

## **Database preservation**

DPC training course

Practical session (advanced)

Resolution







This option allows you to create a SIARD file from a supported DBMS.

Click here to start the process of create a SIARD file

## Open

This option allows you to open a SIARD file.

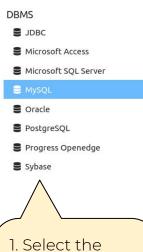
OPEN 3

## Manage

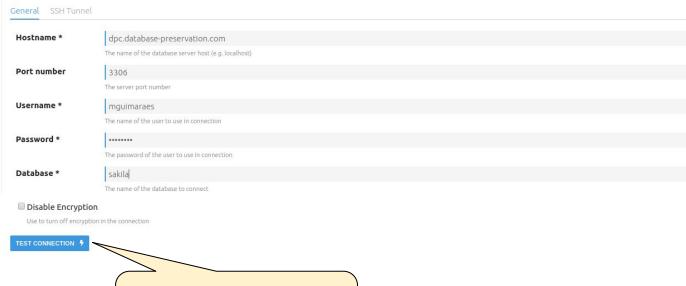
This option allows you to open, edit, validate, migrate, or visualize the information about SIARD file previously ingested.

MANAGE =

A Home > Create SIARD - Connection



DBMS on the left sidebar panel and fill up the connection form



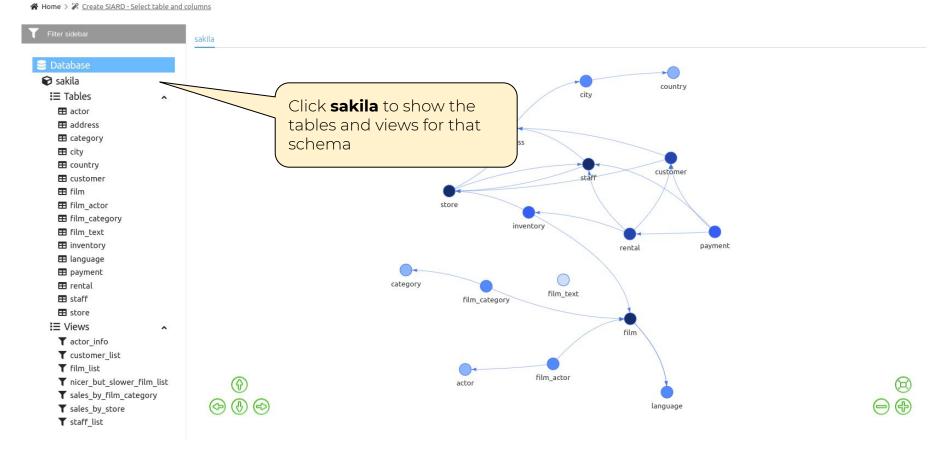
2. Test the connection to ensure that you have the right information

> 3. Click **Next** to continue the process









DBPTK Desktop

T Filter sidebar	Tables Views		
200	Select	Table Name	Description
Database	€	actor	The actor table lists information for all actors. The actor table is joined to the film table by means of the film_actor table.
<ul><li>Sakila</li><li>I≡ Tables</li></ul>		address	The address table contains address information for customers, staff, and stores. The address table primary key appears as a foreign key in the customer, staff, and store tables.
actor     address	€	category	The category table lists the categories that can be assigned to a film. The category table is joined to the film table by means of the film_category table.
<b>⊞</b> category		city	The city table contains a list of cities. The city table is referred to by a foreign key in the address table and refers to the country table using a foreign key.
⊞ city ⊞ country		country	The country table contains a list of countries. The country table is referred to by a foreign key in the city table.
E customer		customer	The customer table contains a list of all customers. The customer table is referred to in the payment and rental tables and refers to the address and store tables using foreign keys.
		film	The film table is a list of all films potentially in stock in the stores. The actual in-stock copies of each film are represented in the inventory table. The film table refers to the language table and is referred to by the film_category, film_actor, and inventory tables.
⊞ inventory ⊞ language	•	film_actor	The film_actor table is used to support a many-to-many relationship between films and actors. For each actor in a given film, there will be one row in the film_actor table listing the actor and film. The film_actor table refers to the film and actor tables using foreign keys.
⊞ payment ⊞ rental ⊞ staff	€	film_category	The film_category table is used to support a many-to-many relationship between films and categories. For each category applied to a film, there will be one row in the film_category table listing the category and film. The film_category table refers to the film and category tables using foreign keys.
⊞ store  ∷ Views  ✓ actor info		film_text	The film_text table contains the film_id, title and description columns of the film table, with the contents of the table kept in synchrony with the film table by means of triggers on the film table's INSERT, UPDATE and DELETE operations. The contents of the film_text table should never be modified directly. All changes should be made to the film table instead.
▼ customer_list ▼ film list		inventory	The inventory table contains one row for each copy of a given film in a given store. The inventory table refers to the film and store tables using foreign keys and is referred to by the rental table.
<ul><li>nicer_but_slower_film_list</li><li>sales by film category</li></ul>	€	language	ookup table listing the possible languages that films can have for their language and original guage table is referred to by the film table.
▼ sales_by_store ▼ staff_list		payment	Select the tables: actor, category, film, film_actor, film_category and language

★ Home > ※ Create SIARD - Select table and columns



T sales\_by\_film\_category T sales by store T staff list

lect	Materialize	View Name	Description	
	0	actor_info		
		customer_list		
		film_list		
		nicer_but_slower_film_list		
		sales_by_film_category		
		sales_by_store		
		staff_list		

Select the views: film\_list and nicer\_but\_slower\_film\_list

Materialize the nicer\_but\_slower\_film\_list





★ Home > ※ Create SIARD - Select table and columns

T Filter sidebar	
12 <u>1</u> 2 2	
Database	
sakila	
<b>:</b> ≡ Tables	^
<b>actor</b>	
■ address	
<b>⊞</b> category	
<b>⊞</b> city	
<b>⊞</b> country	
<b>⊞</b> customer	
<b>⊞</b> film	
<b>⊞</b> film_actor	
<b>⊞</b> film_category	
<b>⊞</b> film_text	
inventory	
<b>⊞</b> language	

**⊞** payment **⊞** rental **⊞** staff **⊞** store **:**≡ Views Y actor\_info ▼ customer\_list T film\_list

> ▼ nicer\_but\_slower\_film\_list ▼ sales\_by\_film\_category

**T** sales\_by\_store T staff\_list

Select	Column Name	Original Type	Description	Column Filters	Options	Merkle 0
•	actor_id	SMALLINT UNSIGNED	A surrogate primary key used to uniquely identify each actor in the table.		CONFIGURE	•
•	first_name	VARCHAR	The actor's first name.		CONFIGURE	
	last_name	VARCHAR	The actor's last name.		CONFIGURE	
	last_update	TIMESTAMP	The time that the row was created or most recently updated.		CONFIGURE	

1. Remove the last\_update column from each previous selected table

> 2. Click **Next** to continue the process



## **Custom Views**

Schema Name \*

Custom views option allows you to aggregate data with SQL queries.



TEST 48

Addresses

sakila ▼

Query \*

select address, address, address, district, city, city, country, country from sakila, address address, sakila, city, sakila, country country where address, city id = city, city id and city, country id = country.country\_id

SQL query to obtain the data to populate the custom view



1. Fill up the query text area and **test** the query



## Custom Views

Custom views option allows you to aggregate data with SQL queries.

Schema Name *	sakila 🔻
	Schema where the custom view should be integrated
Custom View Name	
	Name of the custom view
Description	
	Description of the custom view
Query *	
	SQL query to obtain the data to populate the custom view
SAVE ☐ TEST ♣	



☆ Home > 
※ Create SIARD - Merkle Tree Filter

### Merkle Tree Filter

This filter module is used to generate a hash which represents the content of large data structures. This process aims to fulfill the requirement of completeness and correctness of the archival process, i.e. to ensure that no message is lost (not archived or not correctly archived).

■ Apply Merkle Tree Filter

Destination Folder \* BROWSE

Path to save the merkle tree

Digest

SHA-256 ▼

Define the type of integrity information. Supported types are: MD5, SHA-1 and SHA-256.

■ Explain

Flag to show the hashes of the whole tree (tables, rows, cells). Mainly for debug purpose.

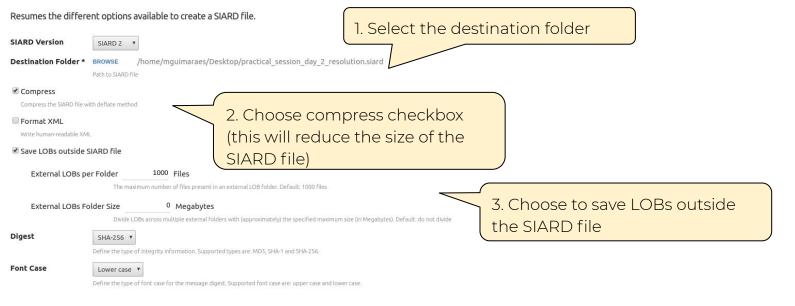
Font Case

Lower case ▼

Define the type of font case for the message digest. Supported font case are: upper case and lower case.



SIARD Export Options





☆ Home > 
※ Create SIARD - Metadata export options

## Metadata Export Options

Allows to specify the different available metadata values for a SIARD file.

**Description** DPC Workshop pratical session activities resolution

Description of database meaning and content as a whole

**Archiver** mguimaraes

Name of the person who carried out the archiving of the database

Archiver Contact mguimaraes@keep.pt

Contact details (telephone, email) of the person who carried out the archiving of the database

Data Owner

Owner of the data in the database. The person or institution that, at the time of archiving, has the right to grant usage rights for the data and is responsible for compliance with legal obligations such as data protection guidelines

Data Origin Timespan

Origination period of the data in the database (approximate indication in text form)

Client Machine

DNS name of the (client) computer on which the archiving was carried out

1. Fill up metadata information about the SIARD file

2. Click **Create** to start the migration process

CANCEL C

< BACK

CREATE >

A Home > A Create SIARD file



This process may take a while. Please wait for it to finish

Retrieving database structure

Wait for the process to finish, this may take a while, depending on the machine specs and total size of the database

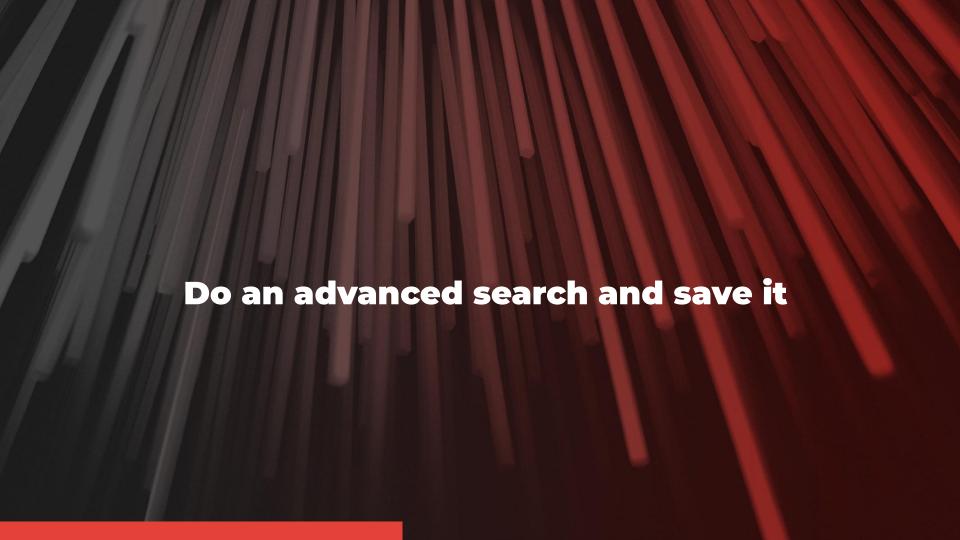
## SIARD File Creation

This process may take a while. Please wait for it to finish

Retrieving database structure
Tables: 13 of 16 (81%)
Current Table: rental
Numer of rows processed: 32823







## Welcome to Database Preservation Toolkit Enterprise!

A web application to browse and search the content of multiple large archived databases.

The Database Preservation Toolkit Enterprise is a Lightweight web viewer for relational databases, specially if preserved in SIARD 2, that uses SOLR as a backend, and allows browsing, search, and export,

Click on Login



#### Enterprise Architecture

For large institutions with many databases and users

A web application that can be horizontally scaled to support many large-sized databases, accessed by hundreds of users simultaneously. Need help? Get support.



#### Browse and search

Allow users to access database content on the Web

Allow them to search on a prepared, de-normalized and anonymized database content



#### SIARD validation

Validate archived database

Validate SIARD against specification plus many additional checks for a thorough validation.



#### Advanced data transformation

Transform content to answer useful questions

De-normalization and table/column hiding, to simplify browsing/search and allow anonymization of content.



#### Manage multiple databases

Single system, multiple databases

Search through the databases, manage their status, enrich their metadata, validate them, make them ready for your end



#### Export features

Export data into tabular data

Allow users to save search results in Microsoft Excel or other spreadsheet software format for easy analytics and diagrams.



#### Edit SIARD metadata

Enrich archived database with descriptions

Add descriptions to database, tables and columns to better understand its contents.



#### Single sign-on

Support for multiple protocols

LDAP, Active Directory, Database, SAML, ADFS, OAuth2, OpenID, Google, Facebook, Twitter, FIDO U2F, YubiKey, Google Authenticator, Authy, etc. Supports internal authorization definition or configurable external authorization.

■ Databases



Search				Ch.	oose the				
Database name	Database name	Data Owner	Archival date	Producer application dat	abase		elid	Status	Actions
ahayesbrady	Database Test	Ali Hayes Brady	2020-07-29	MySQL 5.6.49		0.00	Valid	Ready	OPEN
User21	Sakila	user21	2020-07-29	MySQL 5.6.49	788 KB	2.1	Valid	Ready	OPEN
gemmawestbrook_sample	gemmawestbrook_sample	Gemma Westbroo	2020-07-29	MySQL 5.6.49	790.6 KB	2.1	Valid	Ready	OPEN
User26	unspecified	unspecified	2020-07-29	MySQL 5.6.49	6.4 MB	2.1	Valid	Ready	OPEN
evewright	evewright	unspecified	2020-07-29	MySQL 5.6.49	6.4 MB	2.1	Valid	Ready	OPEN
David	unspecified	unspecified	2020-07-29	MySQL 5.6.49	6.4 MB	2.1	Valid	Ready	OPEN
marty	sakila database for DPC workshop	KEEP SOLUTIONS	2020-07-29	MySQL 5.6.49	9.4 MB	2.1	Valid	Ready	OPEN
izkata	A test MySQL database to save to the SIARD format	KEEP	2020-07-29	MySQL 5.6.49	789.5 KB	2.1	Valid	Ready	OPEN
JordanSaunders	Rental	Jordan Saunders	2020-07-29	MySQL 5.6.49	790.6 KB	2.1	Valid	Ready	OPEN
BWard Sakila	DVD Rental Database	Bradley Ward	2020-07-29	MySQL 5.6.49	790.5 KB	2.1	Valid	Ready	OPEN
Иван	Ivan Test	unspecified	2020-07-29	MySQL 5.6.49	6.4 MB	2.1	Valid	Ready	OPEN
admin27	Test DPC	Tanguy	2020-07-29	MySQL 5.6.49	6.4 MB	2.1	Valid	Ready	OPEN
Narwick Pease	Sakila	Keep	2020-07-29	MySQL 5.6.49	790.7 KB	2.1	Valid	Ready	OPEN
North Wind Traders	North Wind Traders	Microsoft	2020-07-30	Microsoft Access 2010	334.2 KB	2.1	Valid	Ready	OPEN
mguimaraes	DPC Workshop demonstration	KEEP SOLUTIONS	2020-07-29	MySQL 5.6.49	789.7 KB	2.1	[ Valid ]	Ready	OPEN

LOAD SIARD FILE

= Databases

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DPC Workshop pratical session activities resolution

Archival date: 2020-08-03 01:00 (UTC+1)

Archiver: mguimaraes

Archiver contact: mguimaraes@keep.pt

Client machine: unspecified Database product: MySQL 5.6.49

Data origin timespan: unspecified

unspecified Data owner:

Database Preservation Toolkit (version 2.9.2) Producer Application:



See details about the archived format and manage the metadata of tables, columns and other technical elements of the database.

Version: SIARD standard version 2.1 (SEE SPECIFICATION)

Path: PRACTICAL\_SESSION\_1.SIARD

Size: 789.7 KB

EDIT METADATA

DELETE TO

## Validation

See details about the validation process.

Status:

VALIDATE >

columns and data. Status:

**Browsing** 

BROWSE >

CONFIGURATION # DELETE T

See details about the database status. Manage the database metadata by configuring table,

Click **Browse** 

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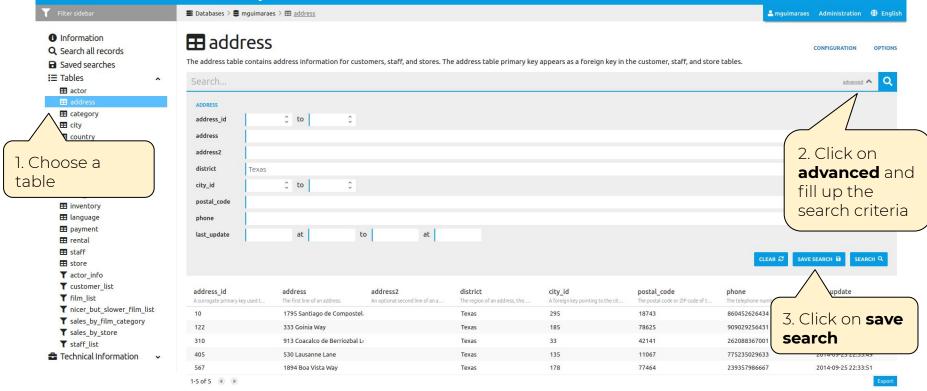
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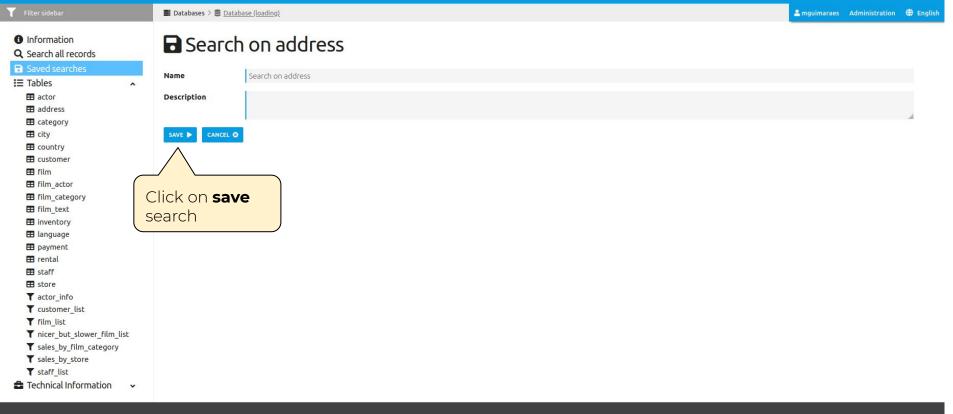
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## **mguimaraes**

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BROWSE >

CONFIGURATION # DELETE T

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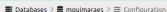
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Click on





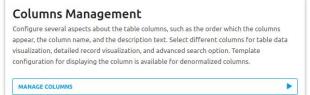




## **E** Configuration

Databases often does not have the best naming strategies applied as well as the data internal organization. Configuration panel allows to change or improve certain aspects of the database, such as tables, columns or the data. Table management acts at table level and allows to change the table name, table description, and its visibility to the users. Columns management acts at column level and enables to change column name, column description, two different levels of column visibility, and search option. Data transformation acts at data level and allows to denormalized the database.







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## **H** Table management

Select which tables you want to show to the user, you can also modify and override the original table name and the table description.

Show	Name	Label	Description
	actor	actor	The actor table lists information for all actors. The actor table is joined to the film table by means of the film_actor table.
	address	address	The address table contains address information for customers, staff, and stores. The address table primary key appears as a foreign key in the customer, staff, and store tables.
	category	category	The category table lists the categories that can be assigned to a film. The category table is joined to the film table by means of the film_category table.
	city	city	The city table contains a list of cities. The city table is referred to by a foreign key in the address table and refers to the country table using a foreign key.
	country	country	The country table contains a list of countries. The country table is referred to by a foreign key in the city table.
	customer	customer	The customer table contains a list of all customers. The customer table is referred to in the payment and rental tables and refers to the address and store tables using foreign
	film	film	The film table is a list of all films potentially in stock in the stores. The actual in-stock copies of each film are represented in the inventory table. The film table refers to the
	film_actor	film_actor	The film_actor table is used to support a many-to-many relationship between films and actors. For each actor in a given film, there will be one row in the film_actor table listing
	film_category	film_category	The film_category table is used to support a many-to-many relationship between films and categories. For each category applied to a film, there will be one row in the
	film_text	film_text	The film_text table contains the film_id, title and description columns of the film table, with the contents of the table kept in synchrony with the film table by means of triggers
	inventory	Inventory	The inventory table contains one row for each copy of a given film in a given store. The inventory table refers to the film and store tables using foreign keys and is referred to by
	language	language	The language table is a lookup table listing the possible languages that films can have for their language and original language values. The language table is referred to by the
	payment	payment	The payment table records each payment made by a customer, with information such as the amount and the rental being paid for (when applicable). The payment table refers to
	rental	rental	The rental table contains one row for each rental of each inventory item with information about who rented what item, when it was rented, and when it was returned. The rental
	staff	staff	The staff table lists all staff members, including information on email address, login information, and picture. The staff table refers to the store and address tables using foreign
	store	store	The store table lists all stores in the system. All inventory is assigned to specific stores, and staff and customers are assigned a "home store". The store table refers to the staff

1. Remove the checkbox tick from film\_text and store

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2. Click save







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## **mguimaraes**

DPC Workshop pratical session activities resolution

Archival date: 2020-08-03 01:00 (UTC+1)

Archiver: mguimaraes

Archiver contact: mguimaraes@keep.pt

Client machine: unspecified Database product: MySQL 5.6.49

Data origin timespan: unspecified

unspecified Data owner:

Database Preservation Toolkit (version 2.9.2) Producer Application:



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Path: PRACTICAL\_SESSION\_1.SIARD

Size: 789.7 KB

EDIT METADATA

DELETE TO

## Validation

See details about the validation process.

Status:

VALIDATE >

## **Browsing**

See details about the database status. Manage the database metadata by configuring table, columns and data.

Status:

BROWSE >

CONFIGURATION # DELETE T

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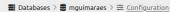
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Click on







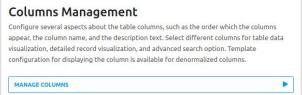


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tables





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Configuration > 

Table management



## **H** Table management

Select which tables you want to show to the user, you can also modify and override the original table name and the table description.

Show	Name	Label	Description					
	actor	actor	The actor table lis	The actor table lists information for all actors. The actor table is joined to the film table by means of the film_actor table.  The address table contains address information for customers, staff, and stores. The address table primary key appears as a foreign key in the customer, staff, and store tables.  The category table lists the categories that can be assigned to a film. The category table is joined to the film table by means of the film_category table.				
	address	address	The address table					
	category	category	The category table					
	city	city	The city table con	ains a list of cities. The city table is referred to by a foreign key in the address table and refers to the country table using a foreign key.	£			
	country	country	The country table	The country table contains a list of countries. The country table is referred to by a foreign key in the city table.  The customer table contains a list of all customers. The customer table is referred to in the payment and rental tables and refers to the address and store tables using foreign language table and is referred to by the film_category, film_actor, and inventory tables. More info.  The film_actor table is used to support a many-to-many relationship between films and actors. For each actor in a given film, there will be one row in the film_actor table listing				
	customer	customer	The customer tab					
	film	Film	language table an					
	film_actor	film_actol	The film_actor tab					
	film_category	film_category	The film_category	table is used to support a many-to-many relationship between films and categories. For each category applied to a film, there will be one row in the	á			
	film_text	film_text		ntains the film_id, title and description columns of the film table, with the contents of the table kept in synchrony with the film table by means of triggers	á			
	inventory		the label	ontains one row for each copy of a given film in a given store. The inventory table refers to the film and store tables using foreign keys and is referred to by	á			
	language	10.190091	escription	a lookup table listing the possible languages that films can have for their language and original language values. The language table is referred to by the	&			
	payment	payment for film	٦	tords each payment made by a customer, with information such as the amount and the rental being paid for (when applicable). The payment table refers to	A.			
	rental	rental		sins one row for each rental of each inventory item with information about who rented what item, when it was rented, and when it was returned. The rental	á.			
	staff	staff	The staff table list	s all staff members, including information on email address, login information, and picture. The staff table refers to the store and address tables using foreign	4			
	store	store	The store table lis	is all stores in the system. All inventory is assigned to specific stores, and staff and customers are assigned a "home store". The store table refers to the staff	4			

2. Click **save** 

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Configure the table customer to show only first\_name, last\_name and email from the overall view



Administration # English



## **mguimaraes**

DPC Workshop pratical session activities resolution

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Archiver: mguimaraes

Archiver contact: mguimaraes@keep.pt

Client machine: unspecified Database product: MySQL 5.6.49

Data origin timespan: unspecified

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Database Preservation Toolkit (version 2.9.2) Producer Application:



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Path: PRACTICAL\_SESSION\_1.SIARD

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EDIT METADATA

DELETE TO

## Validation

See details about the validation process.

Status:

VALIDATE >

## **Browsing**

See details about the database status. Manage the database metadata by configuring table, columns and data.

Status:

BROWSE >

CONFIGURATION # DELETE T

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Click on



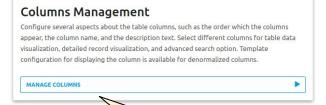




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## Table Management Select which tables you want to show to the user, you can also modify and override the original table name and the table description. MANAGE TABLES

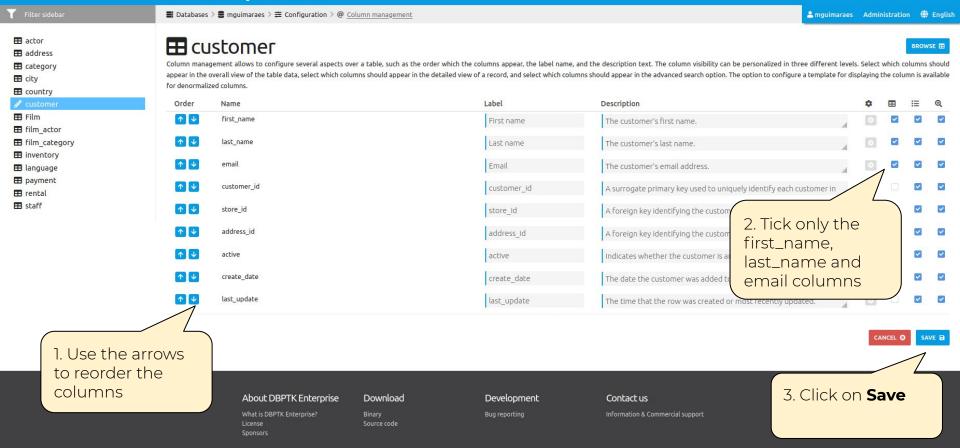




Improve database readability by transform the data. Join data from one or more tables into

**Data Transformation** 

Click on Manage columns



# Perform a data transformation **Actor table**



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## **mguimaraes**

DPC Workshop pratical session activities resolution

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Producer Application: Database Preservation Toolkit (version 2.9.2)



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BROWSE >

CONFIGURATION # DELETE T

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■ Databases > ■ mguimaraes > Configuration

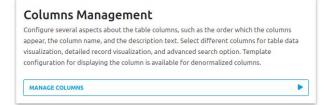




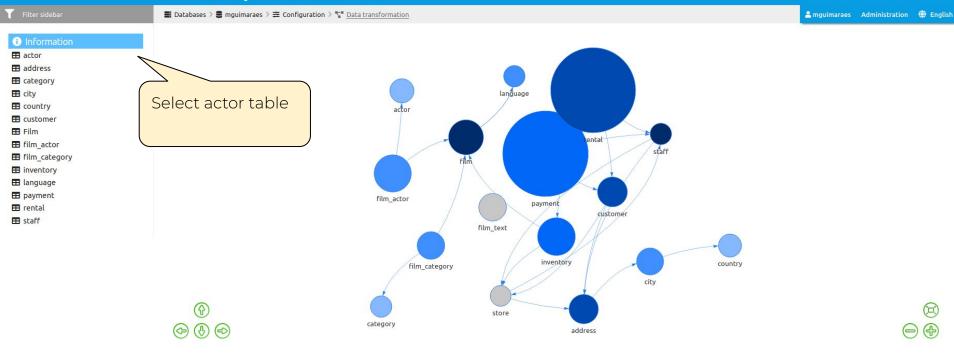
## **E** Configuration

Databases often does not have the best naming strategies applied as well as the data internal organization. Configuration panel allows to change or improve certain aspects of the database, such as tables, columns or the data. Table management acts at table level and allows to change the table name, table description, and its visibility to the users. Columns management acts at column level and enables to change column name, column description, two different levels of column visibility, and search option. Data transformation acts at data level and allows to denormalized the database.

## Table Management Select which tables you want to show to the user, you can also modify and override the original table name and the table description. MANAGE TABLES







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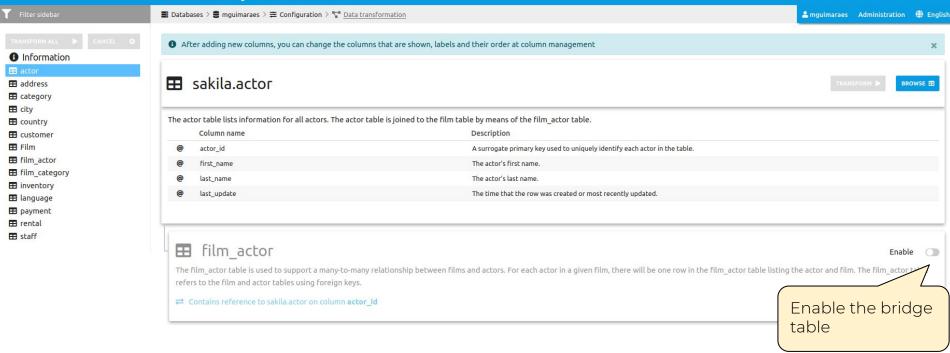
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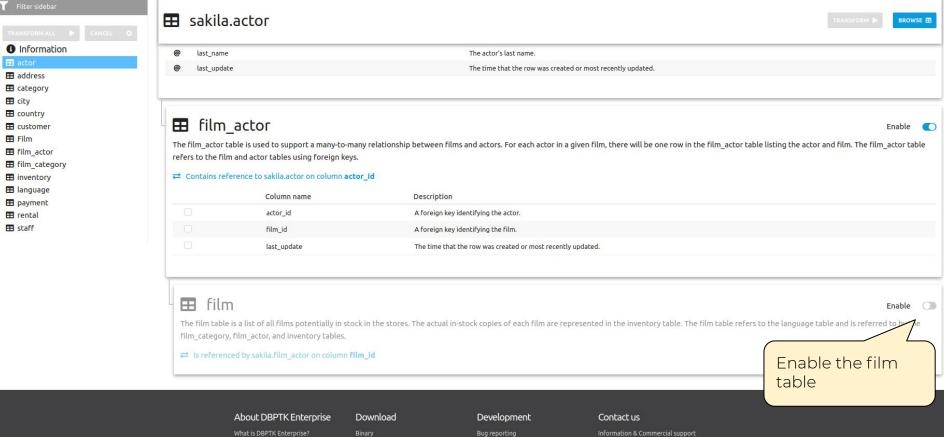
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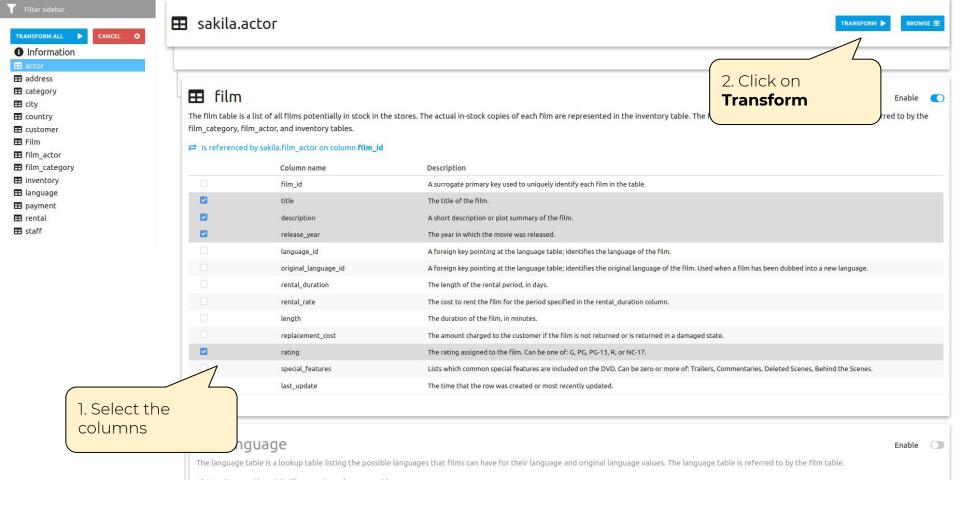
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Administration # English



## 몲 Jobs

Jobs are processes that run in the background and require less user interaction. They are used to process high volumes of data that would normally consume more memory if run in the foreground. For example data transformation is a job that require read all data of database in order to perform denormalization actions.

#### mguimaraes

ID I	Database	Table	Name	Create time	Start time	End time	Progress	▼ Status
159	mguimaraes	actor	denormalizeJob	2020-08-03 11:44:43	2020-08-03 11:44:43	2020-08-03 11:44:58	100% (200 of 200)	Completed
143	mguimaraes	film	denormalizeJob	2020-07-31 16:53:48	2020-07-31 16:53:48	2020-07-31 16:54:47	100% (1000 of 1000)	Completed
01	mguimaraes	address	denormalizeJob	2020-07-31 16:33:46	2020-07-31 16:33:46	2020-07-31 16:34:37	100% (603 of 603)	Completed
100	mguimaraes		denormalizeJob	2020-07-31 16:33:46	2020-07-31 16:33:46	2020-07-31 16:34:19	100% (600 of 600)	Completed
99	mguimaraes	Click on the job to	denormalizeJob	2020-07-31 16:33:45	2020-07-31 16:33:45	2020-07-31 16:34:18	100% (599 of 599)	Completed
98	mguimaraes	see the result	denormalizeJob	2020-07-31 16:33:45	2020-07-31 16:33:45	2020-07-31 16:33:47	100% (6 of 6)	Completed
17	mguimaraes		denormalizeJob	2020-07-31 16:33:45	2020-07-31 16:33:45	2020-07-31 16:33:46	100% (16 of 16)	Completed
96	mguimaraes	when completed	denormalizeJob	2020-07-31 16:33:45	2020-07-31 16:33:45	2020-07-31 16:38:47	100% (5462 of 5462)	Completed
95	mguimaraes	rental	denormalizeJob	2020-07-31 16:33:45	2020-07-31 16:33:45	2020-07-31 16:53:48	100% (16044 of 16044)	Completed
3	mguimaraes	rental	denormalizeJob	2020-07-31 16:12:07	2020-07-31 16:12:07	2020-07-31 16:19:41	100% (16044 of 16044)	Completed
)2	mguimaraes	rental	denormalizeJob	2020-07-31 15:17:02	2020-07-31 15:17:02	2020-07-31 15:24:19	100% (16044 of 16044)	Completed
)1	mguimaraes	film_actor	denormalizeJob	2020-07-31 15:17:02	2020-07-31 15:17:02	2020-07-31 15:18:42	100% (5462 of 5462)	Completed
00	mguimaraes	category	denormalizeJob	2020-07-31 15:16:39	2020-07-31 15:16:39	2020-07-31 15:16:40	100% (16 of 16)	Completed
19	mguimaraes	language	denormalizeJob	2020-07-31 15:16:38	2020-07-31 15:16:38	2020-07-31 15:16:39	100% (6 of 6)	Completed
18	mguimaraes	customer	denormalizeJob	2020-07-31 15:16:38	2020-07-31 15:16:38	2020-07-31 15:16:56	100% (599 of 599)	Completed
-15 of 25 ( )								

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# Perform a data transformation Film table



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## **mguimaraes**

DPC Workshop pratical session activities resolution

Archival date: 2020-08-03 01:00 (UTC+1)

Archiver: mguimaraes

Archiver contact: mguimaraes@keep.pt

Client machine: unspecified Database product: MySQL 5.6.49

Data origin timespan: unspecified

unspecified Data owner:

Database Preservation Toolkit (version 2.9.2) Producer Application:

#### SIARD

See details about the archived format and manage the metadata of tables, columns and other technical elements of the database.

Version: SIARD standard version 2.1 (SEE SPECIFICATION)

Path: PRACTICAL\_SESSION\_1.SIARD

Size: 789.7 KB

EDIT METADATA

DELETE TO

#### Validation

See details about the validation process.

Status:

VALIDATE >

### **Browsing**

See details about the database status. Manage the database metadata by configuring table, columns and data.

Status:

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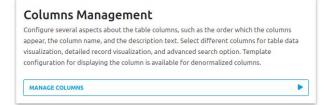




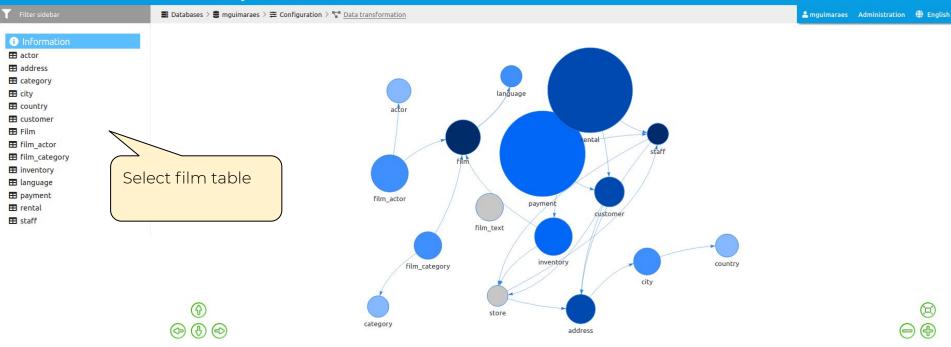
## **E** Configuration

Databases often does not have the best naming strategies applied as well as the data internal organization. Configuration panel allows to change or improve certain aspects of the database, such as tables, columns or the data. Table management acts at table level and allows to change the table name, table description, and its visibility to the users. Columns management acts at column level and enables to change column name, column description, two different levels of column visibility, and search option. Data transformation acts at data level and allows to denormalized the database.

## Table Management Select which tables you want to show to the user, you can also modify and override the original table name and the table description. MANAGE TABLES







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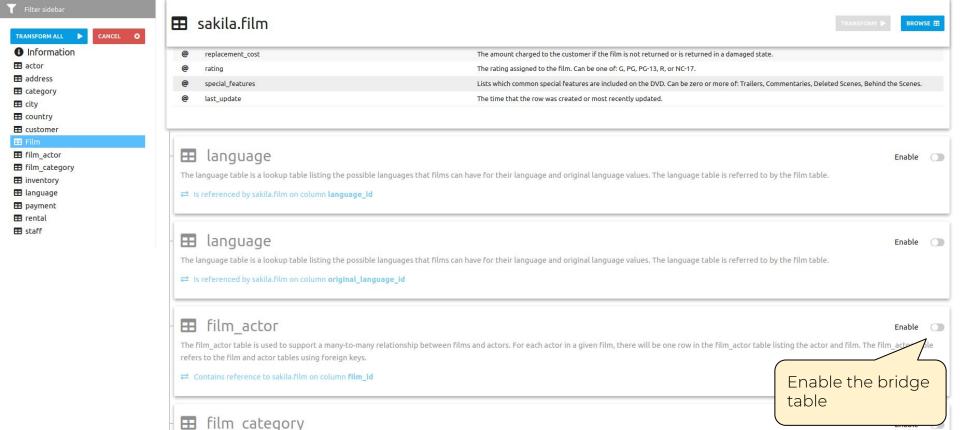
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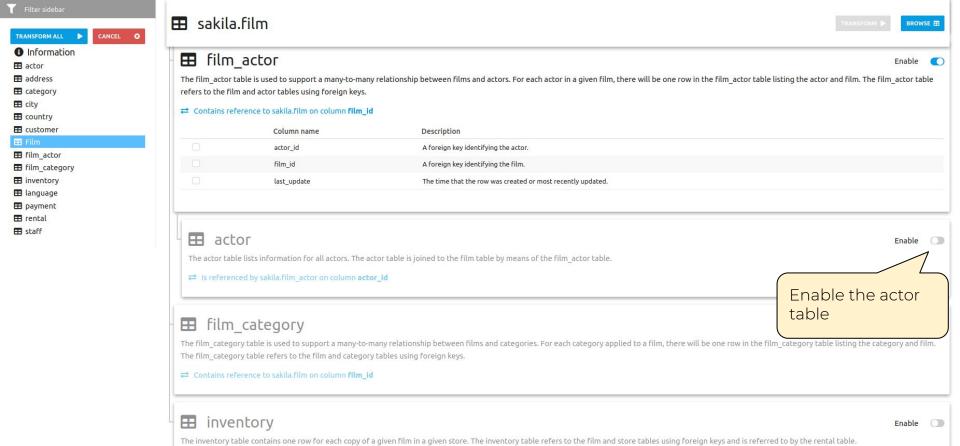
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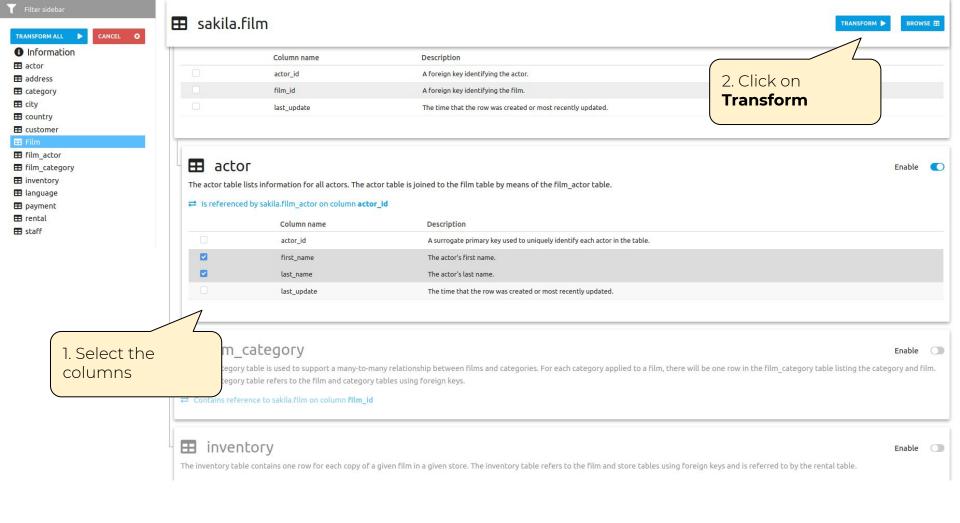
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The film\_category table refers to the film and category tables using foreign keys.

The film category table is used to support a many-to-many relationship between films and categories. For each category applied to a film, there will be one row in the film category table listing the category and film.







Administration # English



## 몲 Jobs

Jobs are processes that run in the background and require less user interaction. They are used to process high volumes of data that would normally consume more memory if run in the foreground. For example data transformation is a job that require read all data of database in order to perform denormalization actions.

#### mguimaraes

ID	Database	Table	Name	Create time	Start time	End time	Progress	▼ Status
160	mguimaraes	film	denormalizeJob	2020-08-03 11:49:30	2020-08-03 11:49:30	unknown	27% (274 of 1000)	Started
159	mguimaraes	actor	denormalizeJob	2020-08-03 11:44:43	2020-08-03 11:44:43	2020-08-03 11:44:58	100% (200 of 200)	Completed
143	mguimaraes	film	denormalizeJob	2020-07-31 16:53:48	2020-07-31 16:53:48	2020-07-31 16:54:47	100% (1000 of 1000)	Completed
101	mguimaraes		denormalizeJob	2020-07-31 16:33:46	2020-07-31 16:33:46	2020-07-31 16:34:37	100% (603 of 603)	Completed
100	mguimaraes Clic	ck on the job to	denormalizeJob	2020-07-31 16:33:46	2020-07-31 16:33:46	2020-07-31 16:34:19	100% (600 of 600)	Completed
99		the result	denormalizeJob	2020-07-31 16:33:45	2020-07-31 16:33:45	2020-07-31 16:34:18	100% (599 of 599)	Completed
98	mouimaraes		denormalizeJob	2020-07-31 16:33:45	2020-07-31 16:33:45	2020-07-31 16:33:47	100% (6 of 6)	Completed
97	mguimaraes VVII	when completed	denormalizeJob	2020-07-31 16:33:45	2020-07-31 16:33:45	2020-07-31 16:33:46	100% (16 of 16)	Completed
96	mguimaraes	film_actor	denormalizeJob	2020-07-31 16:33:45	2020-07-31 16:33:45	2020-07-31 16:38:47	100% (5462 of 5462)	Completed
95	mguimaraes	rental	denormalizeJob	2020-07-31 16:33:45	2020-07-31 16:33:45	2020-07-31 16:53:48	100% (16044 of 16044)	Completed
93	mguimaraes	rental	denormalizeJob	2020-07-31 16:12:07	2020-07-31 16:12:07	2020-07-31 16:19:41	100% (16044 of 16044)	Completed
92	mguimaraes	rental	denormalizeJob	2020-07-31 15:17:02	2020-07-31 15:17:02	2020-07-31 15:24:19	100% (16044 of 16044)	Completed
91	mguimaraes	film_actor	denormalizeJob	2020-07-31 15:17:02	2020-07-31 15:17:02	2020-07-31 15:18:42	100% (5462 of 5462)	Completed
90	mguimaraes	category	denormalizeJob	2020-07-31 15:16:39	2020-07-31 15:16:39	2020-07-31 15:16:40	100% (16 of 16)	Completed
89	mguimaraes	language	denormalizeJob	2020-07-31 15:16:38	2020-07-31 15:16:38	2020-07-31 15:16:39	100% (6 of 6)	Completed

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Archival date: 2020-08-03 01:00 (UTC+1)

Archiver: mguimaraes

Archiver contact: mguimaraes@keep.pt

Client machine: unspecified Database product: MySQL 5.6.49

Data origin timespan: unspecified

unspecified Data owner:

Database Preservation Toolkit (version 2.9.2) Producer Application:



See details about the archived format and manage the metadata of tables, columns and other technical elements of the database.

Version: SIARD standard version 2.1 (SEE SPECIFICATION)

Path: PRACTICAL\_SESSION\_1.SIARD

Size: 789.7 KB

EDIT METADATA

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Status:

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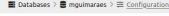
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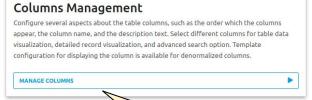




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#### **Data Transformation**

Improve database readability by transform the data. Join data from one or more tables into another table by performing a denormalization process.

TRANSFORM DATA

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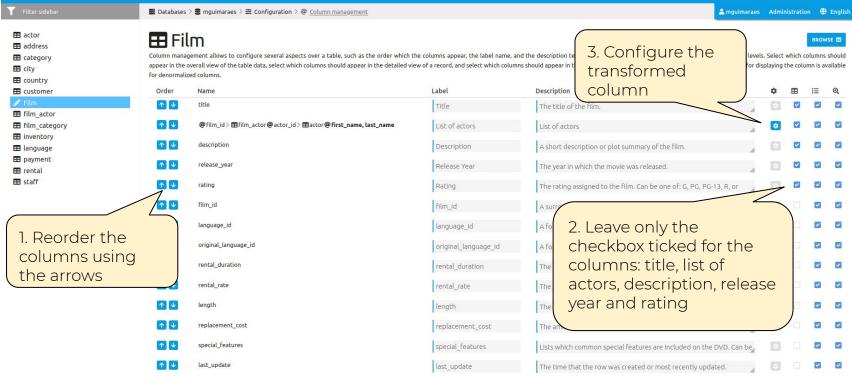
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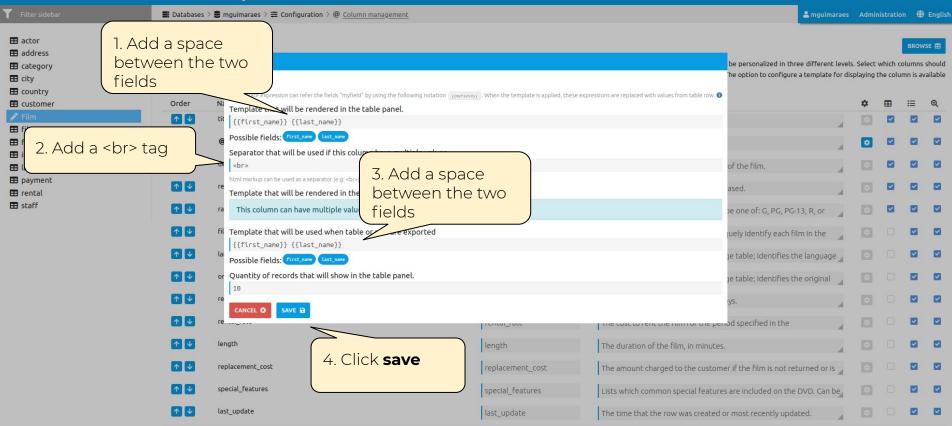
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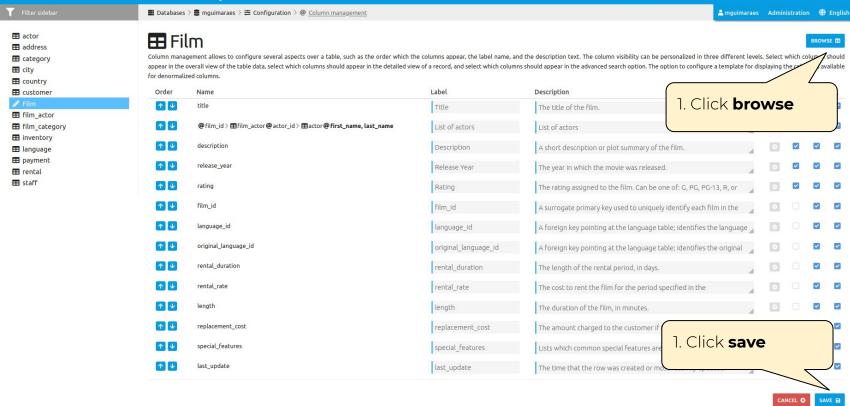
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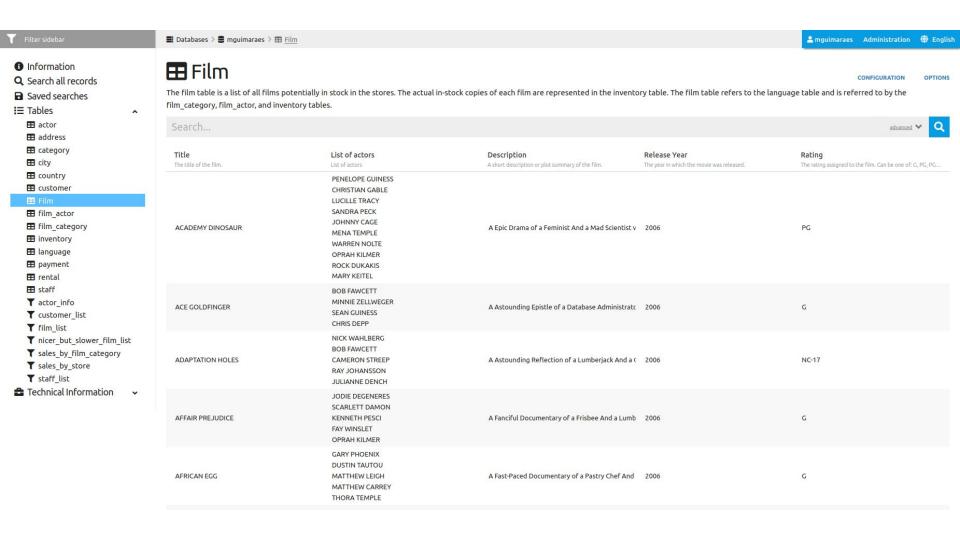








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## **mguimaraes**

DPC Workshop pratical session activities resolution

Archival date: 2020-08-03 01:00 (UTC+1)

Archiver: mguimaraes

Archiver contact: mguimaraes@keep.pt

Client machine: unspecified Database product: MySQL 5.6.49

Data origin timespan: unspecified

unspecified Data owner:

Database Preservation Toolkit (version 2.9.2) Producer Application:



See details about the archived format and manage the metadata of tables, columns and other technical elements of the database.

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Path: PRACTICAL\_SESSION\_1.SIARD

Size: 789.7 KB

EDIT METADATA

DELETE TO

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See details about the validation process.

Status:

VALIDATE >

#### **Browsing**

See details about the database status. Manage the database metadata by configuring table, columns and data.

Status:

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## **E** Configuration

Databases often does not have the best naming strategies applied as well as the data internal organization. Configuration panel allows to change or improve certain aspects of the database, such as tables, columns or the data. Table management acts at table level and allows to change the table name, table description, and its visibility to the users. Columns management acts at column level and enables to change column name, column description, two different levels of column visibility, and search option. Data transformation acts at data level and allows to denormalized the database.

#### Table Management

Select which tables you want to show to the user, you can also modify and override the original table name and the table description.

MANAGE TABLES

#### Columns Management

Configure several aspects about the table columns, such as the order which the columns appear, the column name, and the description text, Select different columns for table data visualization, detailed record visualization, and advanced search option, Template configuration for displaying the column is available for denormalized columns.

MANAGE COLUMNS

#### **Data Transformation**

Improve database readability by transform the data. Join data from one or more tables into another table by performing a denormalization process.

TRANSFORM DATA

Click on

**Transform data** 

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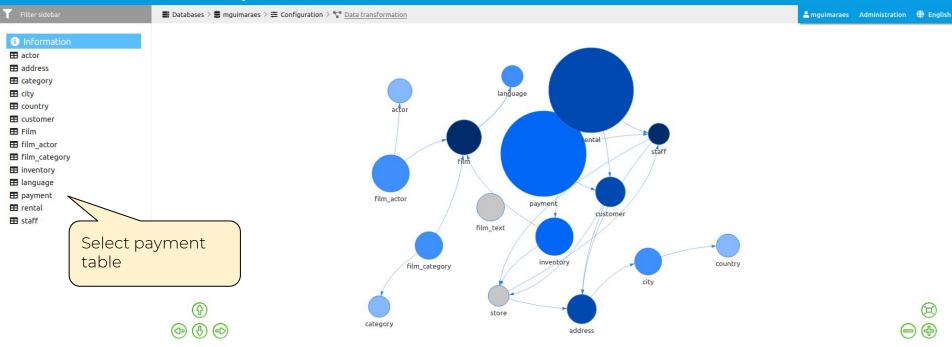
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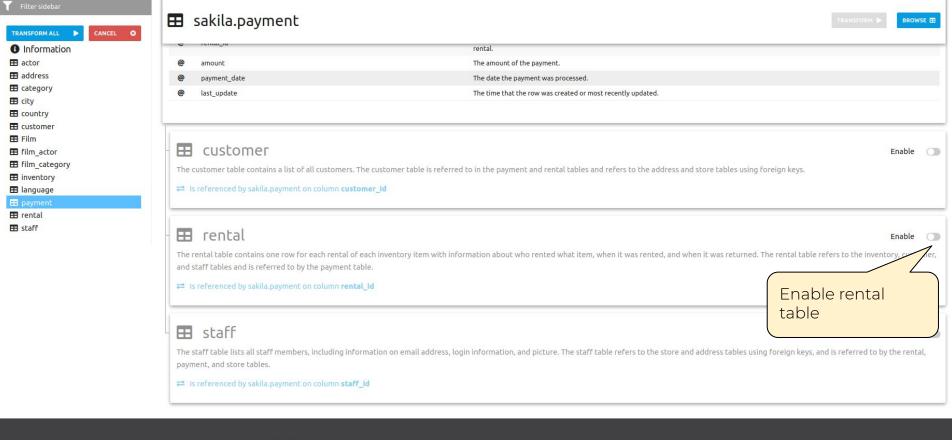
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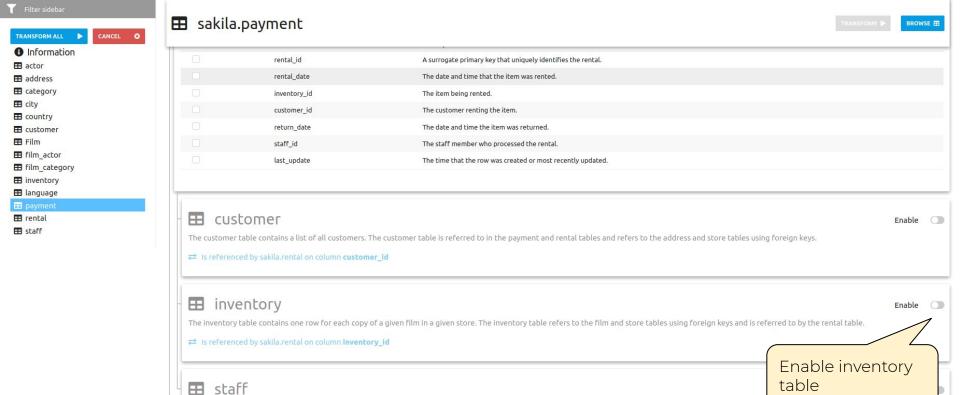
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The staff table lists all staff members, including information on email address, login information, and picture. The staff table refers to the store and address tables us

payment, and store tables.

☐ Is referenced by sakila.rental on column staff\_id







BROWSE E

Column name	Description
inventory_id	A surrogate primary key used to uniquely identify each item in inventory.
film_id	A foreign key pointing to the film this item represents.
store_id	A foreign key pointing to the store stocking this item.
last_update	The time that the row was created or most recently updated.



Enable

The film table is a list of all films potentially in stock in the stores. The actual in-stock copies of each film are represented in the inventory table. The film table refers to the language table and is referred to film\_category, film\_actor, and inventory tables.

☐ Is referenced by sakila.inventory on column film\_id

- IS TELETICIED BY SAKILOTETICAL OIL COLUMN INVENTOR Y TO

Enable film table



The store table lists all stores in the system. All inventory is assigned to specific stores, and staff and customers are assigned a "home store". The store table refers to the staff and address tables using foreign keys and is referred to by the staff, customer, and inventory tables.

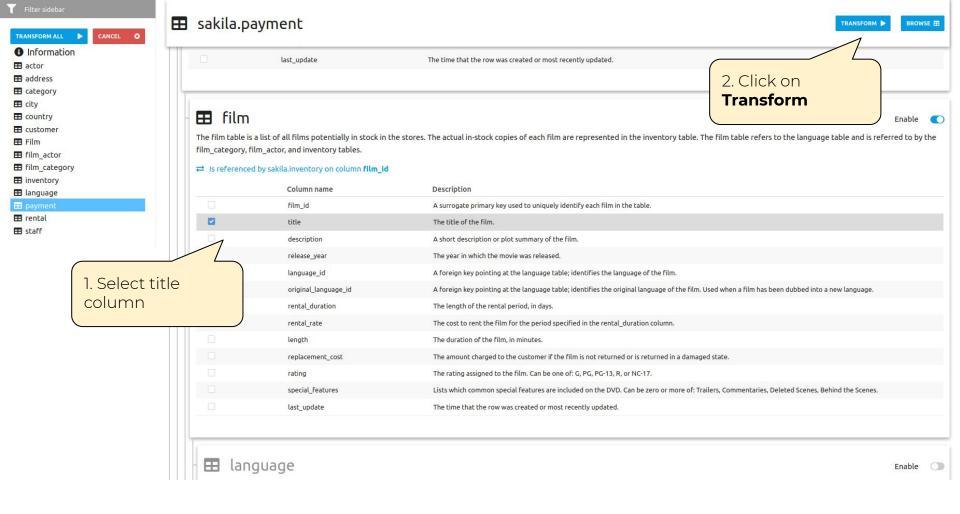
☐ Is referenced by sakila.inventory on column store\_id



Enable (

The staff table lists all staff members, including information on email address, login information, and picture. The staff table refers to the store and address tables using foreign keys, and is referred to by the rental, payment, and store tables.

 Is referenced by sakila.rental on column staff\_id





Administration # English



## 몲 Jobs

Jobs are processes that run in the background and require less user interaction. They are used to process high volumes of data that would normally consume more memory if run in the foreground. For example data transformation is a job that require read all data of database in order to perform denormalization actions.

#### mquimaraes

1000
_

ID	Database	Table	Name	Create time	Start time	End time	Progress	▼ Status
161	mguimaraes	payment	denormalizeJob	2020-08-03 12:18:13	2020-08-03 12:18:13	2020-08-03 12:23:28	100% (16049 of 16049)	Completed
160	mguimaraes	film	denormalizeJob	2020-08-03 11:49:30	2020-08-03 11:49:30	2020-08-03 11:49:58	100% (1000 of 1000)	Completed
159	mguimaraes		denormalizeJob	2020-08-03 11:44:43	2020-08-03 11:44:43	2020-08-03 11:44:58	100% (200 of 200)	Completed
143	mguimaraes		denormalizeJob	2020-07-31 16:53:48	2020-07-31 16:53:48	2020-07-31 16:54:47	100% (1000 of 1000)	Completed
101	mguimaraes	Click on the job to	denormalizeJob	2020-07-31 16:33:46	2020-07-31 16:33:46	2020-07-31 16:34:37	100% (603 of 603)	Completed
100	mguimaraes	see the result	denormalizeJob	2020-07-31 16:33:46	2020-07-31 16:33:46	2020-07-31 16:34:19	100% (600 of 600)	Completed
99	mguimaraes	when completed	denormalizeJob	2020-07-31 16:33:45	2020-07-31 16:33:45	2020-07-31 16:34:18	100% (599 of 599)	Completed
98	mguimaraes		denormalizeJob	2020-07-31 16:33:45	2020-07-31 16:33:45	2020-07-31 16:33:47	100% (6 of 6)	Completed
97	mguimaraes	category	denormalizeJob	2020-07-31 16:33:45	2020-07-31 16:33:45	2020-07-31 16:33:46	100% (16 of 16)	Completed
96	mguimaraes	film_actor	denormalizeJob	2020-07-31 16:33:45	2020-07-31 16:33:45	2020-07-31 16:38:47	100% (5462 of 5462)	Completed
95	mguimaraes	rental	denormalizeJob	2020-07-31 16:33:45	2020-07-31 16:33:45	2020-07-31 16:53:48	100% (16044 of 16044)	Completed
93	mguimaraes	rental	denormalizeJob	2020-07-31 16:12:07	2020-07-31 16:12:07	2020-07-31 16:19:41	100% (16044 of 16044)	Completed
92	mguimaraes	rental	denormalizeJob	2020-07-31 15:17:02	2020-07-31 15:17:02	2020-07-31 15:24:19	100% (16044 of 16044)	Completed
91	mguimaraes	film_actor	denormalizeJob	2020-07-31 15:17:02	2020-07-31 15:17:02	2020-07-31 15:18:42	100% (5462 of 5462)	[Completed]
90	mguimaraes	category	denormalizeJob	2020-07-31 15:16:39	2020-07-31 15:16:39	2020-07-31 15:16:40	100% (16 of 16)	Completed

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Amguimaraes Administration ## English

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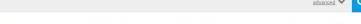
**:**≡ Tables

**Technical Information** 

## **=** payment

The payment table records each payment made by a customer, with information such as the amount and the rental being paid for (when applicable). The payment table refers to the customer, rental, and staff tables.

Search... advanced 🗸



payment_id A surrogate primary key used t	customer_id The customer whose balance th	staff_id The staff member who process	rental_id The rental that the payment is	amount The amount of the payment.	<pre>payment_date The date the payment was proc</pre>	last_update The time that the row was crea	payment>rental>inventory Please EDIT
1	1	1	76	2.99	2005-05-25 11:30:37	2006-02-15 22:12:30	PATIENT SISTER
2	1	1	573	0.99	2005-05-28 10:35:23	2006-02-15 22:12:30	TALENTED HOMICIDE
3	1	1	1185	5.99	2005-06-15 00:54:12	2006-02-15 22:12:30	MUSKETEERS WAIT
4	1	2	1422	0.99	2005-06-15 18:02:53	2006-02-15 22:12:30	DETECTIVE VISION
5	1	2	1476	9.99	2005-06-15 21:08:46	2006-02-15 22:12:30	FERRIS MOTHER
6	1	1	1725	4.99	2005-06-16 15:18:57	2006-02-15 22:12:30	CLOSER BANG
7	1	1	2308	4.99	2005-06-18 08:41:48	2006-02-15 22:12:30	ATTACKS HATE
8	1	2	2363	0.99	2005-06-18 13:33:59	2006-02-15 22:12:30	SAVANNAH TOWN
9	1	1	3284	3.99	2005-06-21 06:24:45	2006-02-15 22:12:30	YOUTH KICK
10	1	2	4526	5.99	2005-07-08 03:17:05	2006-02-15 22:12:30	FIRE WOLVES
11	1	1	4611	5.99	2005-07-08 07:33:56	2006-02-15 22:12:30	SATURDAY LAMBS
12	1	1	5244	4.99	2005-07-09 13:24:07	2006-02-15 22:12:30	SNATCH SLIPPER
13	1	1	5326	4.99	2005-07-09 16:38:01	2006-02-15 22:12:30	CONFIDENTIAL INTERVIEW
14	1	1	6163	7.99	2005-07-11 10:13:46	2006-02-15 22:12:30	EXPECATIONS NATURAL
15	1	2	7273	2.99	2005-07-27 11:31:22	2006-02-15 22:12:30	LUCK OPUS
16	1	1	7841	4.99	2005-07-28 09:04:45	2006-02-15 22:12:30	DOORS PRESIDENT
17	1	2	8033	4.99	2005-07-28 16:18:23	2006-02-15 22:12:30	USUAL UNTOUCHABLES
18	1	1	8074	0.99	2005-07-28 17:33:39	2006-02-15 22:12:30	FROST HEAD
19	í	2	8116	0.99	2005-07-28 19:20:07	2006-02-15 22:12:30	WOMEN DORADO
20	1	2	8326	2.99	2005-07-29 03:58:49	2006-02-15 22:12:30	AMISTAD MIDSUMMER

1-20 of 16,049 4 D







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Saved searches

**!**≡ Tables

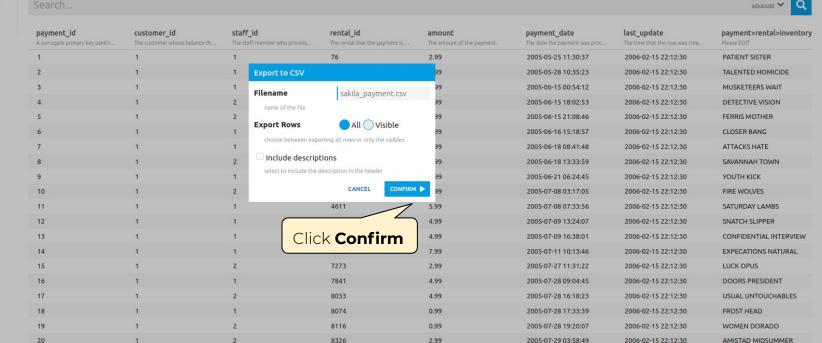
Technical Information

■ Databases > ■ mguimaraes > ⊞ payment

## **E** payment

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The payment table records each payment made by a customer, with information such as the amount and the rental being paid for (when applicable). The payment table refers to the customer, rental, and staff tables.





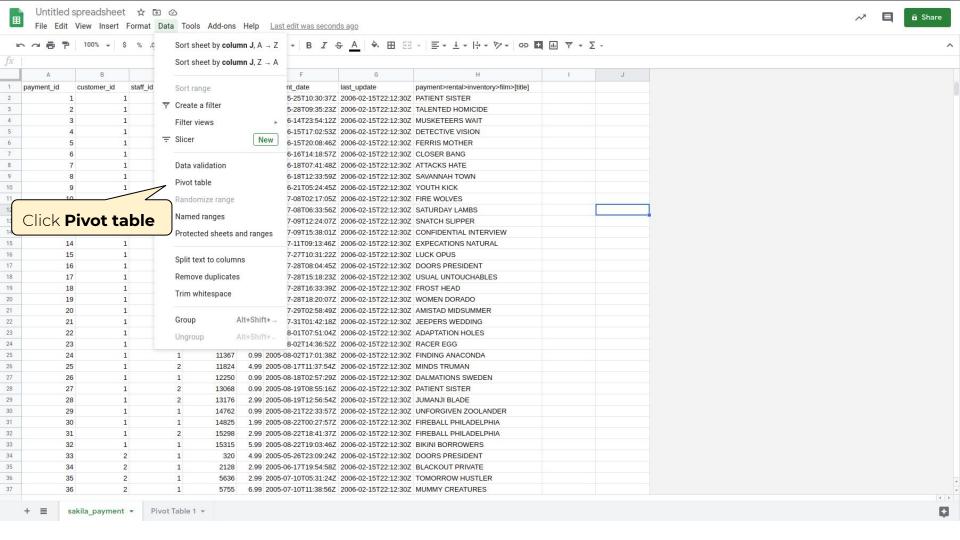
CONFIGURATION

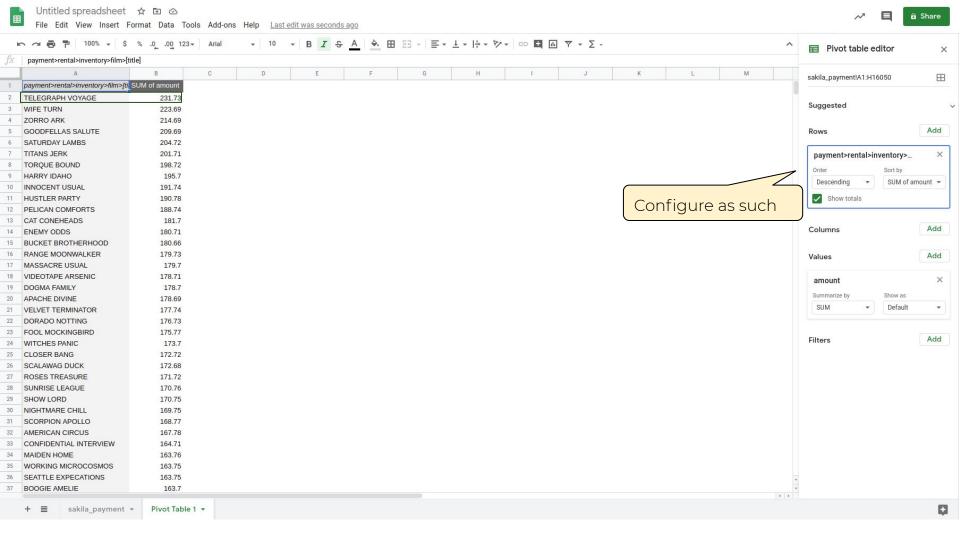
OPTIONS



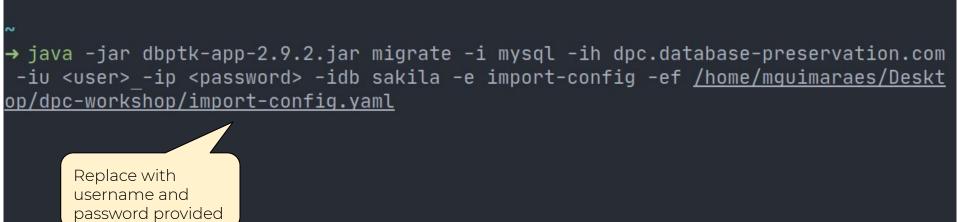


Import the resulting CSV to a spreadsheet software (For this activity it was used google sheets software)

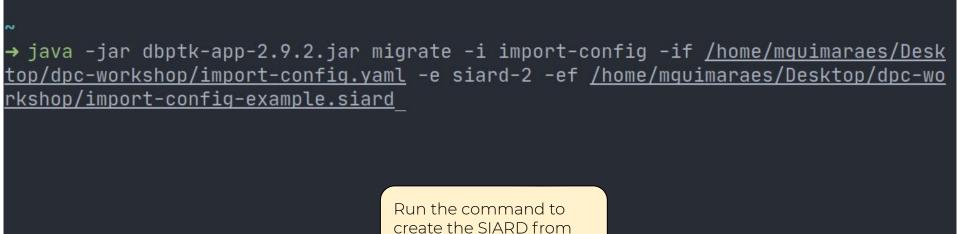








Tilix: Default



an import-config file

Tilix: Default