Microsoft

Workshop: Let's Get Mining

Microsoft Power Platform Conference 2023

Lab 1 – Process Mining Measurement

60 mins

October 2023

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Process Mining Measurement

Lab Overview

The first step of understanding your process and finding opportunities for efficiencies is to first identify the process you're interested in analyzing and measuring said process. Process Mining leverages both task mining and process mining to measure the performance of your process. With process mining you can leverage your event log in your system of records for the purpose of process analysis. Task mining allows for active recording of tasks done on your desktop for the same purpose of analyzing process. In this exercise we will use both techniques, process and task mining, to measure an invoice approval process for the purpose of identifying inefficiencies. Event log creation in Process Mining is a requirement of all process mining project but due to time limitation it is out of scope for this session.

Prerequisites

Before you start using Process Mining, make sure you have initiated a trial of Power Automate Process Mining and have gotten access to the prepared data set here [LINK].

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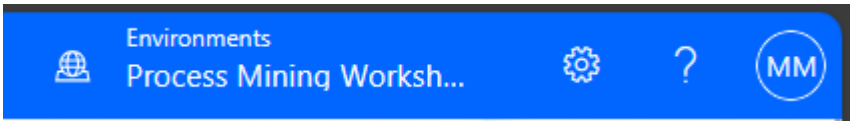
Getting Familiar with Process Mining

1. Navigate to https://make.powerautomate.com/ and sign-in using your credentials or credentials given to you by the proctor.

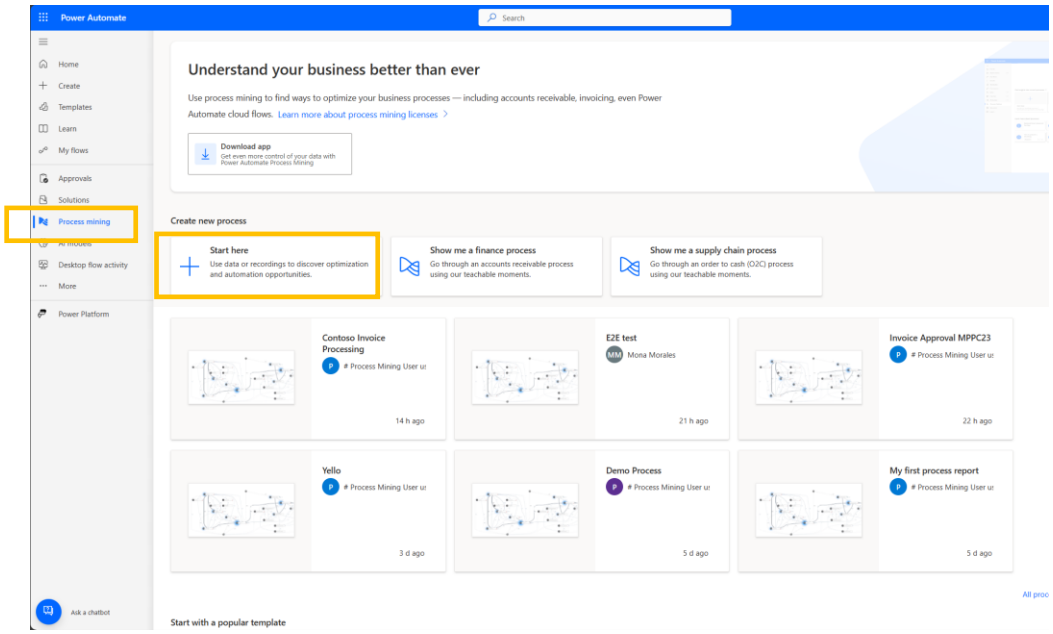
2. In the top bar of the portal ensure that you are using the correct environment. If you were given credentials, use the **Process Mining Workshop** environment.



3. From the left navigation select **Process mining.**

You can create a new process or project *from blank* or from an established template. Some of the templates available for Process Mining include Power Platform templates like Cloud Flows and Power Apps and some Finance and Operations templates for SAP. For this lab we will create a new process from blank.

4. Select **Start here** to create your first process.



Processes created from blank can be created through process mining or task mining- visualizing process through data is process mining and visualizing through recordings is task mining. We will start off with process mining.

5. Give the Process a name- “Invoice Approval MPPC23”.

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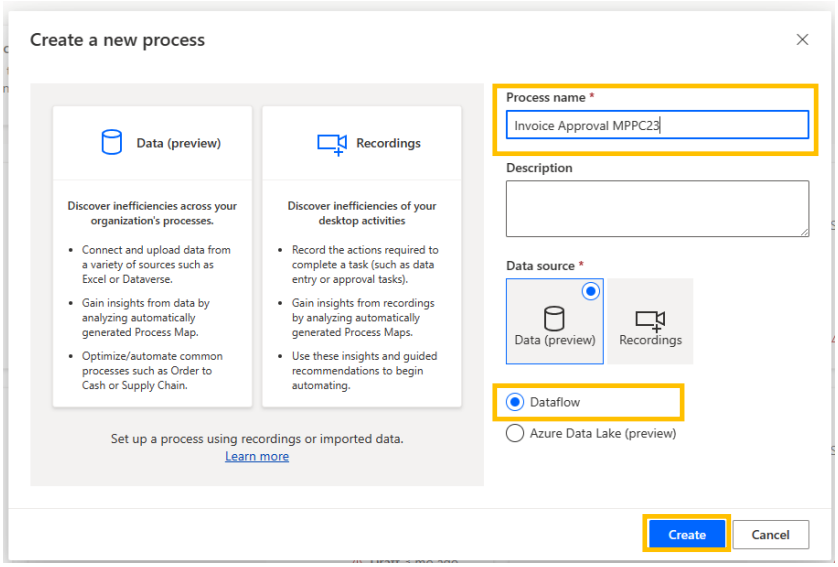
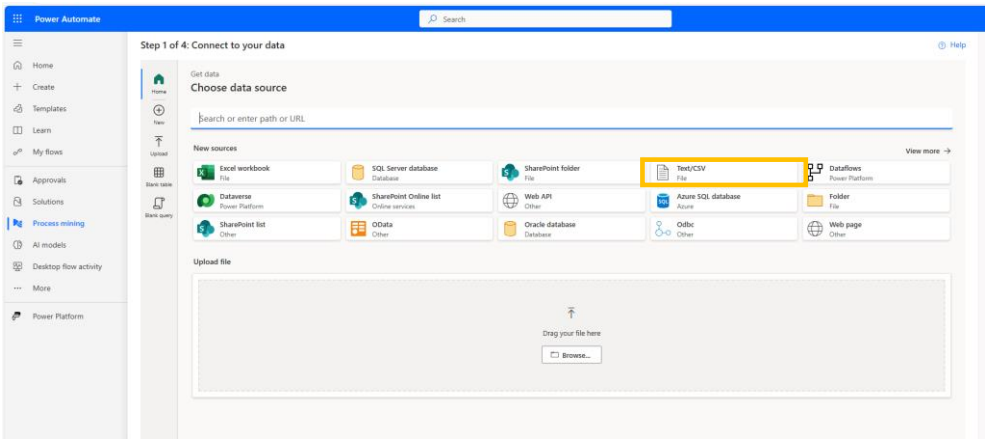
6. Ensure **Data** tile is selected, and that **Dataflow** is selected.



You can ingest data through Power Platform dataflows with over 100+ available connectors. Or through connecting directly to the data sitting in Azure Data Lake. For this lab we will be ingesting data from the Text/CSV Dataflow connector.

7. Select **Text/CSV** as for dataflow ingestion.



8. Select **Link to File** and paste the shared link to the file for process mining here - https://go.microsoft.com/fwlink/?linkid=2248366 .

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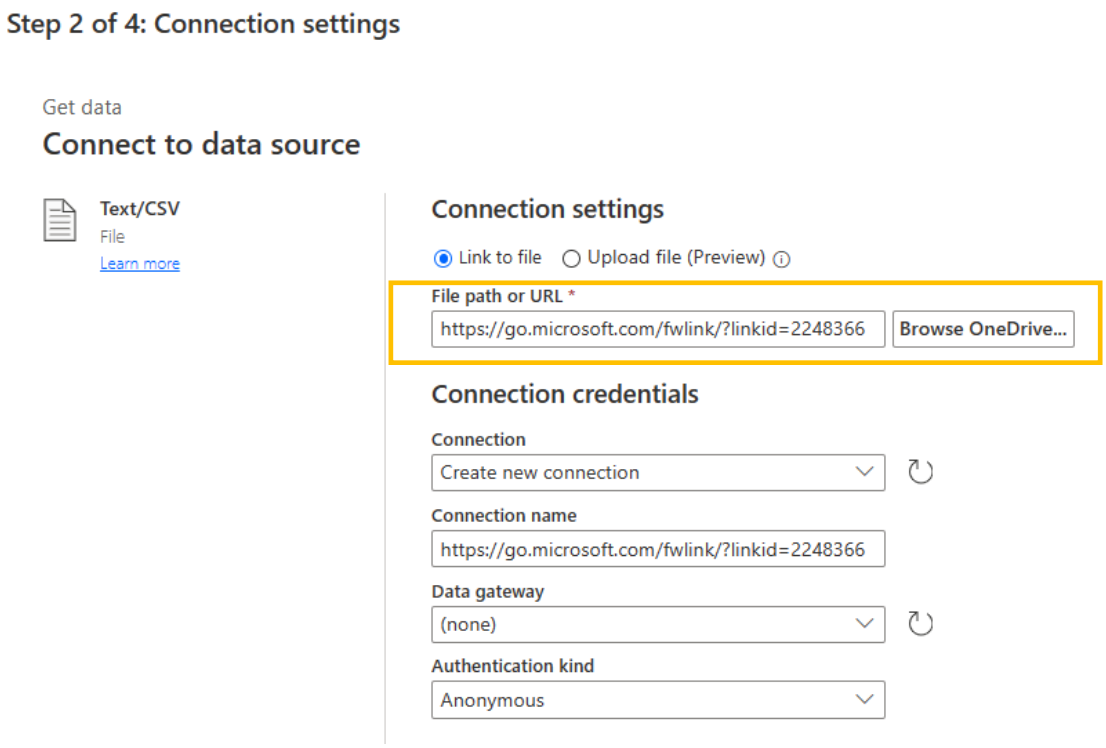
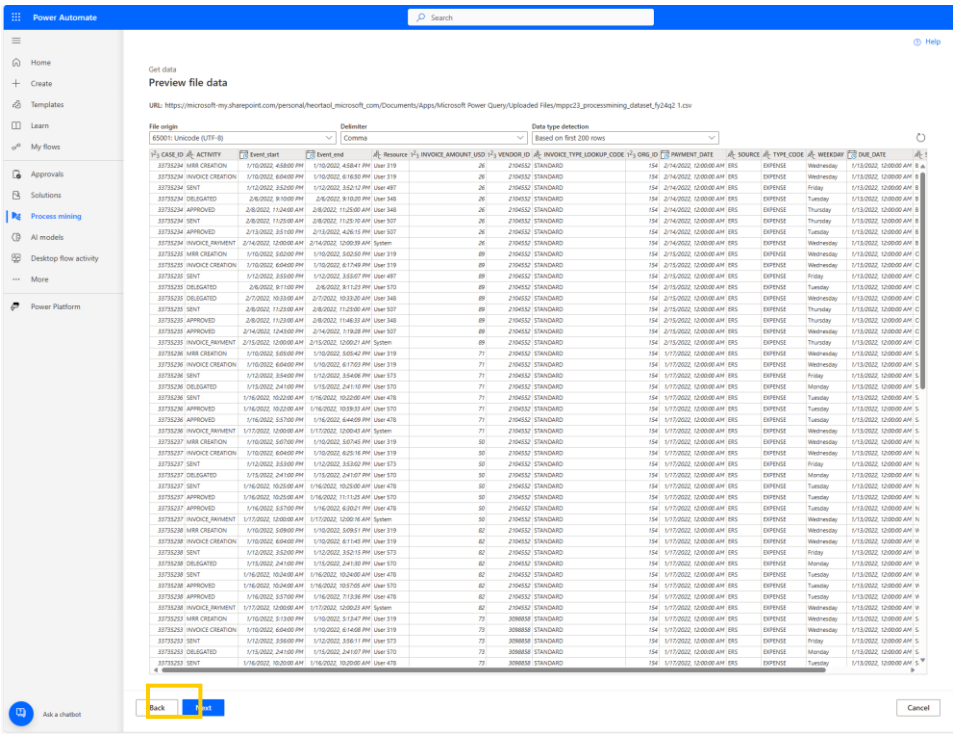


9. Select **Next** to Preview data file. You can see what the event log data looks like. Select **Next** again.



On the Power Query screen, you can make certain transformations to your data similar to how you would in Excel. Let's do a minor transformation of converting **VENDOR_ID** from a numeric to text format.

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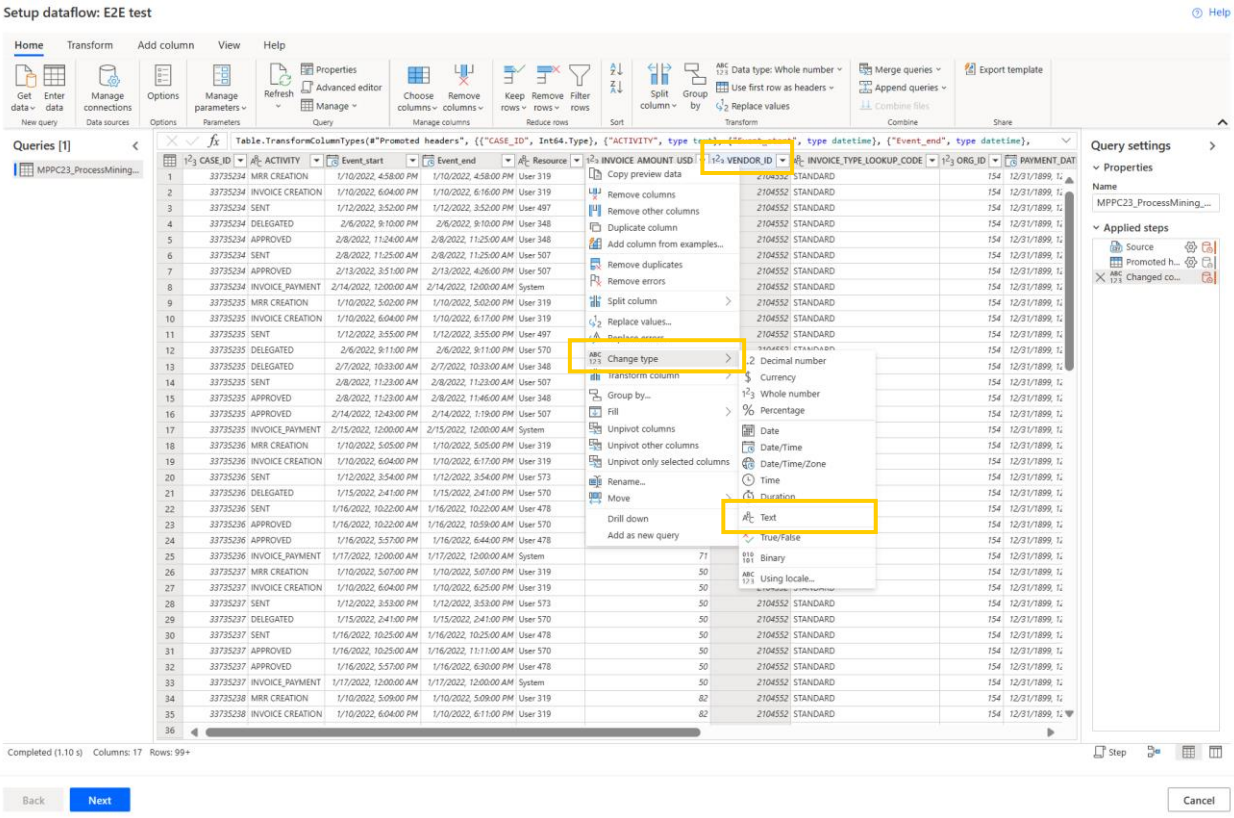
10. Right click on the header of the **VENDOR_ID** column. Then select **Change type > Text.**



11. A popup will appear, select **Replace current**.

12. Once you are done with your transformations click **Next.**

13. On the mapping screen you will be guided to map the columns to the required data schema. This allows the process mining engine to analyze the data properly and will also allow for additional categorization and filtration during analysis. The three required fields for mapping is the Case ID, Activity and Event Start.
    - **CaseID** - identifying number or text to represent a case as it runs through different activities.
    - **Activity** - name of activity or events in your process.
    - **Event Start** - timestamp or date for when an activity occurred (started).

    Additional attributes like event level, case level, and resource are optional but help with analysis.
    - **Case level attributes** are attributes that are uniform across a whole case like country and company.
    - **Event level attributes** are attributes specific to activities like resource or activity type
    - **Resource** is responsible party owner or actor for an activity.

Select **Auto-map** to expedite the mapping process. This is a capability that automatically maps columns in your dataset to attributes recognized by our process mining engine. Ensure that all the attributes are being mapped correctly.

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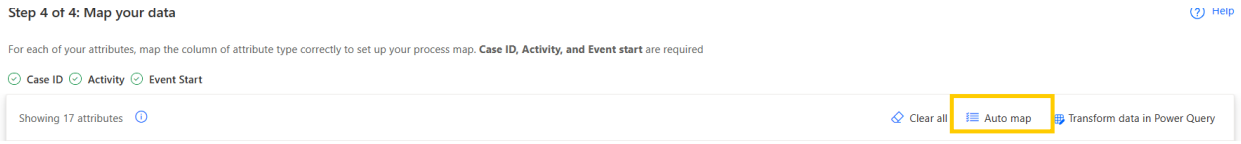
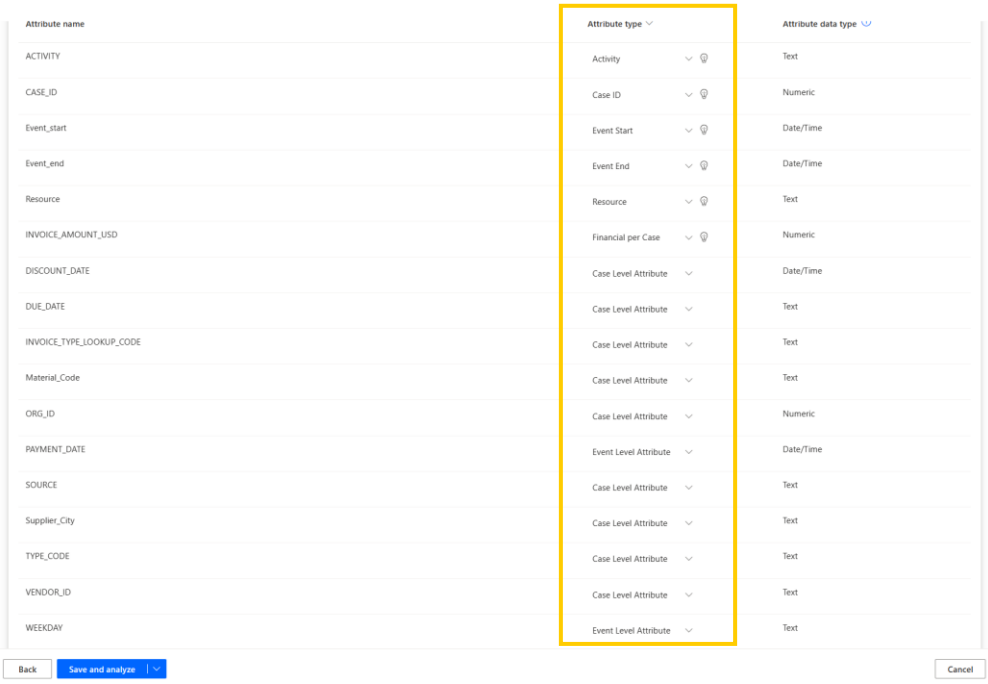


14. Let's stop and map some additional attributes to support our process analysis. Map the following attributes:

    - **Invoice_Amount_USD** to Financial per Case
    - **Discount_Date to Case Level Attribute**
    - **Due_Date to Case** Level Attribute
    - **INVOICE_TYPE_LOOKUP_CODE** to Case Level Attribute
    - **Material_Code** to Case Level Attribute
    - **ORG_ID** to Case Level Attribute
    - **SOURCE** to Case Level Attribute
    - **Supplier_City** to Case Level Attribute
    - **TYPE_CODE** to Case Level Attribute

15. Ensure that your attribute mapping screen looks like this:



16. Select **Save and Analyze**

When your process is analyzed you may see validation report where data is flagged by the process mining engine- we can always dive to see some of the erroneous or diverging data points. For this lab we will move forward.

17. Review the Process Map in the web- identify the different process activities and variations.

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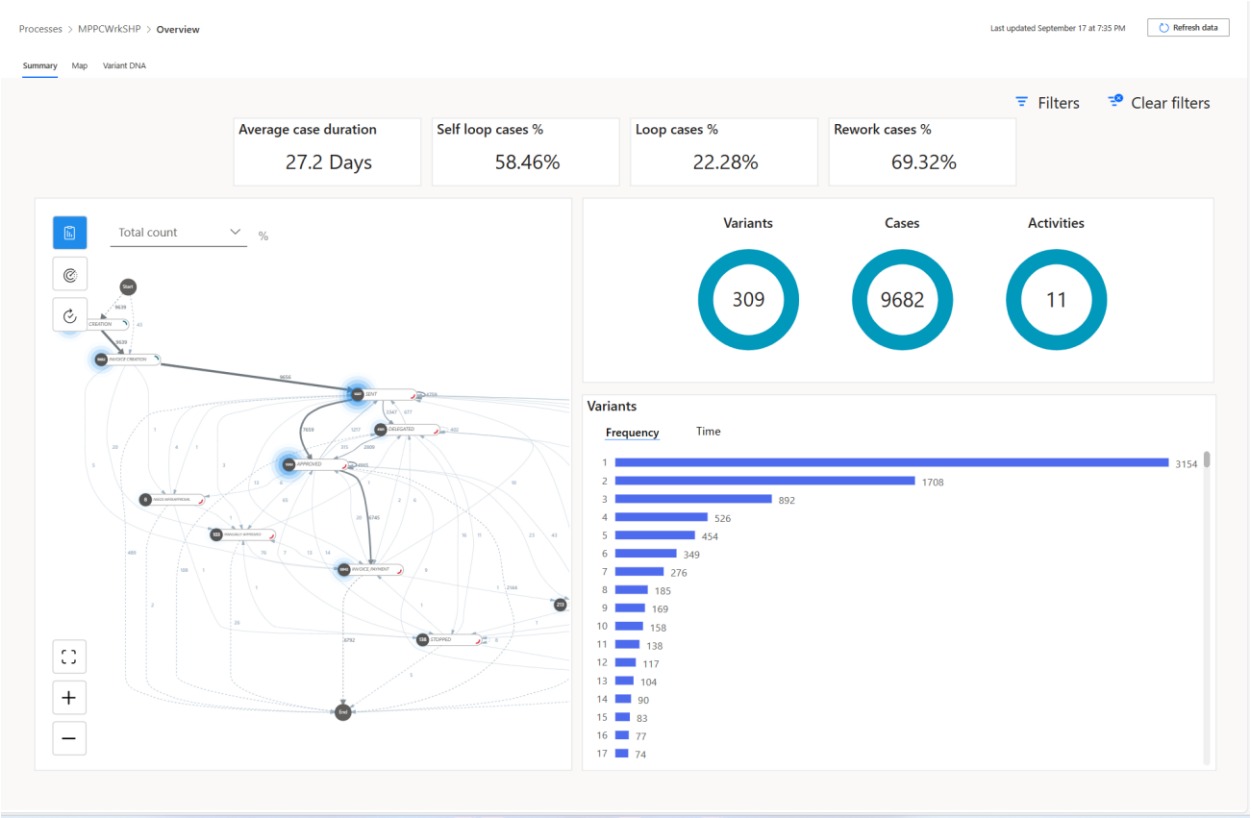

We can see from report that there are 9,682 cases or invoices in our process and that they take over 300 variations or paths to completion- which take an average of 27 days

18. Select the Performance icon on the map to see the duration attributes of the activities in the map

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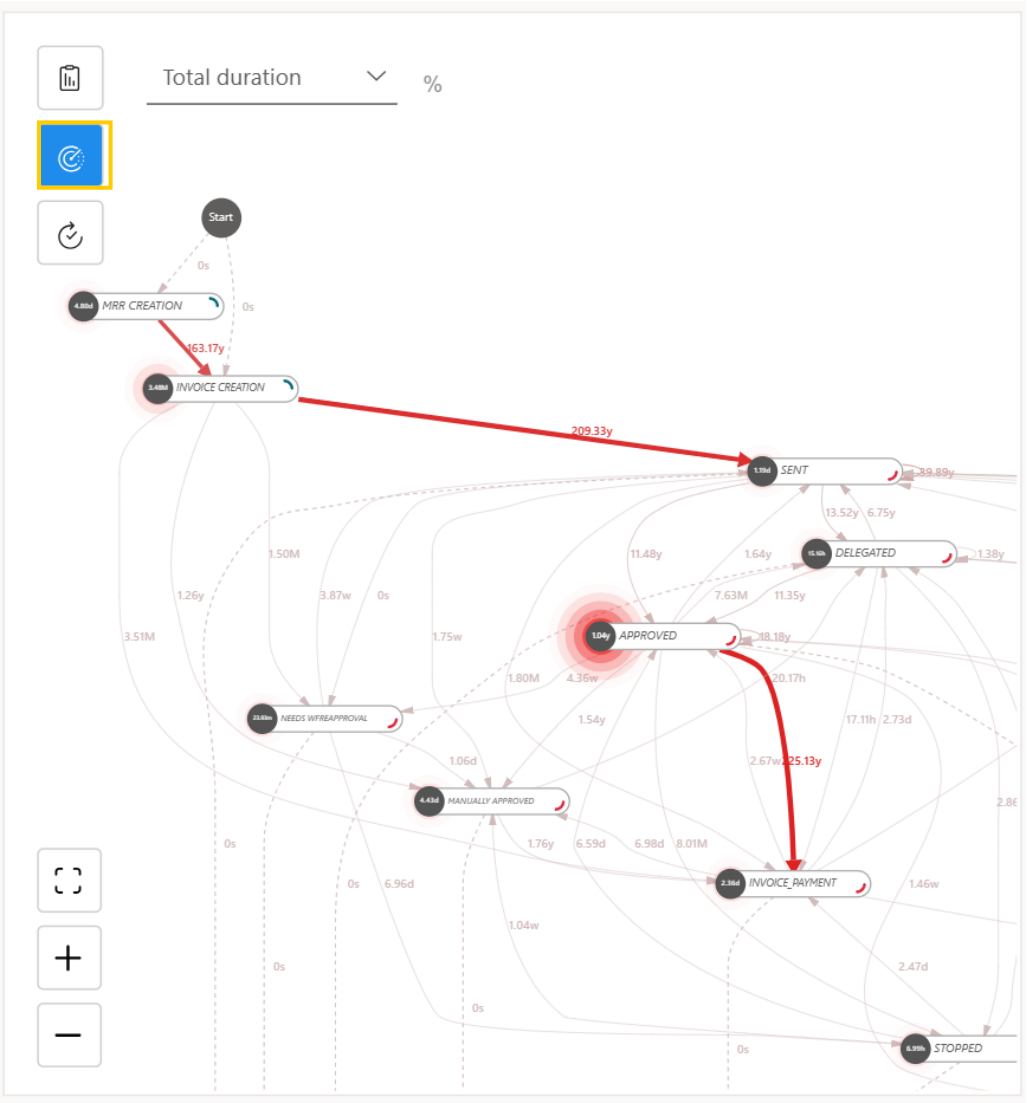

19. Click down in map search to select **Mean Duration**

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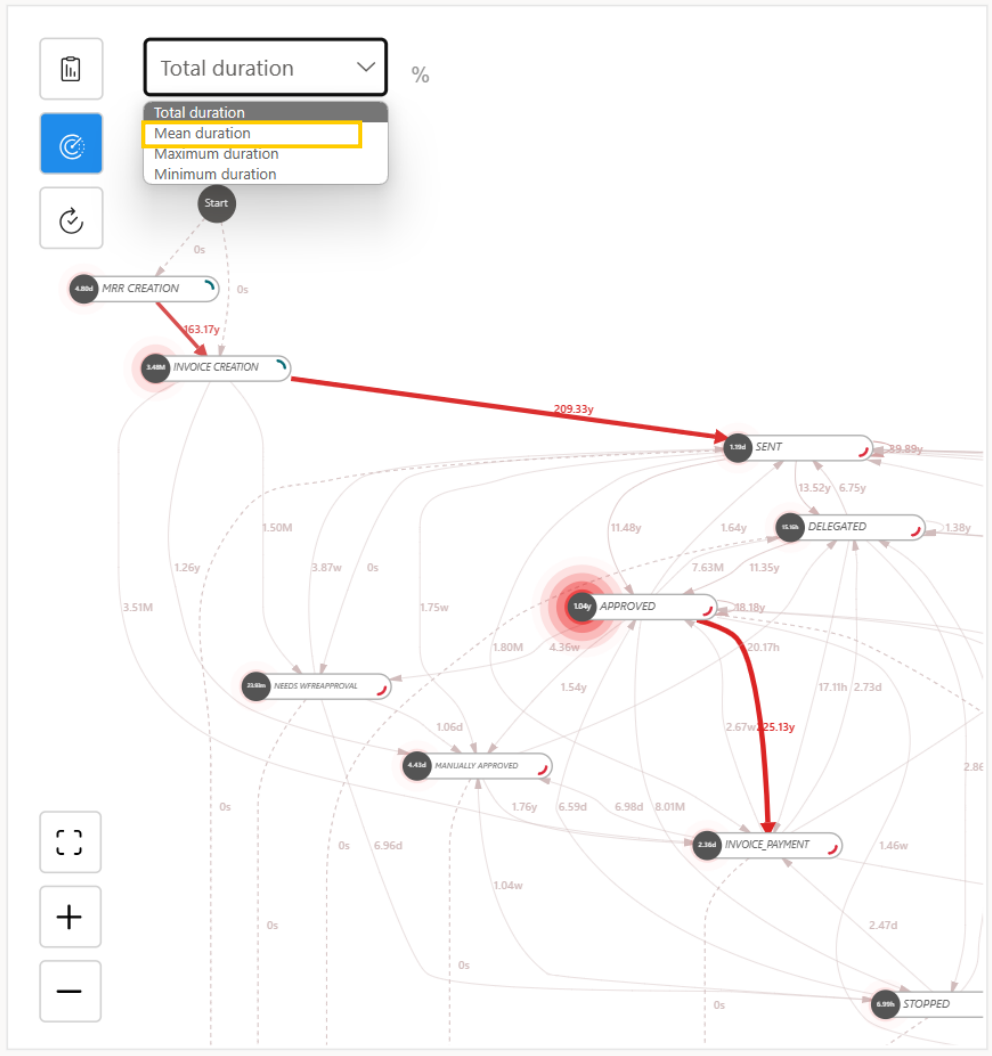

From this short analysis we have identified that **Invoice Creation** is an activity that has long duration times in our overall process. This makes it a great candidate to go and address as part of our work. We should dig deeper into what steps make up the invoice creation activity. A great way to do this is through Task Mining. We will be able to learn how we can use task understanding through desktop recordings to dive even deeper into our process.

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Congratulations!

You have completed this lab.

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