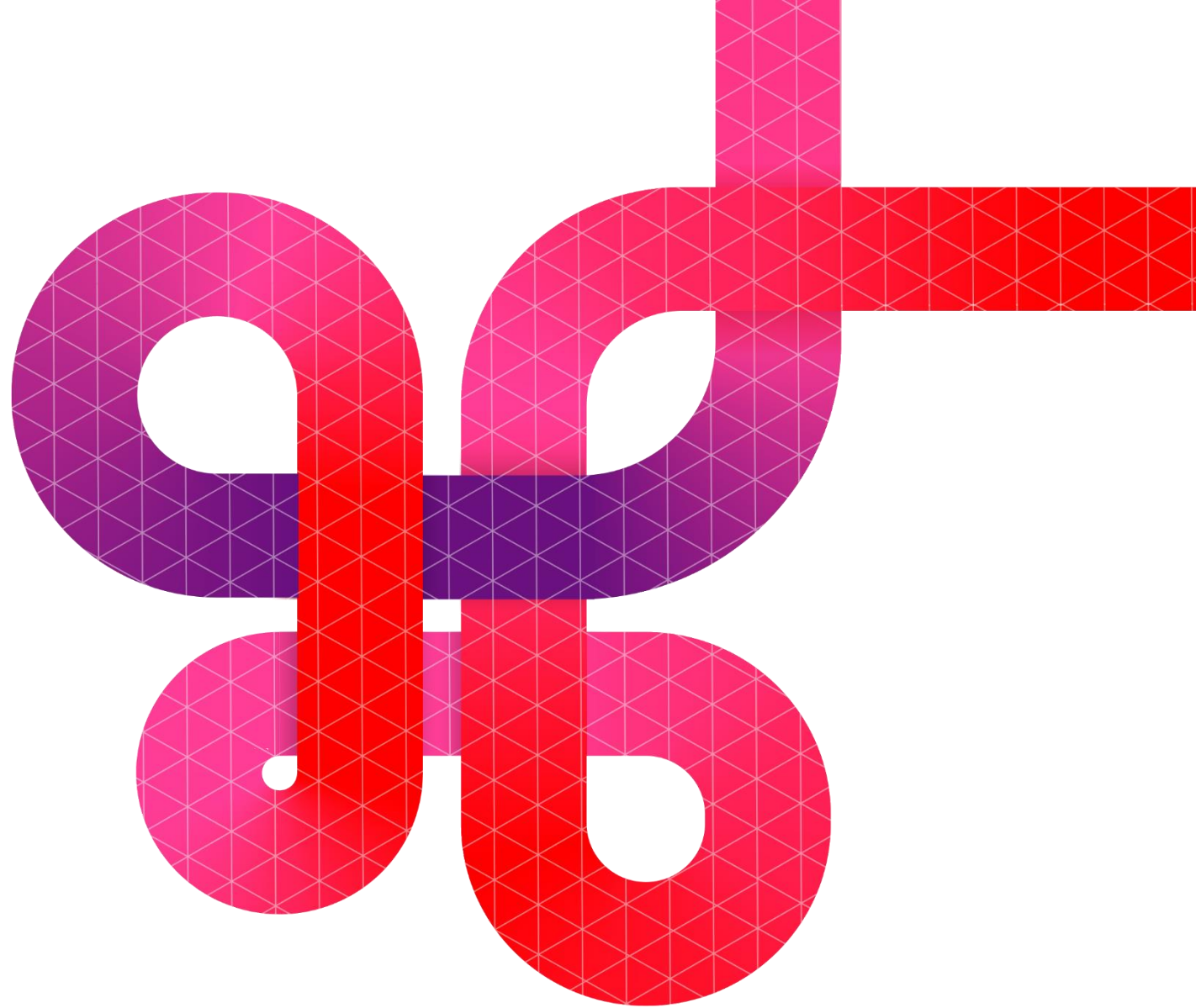




# Celonis Academy– AP Case Study

Detailed Answers and Guide



# Accounts Payable Case Study

## Agenda

1. Connecting to the Source System
2. Setting Up Extraction
3. Filtering and Execute Extraction
4. Creating Activity Table (Transformations)
5. Adding an Activity
6. Setting Up the Initial Data Model
7. Extending the Data Model
8. Finalizing the Data Model
9. Analysis Question Answers





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# Connecting to the Source System

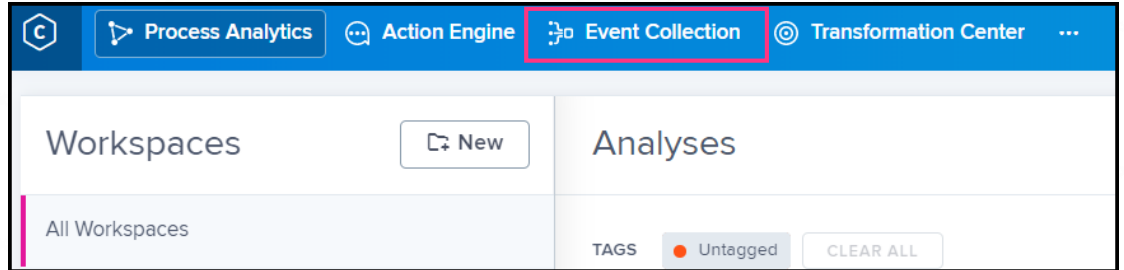


# Connecting to the Source System

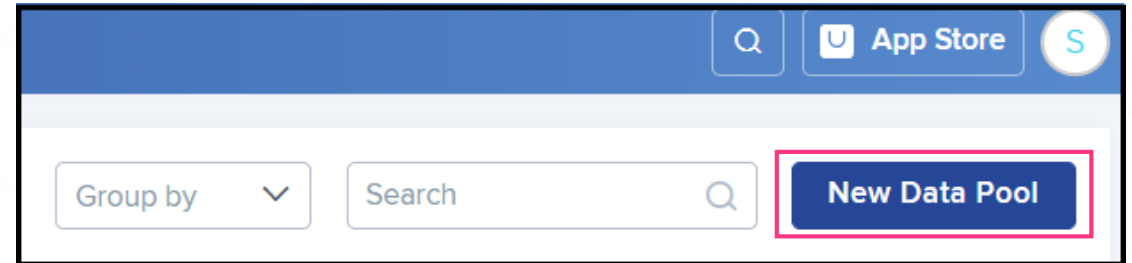
1 Let's begin by signing into your training workspace.

The image shows the 'Sign in - Celonis' login page. It features a central form with two input fields: 'EMAIL' and 'PASSWORD'. Each field has a small icon on the right side. Below the password field is a link for 'Forgot Password?'. At the bottom right of the form is a blue 'Sign In' button. The entire form is enclosed in a pink rectangular border, which is itself within a larger blue rectangular frame.

2 From your IBC Homepage, select Event Collection.



3 On the Event Collection page, create a New Data Pool.

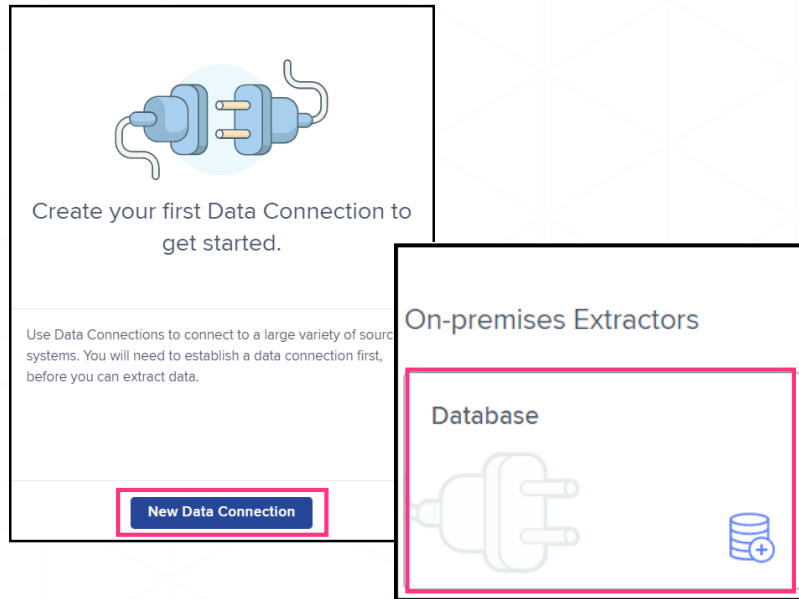




# Connecting to the Source System

4

Once a New Data Pool is created, create a **New Data Connection** and select **Database** as the extraction type.



5

Enter the following information for the corresponding fields.  
*Please do not make any additional changes to other fields..*

## Credentials

**Name:** Data Engineer AP Case Study

**Connection type:** Direct

**Type:** Microsoft SQL Server (native)

**Host:** 3.120.99.40

**Port:** 1433

**Database Name:** celonis

**Schema Name:** CASESTUDY

**Username:** Training\_CelonisDataEngineer

**Password:** Celonis123!

6

Once you select **Done**, the Data Connection will be successfully established like what is shown below:

Data Connections				New Data Connection
Name	Type	Uplink Name	Additional Information	
Data Engineer AP Case Study	Database			⋮



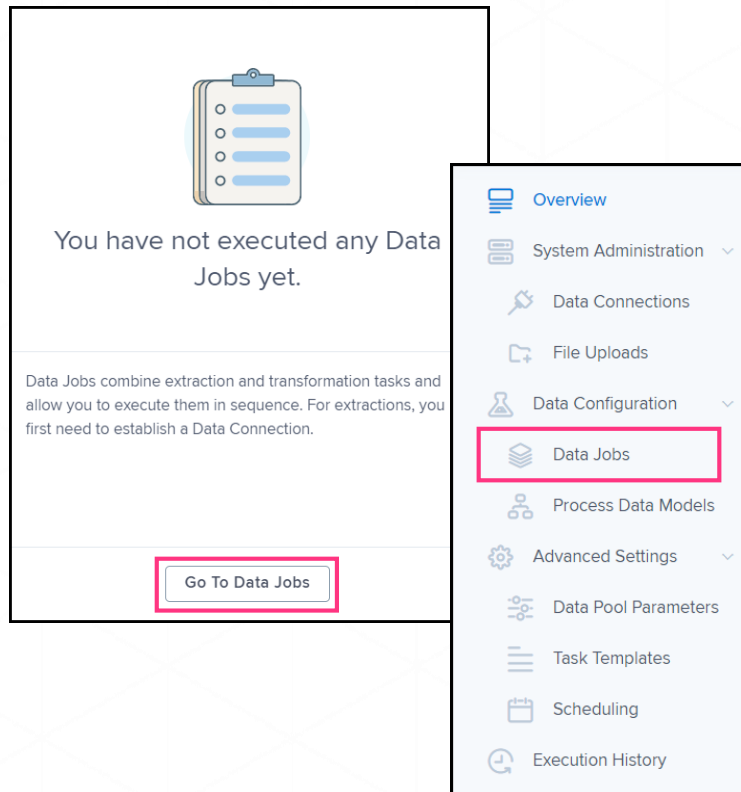
Celonis Intelligent Business Cloud

# Setting up an Extraction

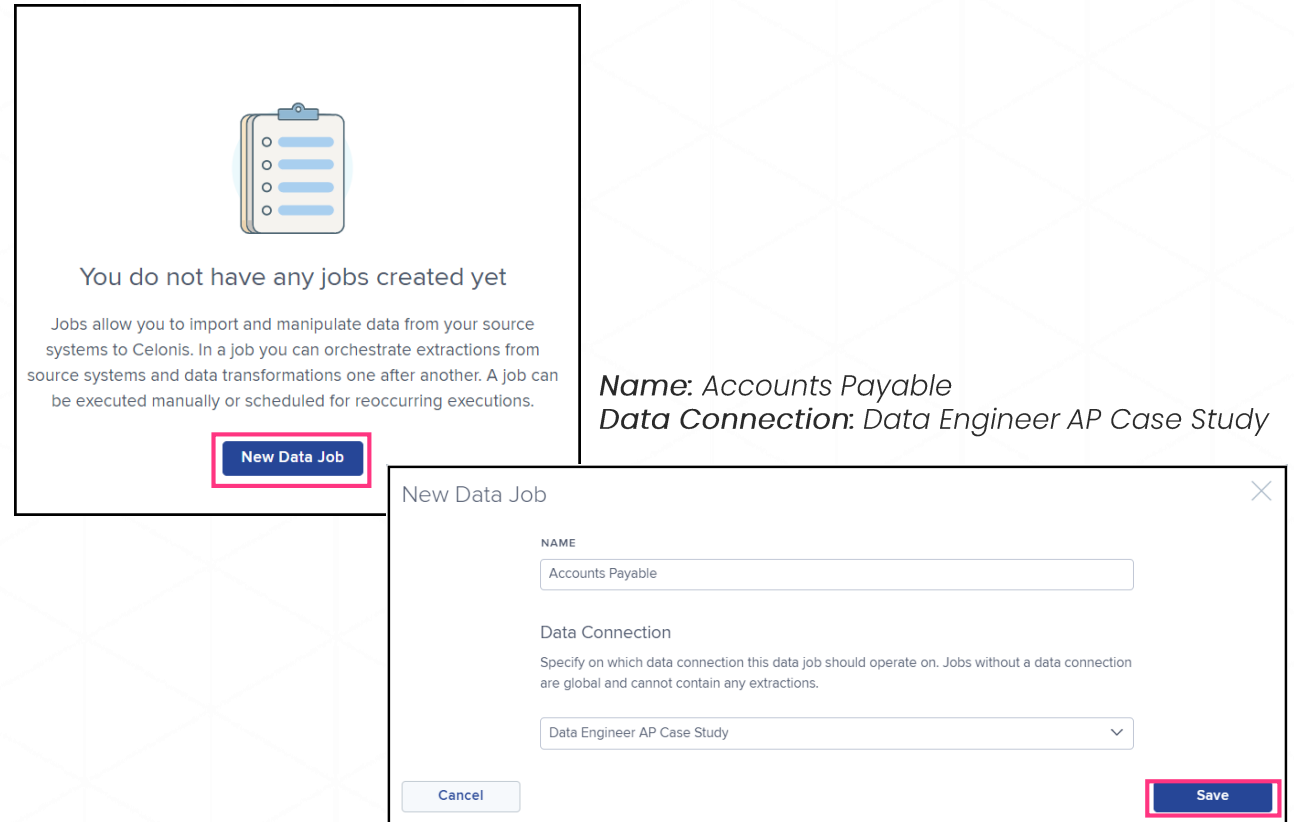


# Setting up the Extraction

**1** To set up an Extraction, select **Go To Data Jobs** from the Event Collection page or by selecting **Data Jobs** from the left-hand side.



**2** When creating a Data Job for the first time, you will need to select **New Data Job** shown in the image below.

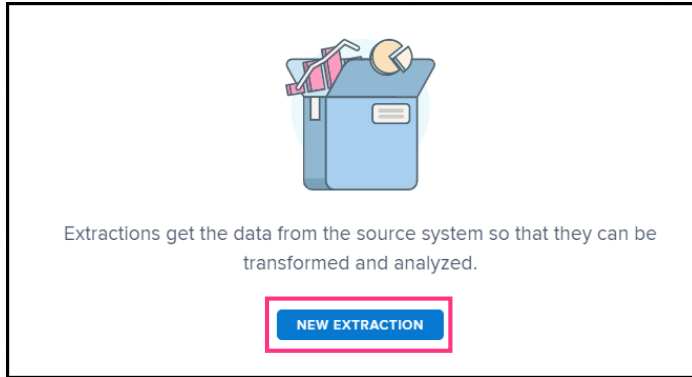






# Setting up the Extraction

3 To create the first extraction, select **New Extraction**.



4 Because we're extracting the raw Accounts payable data, let's name the New Extraction **Extract Raw AP Data**.

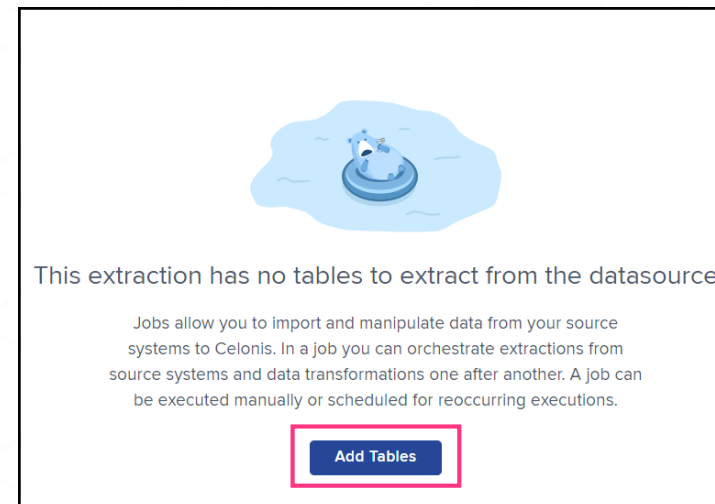
New Extraction

NAME

Extract Raw AP Data

Cancel Save

5 Click on **Add Tables** to select which tables to extract from the Raw Accounts Payable Data.







# Setting up the Extraction

6

Select all the available tables on the Add Table page and press **Save**.

Add Table

Search Tables

Import Table List

SEARCH FOR TABLES

Use % for partial match (e.g. "%data" will search for tables ending with "data") and use . to search for schemas (e.g. "A.B" will search for table "B" in schema "A")

AVAILABLE TABLES

<input type="checkbox"/>	CASESTUDY.BKPF
<input type="checkbox"/>	CASESTUDY.BSEG
<input type="checkbox"/>	CASESTUDY.CDHDR
<input type="checkbox"/>	CASESTUDY.CDPOS
<input type="checkbox"/>	CASESTUDY.DD02T
<input type="checkbox"/>	CASESTUDY.DD03M
<input type="checkbox"/>	CASESTUDY.LFA1

Cancel

Save

Add Table

Search Tables

Import Table List

SEARCH FOR TABLES

Use % for partial match (e.g. "%data" will search for tables ending with "data") and use . to search for schemas (e.g. "A.B" will search for table "B" in schema "A")

CASESTUDY.BKPF x

CASESTUDY.BSEG x

CASESTUDY.CDHDR x

CASESTUDY.CDPOS x

CASESTUDY.DD02T x

CASESTUDY.DD03M x

CASESTUDY.LFA1 x

No results found

Your search found no matching results.  
Please try searching again with different criteria.

Cancel

Save

7

After completing the extraction, you should have a screen like the following:

Accounts Payable

Tasks

Logs

EXECUTE DATA JOB

EXTRACTIONS	ENABLED	<div>NEW EXTRACTION</div>
<div><div></div>Extract Raw AP Data</div>	Yes	<div></div>



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# Filtering and Executing an Extraction



# Filtering and Executing an Extraction

1

After setting up the Extraction, let's click on **Extract Raw AP Data** to apply an extraction filter.

Accounts Payable		EXECUTE DATA JOB
Tasks	Logs	
EXTRACTIONS		ENABLED
NEW EXTRACTION		
...	Extract Raw AP Data	Yes

? Why do we set filters?

*Filters are set because sometimes we don't need all the information in the Data Model. For example, if you want to look at data in the past 10 years, you would filter out data prior to that because it's not required.*

← Edit Extraction: Extract Raw AP Data

Table Configuration Parameters

Tables Add Save BKPf

CASESTUDY.BKPF	...
CASESTUDY.BSEG	...
CASESTUDY.CDHDR	...
CASESTUDY.CDPOS	...
CASESTUDY.DDOBT	...
CASESTUDY.DDO3M	...
CASESTUDY.LFA1	...

General

Selected columns: 23 / 23 Configure

Selected columns for pseudonymization: 0 / 23 Configure

☐ Join another table during extraction

☐ Override the primary key columns

Time Filter

☐ Enable creation date filter

☐ Enable change date filter

Additional Filter

Filter Statement

1 COLUMN\_A > 1 AND COLUMN\_B IN ('example1', 'example2')

Delta Filter Statement

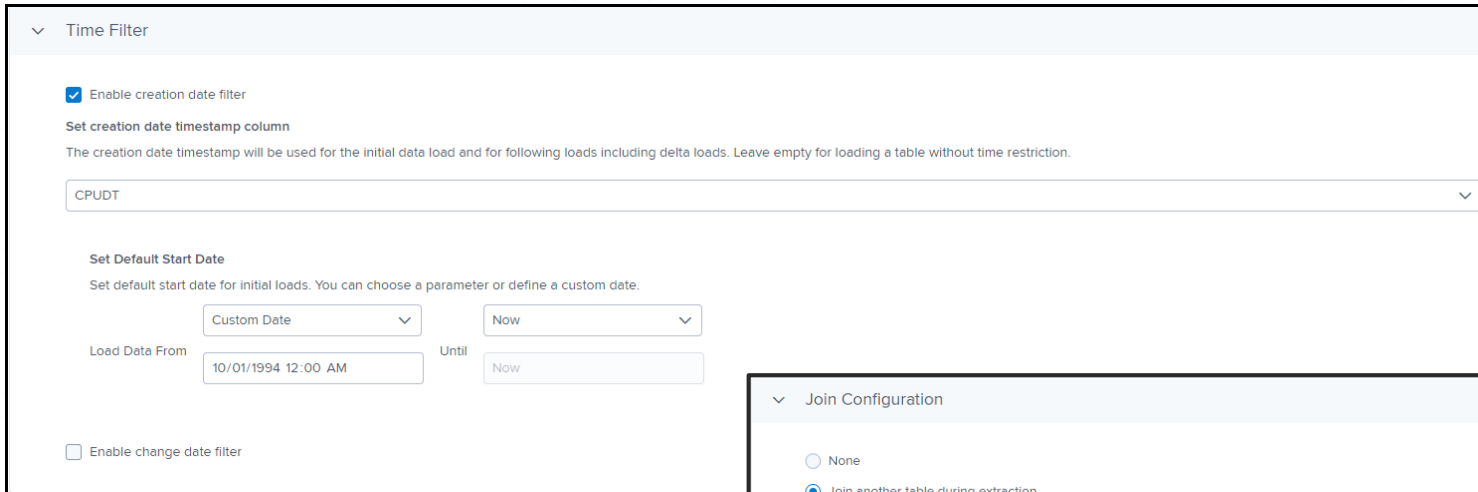
1 COLUMN\_A > 1 AND COLUMN\_B IN ('example1', 'example2')

!

*In most cases, there will be a time filter for CDHDR and CDPOS because tables usually are huge in SAP. However, in this case study no filter is needed for CDHDR or CDPOS.*

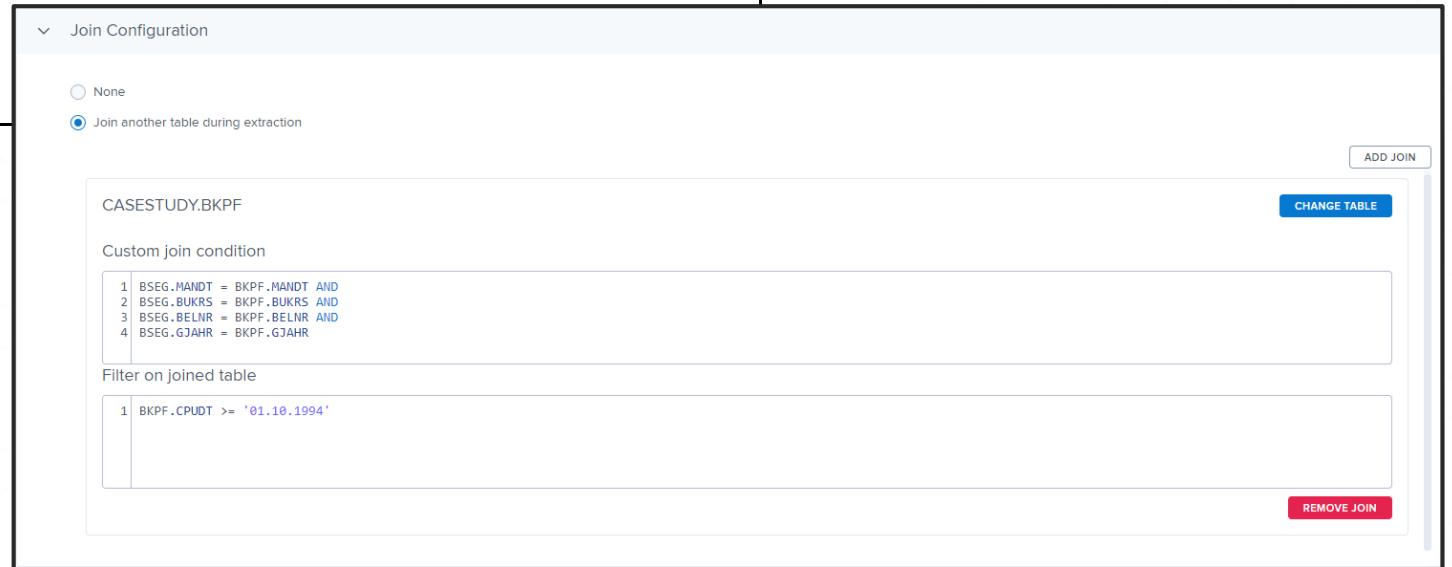
# Filtering and Executing an Extraction

2 From the CASESTUDY.BKPF table, enable the creation date filter.



The screenshot shows the 'Time Filter' configuration panel. It includes a checkbox for 'Enable creation date filter' which is checked. Below it, a section for 'Set creation date timestamp column' has a dropdown menu with 'CPUDT' selected. Further down, the 'Set Default Start Date' section has two dropdowns: 'Custom Date' and 'Now'. The 'Load Data From' field shows '10/01/1994 12:00 AM' and the 'Until' field shows 'Now'. At the bottom, there is an unchecked checkbox for 'Enable change date filter'.

3 From the CASESTUDY.BSEG table, Join another table during extraction and select Add Join. Make sure to join CASESTUDY.BKPF to CASESTUDY.BSEG and set the filter shown.



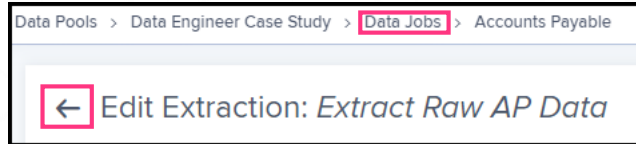
The screenshot shows the 'Join Configuration' panel. The 'Join another table during extraction' option is selected. Below, the 'CASESTUDY.BKPF' table is listed with a 'CHANGE TABLE' button. A 'Custom join condition' section contains four lines of SQL code: '1 BSEG.MANDT = BKPF.MANDT AND', '2 BSEG.BUKRS = BKPF.BUKRS AND', '3 BSEG.BELNR = BKPF.BELNR AND', and '4 BSEG.GJAHR = BKPF.GJAHR'. Below this, the 'Filter on joined table' section contains one line: '1 BKPF.CPUDT >= '01.10.1994''. There are 'ADD JOIN' and 'REMOVE JOIN' buttons on the right side.

? Why do we need to join tables?

*Joining tables will establish a relationship between the two. In simpler terms, it's like combining multiple tables into one big table. This join enables us to extract the same time scope of BSEG as from BKPF, because the time is only stored in BKPF.*

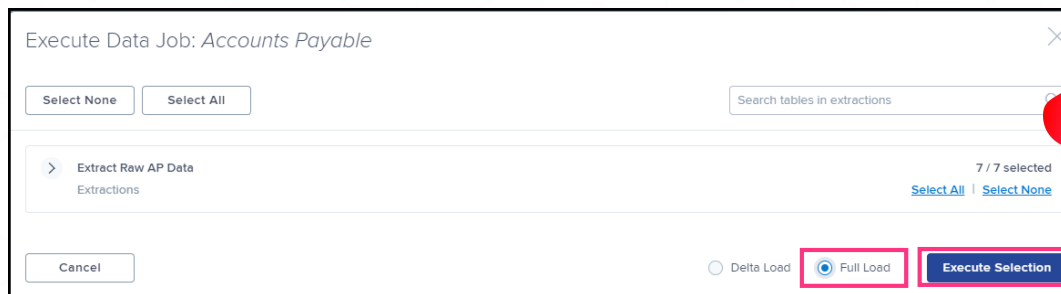
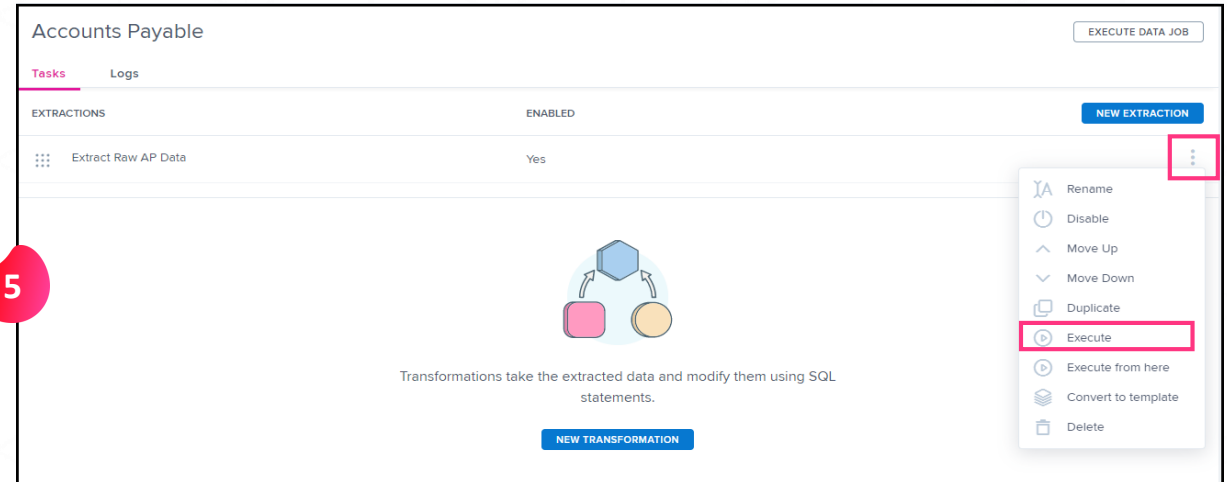
# Filtering and Executing an Extraction

- 4 Navigate back to the Extraction page by clicking the **Back Arrow** or the **Data Jobs** trail.




Select **Options** from the Extract Raw AP Data Extraction and press **Execute** to refresh the data with the Data Filter.

5



6

Make sure that you've selected **Full Load** and then **Execute Selection**. You should then receive a **Successful Status** like what is shown below.

Date	Schedule Name	Status
2019-08-09 11:14:21	Manual Execution	 Successful

4

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# Creating Activity Table (Transformations)



# Creating Activity Table (Transformations)

## Create Table: Activity Table

1

Create a New Transformation to add the activity table.

New Transformation

NAME

Creating Table: Activity Table

DESCRIPTION

This is to create an Activity Table for Data Job

Cancel

Save

```
DROP TABLE IF EXISTS _CEL_AP_ACTIVITIES;
```

```
CREATE TABLE _CEL_AP_ACTIVITIES(  
  "_CASE_KEY" VARCHAR (50),  
  "_ACTIVITY" VARCHAR (50),  
  "_EVENTTIME" DATETIME,  
  "_SORTING" INT)  
;
```

Schema Explorer	
> BKPF	
> BSEG	
> CDHDR	
> CDPOS	
> DD02T	
> DD03M	
> LFA1	
> _CEL_AP_ACTIVITIES	

Once you've created the Activity Table, Save and refresh the Transformation page and the new \_CEL\_AP\_ACTIVITIES table will be added.





Celonis Intelligent Business Cloud

# Adding an Activity



# Adding an Activity

Name Section: *Add Activity: Activity Name*

New Transformation

NAME

DESCRIPTION

Cancel

Save



Please note the following throughout this section:

1. You will have to create a **New Transformation** for each activity. The name can be found as the header of each section.
2. **DO NOT** copy and paste the code as the syntax conversion from PowerPoint/PDF to the IBC is not accurate.
3. Everyone codes differently, so your Vertica SQL may look slightly different. Please make sure the logic is the same.



# Adding an Activity

Add Activity: Vendor Creates Invoice

```
INSERT INTO _CEL_AP_ACTIVITIES("_CASE_KEY", "_ACTIVITY", "_EVENTTIME", "_SORTING")

SELECT DISTINCT
    "BSEG"."MANDT" || "BSEG"."BUKRS" || "BSEG"."BELNR" || "BSEG"."GJAHR" || "BSEG"."BUZEI" AS "_CASE_KEY",
    'Vendor creates invoice' AS "_ACTIVITY",
    "BKPF"."BLDAT" AS "_EVENTTIME",
    0 AS "_SORTING"

FROM "BSEG"
JOIN "BKPF" ON
    "BSEG"."MANDT"="BKPF"."MANDT"
    AND "BSEG"."BUKRS"="BKPF"."BUKRS"
    AND "BSEG"."BELNR"="BKPF"."BELNR"
    AND "BSEG"."GJAHR"="BKPF"."GJAHR"

WHERE "BSEG"."BSCHL" = '31'
    AND "BKPF"."BLDAT" IS NOT NULL;
```

Output: 85951 rows affected



# Adding an Activity

Add Activity: Enter Invoice in SAP

```
INSERT INTO _CEL_AP_ACTIVITIES("_CASE_KEY", "_ACTIVITY", "_EVENTTIME", "_SORTING")

SELECT DISTINCT
    "BSEG"."MANDT" || "BSEG"."BUKRS" || "BSEG"."BELNR" || "BSEG"."GJAHR" || "BSEG"."BUZEI" AS "_CASE_KEY",
    'Enter invoice in SAP' AS "_ACTIVITY",
    CAST("BKPF"."CPUDT" AS DATE) + CAST("BKPF"."CPUTM" AS TIME) AS "_EVENTTIME",
    10 AS "_SORTING"

FROM "BSEG"
JOIN "BKPF" ON
    "BSEG"."MANDT"="BKPF"."MANDT"
    AND "BSEG"."BUKRS"="BKPF"."BUKRS"
    AND "BSEG"."BELNR"="BKPF"."BELNR"
    AND "BSEG"."GJAHR"="BKPF"."GJAHR"

WHERE "BSEG"."BSCHL" = '31'
    AND "BKPF"."CPUDT" IS NOT NULL
    AND "BKPF"."CPUTM" IS NOT NULL;
```

Output: 85950 rows affected



# Adding an Activity

## Add Activity: Set or Remove Payment Block

```
INSERT INTO _CEL_AP_ACTIVITIES("_CASE_KEY", "_ACTIVITY", "_EVENTTIME", "_SORTING")

SELECT DISTINCT
    "BSEG"."MANDT" || "BSEG"."BUKRS" || "BSEG"."BELNR" || "BSEG"."GJAHR" || "BSEG"."BUZEI" AS "_CASE_KEY",
    CASE
        WHEN "CDPOS"."VALUE_NEW" IS NULL THEN 'Remove payment block'
        WHEN "CDPOS"."VALUE_OLD" IS NULL THEN 'Set payment block'
    END AS "_ACTIVITY",
    CAST("CDHDR"."UDATE" AS DATE) + CAST("CDHDR"."UTIME" AS TIME) AS "_EVENTTIME",
    CASE
        WHEN "CDPOS"."VALUE_NEW" IS NULL THEN 30
        WHEN "CDPOS"."VALUE_OLD" IS NULL THEN 20
    END AS "_SORTING"

FROM "BSEG"
JOIN "BKPF" ON
    "BSEG"."MANDT"="BKPF"."MANDT"
    AND "BSEG"."BUKRS"="BKPF"."BUKRS"
    AND "BSEG"."BELNR"="BKPF"."BELNR"
    AND "BSEG"."GJAHR"="BKPF"."GJAHR"

JOIN "CDPOS" ON
    "CDPOS"."TABKEY" = "BSEG"."MANDT" || "BSEG"."BUKRS" || "BSEG"."BELNR" || "BSEG"."GJAHR" || "BSEG"."BUZEI"
    AND "CDPOS"."TABNAME"='BSEG'

JOIN "CDHDR" ON
    "CDPOS"."MANDANT"="CDHDR"."MANDANT"
    AND "CDPOS"."OBJECTCLAS"="CDHDR"."OBJECTCLAS"
    AND "CDPOS"."OBJECTID"="CDHDR"."OBJECTID"
    AND "CDPOS"."CHANGENR"="CDHDR"."CHANGENR"

WHERE BSEG.BSCHL = '31'
    AND (CDPOS.VALUE_NEW IS NULL OR CDPOS.VALUE_OLD IS NULL)
    AND CDPOS.FNAME = 'ZLSPR' ;
```

Output: 1653 rows affected



# Adding an Activity

Add Activity: Clear Invoice

```
INSERT INTO _CEL_AP_ACTIVITIES("_CASE_KEY", "_ACTIVITY", "_EVENTTIME", "_SORTING")

SELECT DISTINCT
    "BSEG"."MANDT" || "BSEG"."BUKRS" || "BSEG"."BELNR" || "BSEG"."GJAHR" || "BSEG"."BUZEI" AS "_CASE_KEY",
    'Clear Invoice' AS "_ACTIVITY",
    "BSEG"."AUGDT" AS "_EVENTTIME",
    40 AS "_SORTING"

FROM "BSEG"
JOIN "BKPF" ON
    "BSEG"."MANDT"="BKPF"."MANDT"
    AND "BSEG"."BUKRS"="BKPF"."BUKRS"
    AND "BSEG"."BELNR"="BKPF"."BELNR"
AND "BSEG"."GJAHR"="BKPF"."GJAHR"

WHERE "BSEG"."BSCHL" = '31'
AND "BSEG"."AUGDT" IS NOT NULL;
```

Output: 59865 rows affected



# Adding an Activity

## Add Activity: Due Date Expired

```
INSERT INTO _CEL_AP_ACTIVITIES("_CASE_KEY", "_ACTIVITY", "_EVENTTIME", "_SORTING")

SELECT DISTINCT
    "BSEG"."MANDT" || "BSEG"."BUKRS" || "BSEG"."BELNR" || "BSEG"."GJAHR" || "BSEG"."BUZEI" AS "_CASE_KEY",
    'Due date expired' AS "_ACTIVITY",
    CASE
        WHEN "BSEG"."ZBD3T" > 0 THEN "BSEG"."ZBD3T" + "BSEG"."ZFBDT"
        WHEN "BSEG"."ZBD2T" > 0 THEN "BSEG"."ZBD2T" + "BSEG"."ZFBDT"
        WHEN "BSEG"."ZBD1T" > 0 THEN "BSEG"."ZBD1T" + "BSEG"."ZFBDT"
        ELSE "BSEG"."ZFBDT" END AS "_EVENTTIME",
    50 AS "_SORTING"

FROM "BSEG"
JOIN "BKPF" ON
    "BSEG"."MANDT"="BKPF"."MANDT"
    AND "BSEG"."BUKRS"="BKPF"."BUKRS"
    AND "BSEG"."BELNR"="BKPF"."BELNR"
    AND "BSEG"."GJAHR"="BKPF"."GJAHR"

WHERE "BSEG"."BSCHL" = '31'
    AND "BSEG"."ZFBDT" IS NOT NULL;
```

Output: 85914 rows affected





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# Setting Up the Initial Data Model



# Setting up the Initial Data Model

- 1 Once you have created all the new activities, you should have something like the following:

TRANSFORMATIONS	INFO	ENABLED	PUBLISHED
Creating Table: Activity Table		Yes	No
Add Activity: Clear Invoice		Yes	No
Add Activity: Enter invoice in SAP		Yes	No
Add Activity: Vendor Creates Invoice		Yes	No
Add Activity: Set or Remove Payment Block		Yes	No
Add Activity: Due Date Expired		Yes	No

- 2 Press the **Execute Data Job** button on the top right. Make sure to select **Full Load** before clicking **Execute Selection**.

**EXECUTE DATA JOB**

Execute Data Job: *Accounts Payable*

Select None Select All

Search tables in extractions

> Extract Raw AP Data

Extractions

7 / 7 selected

Select All Select None

> Transformations

6 / 6 selected

Select All Select None

Cancel

☐ Delta Load ☒ Full Load

Execute Selection

- 3 The Data job will now run. Please be patient until the **Status** changes to **Successful**

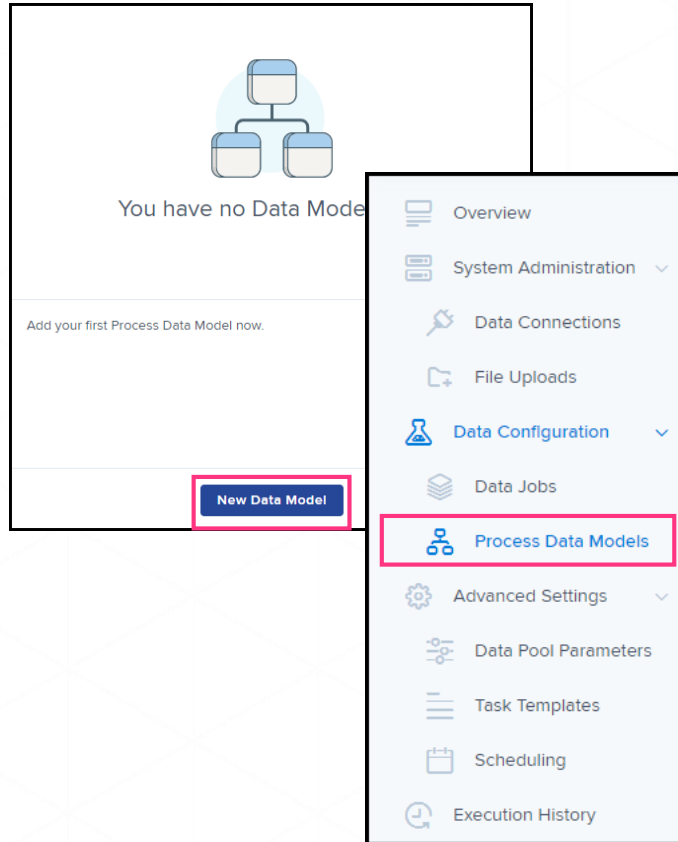
Date	Schedule Name	Status
2019-08-13 09:38:38	Manual Execution	Running



# Setting up the Initial Data Model

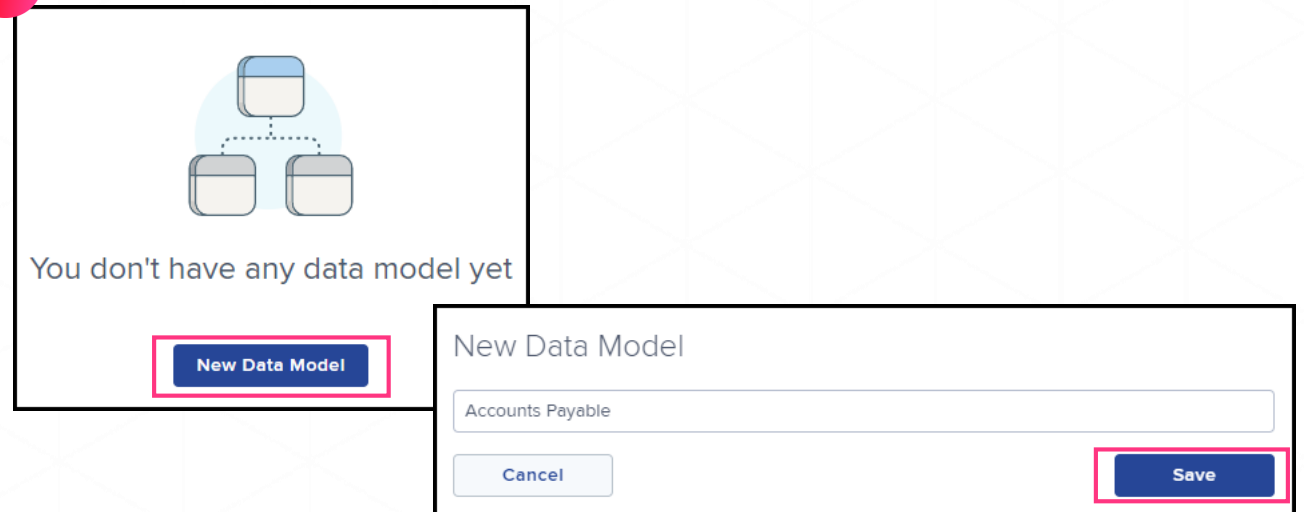
4

To create the Data Model, you can click **New Data Model** from the Overview page *or* click on **Process Data Models** on the left-hand side.



5

Create a **New Data Model**, name it **Accounts Payable**, and press **Save**.





# Setting up the Initial Data Model

6 Select Activity Table and press Next.

Selected items

REMOVE ALL FROM SELECTION (1)

Search

\_CEL\_AP\_ACTIVITIES from data connection: Data Engineer AP Case Study

REMOVE

Next

7 Select the \_CEL\_AP\_ACTIVITES as the Activity Table and follow the instructions in the IBC and configure the Activities Table.

ABC	_CASE_KEY	ABC	_ACTIVITY	DATE	_EVENTTIME	123	_SORTING
800300019000002872...			Clear Invoice		2006-02-16 19:00:00		40
800300019000059372...			Clear Invoice		2003-08-13 20:00:00		40
8003000190000106720...			Clear Invoice		2007-05-18 20:00:00		40
8001000190000010720...			Clear Invoice		2006-03-09 19:00:00		40
8001000190000475720...			Clear Invoice		2003-08-21 20:00:00		40
8001000190000450720...			Clear Invoice		2003-08-21 20:00:00		40
8001000190000559720...			Clear Invoice		2003-11-27 19:00:00		40
8003000190000000000...			Clear Invoice		2004-02-25 19:00:00		40
800300019000080672...			Clear Invoice		2004-02-25 19:00:00		40
800300019000007372...			Clear Invoice		2005-05-13 20:00:00		40
80010001900001417199...			Clear Invoice		1997-01-17 19:00:00		40
8001000190000491720...			Clear Invoice		2003-08-21 20:00:00		40
800300019000049772...			Clear Invoice		2003-06-10 20:00:00		40
800300019000029672...			Clear Invoice		2002-11-01 19:00:00		40
8001000190000238719...			Clear Invoice		1997-04-25 20:00:00		40
8002000190000021719...			Clear Invoice		1996-09-26 20:00:00		40
8001000190000324720...			Clear Invoice		2003-03-27 19:00:00		40
800300019000007872...			Clear Invoice		2009-03-25 20:00:00		40

× Case ID

× Activity Name

× Timestamp

× Sorting

Finish

8 Force Complete Reload your data model and proceed to create a new Analysis to verify the results.

Model

Data Loads

Calendar

Name Mapping

Reload From Cache

Force Complete Reload

No Data Model has been loaded

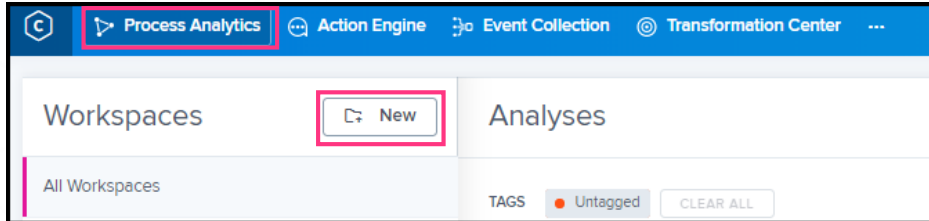
No Live Data Model has been configured



# Setting up the Initial Data Model

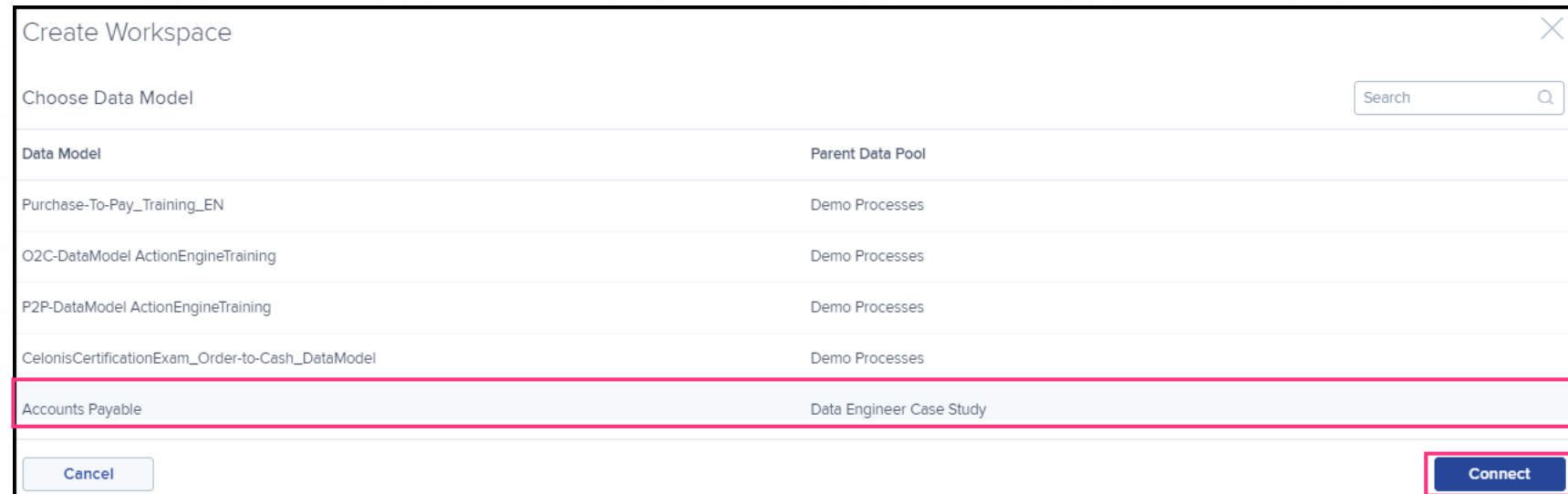
8

Once the Activity Table has been configured, create a new Analysis by clicking on the **Process Analytics** tab, and **New** next to Workspaces.



9

Select the Accounts Payable Data Model and press **Connect**.





# Setting up the Initial Data Model

Create Workspace

WORKSPACE NAME

Accounts Payable

Cancel Create

6

Name the new Workspace "Accounts Payable" and click Create.

Create a **New Analysis** within the Workspace you created. Name the New Analysis "Accounts payable Case Study" and click Create.

7

Accounts Payable

New Analysis

New Analysis

NAME

Accounts Payable Case Study

Cancel

Create

Accounts Payable

Accounts Payable Case Study

8



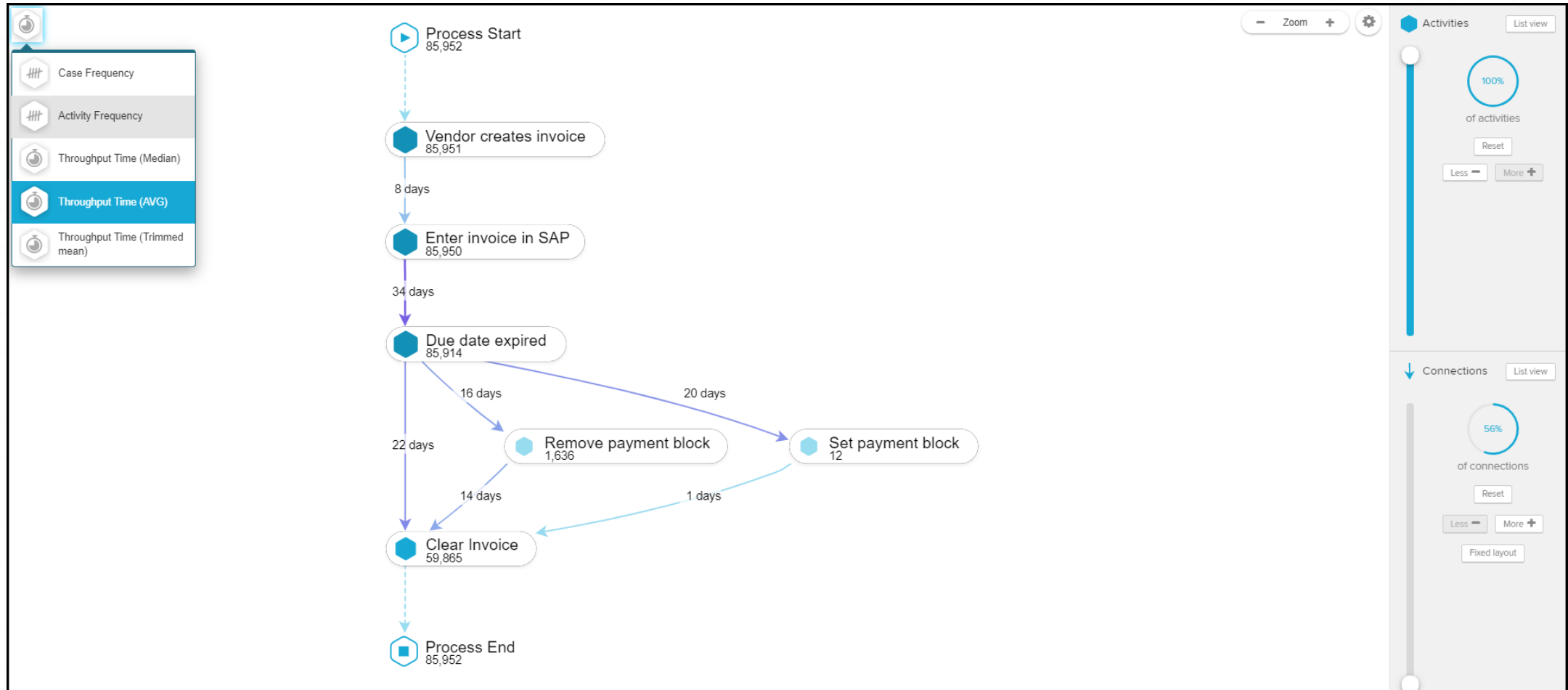
Process Explorer

Analyze and understand your process.

Open the new Analysis and Create a new **Process Explorer**.  
You can also create a **New App** and drag a Process Explorer onto it.



# Setting up the Initial Data Model



9

Your Process Explorer should be the same as the one above. Remember, the KPI of the explorer can be changed on the top left-hand side.





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# Extending the Data Model



# Extending the Data Model

1

Like adding an activity, you will have to create new views using the code shown on the next slides.

Job Name	Status	Timestamp
Accounts Payable	Success	2019-08-30 13:51:39
Accounts Payable	Success	2019-08-29 16:00:06
Accounts Payable	Success	2019-08-28 16:00:09
Accounts Payable	Success	2019-08-27 16:00:07

2

Press the **Execute Data Job** button on the top right. Make sure to select **Full Load** before clicking **Execute Selection**.

Execute Data Job: Accounts Payable

Select None Select All

Search tables in extractions

> Extract Raw AP Data  
Extractions 7 / 7 selected  
[Select All](#) | [Select None](#)

> Transformations 6 / 6 selected  
[Select All](#) | [Select None](#)

Cancel

☐ Delta Load ☒ Full Load **Execute Selection**

3

The Data job will now run. Please be patient until the **Status** changes to **Successful**

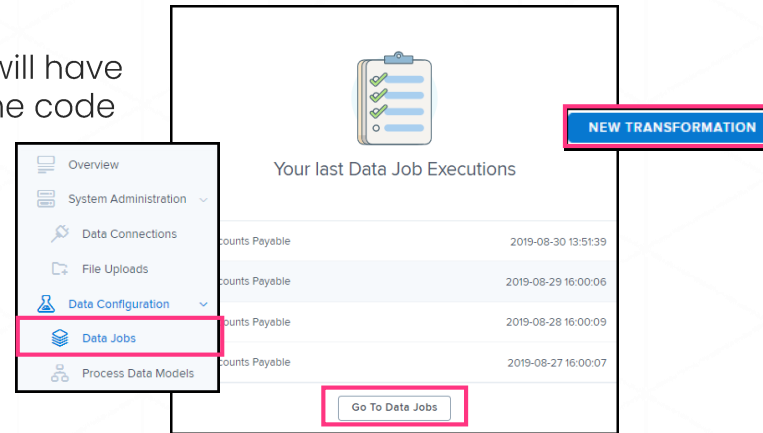
Date	Schedule Name	Status
2019-08-13 09:38:38	Manual Execution	Running



# Extending the Data Model

1

Like adding an activity, you will have to create new views using the code provided.



## Create Table: AP\_BSEG

```
DROP TABLE IF EXISTS "AP_BSEG";
CREATE TABLE "AP_BSEG" AS
SELECT DISTINCT
    "BSEG".*, "BSEG"."MANDT" || "BSEG"."BUKRS" || "BSEG"."BELNR" || "BSEG"."GJAHR" || "BSEG"."BUZEI" AS "_CASE_KEY"
FROM "BSEG"
JOIN "BKPF" ON
    "BSEG"."MANDT"="BKPF"."MANDT"
    AND "BSEG"."BUKRS"="BKPF"."BUKRS"
    AND "BSEG"."BELNR"="BKPF"."BELNR"
    AND "BSEG"."GJAHR"="BKPF"."GJAHR"
WHERE "BSEG"."BSCHL" = '31';
```



# Extending the Data Model

Create Table: AP\_BKPF

```
DROP TABLE IF EXISTS "AP_BKPF";
CREATE TABLE "AP_BKPF" AS
SELECT DISTINCT
    BKPF.*
FROM "BKPF"
JOIN "BSEG" ON
    "BSEG"."MANDT"="BKPF"."MANDT"
    AND "BSEG"."BUKRS"="BKPF"."BUKRS"
    AND "BSEG"."BELNR"="BKPF"."BELNR"
    AND "BSEG"."GJAHR"="BKPF"."GJAHR"
WHERE "BSEG"."BSCHL" = '31';
```

Create Table: AP\_LFA1

```
DROP TABLE IF EXISTS "AP_LFA1";
CREATE TABLE "AP_LFA1" AS
SELECT DISTINCT
    LFA1.*
FROM "LFA1"
JOIN "BSEG" ON
    "BSEG"."MANDT"="LFA1"."MANDT"
    AND "BSEG"."LIFNR"="LFA1"."LIFNR"
WHERE "BSEG"."BSCHL" = '31';
```



# Extending the Data Model

?

Why do we have to replicate the tables?

Because sometimes the database is messy, we want to make sure we're extracting the Distinct data from each of required tables so that we can produce clean and accurate information.

Can we create Views instead of Tables?

Yes, you can create Views instead of Tables. For additional practice, try creating both!

2

Press the **Execute Data Job** button on the top right. Make sure to select **Full Load** before clicking **Execute Selection**.

3

The Data job will now run. Please be patient until the **Status** changes to **Successful**

Date	Schedule Name	Status
2019-08-13 09:38:38	Manual Execution	Running



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# Finalizing the Data Model



# Finalizing the Data Model

- 1 Revisit the **Accounts Payable** data model that was created earlier by going to the Overview page *or* click on **Process Data Models** on the left-hand side.

Overview

System Administration

Data Connections

File Uploads

Data Configuration

Data Jobs

**Process Data Models**

Advanced Settings

Data Pool Parameters

Task Templates

Scheduling

Execution History

Process Data Models

Accounts Payable 2019-08-14 08:48:32

New Data Model

- 2 Click on **Add Tables** and add the newly created views onto the model.

Graph List **Add Tables** New Foreign Key

Tables

Available items **ADD ALL TO SELECTION (7)** Selected items **REMOVE ALL FROM SELECTION (4)**

Search Search

BKPF from data connection: Data Engineer AP Case Study AP\_BKPF from data connection: Data Engineer AP Case Study

BSEG from data connection: Data Engineer AP Case Study AP\_BSEG from data connection: Data Engineer AP Case Study

CDHDR from data connection: Data Engineer AP Case Study AP\_LFA1 from data connection: Data Engineer AP Case Study

CDPOS from data connection: Data Engineer AP Case Study \_CEL\_AP\_ACTIVITIES from data connection: Data Engineer AP Case Study

DD02T from data connection: Data Engineer AP Case Study

DD03M from data connection: Data Engineer AP Case Study

LFA1 from data connection: Data Engineer AP Case Study





# Finalizing the Data Model

3 Once the new tables are added, establish the relationships between the tables by setting and connecting the foreign keys.

NEW FOREIGN KEY

AP\_BKPF

NEW FOREIGN KEY

AP\_BSEG

NEW FOREIGN KEY

AP\_LFA1

NEW FOREIGN KEY

CONNECT TO TARGET TABLE

SOURCE TABLE

\_CEL\_P2P\_ACTIVITIES

\_CASE\_KEY

ACTIVITY\_EN

\_EVENTTIME

\_SORTING

TARGET TABLE

AP\_BSEG

\_CASE\_KEY

MANDT

BUKRS

BELNR

GJAHR

BUZEI

Save

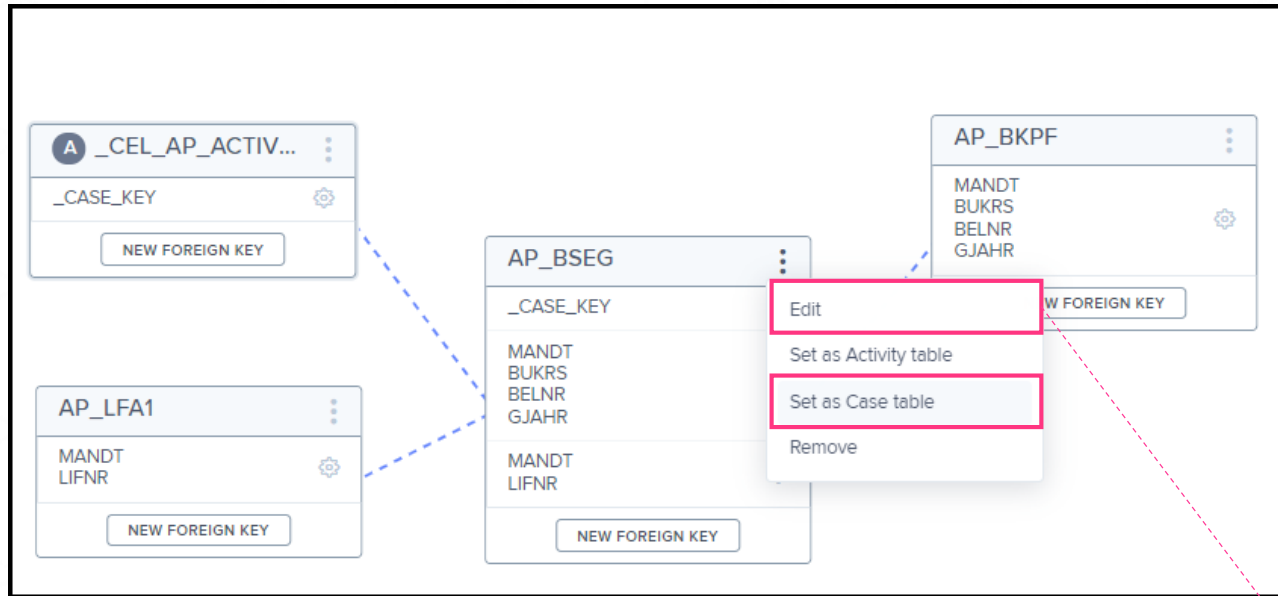
! You will need to establish a relationship between all the tables. Continue to the next page to see the fully connected model. You can use <http://leanx.eu/en/sap/table/search> as a resource.



# Finalizing the Data Model

4

Your finalized Data Model should be like the one below. Remember to set your Case Table.



5

Edit your Alias by clicking Edit.

Table settings

SCHEMA  
Data Engineer AP Case Study

NAME  
AP\_BSEG

ALIAS  
BSEG

Cancel Save



# Finalizing the Data Model

6 Access **Name Mapping** and configure the fields with the information provided. After the fields are filled out, **Load Mappings From Pool**.

Model

Data Loads

Calendar

**Name Mapping**

Table name mappings are in table

SELECT TABLE FROM POOL

Data Engineer AP Case Study > DD02T

SELECT

Technical names column

SELECT COLUMN

TABNAME

SELECT

Pretty names column

SELECT COLUMN

DDTEXT

SELECT

Language key column

SELECT COLUMN

DDLANGUAGE

SELECT

Column name mappings are in table

SELECT TABLE FROM POOL

Data Engineer AP Case Study > DD03M

SELECT

Table names column

SELECT COLUMN

TABNAME

SELECT

Technical names column

SELECT COLUMN

FIELDNAME

SELECT

Pretty names column

SELECT COLUMN

SCRTEXT\_M

SELECT

Language key column

SELECT COLUMN

DDLANGUAGE

SELECT

Load Mappings From Pool



# Finalizing the Data Model

7

Your Name Mapping results should match what is shown below.

Table name mappings	
LANGUAGE KEY	NUMBER OF NAME MAPPINGS
DE	3 / 4
EN	3 / 4
Column name mappings	
LANGUAGE KEY	NUMBER OF NAME MAPPINGS
DE	174 / 185
EN	177 / 185

8

Force Complete Reload your data model and proceed to the Analysis to verify the results.

Model

Data Loads

Calendar

Name Mapping

Reload From Cache

Force Complete Reload

No Data Model has been loaded

No Live Data Model has been configured



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# Analysis Question Answers

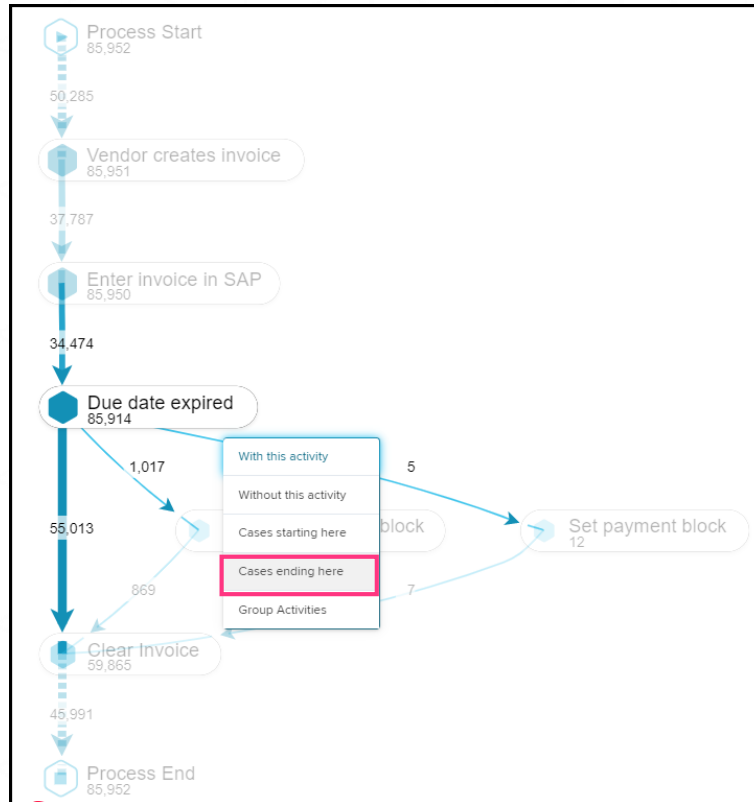
*Note: There are multiple ways to produce the same answers!*



# Analysis Questions

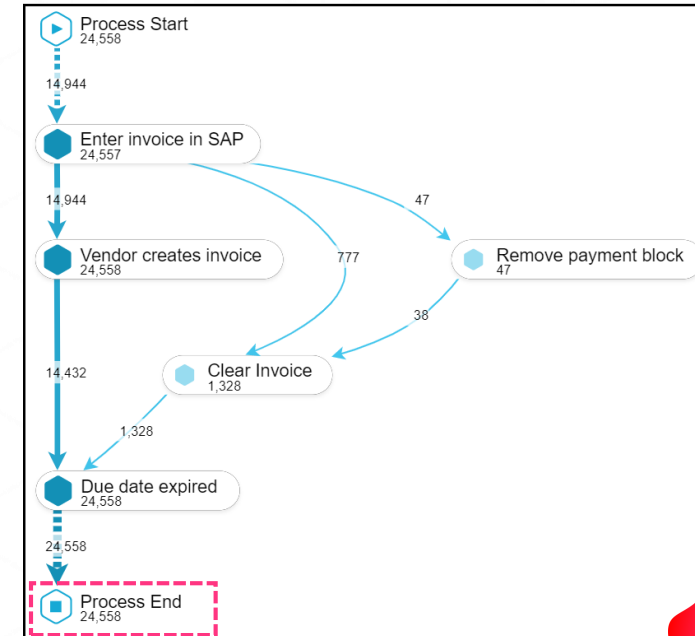
Determine the % and number of cases where the process ends with “Due date expired”.

**Answer:** 29%, 24,558 Cases



1

Right-click on the Due date expired and select Case ending here.



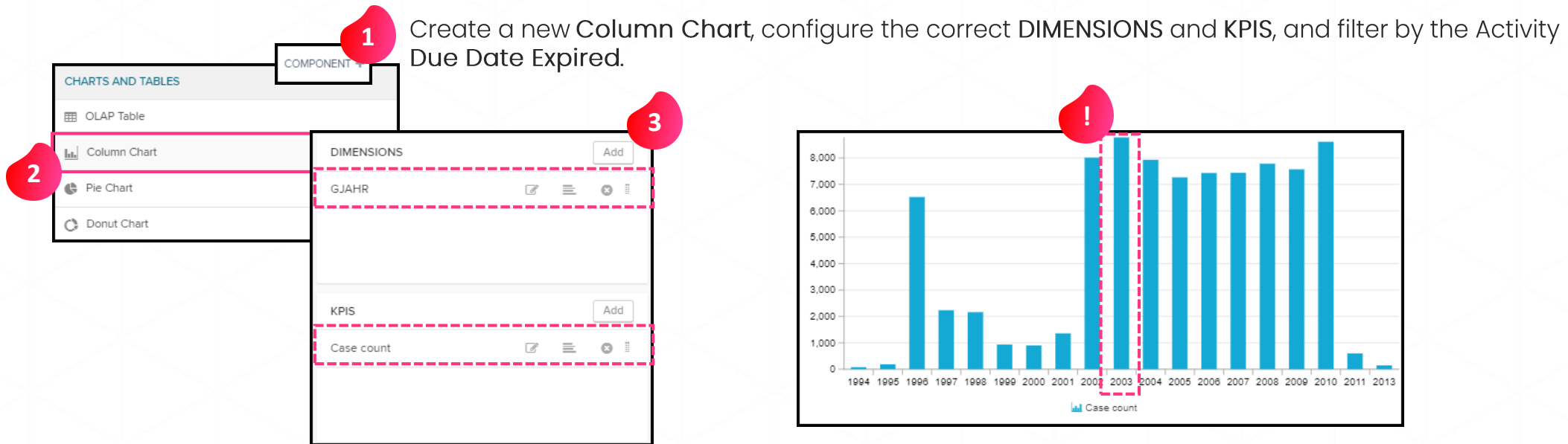
The number of cases can be found in the filtered process explorer. The % can be found on the top toolbar.



# Analysis Questions

How many invoice items (cases) have been booked in per fiscal year (BKPF.GJAHR)? What is the year with the highest number of invoice items?

**Answer:** 2003





# Analysis Questions

Calculate the percentage of cases that have not been cleared yet.

**Answer:** 30%

1

86k of 86k cases selected 100%

2

Activity selection

Select cases that flow or don't flow through specified activities.  
e.g. only cases that start at "Create Purchase Order" and flow through "Delivery of goods"

3

CASE DOES NOT FLOW THROUGH

ANY

Clear|

Clear Invoice

Due date expired

Enter invoice in SAP

Remove payment block

Set payment block

Vendor creates invoice

Activity selection

Select cases based on activities that the case flows through.  
Use search or drag and drop from the list on the right to add activities.

Your selection matches 30% of cases

30%  
26,087  
Cases

!

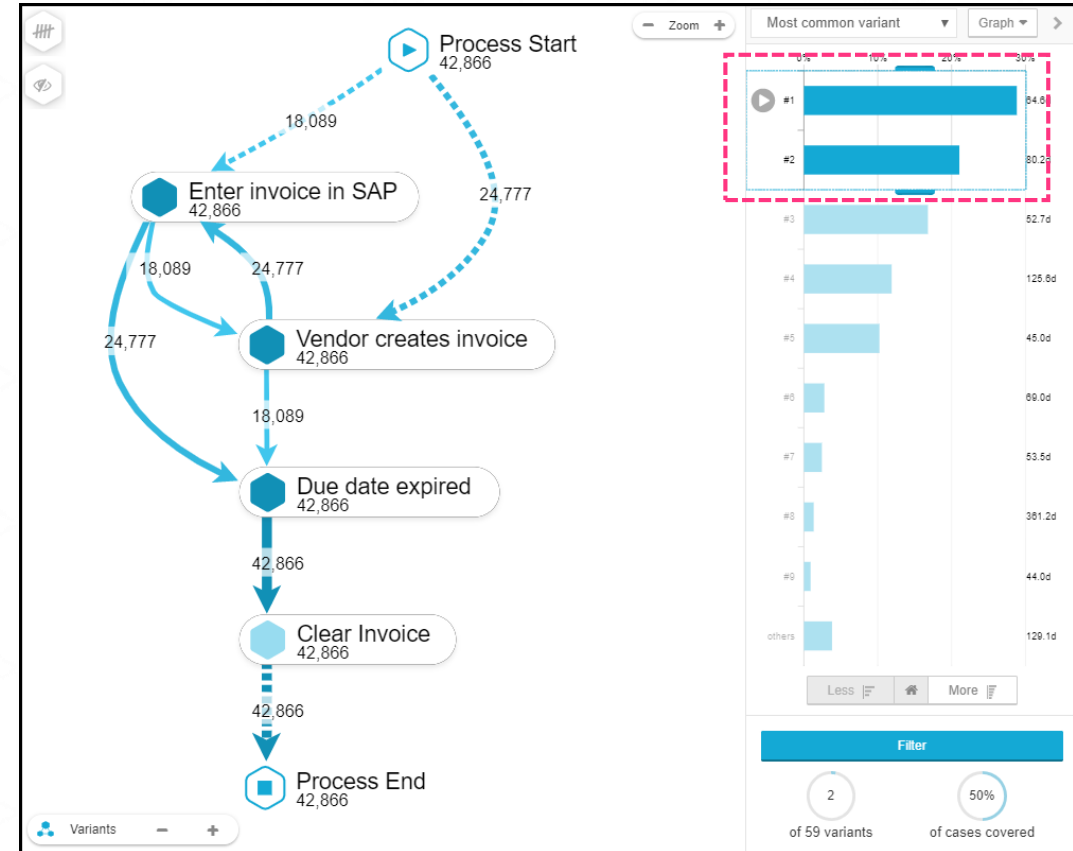
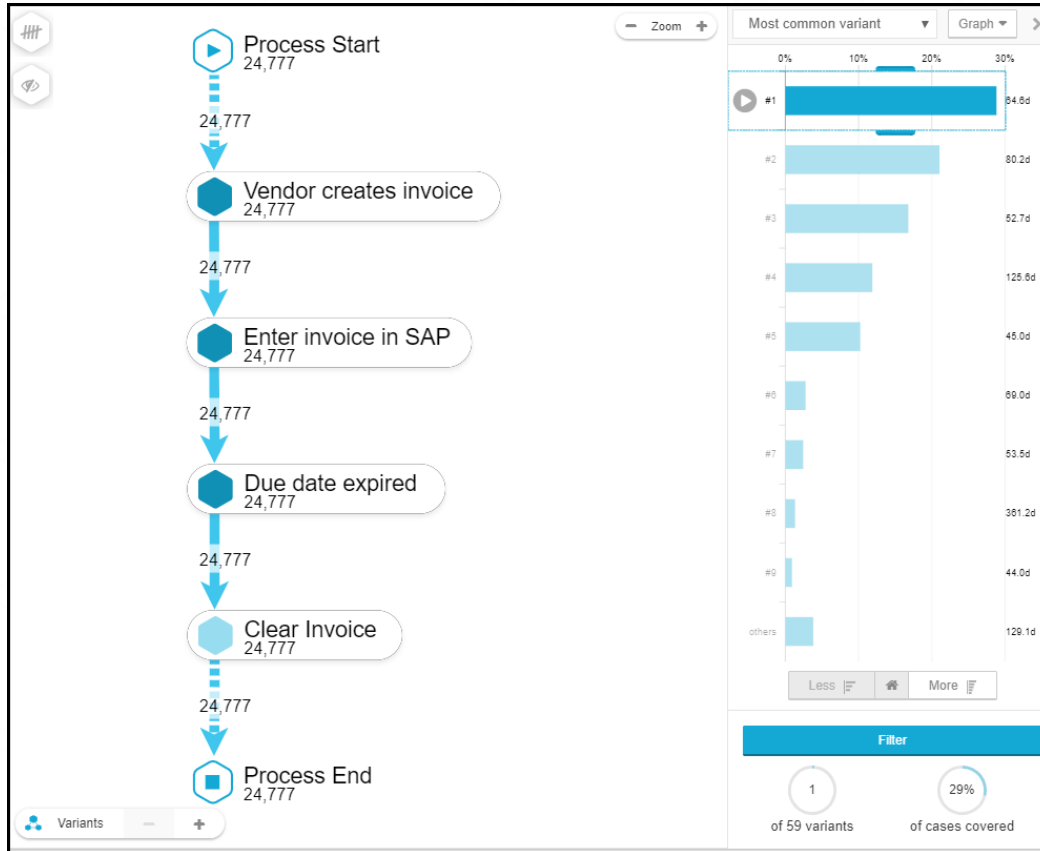




# Analysis Questions

Select the first two variants on the Variant Explorer. What do you notice changes on the process flow?

**Answer:** The second variant shows that “Enter invoice in SAP” occurs before the “Vendor creates invoice”.



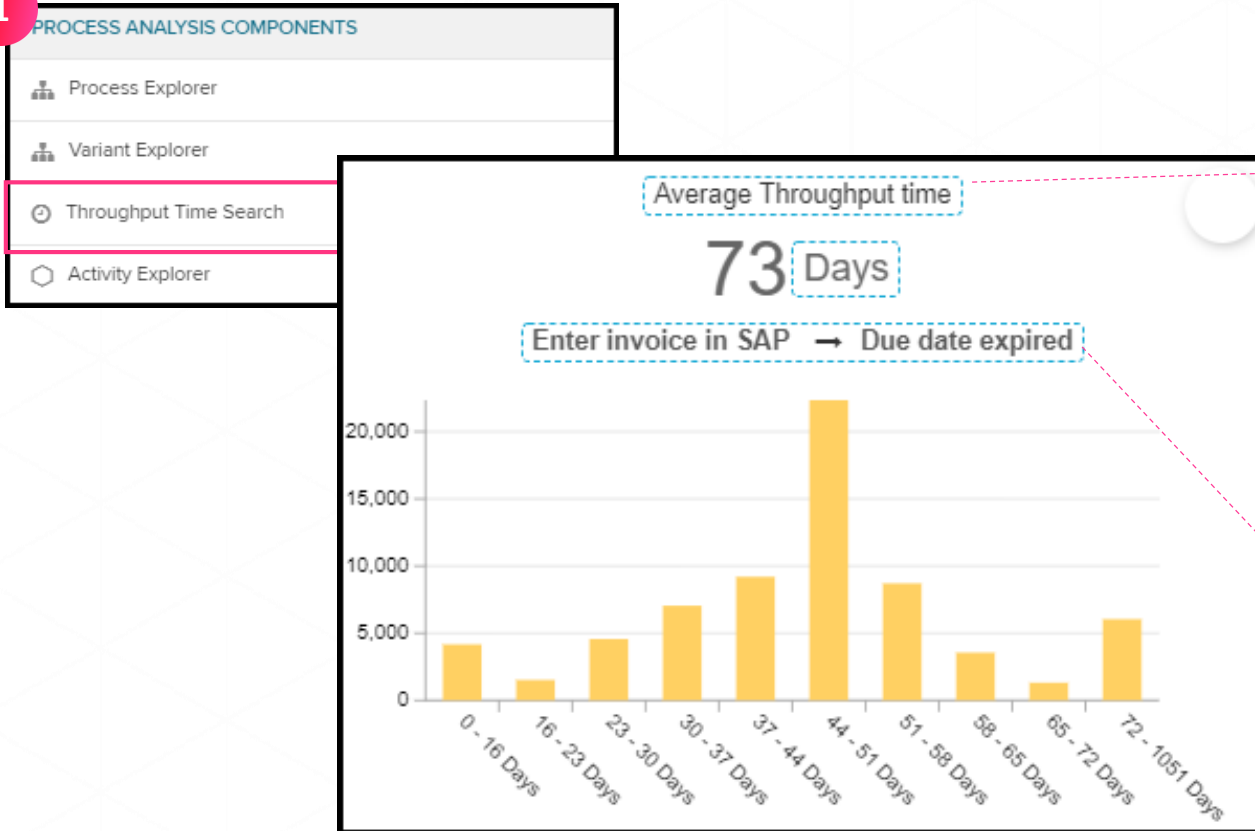


# Analysis Questions

What is the average throughput time between Entering Invoice in SAP and Due Date Expired?

**Answer: 73 Days**

1



2

<input checked="" type="checkbox"/>	Average
<input type="checkbox"/>	Median
<input type="checkbox"/>	Trimmed mean
<input type="checkbox"/>	Maximum
<input type="checkbox"/>	Minimum

3

From:

Enter invoice in SAP

First occurrence

To:

Due date expired

Last occurrence

Done

Create a Throughput Time Search component and configure the correct fields.