- Assignment/status of Discovery Robots
- Managing recorded data

Candidate Process

Candidate Process refers to a process that was automatically discovered by the system as a process with potential for automation. Such processes are available for you to review before you add them to your library.

How it works?

KryonProcess Discovery runs through all the recorded user-actions, analyzes each screenshot, and looks for process repetition, similarities in users' actions, and common ground across users' computed processes and tasks. Once all the data is analyzed, the system maps out sequences of actions. Each sequence of actions is analyzed and ranked by the system on length, repetition, and volume. Highly ranked sequences are counted as Candidate Processes.

Getting Started with Process Discovery

Let's go over some of the basic and most essential configurations to get you going on Process Discovery.

Consider this chapter as a *Quick Start and Educational Guide* for first timers.

IN THIS CHAPTER:

Step 1: Login to Process Discovery Console

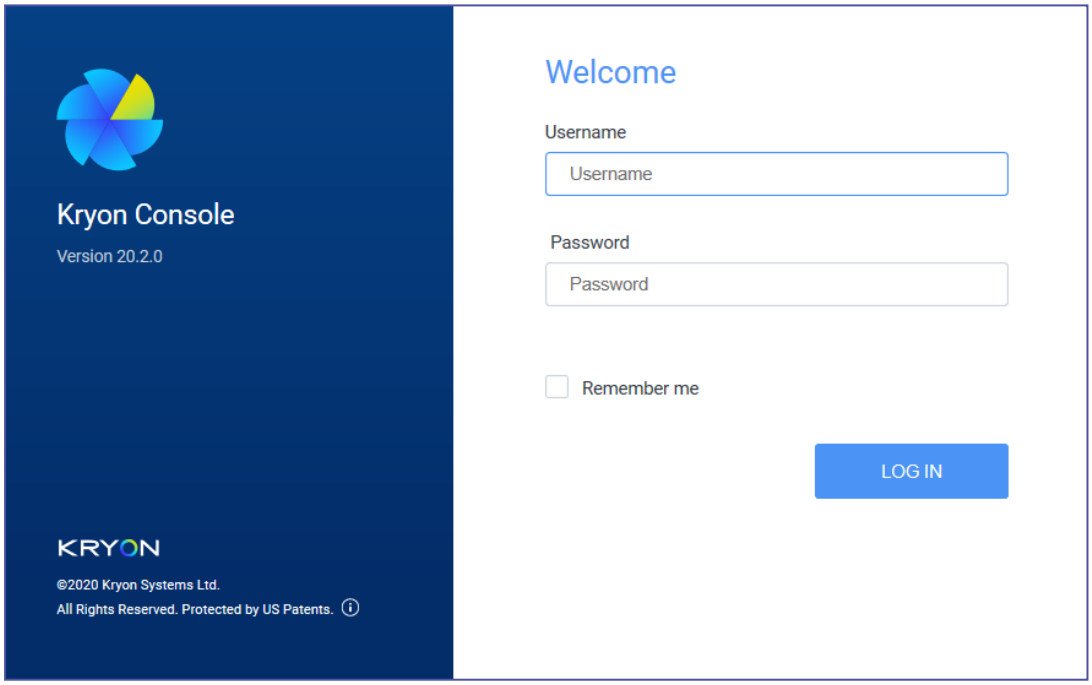
Open ***Chrome*** or ***Edge*** web browsers from any machine with access to the Console server by entering its FQDN (Fully Qualified Domain Name), followed by `/console`. So, for example, the URL might appear as follows:

`consoleserver.mycompany.com/console`.

To log in, use the below credentials *unless* other credentials were provided to you:

- **Username:** pdconsole
- **Temporary password:** Pd123456!

> **NOTE**
>
> You will be prompted to change the temporary password upon first login.



Step 2: Add Teams

If you are wondering what a Team is, see Team.

See Managing Teams

Step 3: Assign Robots (users) to Teams and Licenses

Upon Process Discovery installation, the Robots connect to the console automatically and become available for you to manually assign them to licenses and teams - all through the Process Discovery console.

Assigning Robots is completed in two stages, following the below particular order:

1. Step 3: Assign Robots (users) to Teams and Licenses
2. Step 3: Assign Robots (users) to Teams and Licenses

What else can you do here?

- Remove a Robot (user) from a team

Step 4: Define Applications to record

See Managing Applications

Step 5: Discover Candidate Processes

Go to the **Discovery** page, select the desired **Team**, and hit the **Discover** button.

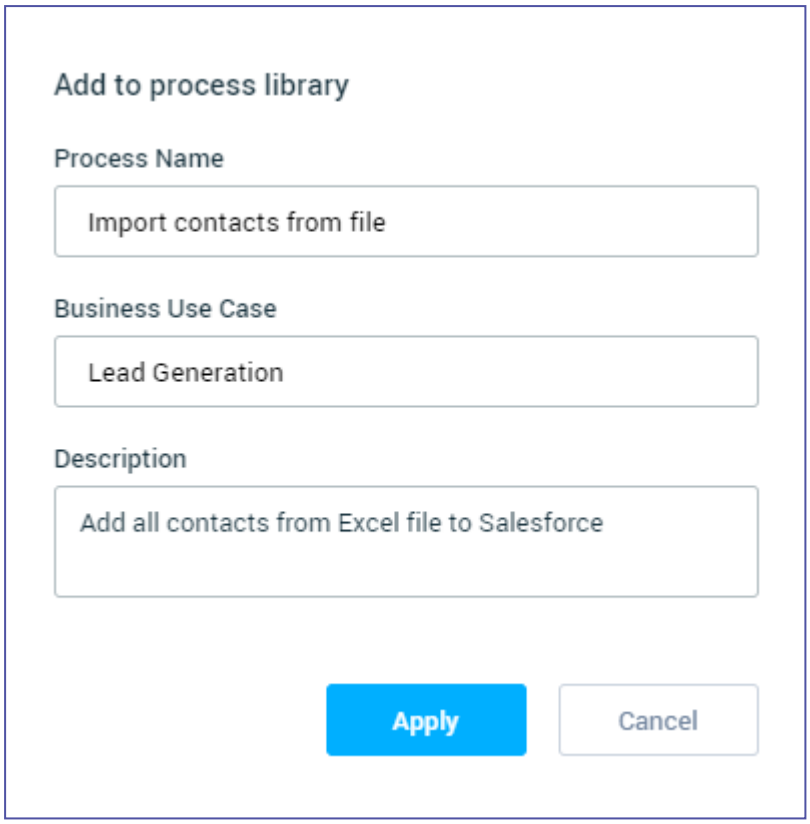
See Discovery for information and instructions.

Step 6: Add processes to your Process Library

Once you decide which processes you want to further analyze, add the processes to your library:

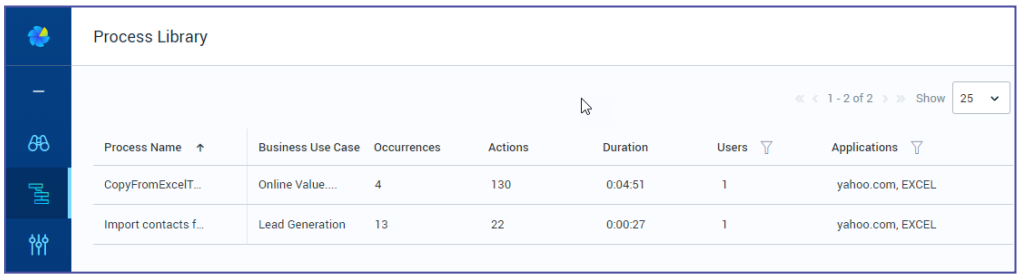
a. Select the desired process and click **+Add to Process Library**.

b. Fill-in the process details and click **Apply**. **EXAMPLE**:



The added processes become available under **Process Library**.

EXAMPLE:



Step 7: Manage processes in the Process Library

The **Process Library** contains processes selected by you for further analysis. This is the space where you can work on high-potential processes and consider ROI. For each process in the Process Library you can:

a. Analyze the different occurrences of a process and built the process map

b. View different stats and process information such as process history, duration, used applications, variants, and type of actions.

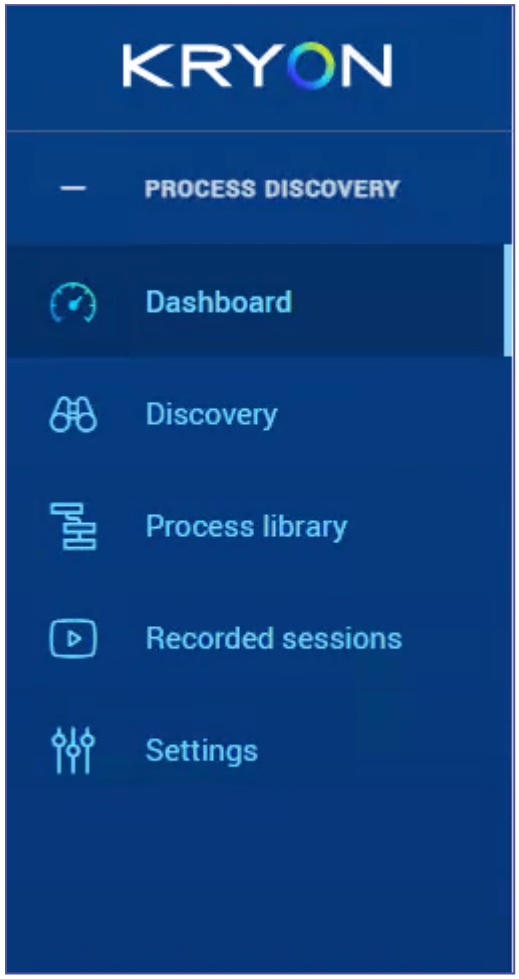
c. Generate a set of files such as event log, automation, and documentation.

For more information, see Process Library.

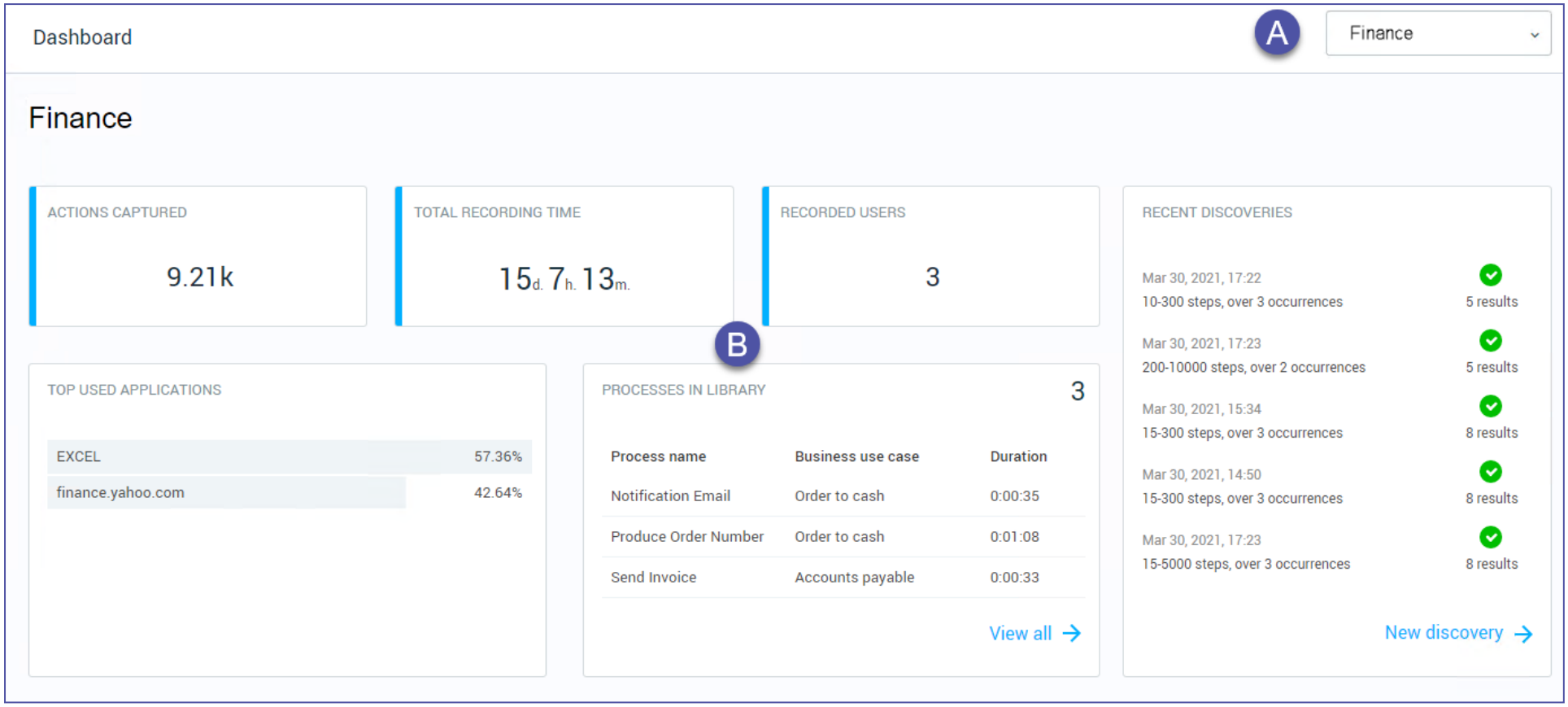
Dashboard

A home page containing a dashboard that presents insights, stats and analysis of data ***per Team***, including quick access to recent discoveries and to processes in the library.

Access the Dashboard through the left menu bar:



1. Select the desired Team (e.g. Finance)
2. The relevant statistics and insights are presented



Dashboard components:

- Actions captured - number of actions captured in all recorded sessions
- Total recording time - total recording time of all the recorded sessions
- Recorded users - number of recorded users

- Top used applications - top 10 applications and their usage in %
- Processes in library - a quick view of the recently saved processes to library
- Recent discoveries - a list of last discoveries, including a quick navigation to the preferred result

Discovery

The **Discovery** page is where you trigger the system to automatically pull for you all the candidate-for-automation processes of the selected Team.

To discover processes, a relatively significant amount of time (at least a working day) has to pass from the moment the Robots starts running and recording users. Although Discovery is available immediately, keep in mind that the amount and quality of discovered candidate processes depends on the length and volume of the collected data.

NOTE
Initiating Discovery

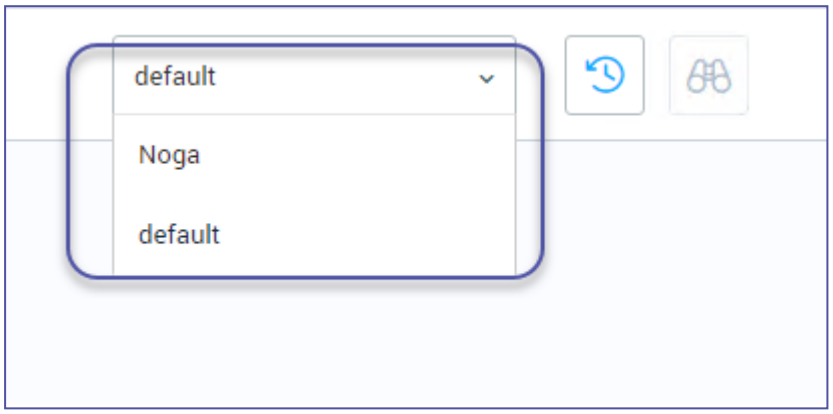
You can initiate a discovery whenever you want. For example, by the end of a working day or by the end of the week.

IN THIS CHAPTER:

Discovering Processes

You can discover processes *per Team* following the procedure below:

1. Go to the **Discovery** page.
2. At the upper right bar, select the desired Team.



3. Hit Discover, or Personalize and narrow down your discoveries and then hit **Discover**.

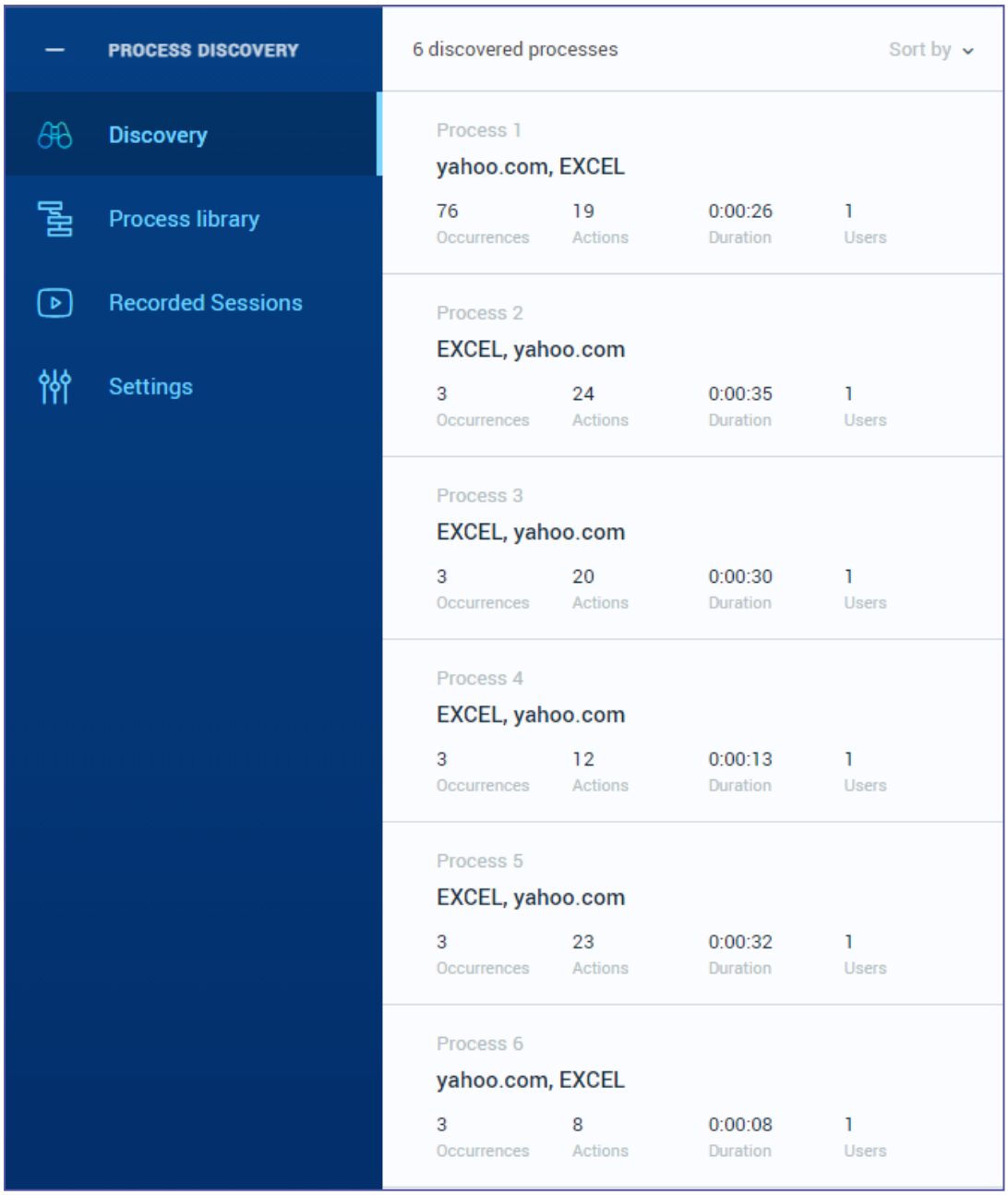
What happens now?

- After the hitting Discovery: the 'recent' button shows a loader and the discovery is initiated. The initiated discovery appears in the list as in progress.
- Every completed discovery becomes available for you to load and go back to. See Recent Discovery Results and History .

NOTE

As an advanced option, you can browse all the collected recordings on a Team to review the 'raw data' without any process discovery implementation. See Accessing Recorded Sessions.

EXAMPLE:



Stats and Info

Let's take a look at one of the discovered processes in the example above and review its information:

Process 1 is a process that:

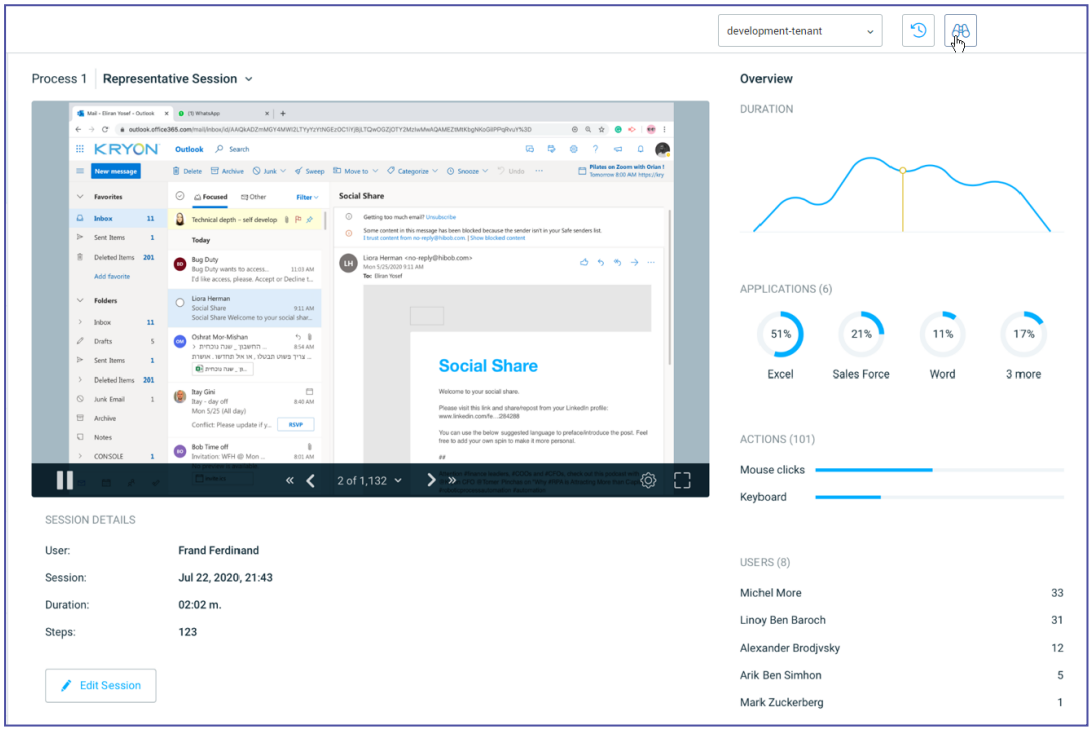
- contains the applications **yahoo** and **Excel**
- has been identified **76** times

- contains **19** steps (median)
- takes about **26** seconds to perform (median)
- was performed by **1** users

In the **Discovery Results** view you can display and review the properties and details of discovered processes including screenshots of captured steps, full playable recordings, stats, properties, and more.

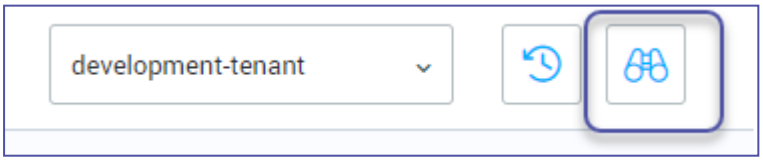
NOTE

- As an advanced option, you can also modify the Start / End point of a process by using the Trim tool. See Modifying the Start/End Point of Processes.
- You can



Initiating a new discovery

You can re-initiate a discovery at any time by clicking the '**Discover**' button next to the Team name.



Configuring Max num. of processes displayed in Discovery results

You can change the max num. of processes displayed in Discovery results page through the `appConfig.prod.json` file.

1. Open the `appConfig.prod.json` file (C:\Kryon\Console\Web\ConsoleXoriginal\assets\data)

2. Edit the maxResults parameter (default is 30)
3. Hold Ctrl + Shift + R for the changes to take effect

Personalize and narrow down your discoveries

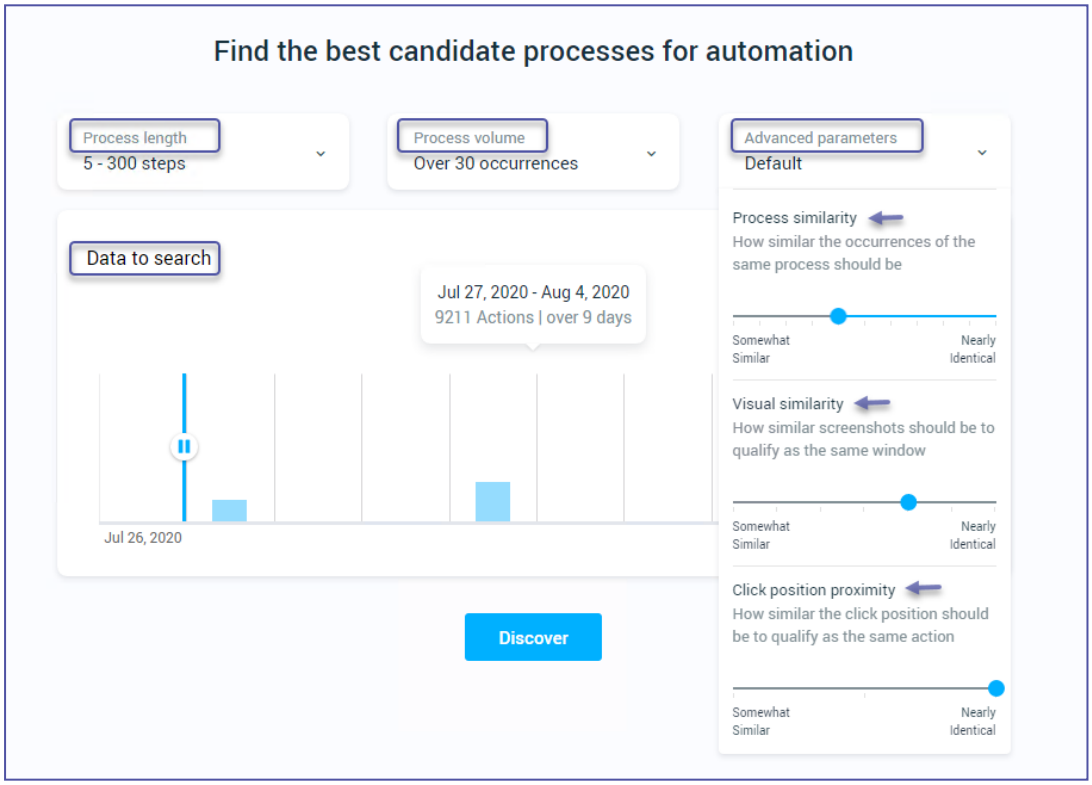
You can configure the Discovery parameters directly in the Process Discovery Discovery page UI to narrow down your discovery results. You can tune the following optional parameters:

a. Set the **Process length** parameter to look for shorter or lengthier processes (by setting minimum and maximum actions numbers)

b. Set the **Process volume** parameter to look for common or rare processes (by number of occurrences)

c. Set any other **Advanced parameters** available for further results optimization

d. Under **Data to search**, set the scope of search by users and time range



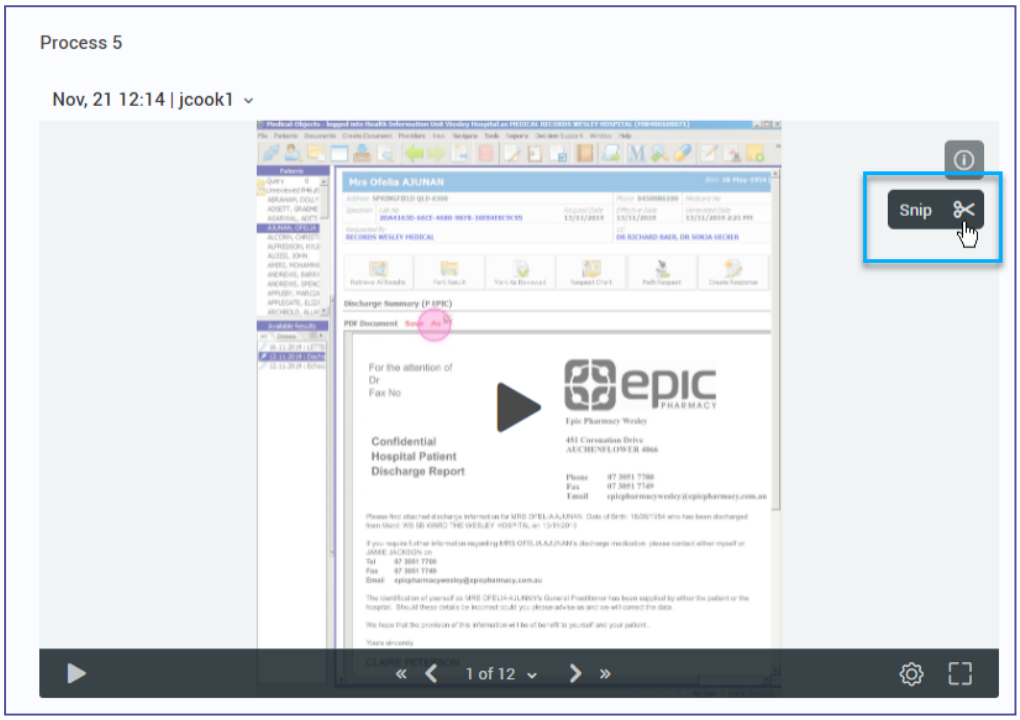
Complete list of discovery personalization parameters

Type	Parameter	Description	Default Value
General	**Process length**	Defines the min and max number of actions a discovered process can include	15 - 300
General	**Process volume**	Defines the min number of occurrences per process (AKA, repetitions number of a process)	3
Advanced parameters	**Process similarity**	• Level of resemblances between occurrences • Only processes with a higher similarity score than the selected threshold appear in the results list	0.4
	Visual similarity	• Level of resemblance between screenshots • Higher-level may cause screenshots of the same window to be considered different, which may result in more scattered results.	780
	Click position proximity	• Level of resemblance between mouse click positions • Higher-level may cause clicks on the same object to be considered different, which may result in more scattered results.	3
Scope	**Data to search**	Reduce the scope of data that Discovery clusters & analyzes. The scope can be reduced by **Time range**and/or **Users**. • **Time range**: Select the time range of recorded data to perform discovery on • **Users**: Multi-select recorded users per Team Each column on the graph represents a sum of all user actions from all of the recorded sessions that started on the selected date.	

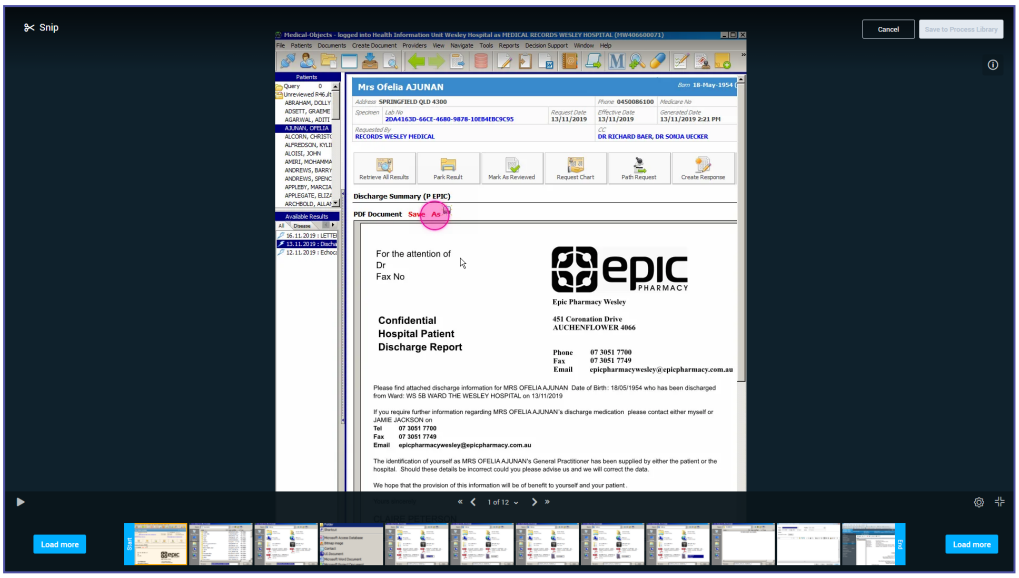
Modifying the Start/End Point of Processes

You can modify the **Start** and **End** point of discovered processes using the **Snip** tool.

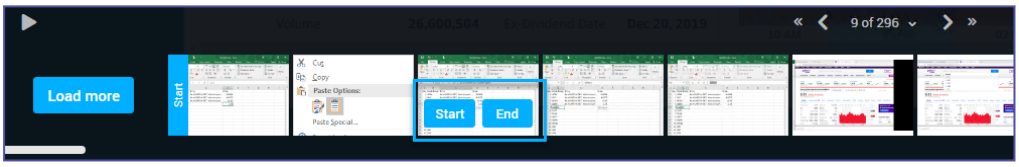
1. Go to **Discovery** > **Discover** / **Discovery Results**
2. Select a process
3. Click on the video view to enable the tool bar
4. Select **Snip**:



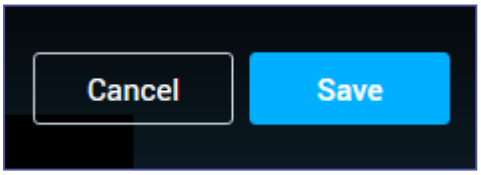
5. The **Snip** view will open in full-screen. Here you'll see the **Start** and **End** point as determined by the Process Discovery solution mechanism. You'll also notice that you have a view of *up to 20* screens (AKA actions) captured before the default **Start** point and after the default **End** point. The additional screens are available to give you the option to set Start / End point before / after the default points.



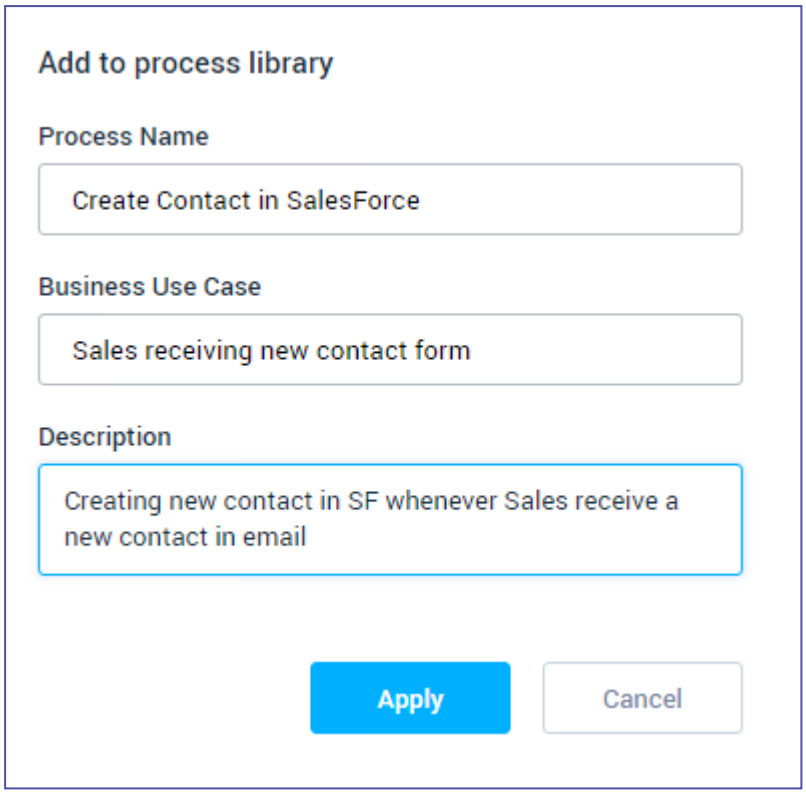
6. Click or place the cursor over any screen capture (AKA action) and select a different **Start**/**End** point as you desire:



7. **Save** your selection and **Add it to your Process Library**, or **Cancel** your modification.



8. Fill in the process details and click Apply.



What happens after selecting different Start and/or End points for a process?

Once you perform a snip on a discovered process:

- The original process will remain in the list of discovered processes.
- The Snipped processes will appear in the process library

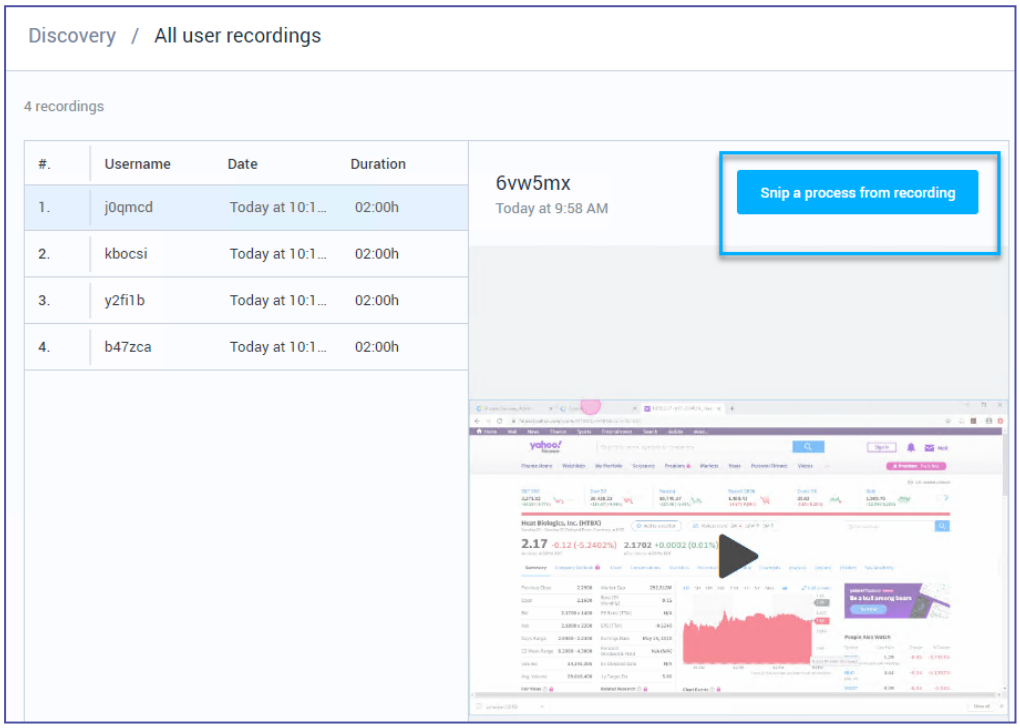
NOTE

- The same original process can be snipped more than once
- You can also snip a process out of the entire user recording from the **All users recordings** page. See Snipping a Process Out of the Original User Recording.

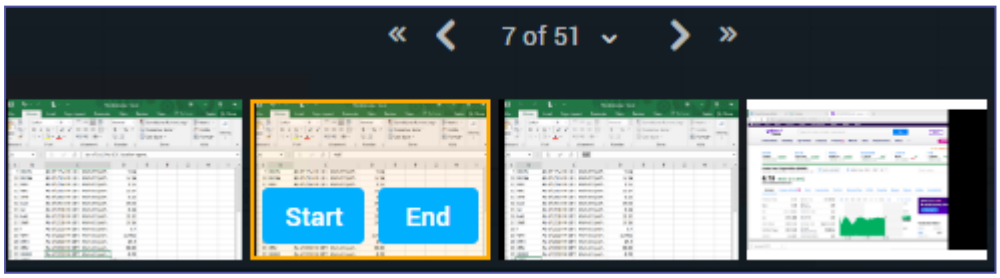
Snipping a Process Out of the Original User Recording

You can snip a process directly out of the original user recording and add it to your Process Library.

1. Go to **Discovery** > Select the desired Team > click **Browse all user recordings** > Select the desired user recording and click **Snip a process from recording**.



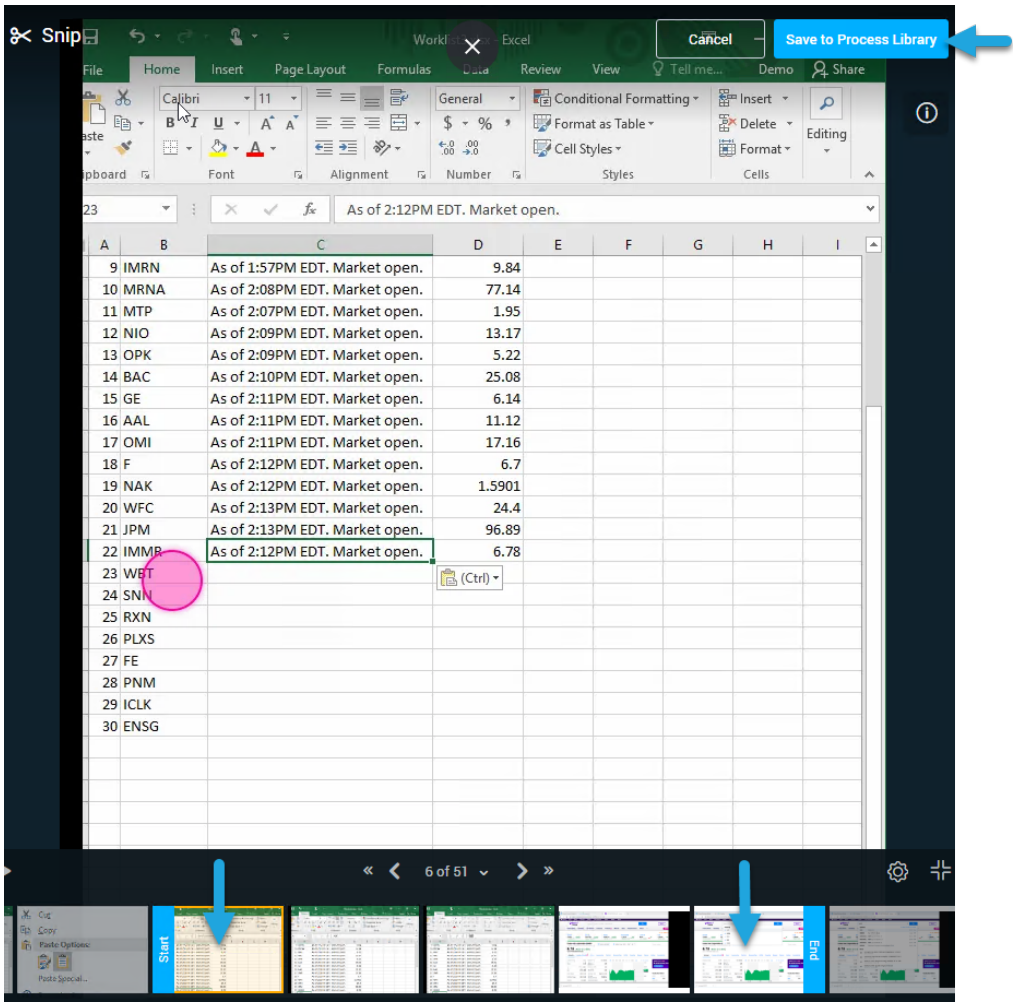
2. Review/play the recording and snip the desired process by manually inserting the **Start** and **End** points:



   a. Select the desired starting point of the process and click **Start**.

   b. Select the desired ending point of the process and click **End**.

3. Save your selection and Add it to your Process Library:



NOTE

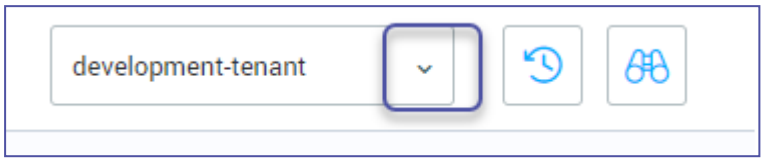
You can also Snip a process from the **Discovery Results** page where you can change the start and endpoints of a discovered process and save it to the process library. See Modifying the Start/End Point of Processes.

Recent Discovery Results and History

Accessing initiated discoveries

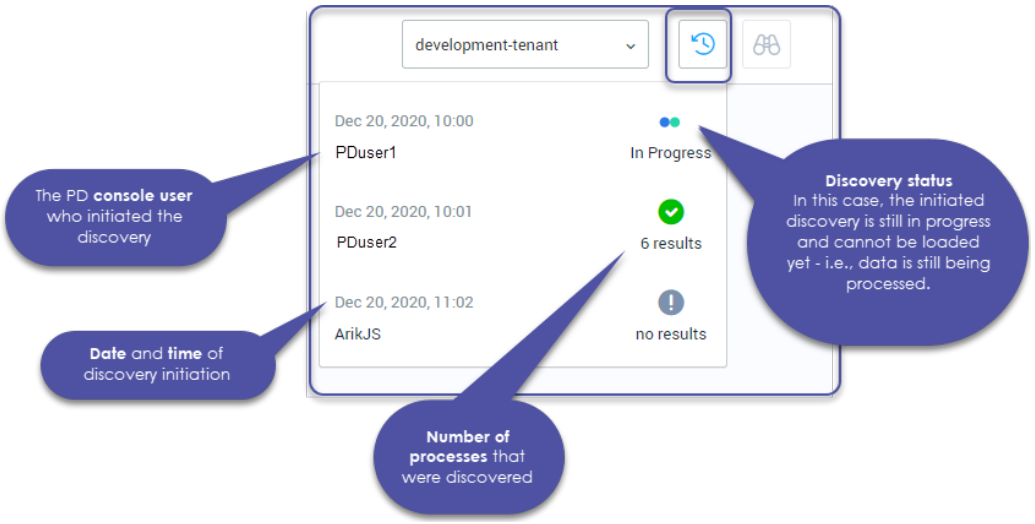
You can browse and review the history of performed discovery processes *per Team* following the procedure below:

1. Go to **Discovery** tab.
2. From the upper right bar, select a Team:



3. Click the '**recent**' button to browse all recent discoveries (AKA, discoveries that were previously initiated) of the selected Team.

So what are you looking at here?



NOTE

Discovery Queue - "Pending" status

Sometimes you might observe the status "Pending" next to a discovery process under 'recent'. This means that there is another discovery process that is currently running (status "In Progress"). Once one discovery is completed, the next one runs automatically and the status changes respectively.

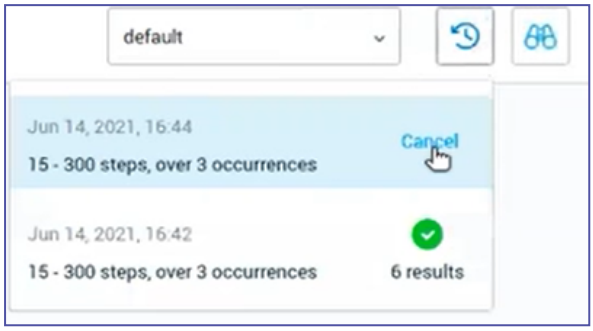
4. Select the desired discovery to load its results.

Canceling or deleting Discovery search

You can cancel or delete an irrelevant finished or in-progress discovery from the recent drop-down.

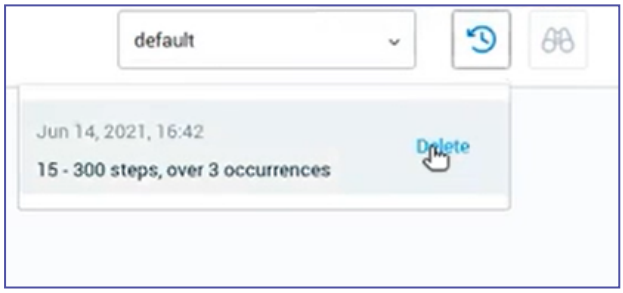
To cancel a running discovery:

Go to **Discovery page** / **discovery results** > click the **Recent** icon > pick a search result of a discovery **In progress** > click **Cancel**



To delete a completed/no-results discovery:

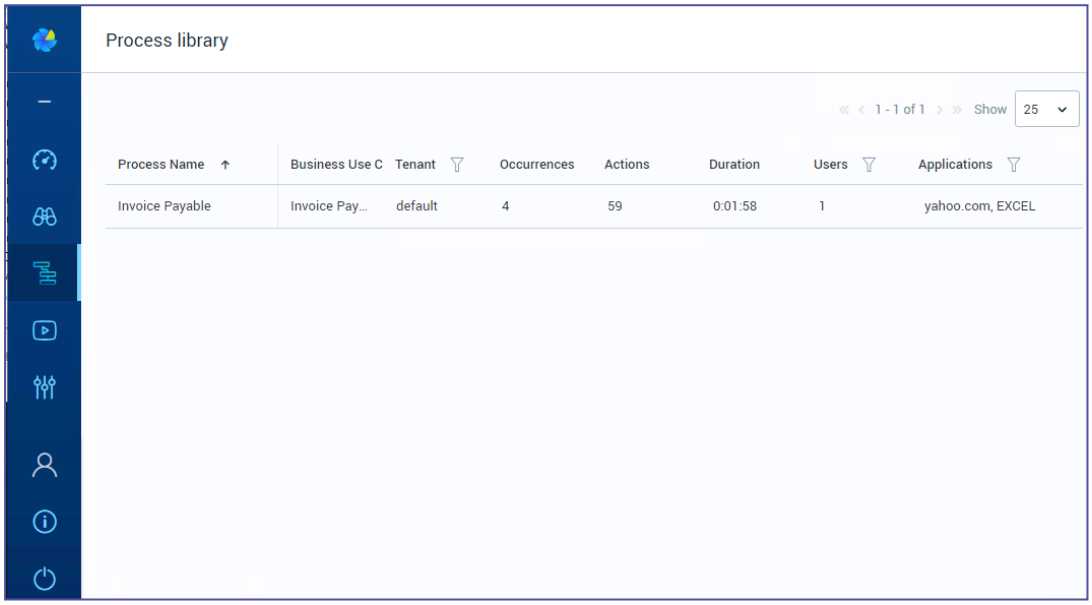
Go to **Discovery page** / **discovery results** > click the **Recent** icon > pick a search result of a finished discovery > click **Delete**



Process Library

Overview

The **Process Library** page displays a table of all the processes that the Business-Analyst selected and added from the **Discovery** page. From the **Process Library** page, it is easy to dig deeper into the details of each discovered process by accessing its details.



Columns in the Process Library table

Property	Description
Process name	Name you have assigned to the process. (Until you give the process a name, a system-generated process name will appear in this column) - see Naming Processes Directly under the process name appears the number of subprocesses (if any) detected within the process
Business Use Case	Provided by the Business Analyst when adding a process to the library. You can define several processes under a single business use case
Team (tenant)	The Team in which the process was discovered. This column will only be visible if: (1) the Process Discovery deployment in your organization has more than one Team; (2) processes have been discovered in more than one Team; ***and*** (3) you have permissions to view data for more than one Team

Property	Description
Occurrence	The number under Occurrences stands for how many times the process has been detected (how many times users were recorded performing this process)
Actions	A median of how many actions performed in the process (like mouse clicks and keyboard strokes)
Duration	A median of the process duration
Users	Total number of unique users who have executed the process since it was first detected Hover your mouse over the number of users to see a tooltip listing **all** users who have executed the process
Applications	A list of applications utilized in executing the process

Process Details

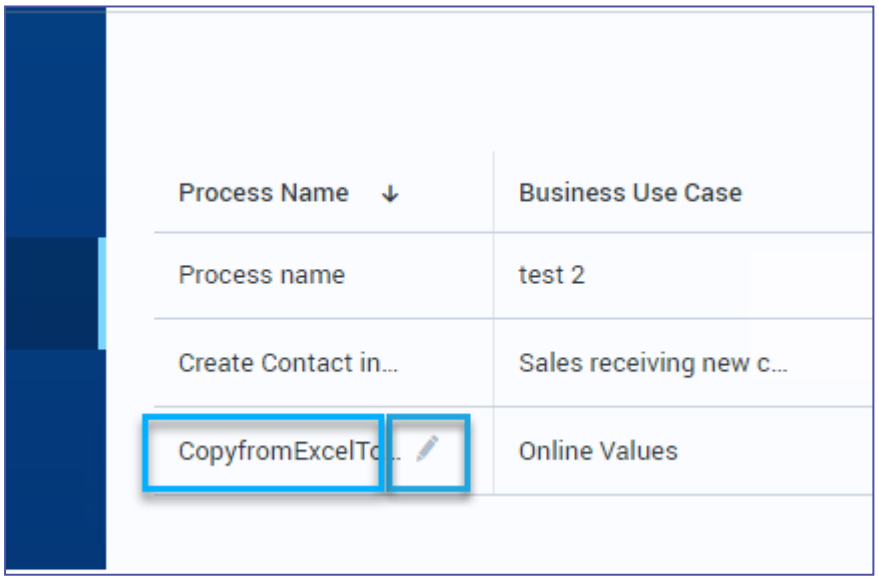
The **Process Library** page allows you to dig deeper into the process details by allowing you to:

- Enter a high-level view of each discovered process by reviewing its visual process map
- Take a close look at each action in the process by reviewing detailed action information
- Dig deep into the details of each process variant and how it affects the whole
- Download automation workflows for import to Kryon Studio
- Access the actual user recordings for each process occurrence
- Mapping additional variants and add them to the process map
- Access the process' version history/access prior version details/download prior version variants as automations

Accessing a process in the Process Library

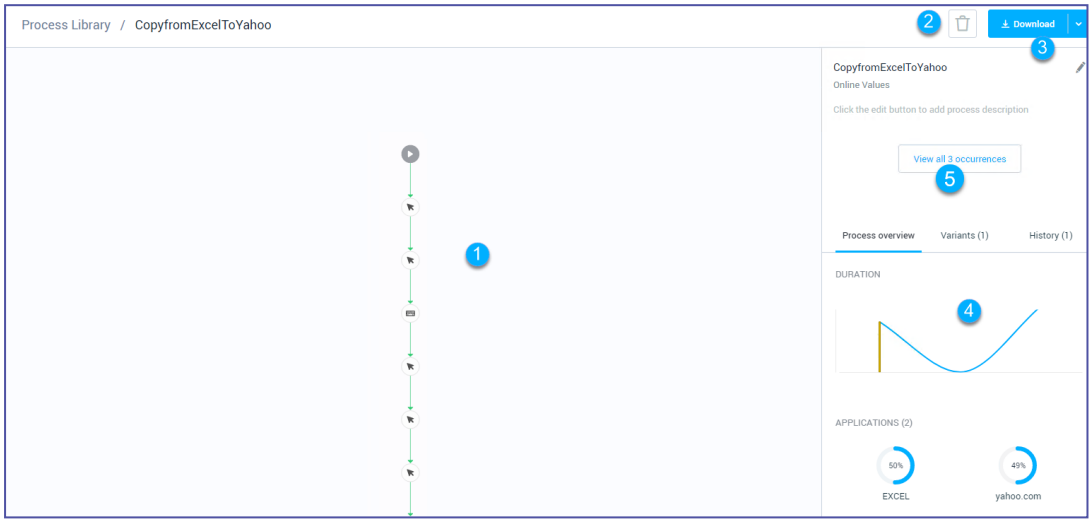
Go to **Process Library** tab and click a process name from the list to access its details.

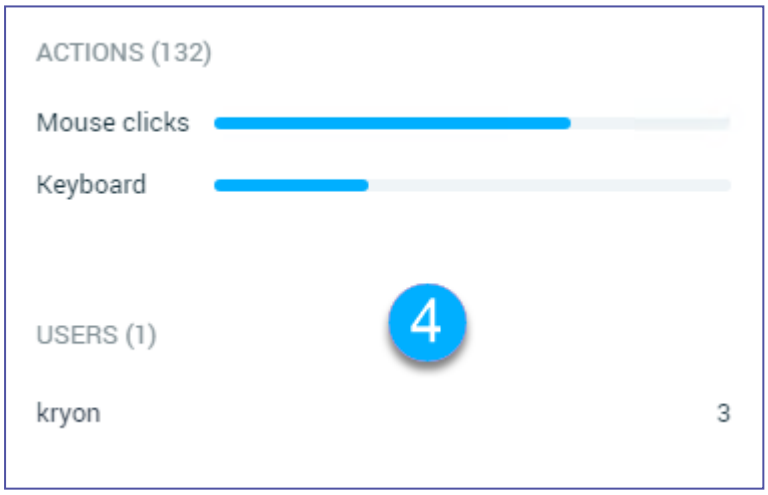
You can also click the pen icon to edit the process name.



A tour into the details of a process

The process details pane includes an interactive process map, which is always visible on the left. The pane on the right side of the page changes between two different views, based on the element you have selected within the process map.





1. **Process map:** a graphical representation of the discovered process
2. **Delete button:** click this button to delete the process with all its history tab or just the visible version
3. **Download button:** offers three options:
    a. **Automation file:** to download the **visible variants** as automations workflow files that can be imported into Studio. See **Downloading an Automation from Kryon Process Discovery**

b. **Discovered Process Report:** to download the selected process and its variants to an editable MS Word format. See **Downloading a Discovered Process Report from Kryon Process Discovery**

c. **Event Log** to download selected processes and variants to use with a Process Mining Tool if utilized

4. Process and action information panes, based on the element you have selected in the process map.

5. You can switch to the video viewer page of all process occurrences by clicking "**View all [...] occurrences**"

A closer look at the process map

An interactive process map is automatically created for each process you add to your Process Library. The system creates the process map with a single variant based on the representative occurrence of the process.

Business processes are never mapped in a linear path as there are always different ways to perform a process.

Process Discovery lets you build a map with a flowchart representation of the business process.

ABOUT NODES AND ACTIONS

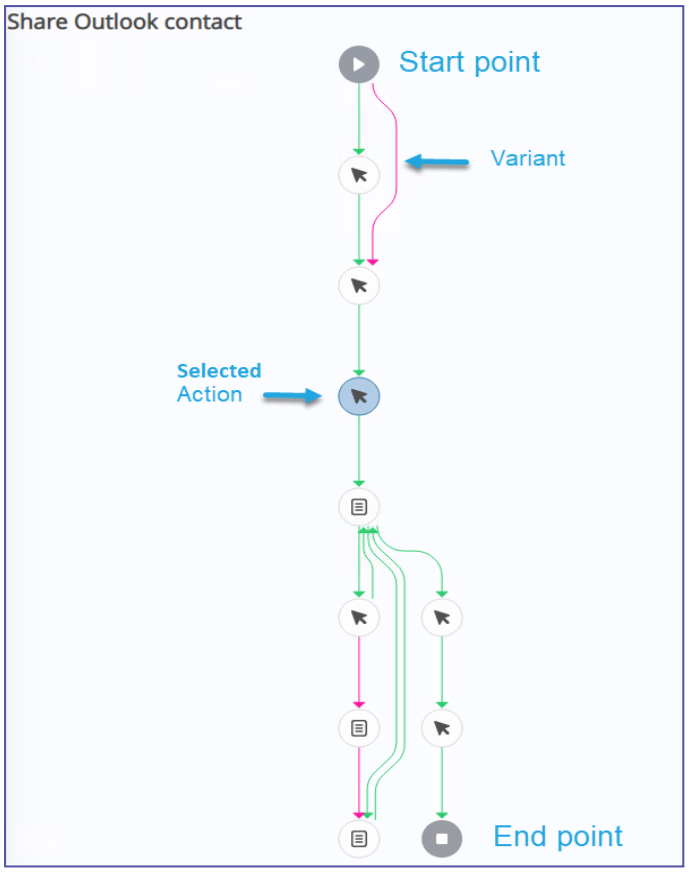
Each action is displayed as a node, with an image representing the action type (Click or Keyboard stroke).

Special nodes:


Process start point


Process end point

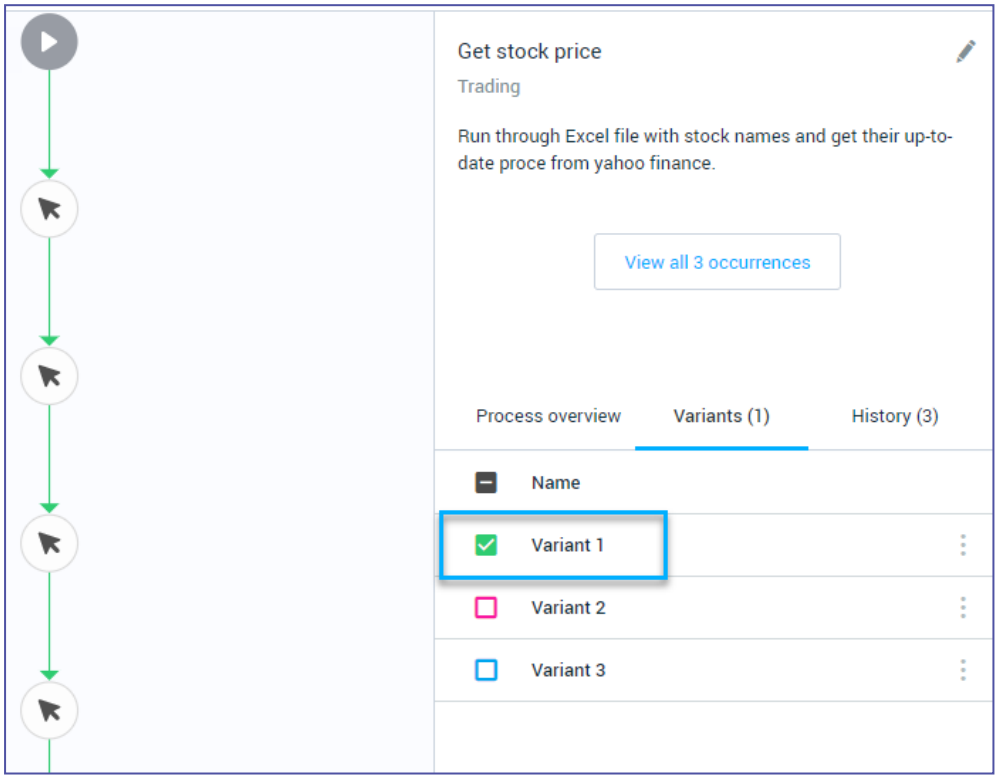
Selected action: the action for which details are displayed in the action information pane. Represented by a shaded node.


Share Outlook contact
Start point
Variant
Selected
Action
End point

ABOUT VARIANTS

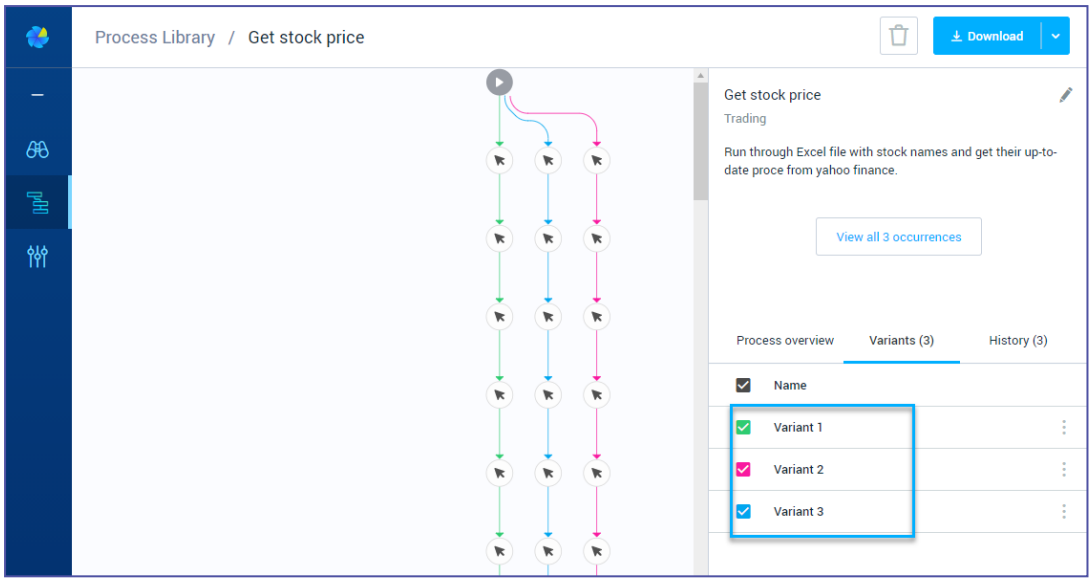
The system creates the process map with the 1st variant based on the representative occurrence of the process.

EXAMPLE:



Each variant has the list of actions taken by a user to complete the process.

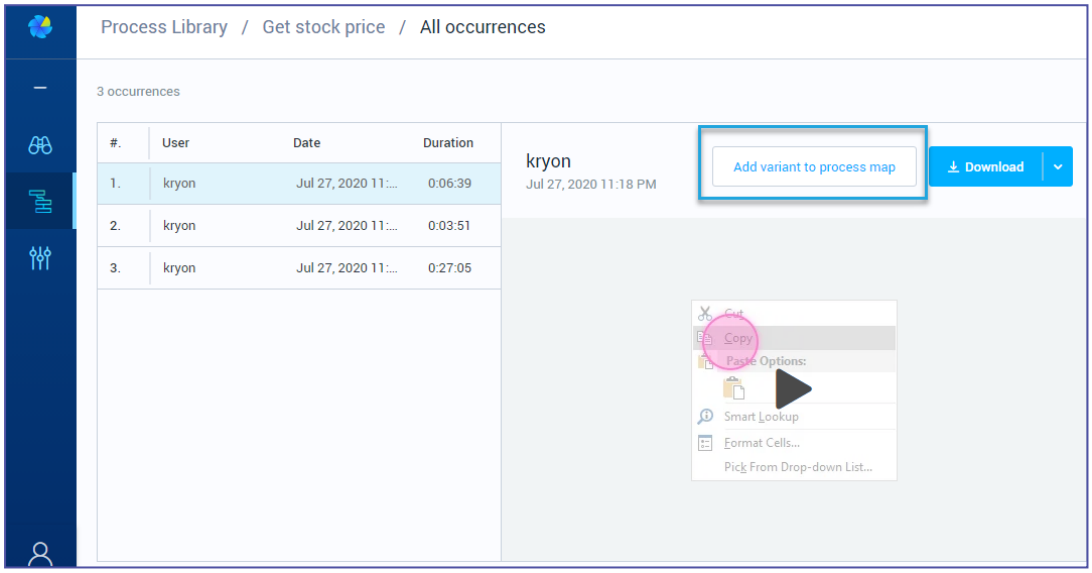
- Each variant is represented by a different color
  - By default, the **Process Details** page loads with only one variant visible
  - You can then select which variants are displayed by selecting the check-box next to the desired variant.


Process Library / Get stock price
Download
Get stock price
Trading
Run through Excel file with stock names and get their up-to-date proce from yahoo finance.
View all 3 occurrences
Process overview
Variants (3)
History (3)
Name
Variant 1
Variant 2
Variant 3

Mapping additional variants

To add more variances of the process into the map, navigate to the "Process Occurrences" page (**Process Library** > click a Process > click **View all occurrences**), and analyze the occurrences according to their length, duration, and time.

If you spot an occurrence that needs to be documented in the process map - click "**Add variant to process map**" and it will be added as a variant.



NOTE

You can always roll back to the previous map prior to adding the variant via the "History" tab.

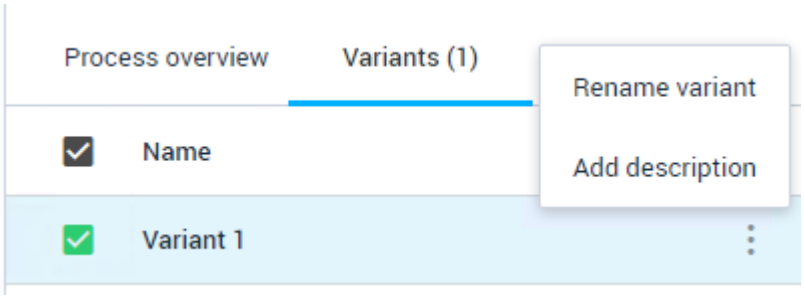
Sizing & moving the map

- To zoom in and out on the map, place your mouse anywhere within the process map pane and scroll up and down
- To move the map within its pane, just click and hold on any node then drag it to where you want it

Editing a variant

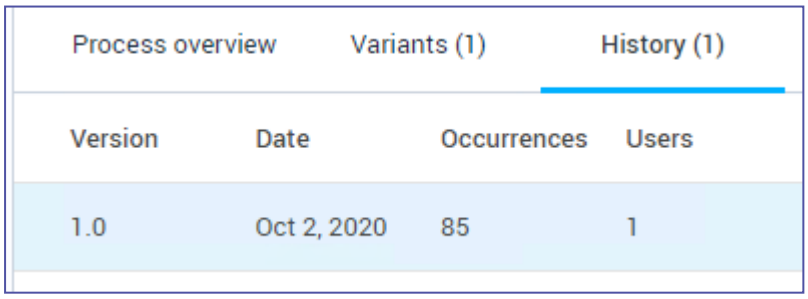
To rename or add a description to a variant in the list:

1. Hover over the right side of the variant row to display the More (⋮) icon



2. Select **Rename variant** or **Add description**.
3. Type the new variant name and/or description and click **Save**

A closer look at the history tab

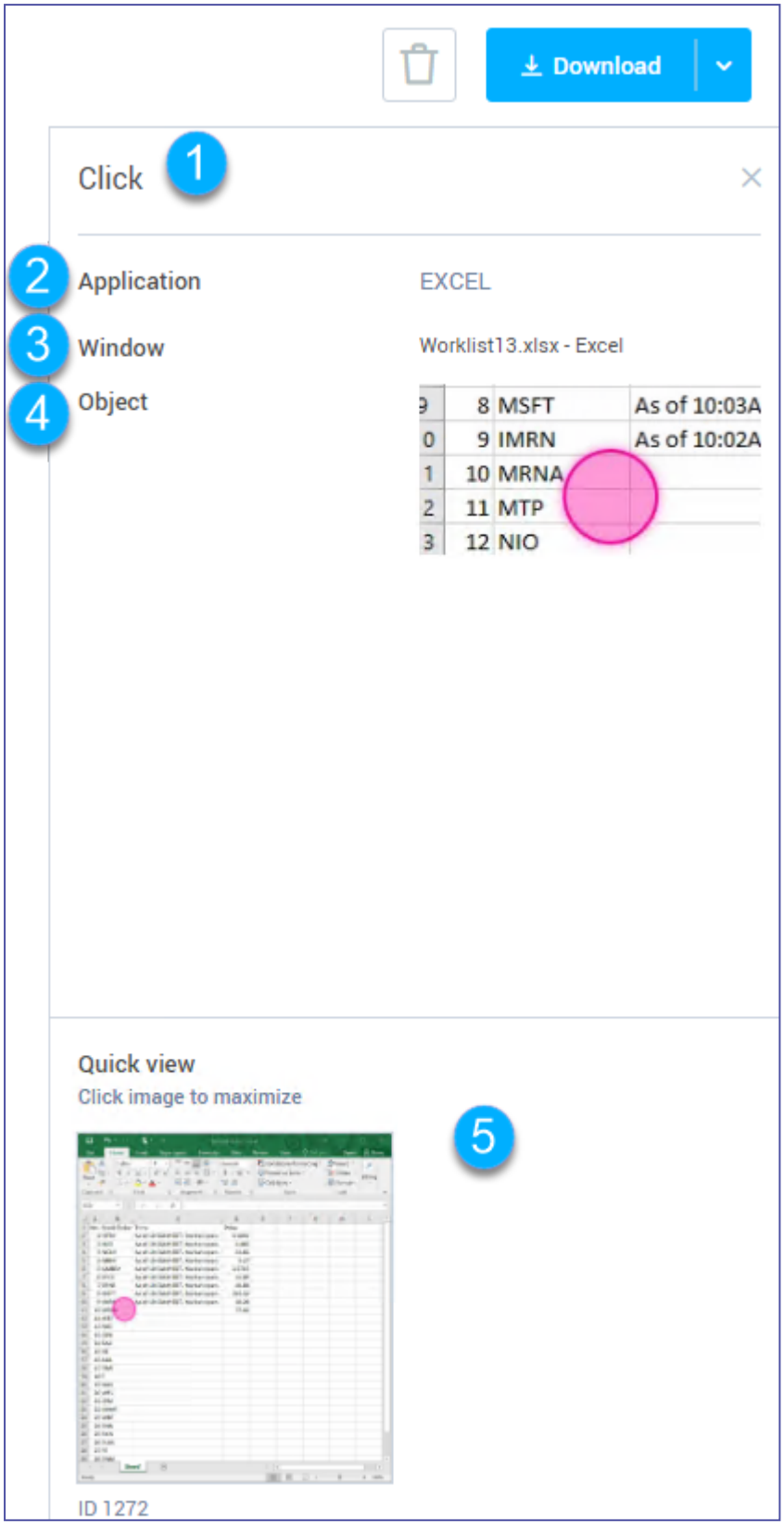


The **history tab** displays allows you to trace the version history of a discovered process as additional data is collected. From this tab, you can:

- review summary process statistics for each version; and
- access each version's Process Details page (including the ability to download that version's variants for import to Kryon Studio)

To learn more, see Version History.

A closer look at the Action Info view



Select a node in the process map to view detailed information about the action taken in the action.

1. The selected action's type (click, double click, keyboard action, fill in form, subprocess)
2. **Application:** The application on which the selected object was executed.
3. **Window:** The window on which the selected object was executed.
4. **Object:** An image of the detected screen object on which the selected action was executed.
5. **Quick view:** An image of the screen on which the selected action was executed
    - Click on the Quick view image to enlarge it. Click again anywhere outside the enlarged image to return to the original view.

Version History

What is a version?

The system maintains all versions of a process for comparison and analysis purposes.

A new version of a process will be created when:

- The process is updated with newly discovered occurrences
- A variant is added to the map

Viewing version history

To view the version history of a discovered process:

1. Access its Process Details page
2. From the right-side pane's Process Info view, click on the History tab.

The version history table is presented in reverse chronological order. The current (i.e., newest) version:

- appears at the top of the list; and
- has the highest version number

From here, you can see summary process statistics as they have evolved through each version (volume, number of users, number of steps).

Working with a prior version

To work with any prior version, simply click on its row in the version history table. The relevant version's Process Details page will open. From here, you can work with the prior version's data just as you would the current version.

All of the Process Details page's statistics, view options, and functions are available, including the ability to select variants and download automations as they stood at the time of the prior version.

NOTE

Which version am I viewing?

While you are working with a prior version, Kryon Process Discovery displays a message along the top of the Process Details page to help you keep track:

"Earlier version from [date]. View the current version"

Click on the link within the message to return to the current version's Process Details page.

Process Occurrences

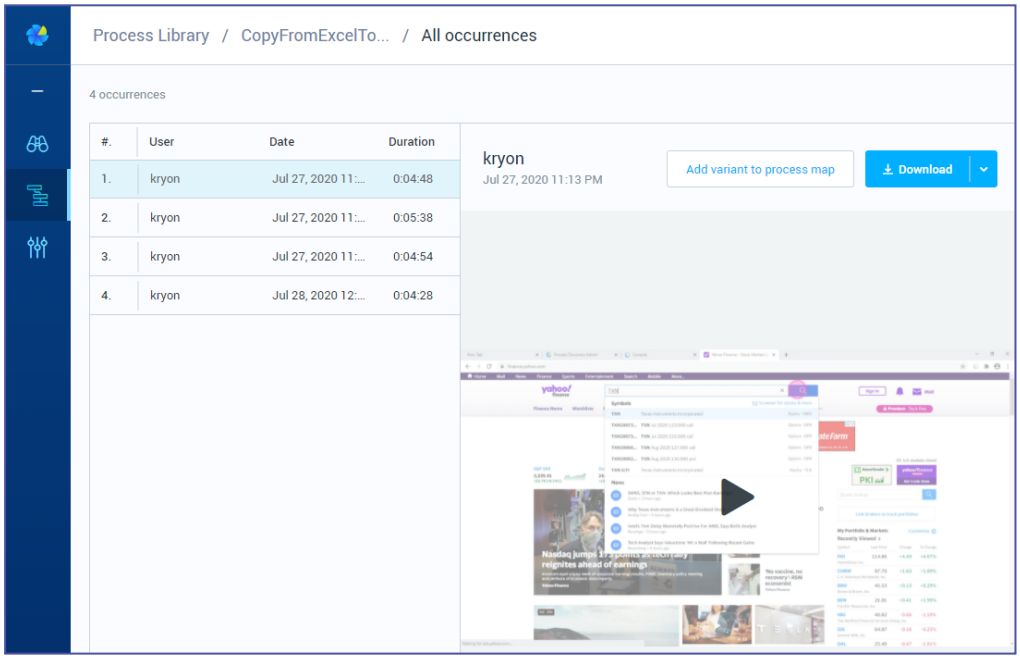
For each discovered process, you can navigate through the actual flow of screen shots and user actions recorded by the Discovery Robots each time it was executed.

You can also elect to download the entire recording or selected steps as automations, which can then be imported to Kryon Studio.

Viewing Process Occurrences of Saved Processes

To view an occurrence of a discovered process:

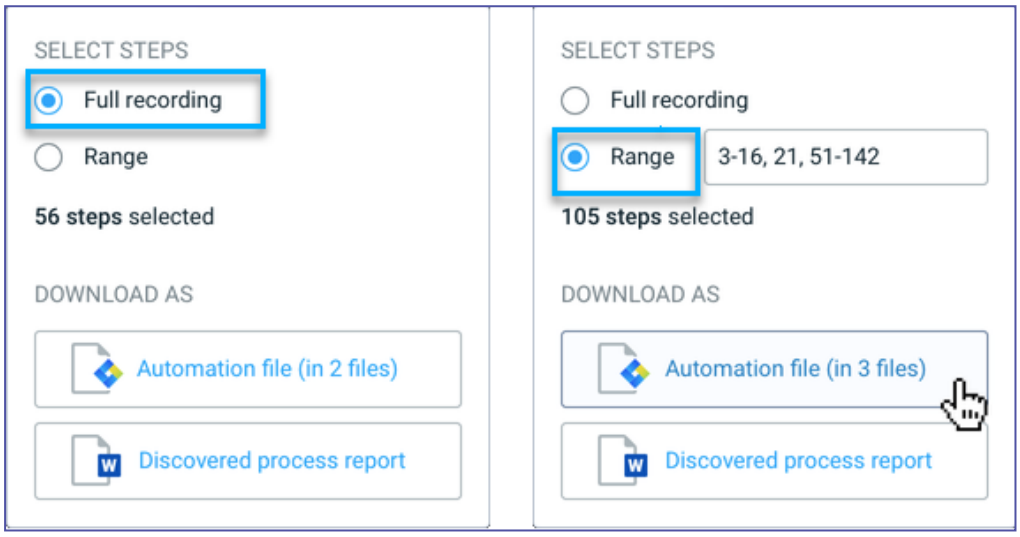
1. Go to Process Library page and select a Process from the list.
2. Click the desired process occurrence to preview.



Downloading all or part of an occurrence

From the **Process Details** page, you can select a process occurrence and download the relevant available report or files that are user-relevant. You can select to download all or part of a recording:

1. Click the **Download** button.
2. In the dialog that opens, choose whether you'd like to download the entire recording or a range of specific images.



3. You'll see a message displaying the number of steps selected for download.
   - If a large number of steps is selected, the message will indicate that the download will be in more than one part
4. Select to download as:
   Automation File: a file you can import to Kryon Studio.
   A file named `PD_pdconsole_{date/time tag}.pd` will be created and automatically downloaded to your internet browser's default download folder. Save this file to an easily-accessible location, and you'll be ready to import it to Kryon Studio.

   NOTE

   Each image will become a step in the automation when it is imported to Kryon Studio.

   or as;
   Discovered process report (BPMN diagram / Event log file):
   You can download a selected process and its variants into an editable MS Word document, called the *Discovered Process Report (DPR)*. The *(DPR)* is the

base document for subsequent low-level design of the discovered process. User actions are described in table format, step by step with their associated applications and screen shots . You can review the process, visualize all variants, add in-depth knowledge, and send it to the RPA developers for automation along with its corresponding automated wizard files.

Explore Variants - BETA

To understand how the "**Explore Variants**" feature works, let's break down all the components of a discovered process and understand the relationship between them.

Process occurrence :

A discovered process is a process that was performed repetitively by users. Each time a process is identified, it is identified alongside with all its occurrences. I.e., Process occurrences are all the times a process has been performed by user(s).

Process Group :

A Group is a set of identical/very similar actions that deviate from the regular process and appear on 1 or more occurrences, but not on all occurrences.

Process Variant

A Variant is consisted of 1 or more process occurrence(s) that share very similar **Group(s)** of actions.

Lets take the following scenario:

John and Sarah perform the same exact cash order process ~20 times a day. Process Discovery identifies the users' actions as a worthy-process to automate and creates all the different Process Occurrences for the Process Discovery administrator to review on the Process Discovery Console.

Process Discovery algorithm has discovered additional insights:

Each time John and Sarah processed a cash order for an amount > 2k, both of them also sent an approval invoice email to their manager.

Meaning, in some cases, both John and Sarah can deviate from the regular process and performed a *unique and consecutive* set of actions while processing the cash-order.

Example:

Occurrence #	Groups of actions	Variants
A	Calculate the amount of money to cash Sent an approval invoice email	Variant 1
B	Sent an approval invoice email	Variant 2
C	Calculate the amount of money to cash Sent an approval invoice email	Variant 1
D	Calculate the amount of money to cash Scanned invoice to SalesForce	Variant 3

So how are the variants formatted based on the above 4 occurrences?

Occurrence A and C are identical as they are consisted of the same groups of actions. This means they share the same variant = Variant 1

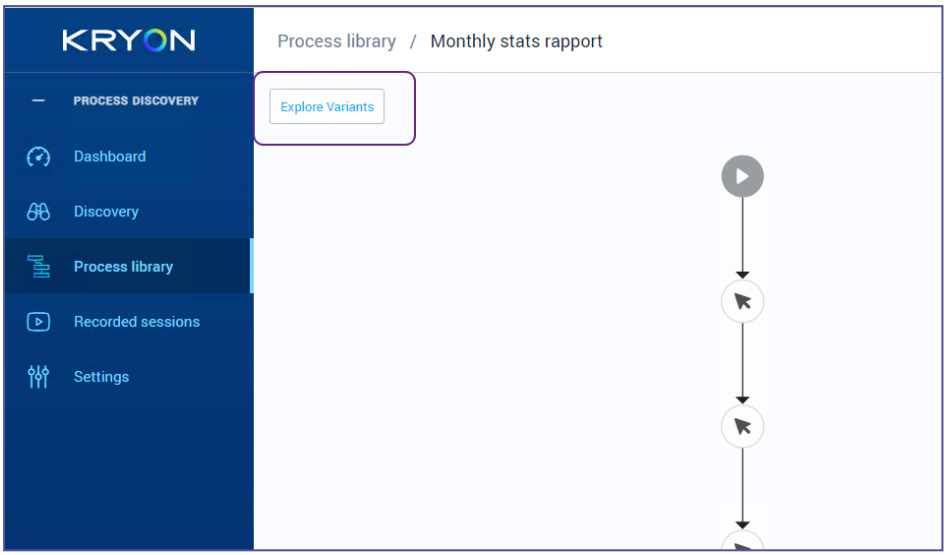
Occurrence B is unique = Variant 2

Occurrence D is unique = Variant 3

So, what's the system behavior in such scenario?

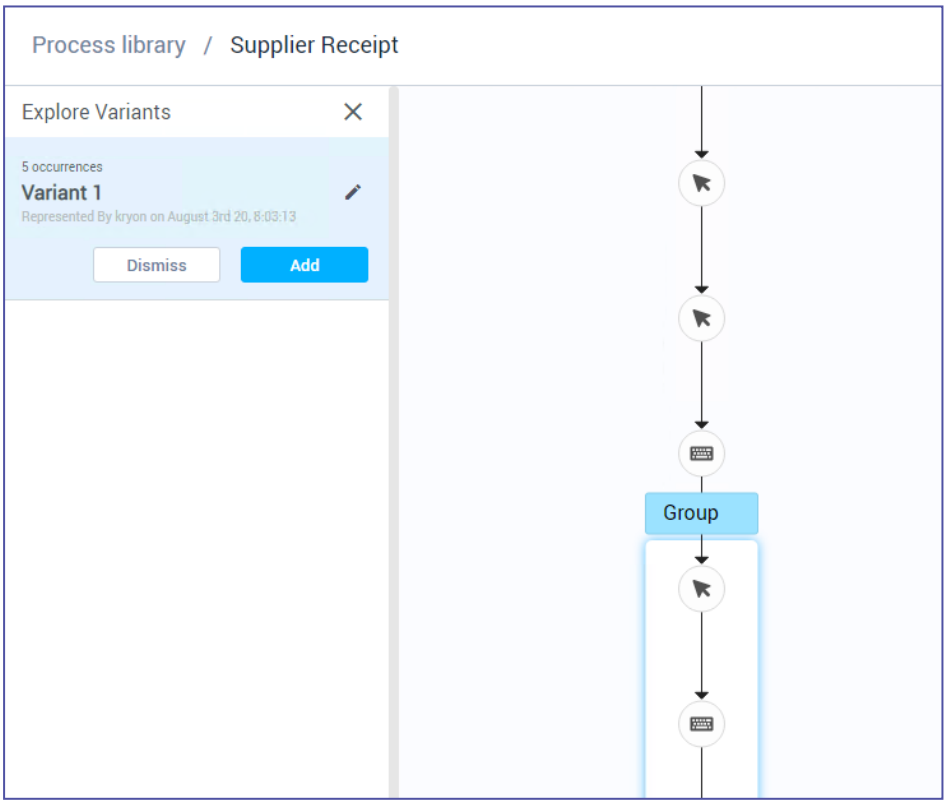
The system presents the identified Groups that are worth exploring.

Where? Process Library page > select a process from the list to review its potential variants > Click **Explore Variants** if available.



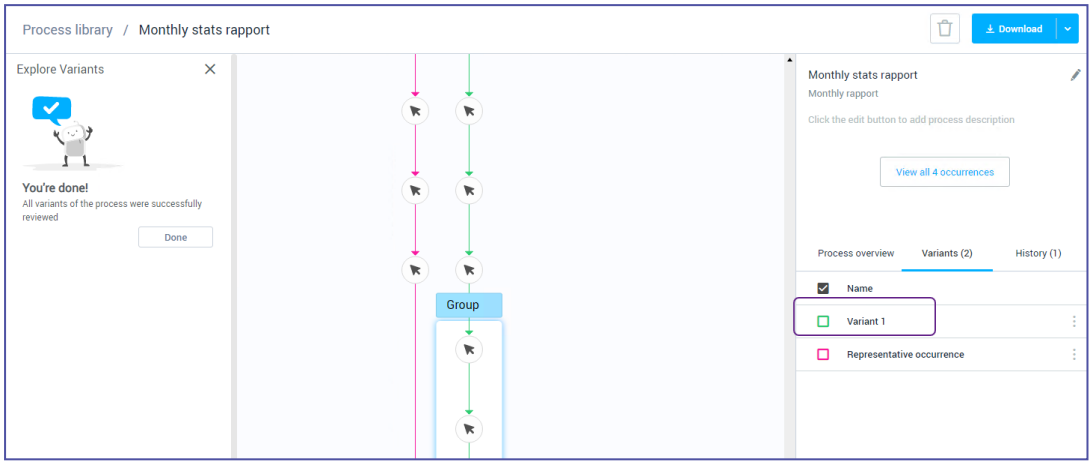
What happens when you click Explore Variants?

Once you click **Explore Variants**, the system opens for you a list of variants to explore (Vriant 1, Variant 2, Variant 3, etc.). Once you click on a variant name, it takes you to the point in time where it identified a unique consecutive **Group** of actions in the process occurrence.

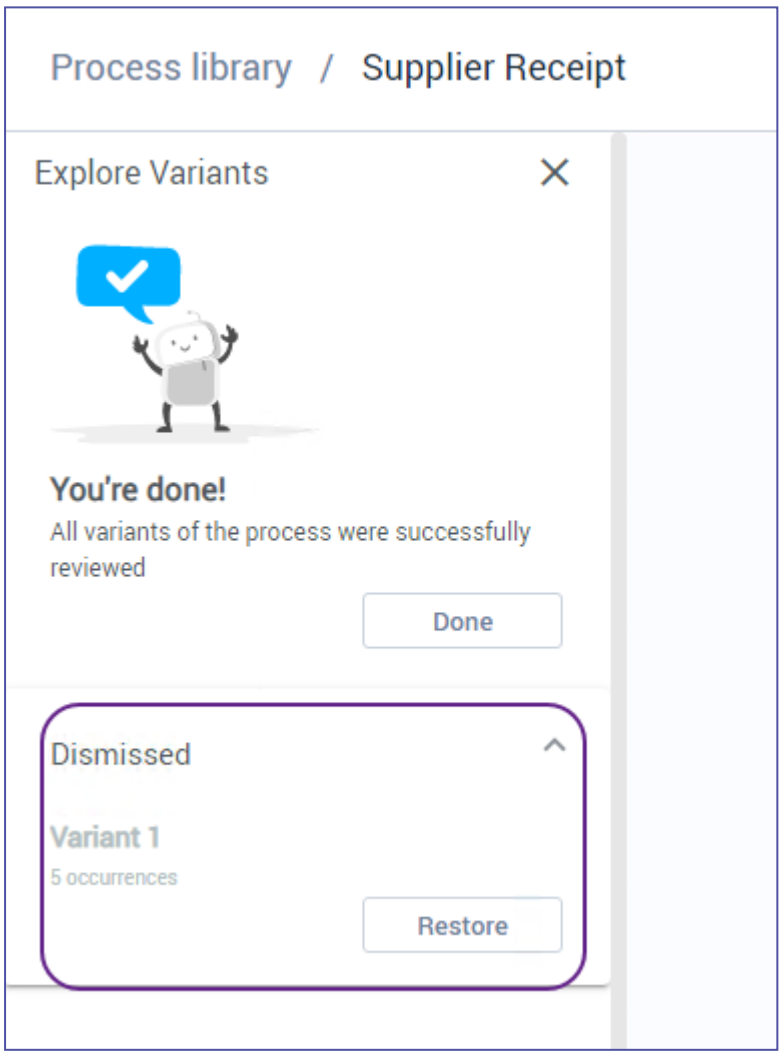


At this point, all you need to do is to review the Group steps to decide whether to add the variant to the list of approved variants or to dismiss is:

If added, the variant will appear on the list on the right after finishing and exiting the "explore variants" mode:



If dismissed, you can always come back to it and restore it:



Exporting from the Discovery Console

Kryon Process Discoverylets you export actionable information in an immediately usable format. This chapter will examine the quick steps for generating Process Discovery files and reports.

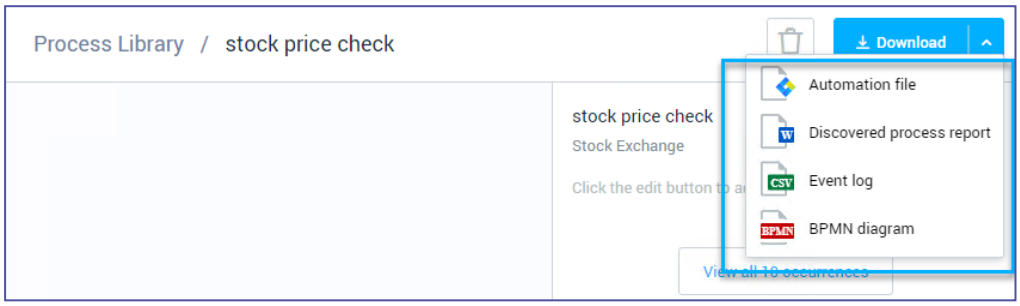
IN THIS CHAPTER:

Downloading Files from Kryon Process Discovery

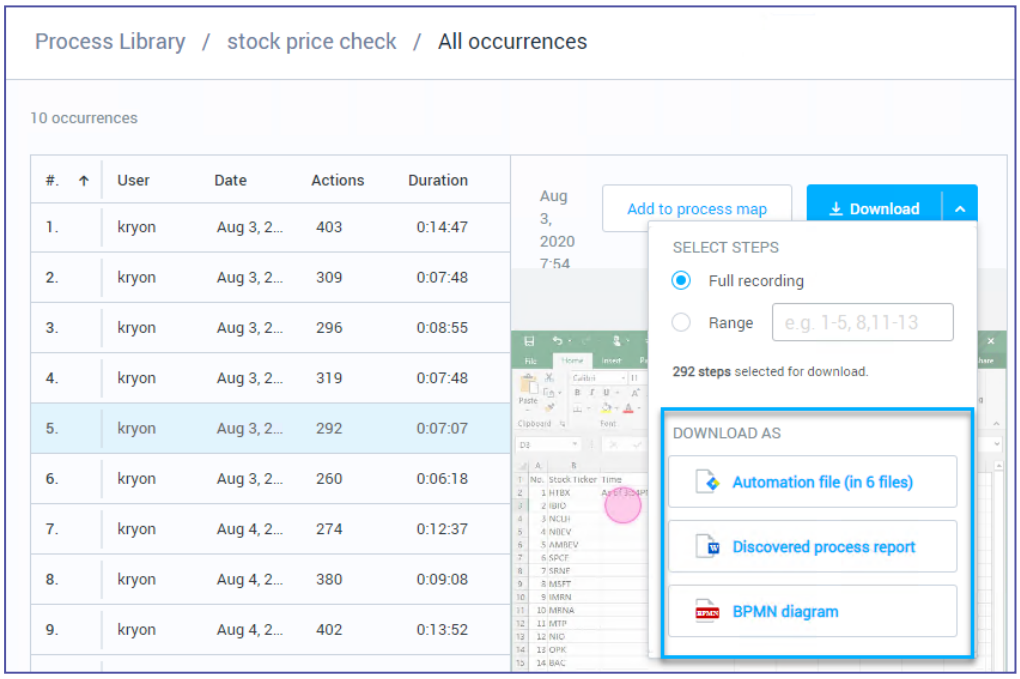
How to download a file of a selected process and its variants

Exports are available to download from:

a. **Process Library** > select a process > click **Download**:



b. **Process Library** > select a process > click **View all occurrences** > Select an occurrence > click **Download**:



Types of Files Available for Download

File type	Description
Automation file	Exporting a process as an automated wizard file. This files is used for direct import into **Kryon Studio** for RPA development and implementation. A file named `pd-export.PD` will be created and automatically downloaded to your internet browser's default download folder. Save this file to an easily-accessible location, and you'll be ready to import it to Kryon Studio.
Discovered process report	You can download a selected process and its variants into an editable MS Word document, called the *Discovered Process Report (DPR)*. This editable MS Word document records each step of the selected process and its variants. You can review the process, visualize all variants, add in-depth knowledge, and send it to the RPA developers for automation along with its corresponding automated wizard files.
Event log	For selected processes and variants to work with a Process Mining Tool, if utilized. You can easily combine Kryon Process Discovery with Process Mining techniques by downloading an Event Log (in csv format) to apply to an external process mining tool. The Event Log file contains information from every recorded occurrence ("case") of the process and its selected variants. Each milestone action ("activity") is represented by a row in the Event Log. For reference, see Event Log Structure
BPMN diagram	A Business Process Model and Notation diagram to provide a graphical notation for specifying business processes.

TIP

You can also download *all or a selected part of a recording* from the **Process Occurrence** page. See Downloading all or part of an occurrence

BEST PRACTICE

Organizing your exported automations

As you export processes and variants:

1. Rename each exported file with a relevant name
2. Organize your exported automations into folders – one folder for each end-to-end business process to be automated
3. Transfer your organized folders to the Automation Developer(s) for upload to Kryon Studio and additional development

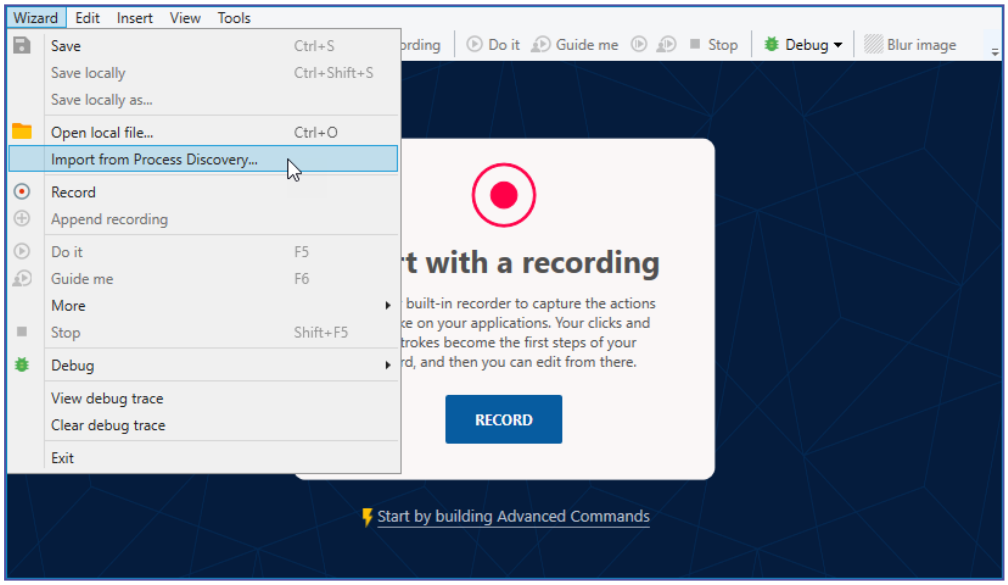
Importing an Automation to Kryon Studio

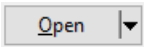
To import a process you downloaded from Kryon Process Discovery to Kryon Studio:

1. Open Kryon Studio
2. Create a new wizard in the **Catalog**
3. Open the wizard in the **Wizard Editor**

> **NOTE**
> **Creating, opening & editing wizards**
>
> For detailed instructions and information about creating, opening, and editing wizards, see the ***Kryon Studio User Guide (Creating Wizards)***.

4. From the menu bar, click **Wizard**, then **Import from Kryon Process Discovery**



5. Navigate to the location in which you saved the exported `*.PD` file, select it, and click the  button

The import will begin. When complete, the process downloaded from Process Discovery will populate the open wizard in the **Wizard Editor.**

> **NOTE**
> **Define those applications!**
>
> If you attempt to import a process that contains applications and/or websites that are not yet defined in Kryon Process Discovery Admin,

you will receive a warning.

- If you choose to import the process, you will be able to view it (and even edit it), but you will not be able to run it or save it as a wizard. So you won't be able to save any changes you have made.
- To enable a complete import, ask your organization to add the necessary apps and/or websites. Then import the process again.

Event Log Structure

To learn how to download an event log, see Downloading Files from Kryon Process Discovery.

Column name	Type	Definition
case-id	Number	All rows of the same process instance have the same case ID
activity	Number	Algo action ID. Same ID number appearing for different occurrences represents the same user action.
activity description	Text	**[app name] > [window title] > [action description*]**
start	Date time	Start time of activity `yyyy-MM-dd HH:mm:ss`
end	Date time	End time of activity `yyyy-MM-dd HH:mm:ss`
process-ref	URL	Link to the process page in PD console
User	String	Name of recorded user (or the hashed name if user-hashing is enabled)
activity-type	String	Click Keyboard
app-name	String	App name as appears in Console
window-name	String	Window title / URL if available
window-id	Number	Window cluster ID
window-title	String	Window caption
web-page-url	String	For web pages only - page URL

*Action descriptions include: ***Click*** , ***Press [keys]***

EVENT LOG CSV FORMAT

By default, the Event Log's file structure uses comma separated values. Some process mining tools require semicolon delimiters instead. You can change delimiter used, see the *Configuring the Event Log File structure* section in the *Installation and Upgrade Guide, Kryon Process Discovery 21.6*.

Recorded Sessions

The following sections describe what you can do in the Kryon Process Discovery **Recorded Sessions** tab.

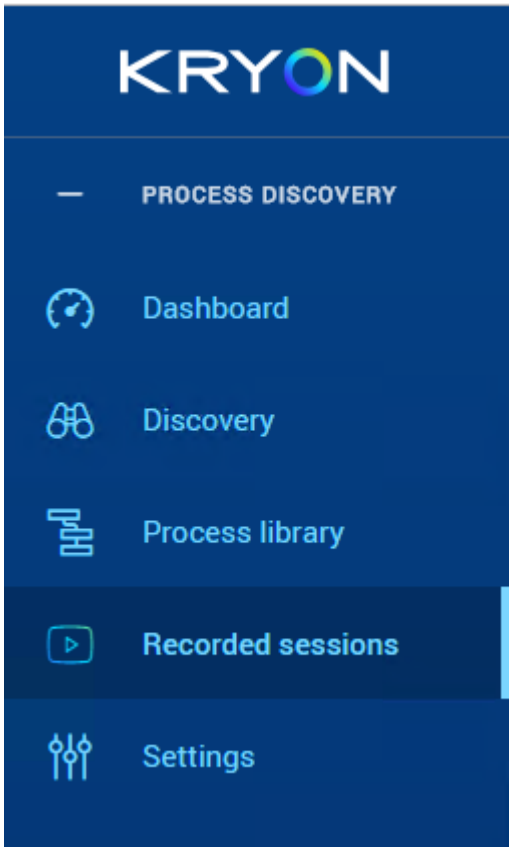
This is where you can manage all users recordings.

IN THIS CHAPTER:

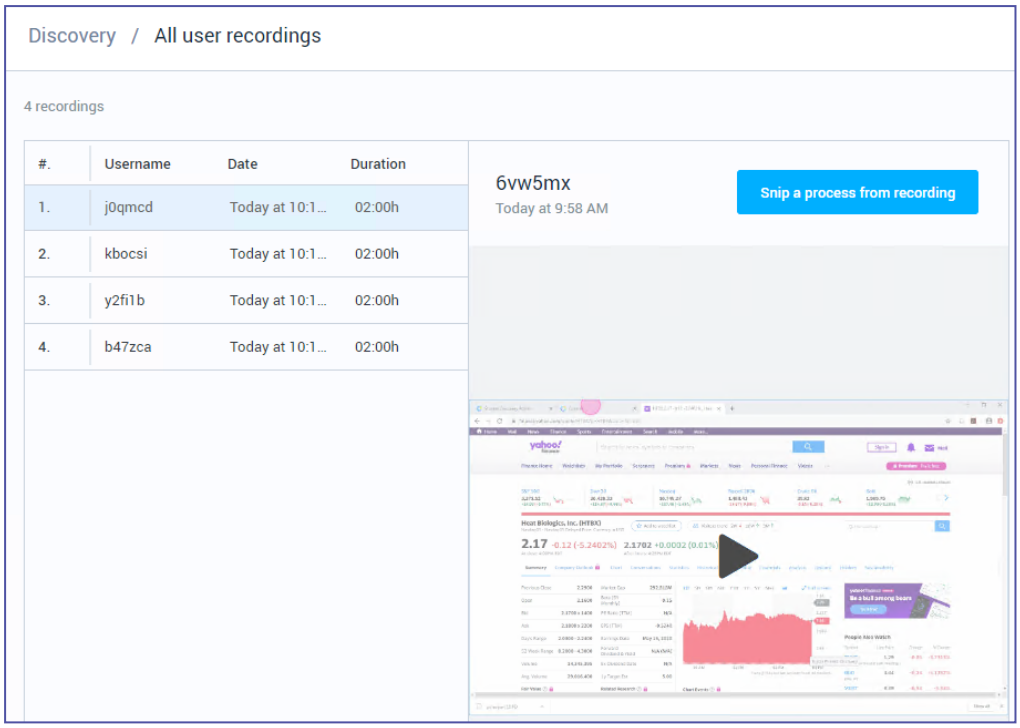
Accessing Recorded Sessions

You have the option to browse and review *all the recorded data of all users* per Team. Reviewing original recordings can be used for educational purposes, documentation, gathering insight, manually snipping a process, and more.

1. Go to **Recroded Sessions** tab



2. A view of all recorded sessions for all the users becomes available.



3. Select a desired user recording to play the recording and review the whole session.

NOTE

Snipping a process

You can snip a process directly from the original recording. See Snipping a Process Out of the Original User Recording.

Settings

The following sections describe what you can do in the Kryon Process Discovery **Settings** tab.

This is where you can manage and configure users, applications, Teams, recorded users, Permissions, and monitor the system.

IN THIS CHAPTER:

Managing Discovery Console Users

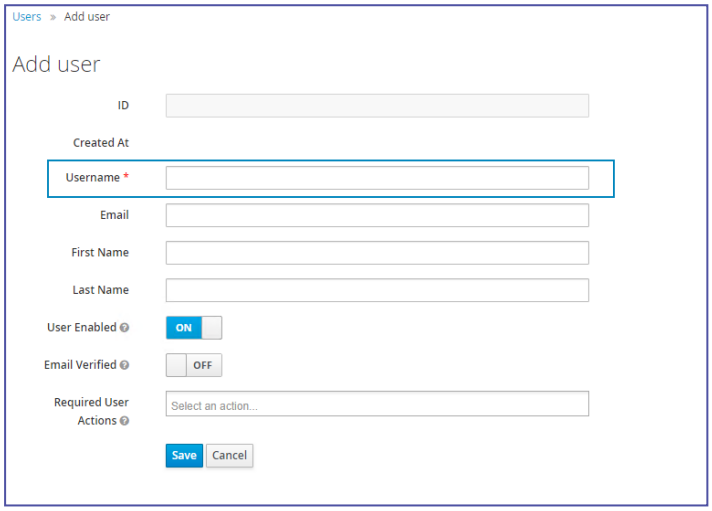
Creating Discovery Console Users

The process of creating **Discovery Console** users involves two main steps:

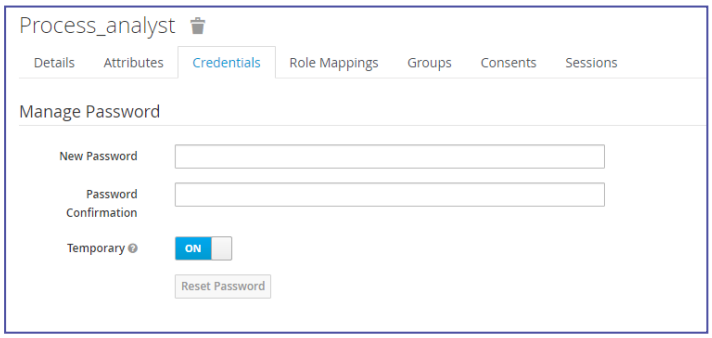
1. Adding the user in the user management tool; **and**
2. Assigning a user to a Team

Adding the user in the user management tool

1. Access the User Management Tool
2. In the left top navigation bar, click **Users**.
3. On the screen that opens, click the **Add user** button.
4. On the **Add User** screen, enter the new **Username** (the only required field on this screen).



5. Click the **Save** button
6. The new user is created, and a screen displaying the user details opens.
7. Click on the **Credentials** tab and enter and confirm a password for the user.



Note: If the user should be required to change the password when they next log in, set the **Temporary** slider to **ON**.

8. Click the **Reset password** button to save the new password.
9. Click on the **Role Mappings** tab and set the user access permissions (roles) as following:
   a. Assign the `console-user` role to allow the user to login to the console. This role allows the user to view processes (**Process List** tab) in the Console. This is

the most basic type of permission.

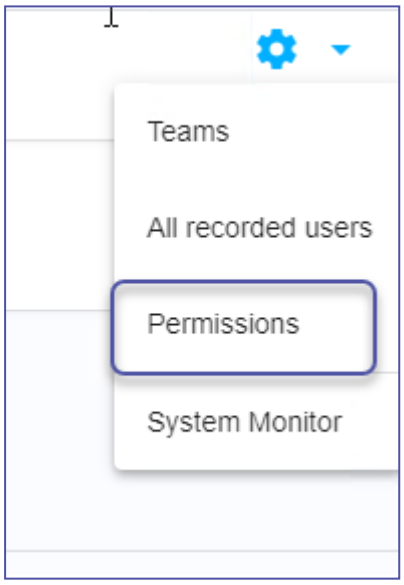
b. Assign the `pd-admin` role to allow the user to access the **Settings** tab in the Console.

> **NOTE**
>
> For the user to see processes under **Process List**, the user must be assigned to a Team.

Assigning a user to a Team

Assigning a user to a team means that the user will be able to access the Team in the Process Discovery Console, as well as access the recorded data of that team.

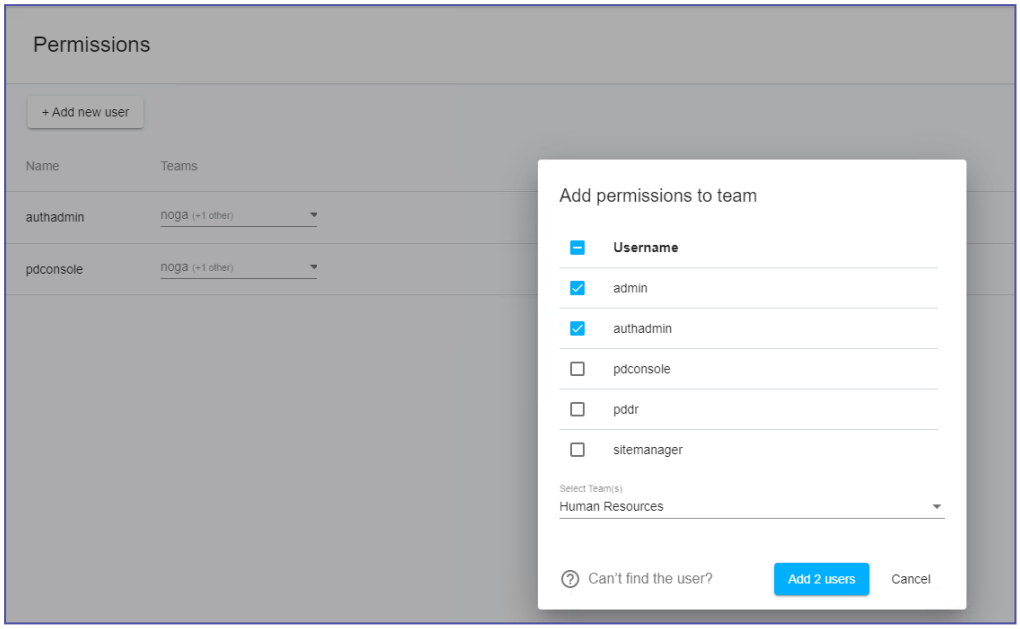
1. Go to Console **Settings**.
2. Click the settings cog icon and select **Permissions**.



3. Click **+Add new user**
4. In the dialog box that opens, select the relevant Process Discovery user(s) to which you want to give access to a specific Team, and then select the desired Team.

> **NOTE**
>
> The list of users reflects the users that have been already created in Aerobase (User Management tool)

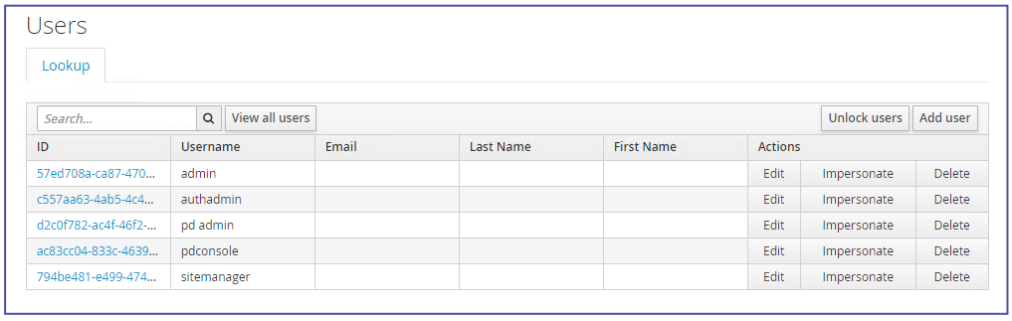
EXAMPLE:



5. Click "Add user/s"

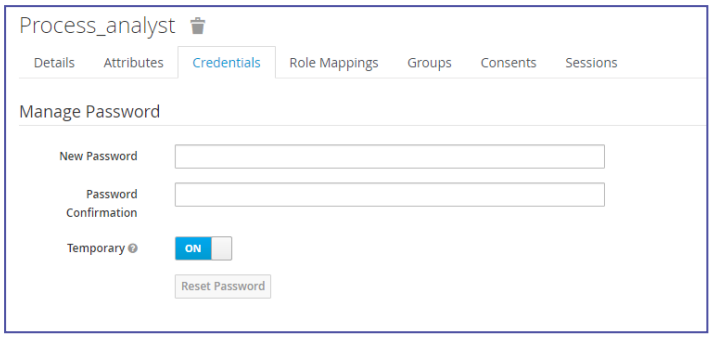
Resetting user password

1. Access the User Management Tool
2. In the left navigation bar, click **Users**
3. On the screen that opens, use the **Search** field to find the user whose password you need to reset, or click on **View All users** to see a list of all users in your organization
4. From the resulting list, click Edit in the relevant user's row



5. A screen displaying the user details opens
6. Click on the **Credentials** tab

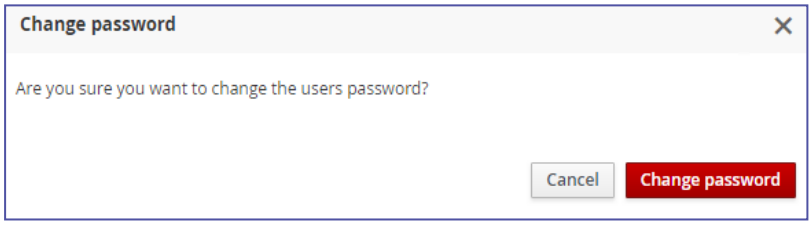
7. On the **Credentials** screen, enter and confirm a new password for the user



8. If the user should be required to change the password when they next log in, set the **Temporary** slider to ON

9. Click the **Reset Password** button to save the new password

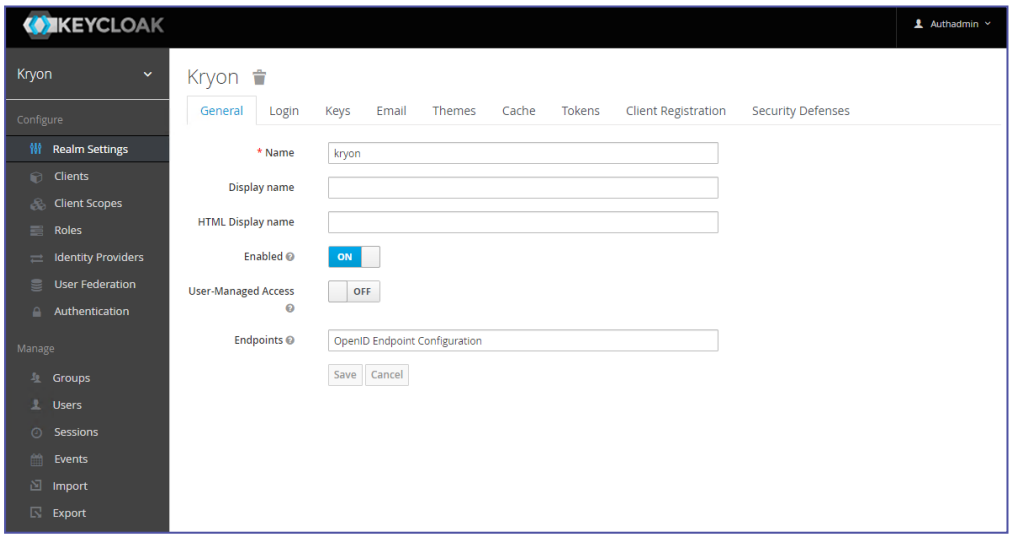
10. In the confirmation dialog that appears, click **Change password**



Accessing the User Management Tool

1. Open an **incognito window** in Chrome
2. Enter the following URL: `http://{AB_APPLICATION_SERVER}/auth/admin/kryon/console/#/realms/kryon`
   - **NOTE:** In the URL above, `{AB_APPLICATION_SERVER}` = the value used for the **AB_APPLICATION_SERVER** installation parameter (FQDN) at the time of the Kryon Process Discovery Server installation
     - If this parameter was not specified, the default (and recommended) value is the local machine name of the Discovery Server. If this is the case, you can use this URL: `{FQDN of Server}/auth/admin/kryon/console/#/realms/kryon`.

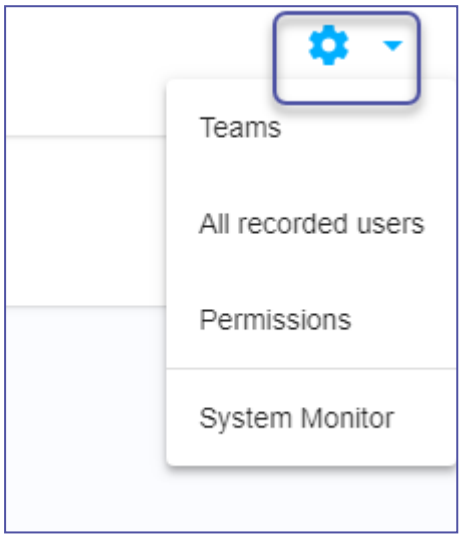
   The **User Management Tool** Login screen opens
3. Log in to the **User Management Tool** with these credentials:
   - **Username:** authadmin
   - **Temporary password:** Kryon123!
     - You will be prompted to change the temporary password upon first login
4. The following screen opens:



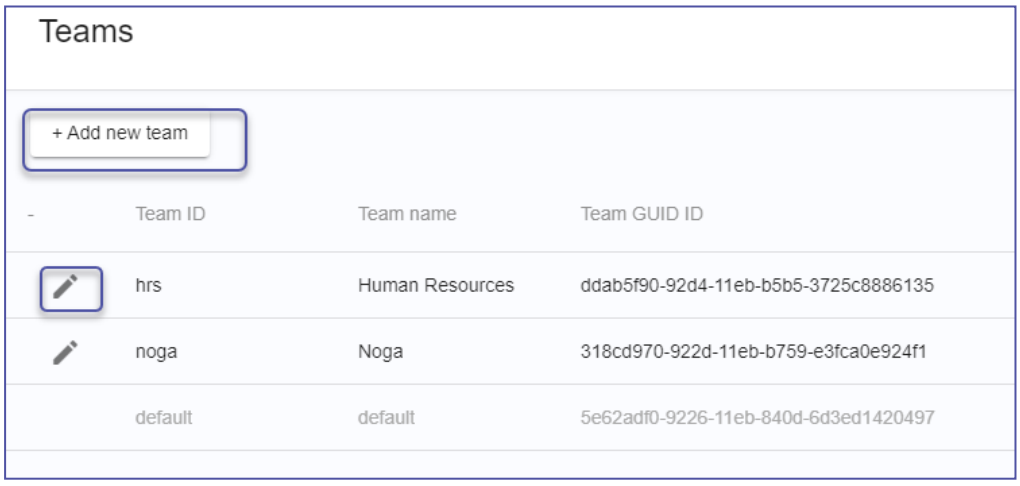
Managing Teams

Adding and editing a Team

1. Go to **Settings**
2. Click the Setting Cog on the top right

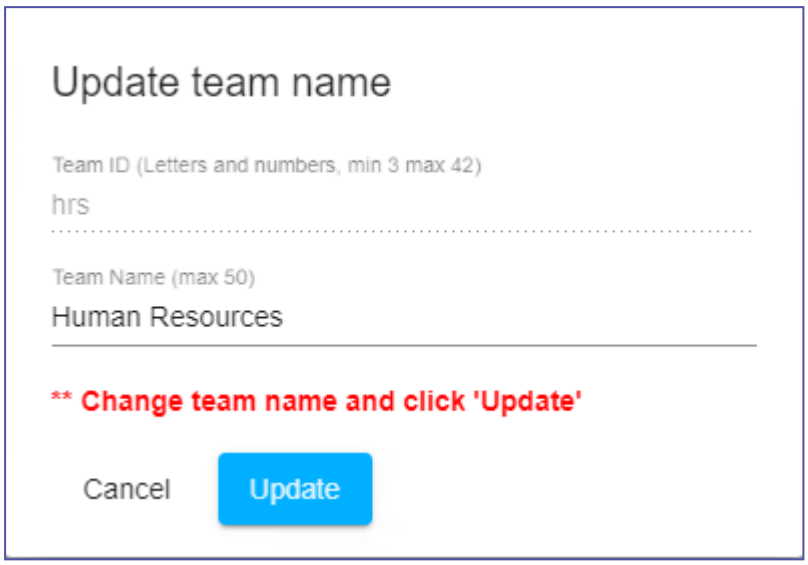


3. Select **Teams**



4. Click **+Add New Team** .
5. In the dialog box that opens, enter the **Team ID** and **Team Name** of the new Team; *and*
   select the **Database user** from the dropdown box.
6. When done, click **Add**

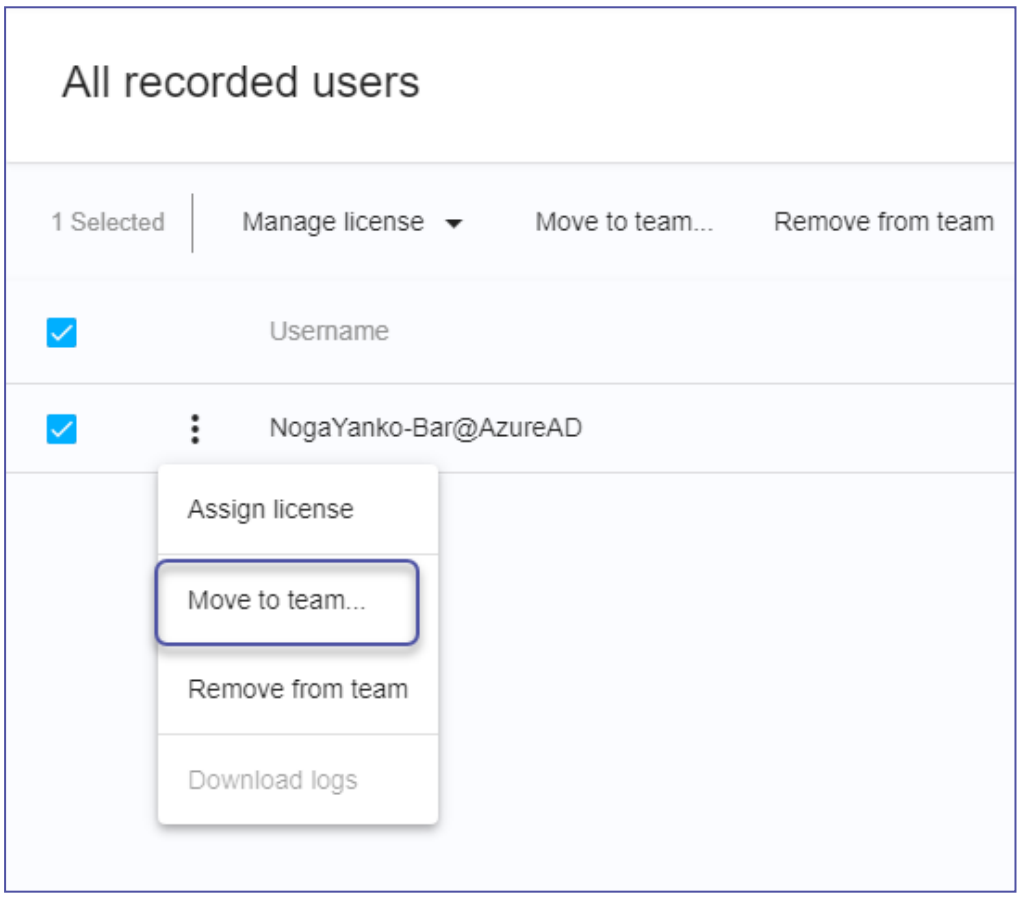
7. To edit a team, click the pen icon next to the desired team. Apply the update and then click Update:



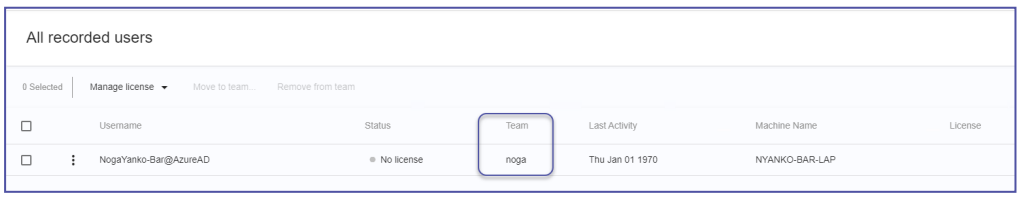
Managing Discovery Robots (users)

Assign Robot (a user) to Team

1. Go to Settings > click the setting cog icon > All recorded users
2. Select a recorded user from the list (you can identify all the robots/users that require assignment by filtering the Team column to 'unassigned')
3. Click the 3 dots icon on the grid row
4. Select 'Move to team'



5. Select the desired Team and click Move
6. The assigned Team name will now appear under the Team column in the grid.



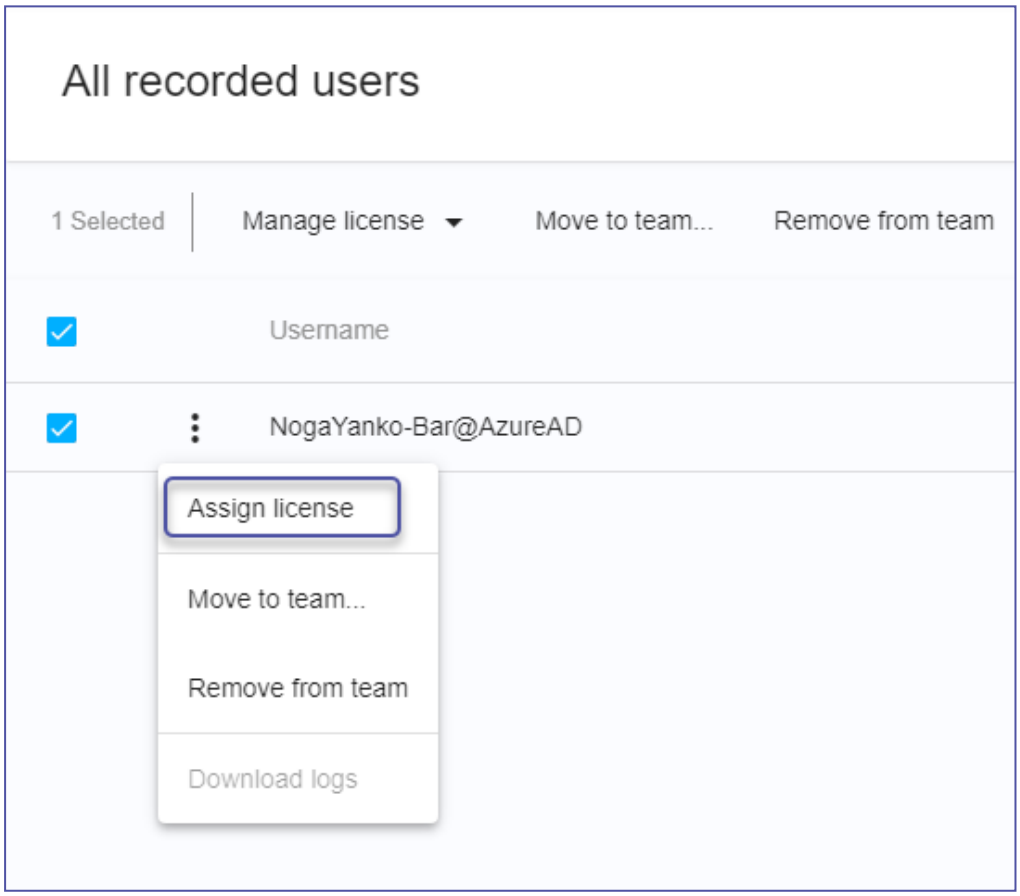
Assign License to Robot (to user)

Since a robot needs a license only when it's running, you can float a limited number of robot licenses among a larger number of robots.

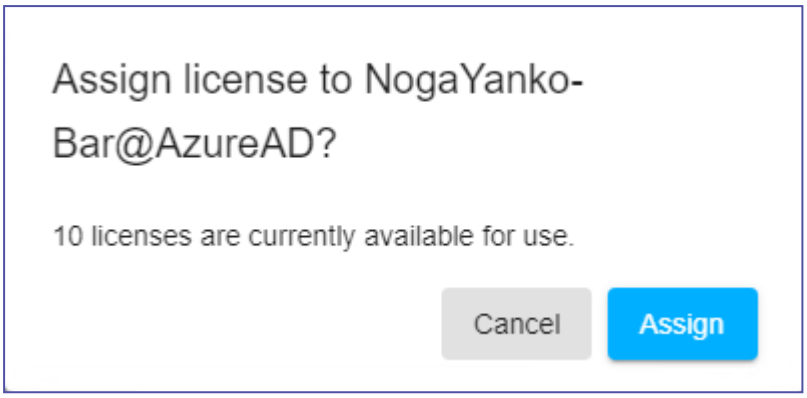
Install a robot on as many employee workstations as you want. You can release a robot's license at any time, making the license available for another robot to make use of. In this way, you can maximize robot resources.

You can manage robot licenses directly through the Process Discovery console:

1. Go to Settings > click the setting cog icon > All recorded users
2. Select a recorded user from the list (you can identify all the robots/users that require assignment by filtering the Team column to 'unassigned')
3. Click the 3 dots icon on the grid row
4. Select 'Assign license'

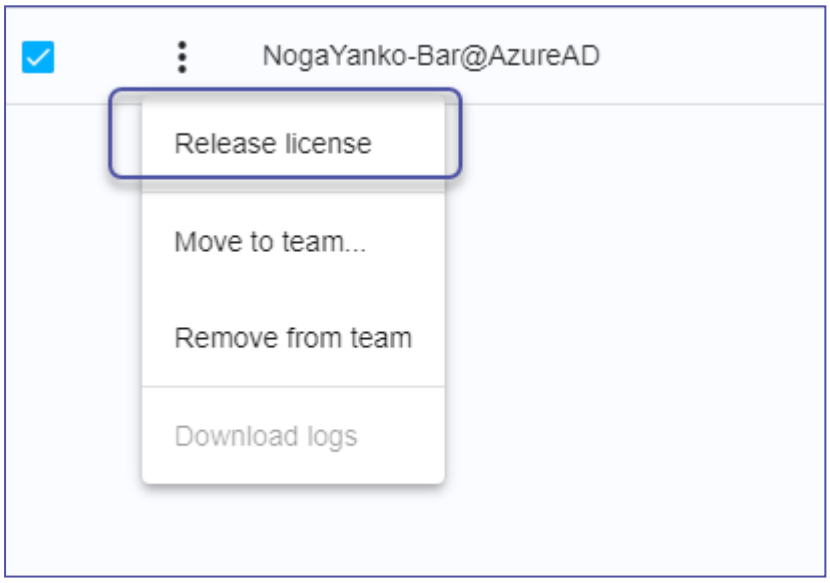


5. In the confirmation pop-up, click Assign (you can also see here the number of available licenses at your disposal)



6. Make sure to assign the relevant Team-access permission to the user (robot).

You can also **Release a license** from a Robot (a user) to assign it to a different user:



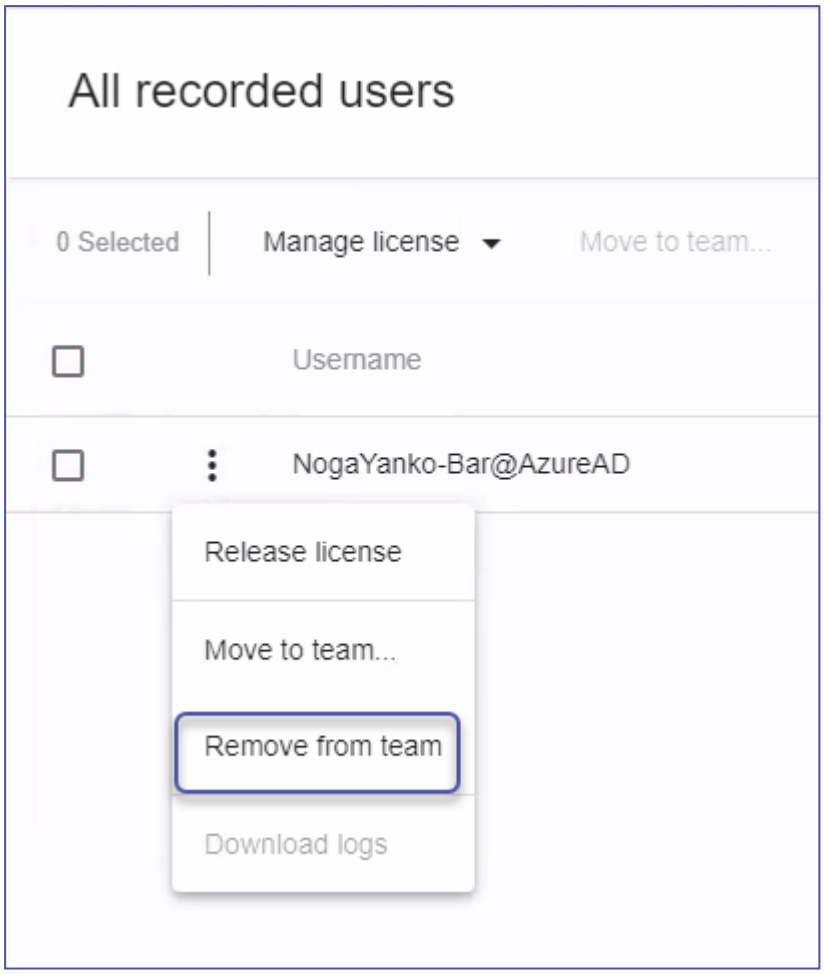
NOTE

- First you need to assign a robot (user) to a team and then assigned the license
- A robot (user) can be part of a team without occupying a license

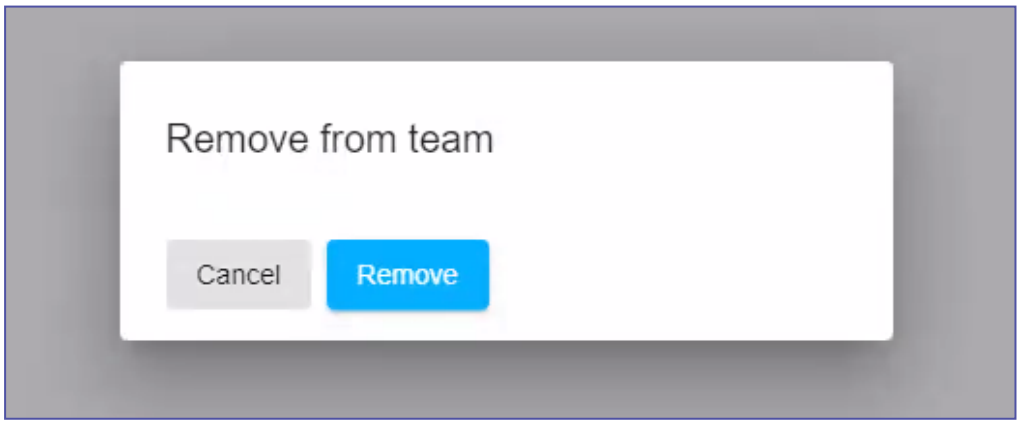
Remove a Robot (user) from a Team

1. Go to Settings > click the setting cog icon > All recorded users
2. Select a recorded user from the list (you can identify all the robots/users that require assignment by filtering the Team column to 'unassigned')
3. Click the 3 dots icon on the grid row

4. Select 'Remove from team'



5. Click Remove to confirm



What happens once you remove a Robot (a user) from a team?

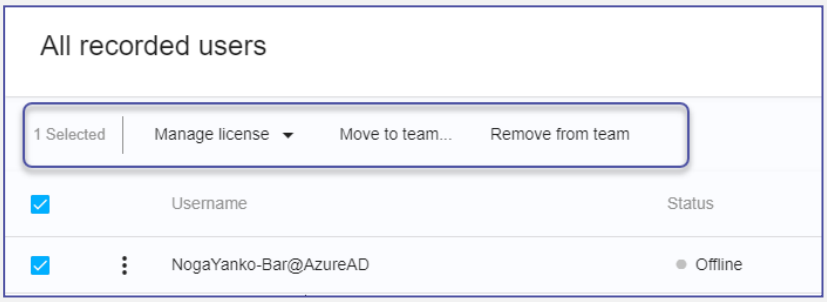
- When removing a robot from a team - it's license is automatically released
- When moving a robot to another team - it's license remains

TIP

If a robot is currently in status RECORDING you cannot move it to a team, or remove it from a team.

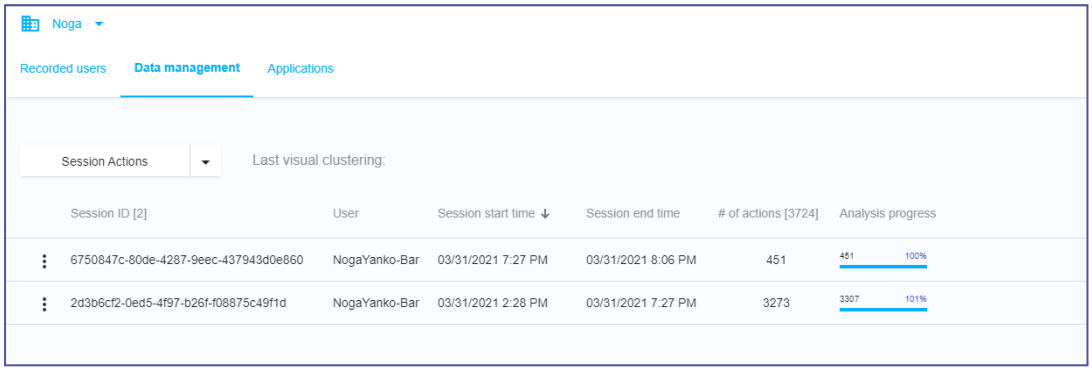
TIP

To perform the actions on multiple robots simultaneously - tick the checkbox next to the desired users (robots) and select the proper option from the toolbar



Managing Recorded Sessions - Data Management

To manage recorded sessions, go to **Settings** > Make sure you are on the desired Team > Select the **Data Management** tab



Start Analysis

Under **Session Actions**, you can perform the following:

- **Start analysis**: Image analysis starts automatically for every captured image that was added to the server. You can manually trigger image analysis from here.

Deleting Sessions

After you have run Kryon Process Discovery for a time and your Business Process Analyst has already analyzed the data and exported relevant processes as automation, best practice would suggest deleting existing data from the database and starting again from the beginning – perhaps in a different department or on different applications.

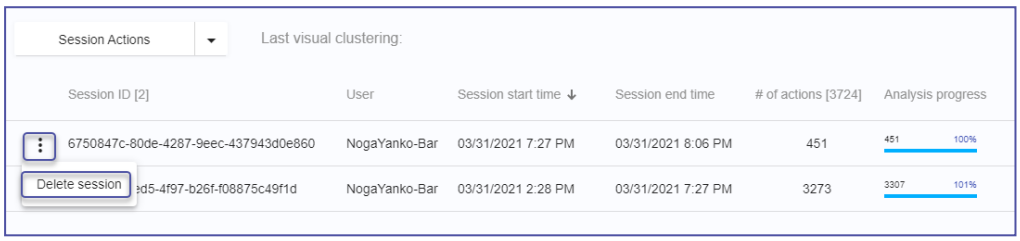
Clearly, this is a procedure that should be undertaken with great caution, and you should be quite sure you have backed up the database and/or extracted all relevant information and/or exported all required automations before proceeding.

First, select the correct Team from the Team dropdown list (in the upper-right corner of the Kryon Process Discovery Console), since these settings are managed individually for each Team.

- You can click the drop down next to **Session Actions** to access the following. You can delete all or selected recorded sessions and their data:
  - **Delete All Discovered Processes:** Clean up all the processes added to the library for the selected Team

- **Delete All recorded sessions**: Clean up all the data for the selected Team
  NOTE: this action is irreverisble, use it with caution.
- **Delete All analysis and clustering:** Delete all analysis and clustering data (use only when instructed by the support team)

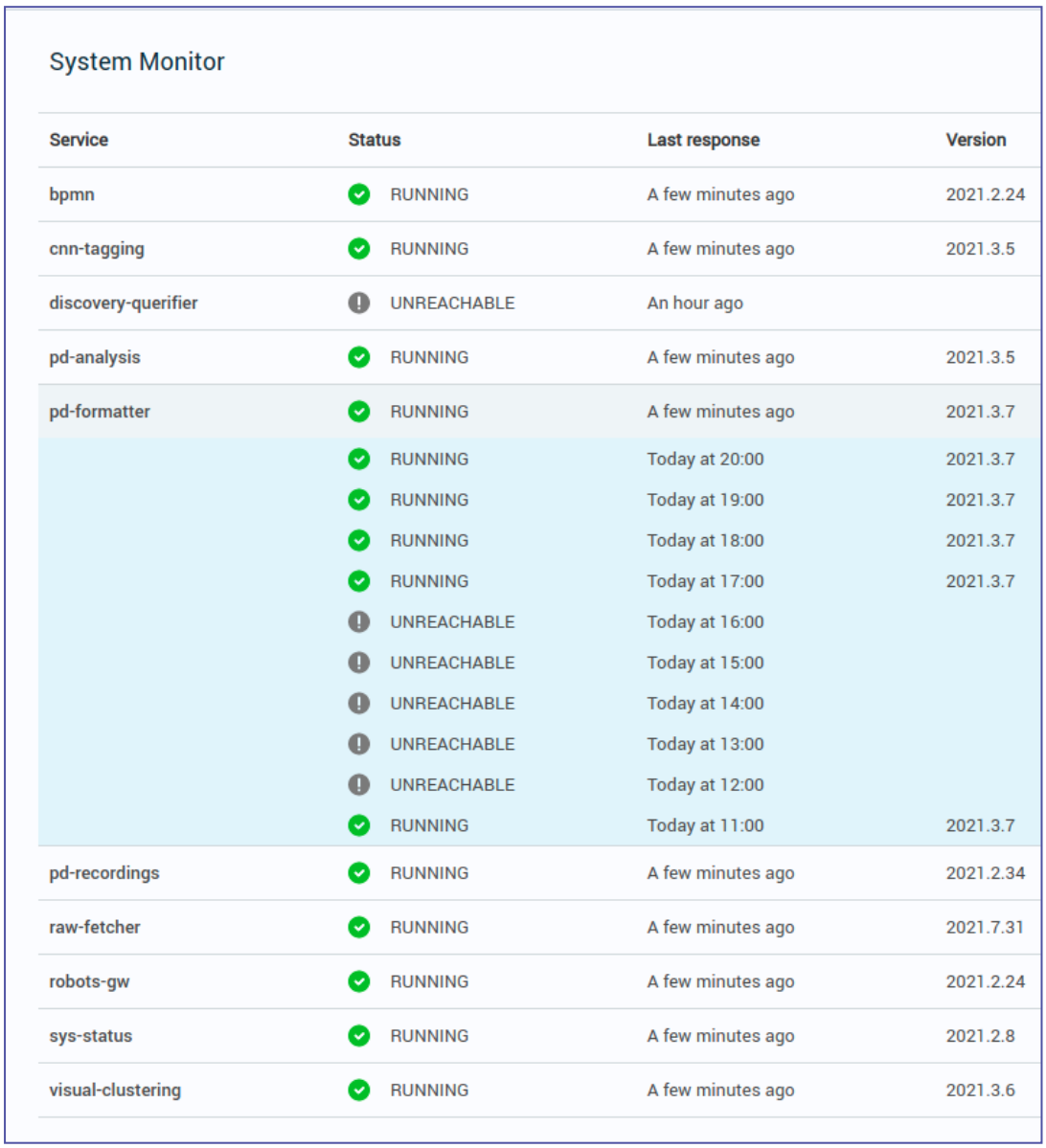
- You can click the options dots next to a specific session and select Delete session:



Monitoring your system

Monitor the system health by validating the status of micro-services that are now available for you on the UI.

Go to **Settings** > click the Setting cog > **System Monitor**



Grid columns:

- Service name
- Status:
  - Running
  - Unreachable - service is not available/no connection to the service

- Last response - last response time received from the service
- Service version

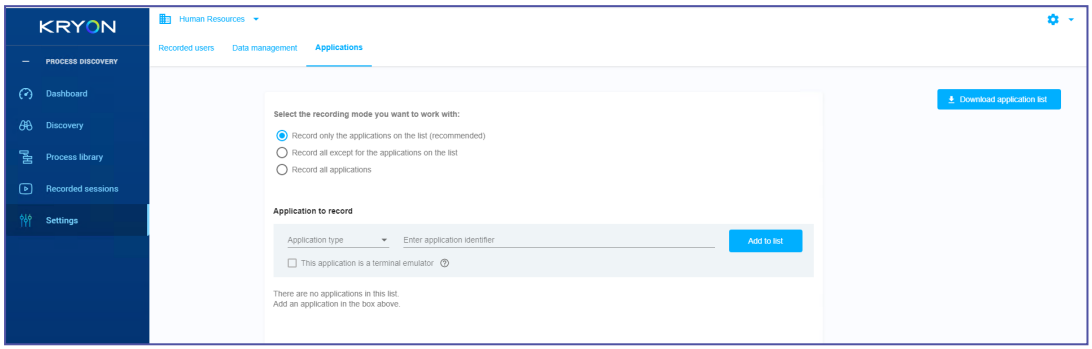
A click on each service row opens the last 10 statuses of this service

NOTE

The grid refreshes upon opening its page. To get all services current status immediately - click on the refresh icon at the top right.

Managin Applications

Go to **Settings** > **Applications** tab:



1. Make sure you are on the right Team by selecting it from the Team dropdown list (in the upper-left corner of the screen), since these settings are managed individually for each Team.
2. Select one of the three available recording-modes:
   - **Record only applications on the list** - applications not on this list are completely ignored by the robot
   - **Record all except for the applications on the list** - all applications used by the user are recorded except for the application you define on this list
   - **Record all applications** - all applications used by the user are recorded without exceptions
3. Define the applications according to the selected recording-mode:

Application Type	Application Identifier
Desktop	Type in the application's process name without the .exe extension (The process name appears in the Windows Task Manager > Details tab). For example, outlook, winword. You can select the **This is a terminal emulator** check-box to record the special keyboard strokes used by these applications.
Web	Type in the website's URL – without the protocol (usually, http or https) and without the path (that is, the section of the URL following the domain name). For example, for URL `https://video.google.co.uk/videoplay`, enter **video.google.co.uk**

Image Masking

Hide potentially sensitive recorded information collected by Process Discovery.

When masking is enabled, every screen capture displayed on the Console goes through the masking mechanism that:

1. Analyzes all the text on the recorded screen
2. Identifies potentially sensitive information
3. Blurs out the target text

Enabling Image-Masking

You can enable image-masking before installing Process Discovery v20.11 (recommended), or after installation.

Then, you can also set he Image Masking Scheduler

Option 1: Pre-Installation

Before you run the Process Discovery installation, perform the following:

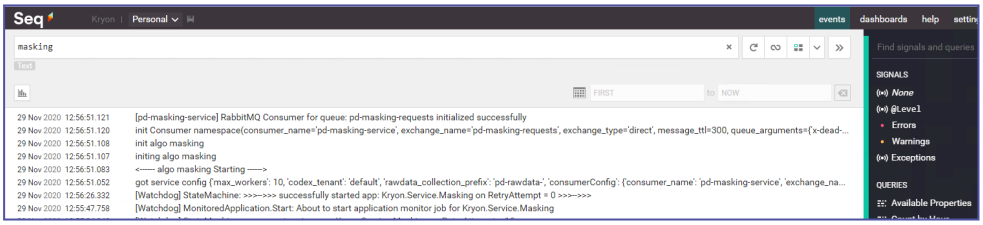
1. Open the `Kryon_PDServer64BitSetup.exe.json` file.
2. Add the masking parameter:
   `"INSTALL_MASKING": "true"`
3. Make sure to save the changes
4. Run the installation as usual
5. After deploying and running Process Discovery, you can verify the Image-Masking installation.

Option 2: Post-Installation

1. **Installing the Required Components**:
   a. Open the file "`%ProgramData%\Kryon\installer-assets\config\prod\scripts\config.prod.properties.json`" to edit.
   b. Change the "`INSTALL_MASKING`" parameter to "`true`".
   c. Change the parameters `INSTALL_MONGODB` and `INSTALL_TESSERACT` to `True`.
   d. Save the changes.
   e. Open CMD as administrator and run:

```
C:\Kryon\installer-assets\config\prod\scripts
powershell .\configureAll.ps1 -h C:\Kryon -configDir "C:\Kryon\config" -n
prod -servicesDir "C:\Kryon\PDServer\MicroServices" -utilsDir
"C:\Kryon\PDServer\Support"
```

2. **Running Image-Masking through WatchDog**:
   a. Open the file "`%ProgramData%\Kryon\Services\Kryon.Server.ServicesWatchdog\appsettings.Production.json`" to edit.
   b. Search for the `Kryon.Service.Masking` section and change the `Enabled` parameter value to `True`.
   c. Save the changes.
   d. Restart the "Kryon Server - Process Discovery Service" windows service.
3. **Verifying Image-Masking Installation**:
   a. Open Seq and search for masking log messages http://localhost/seq/#/events?filter=masking



   b. Test the Masking API at Verify by calling http://localhost:50200/pd-masking/v1/isalive
4. **Enabling Image-Maskling**:
   a. Open the file `%ProgramData%\Kryon\config\prod\services\kryon-raw-fetcher-svc-default.json` to edit.
   b. Change the masking parameter to `true`
   c. Save the changes.
   d. Restart the "Kryon Server - Process Discovery Service" windows service.

Image Masking Scheduler

After enabling the Image Masking feature , you can set the **Image Masking Scheduler** to prepare the required images and mask them in advance, which is anytime before

you actually start reviewing the process results. This way the images are processed and masked in advance, without interfering with your work.

Scheduling Image Masking

By default, the image-masking scheduler is disabled. To schedule image-masking, all you need to do is edit some values in a dedicated JSON file and restart the PD service.

Enabling Image Masking:

1. Open the `C:\Kryon\config\prod\services\kryon-discovery-querifier-svc-default.json` file in an editor.
2. Locate the **ocrBakingScheduler** section and edit the values as needed:

```
"ocrBakingScheduler": {
  "enabled": false,
  "dayOfWeek": [0, 1, 2, 3, 4, 5, 6 ],
  "hour": 1,
  "minute": 0
}
```

Parameter	Value and description
enabled	`false` (default) : scheduler is disabled `true`: scheduler is enabled
dayOfWeek	set the days of the week the scheduler should run on (`0`-Sunday, `1`-Monday, etc.,)
Hour	What hour should the schedule run the image masking? `1` (default) Range: `1-24` (for example: 17 = 5 PM)
Minute	What minute in the already-set Hour should the scheduler run? Range: `1-60`

3. Save your settings
4. Restart the Process Discovery Service

Expected system behavior after setting the masking scheduler:

a. The discovery runs at the scheduled day and time

b. The results record is saved under recent discoveries (as any other discovery search)

c. The data collected as part of the scheduled discovery goes through a masking process