

Interval App User Manual

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1.Startup app

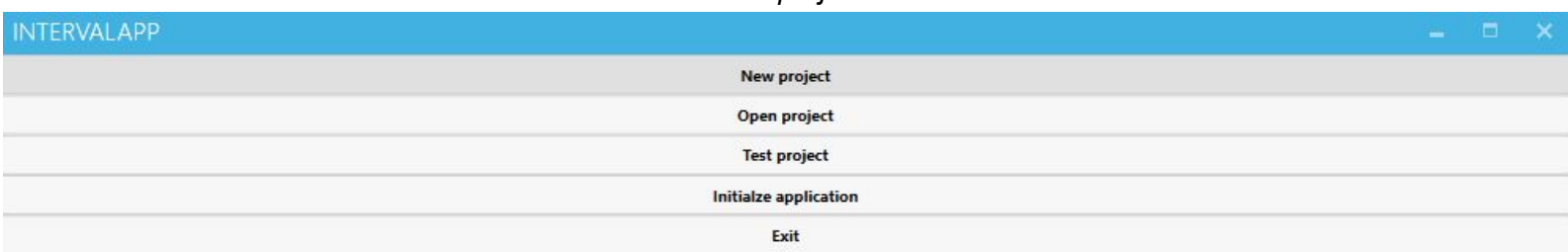
1. Create file connection.txt with your connection string.
2. In the main menu click *Initialize project* button. This will create required tables, triggers and sequence in your database and test project with *TES* will be created.



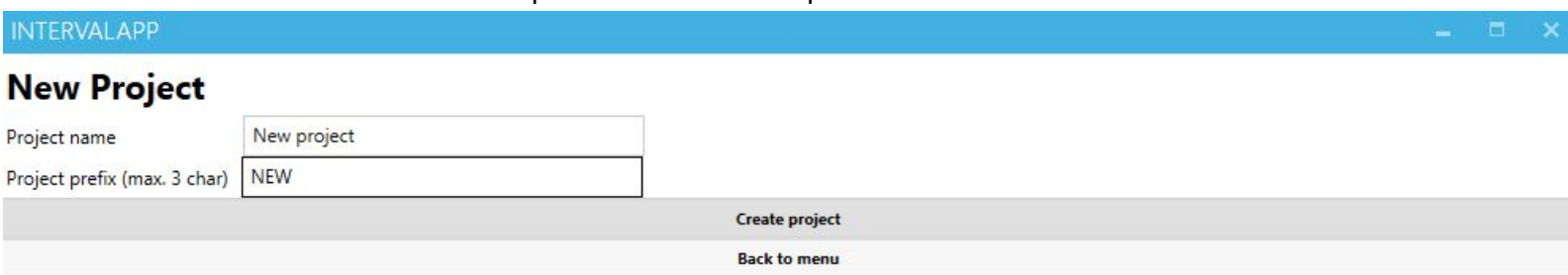
3. App is ready to use

2.Create new project

1. In the main menu choose *New project* button.



2. Fill with unique values name and prefix fields.

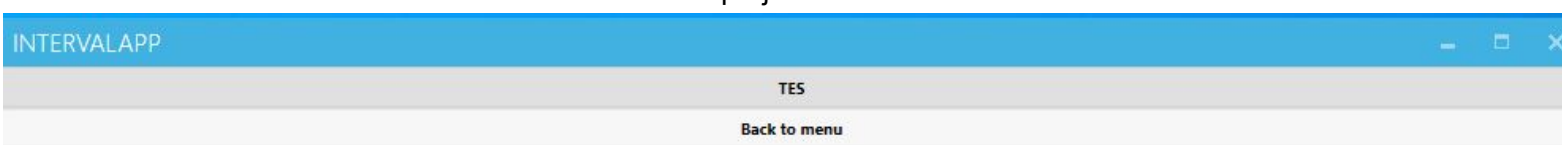


3. Open existing project

1. In the main menu choose *Open project* button.

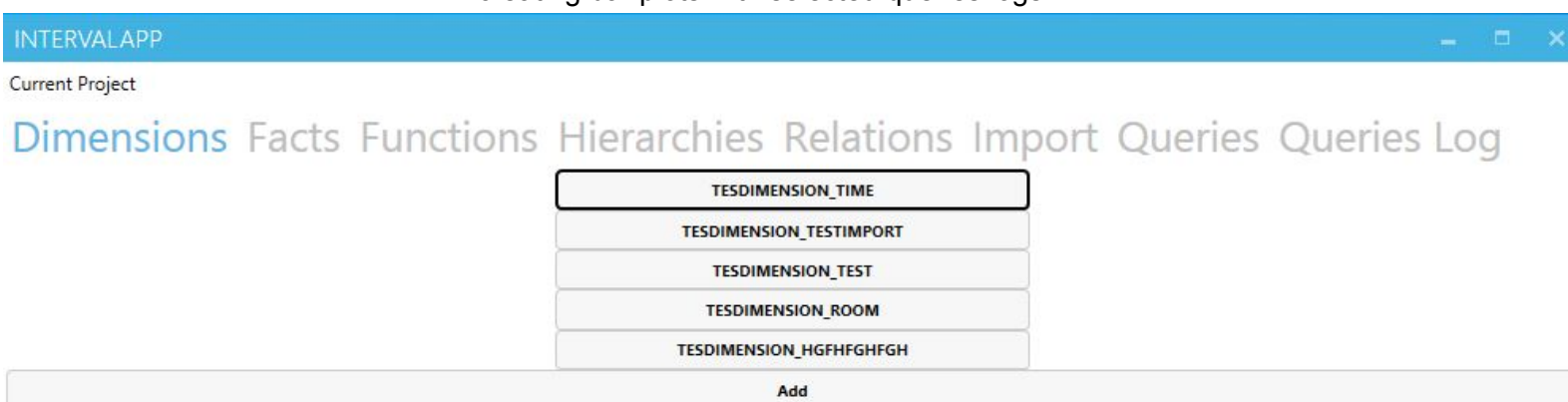


2. Click button with selected project.



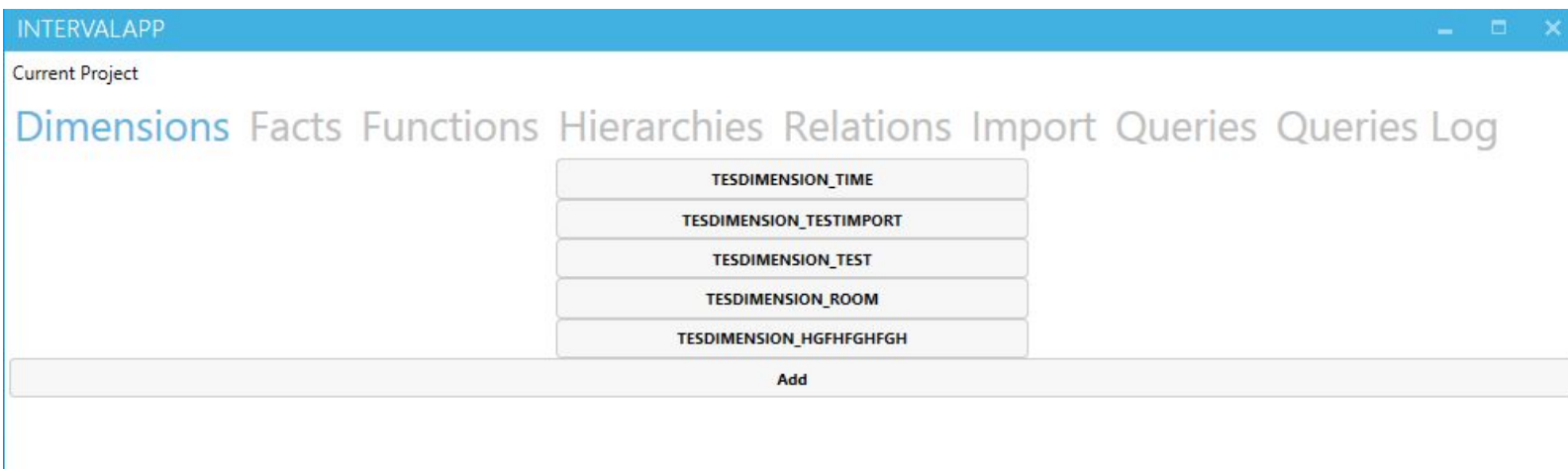
4. Main view - project page

- Contains tabs with all features needed to create your own data warehouse and to create interval functions. App contains
 - creating dimension, facts, relations, hierarchies,
 - creating function table with calculated slopes and intercepts,
 - importing data to tables,
 - executing queries,
 - saving queries, executing time and comments,
 - creating bar plots with selected queries logs

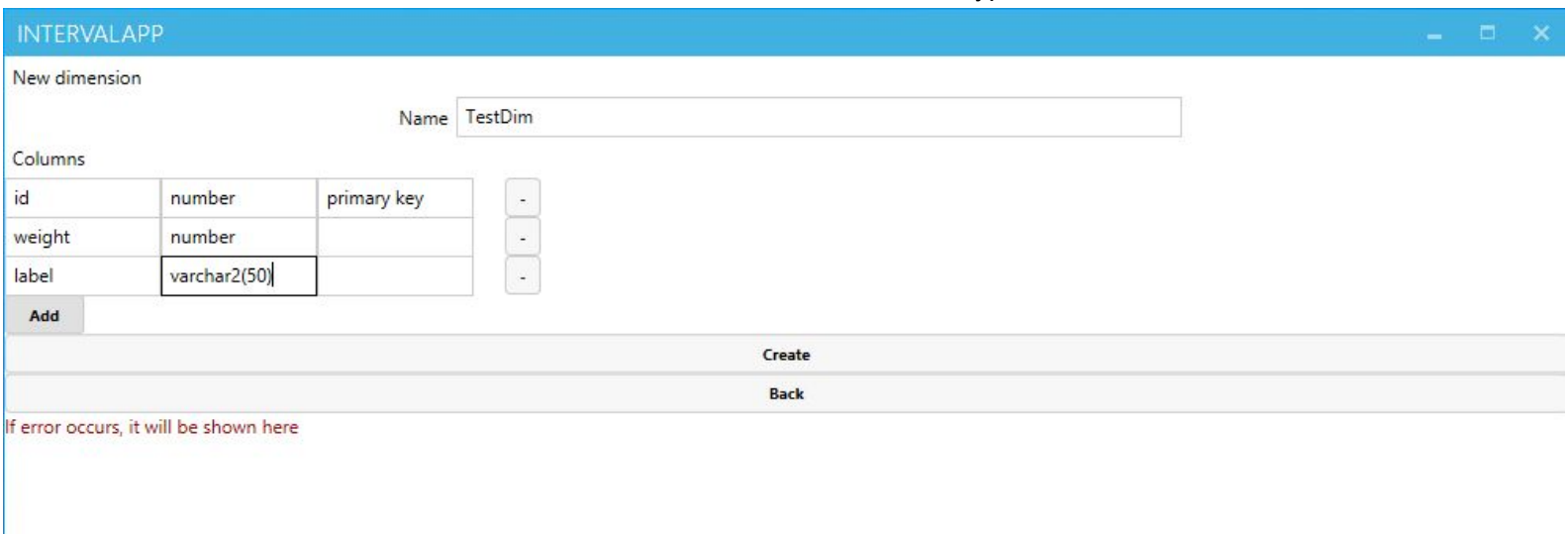


5. Create dimension

1. Go to *Dimensions* tab
2. Click *Add* button



3. Put table name then columns name, columns type and column constraint.



You can add new column with *Add* button or delete extra columns with - button

6. Update dimension

1. Go to *Dimensions* tab
2. Click dimension table button

INTERVALAPP

Current Project

Dimensions Facts Functions Hierarchies Relations Import Queries Queries Log

TESDIMENSION_TIME
TESDIMENSION_TESTIMPORT
TESDIMENSION_TEST
TESDIMENSION_ROOM
TESDIMENSION_HGFHFGHFGH

Add

3. Change table name, columns name, columns type and column constraint.
4. Click *Update* button.
You can add new column with *Add* button or delete extra columns with - button
Important thing is that table will be dropped before creating updated version.

INTERVALAPP

New dimension

Name

Columns

ID	NUMBER(22)		-
TIMET	TIMESTAMP(6)(1'		-

Add

Update

Back

If error occurs, it will be shown here

7. Create fact

1. Go to *Facts* tab.
2. Click *Add* button.

INTERVALAPP

Current Project

Dimensions Facts Functions Hierarchies Relations Import Queries Queries Log

TESFACT_NAME_OF_FACT
TESFACT_ENERGY

Add

3. Fill table name, columns name, columns type and column constraint fields.
You can add new column with *Add* button or delete extra columns with - button

INTERVALAPP

New fact

Name TestFact

Tables

Columns

id	number	primary key	-
measure1	number		-
measure2	number		-

Add

Create

Back

If error occurs, it will be show here

8. Update fact

1. Go to *Facts* tab.
2. Click fact table button.

INTERVALAPP

Current Project

Dimensions **Facts** Functions Hierarchies Relations Import Queries Queries Log

TESFACT_NAME_OF_FACT
TESFACT_ENERGY

Add

3. Change table name, columns name, columns type or column constraint.
4. Click *Update* button.
You can add new column with *Add* button or delete extra columns with - button.
Important thing is that table will be dropped before creating updated version.

INTERVALAPP

New fact

Name

Tables

Columns

ID	NUMBER(22)		-
ID_TIME	NUMBER(22)		-
ID_ROOM	NUMBER(22)		-
MEASUREVALUE	NUMBER(22)		-

Add

Update

Back

If error occurs, it will be show here

9. Create relation

1. Go to *Relations* tab.
2. Click *Add new* button.

INTERVALAPP

Current Project

Dimensions Facts Functions Hierarchies Relations Import Queries Queries Log

ENERGY_TIME_ID|TES_FACT_ENERGY

FACT_TIME_ID|TES_FACT_NAME_OF_FACT

FACT_ROOM_ID|TES_FACT_NAME_OF_FACT

FACT_HGFHFG_ID|TES_FACT_NAME_OF_FACT

Remove selected

Add new

3. In the first column select FACT in which you want to create foreign key. In example its TES_FACT_NAME_OF_FACT.
4. In the second column select DIMENSION table which contains column you want you want to reference in the created foreign key. In example it's TES_DIMENSION_TESTIMPORT
5. Finally in the third column select column you want to reference - it should be column with either UNIQUE or PRIMARY KEY constraint otherwise there will be an error.
6. Click *Create* button.

TES_FACT_NAME_OF_FACT	TES_DIMENSION_TIME	ID
TES_FACT_ENERGY	TES_DIMENSION_TESTIMPORT	NAME
	TES_DIMENSION_TEST	TEST
	TES_DIMENSION_ROOM	
	TES_DIMENSION_HGFHFGHFGH	

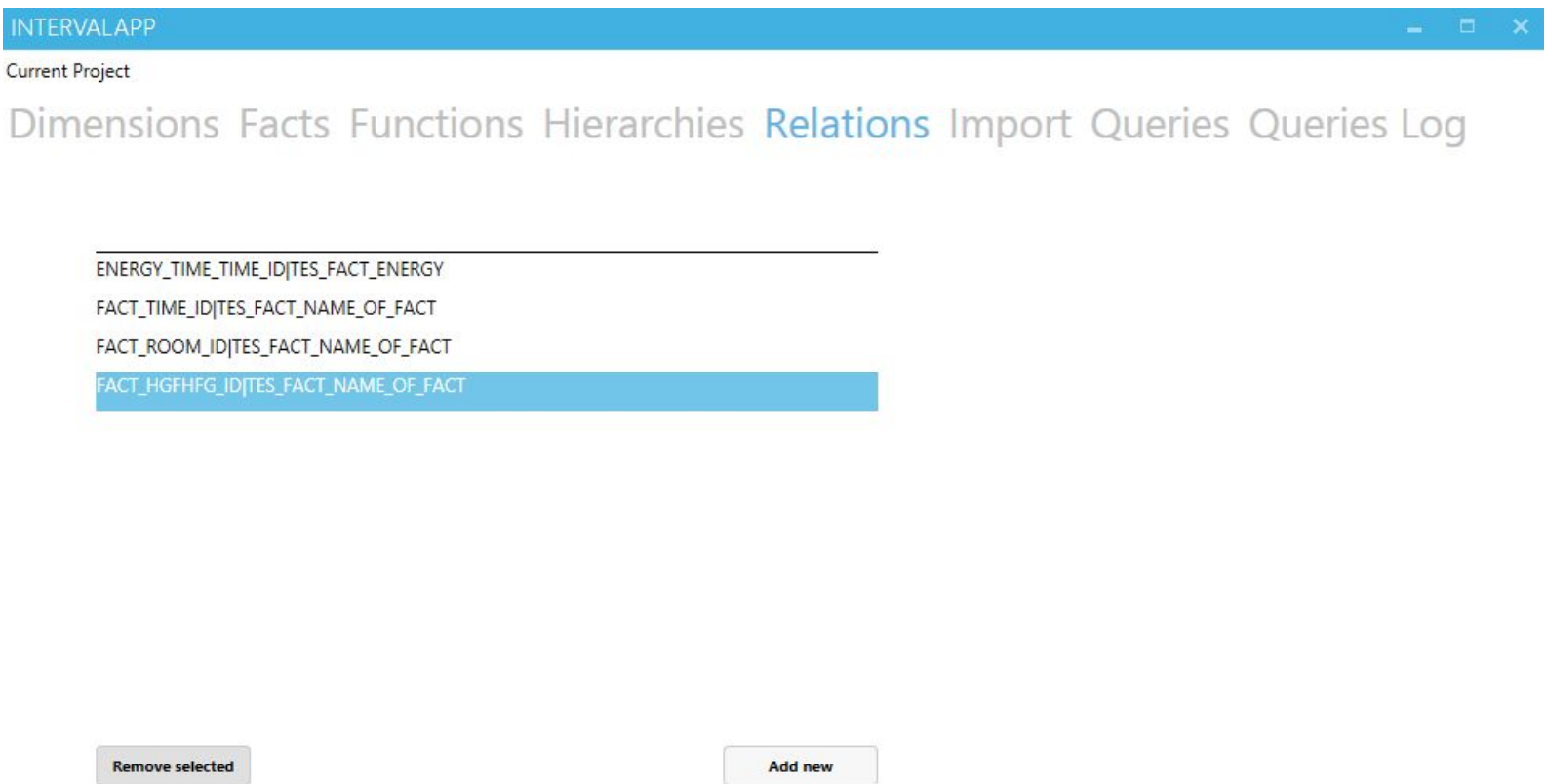
Create

goBack

If error occurs, it will be shown here

10. Delete relation

1. Go to *Relations* tab
2. Select relation.
3. Click *Remove selected* button.



11. Create hierarchy

1. Go to *Hierarchies* tab.
2. Click *Add new* button.

INTERVALAPP

Current Project

Dimensions Facts Functions Hierarchies Relations Import Queries Queries Log

TEST_TIME_ID TES_DIMENSION_TEST
HGFHFG_TIME_ID TES_DIMENSION_HGFHFGHFGH

Remove selected

Add new

3. In the first column select DIMENSION in which you want to create foreign key. In example its TES_DIMENSION_ROOM.
4. In the second column select DIMENSION table which contains column you want you want to reference in the created foreign key. In example it's TES_DIMENSION_HFHFGHFGH
5. Finally in the third column select column you want to reference - it should be column with either UNIQUE or PRIMARY KEY constraint otherwise there will be an error.
6. Click *Create* button.

TES_DIMENSION_TIME	TES_DIMENSION_TIME	ID
TES_DIMENSION_TESTIMPORT	TES_DIMENSION_TESTIMPORT	ID_TIME
TES_DIMENSION_TEST	TES_DIMENSION_TEST	
TES_DIMENSION_ROOM	TES_DIMENSION_HGFHFGHFGH	
TES_DIMENSION_HGFHFGHFGH		

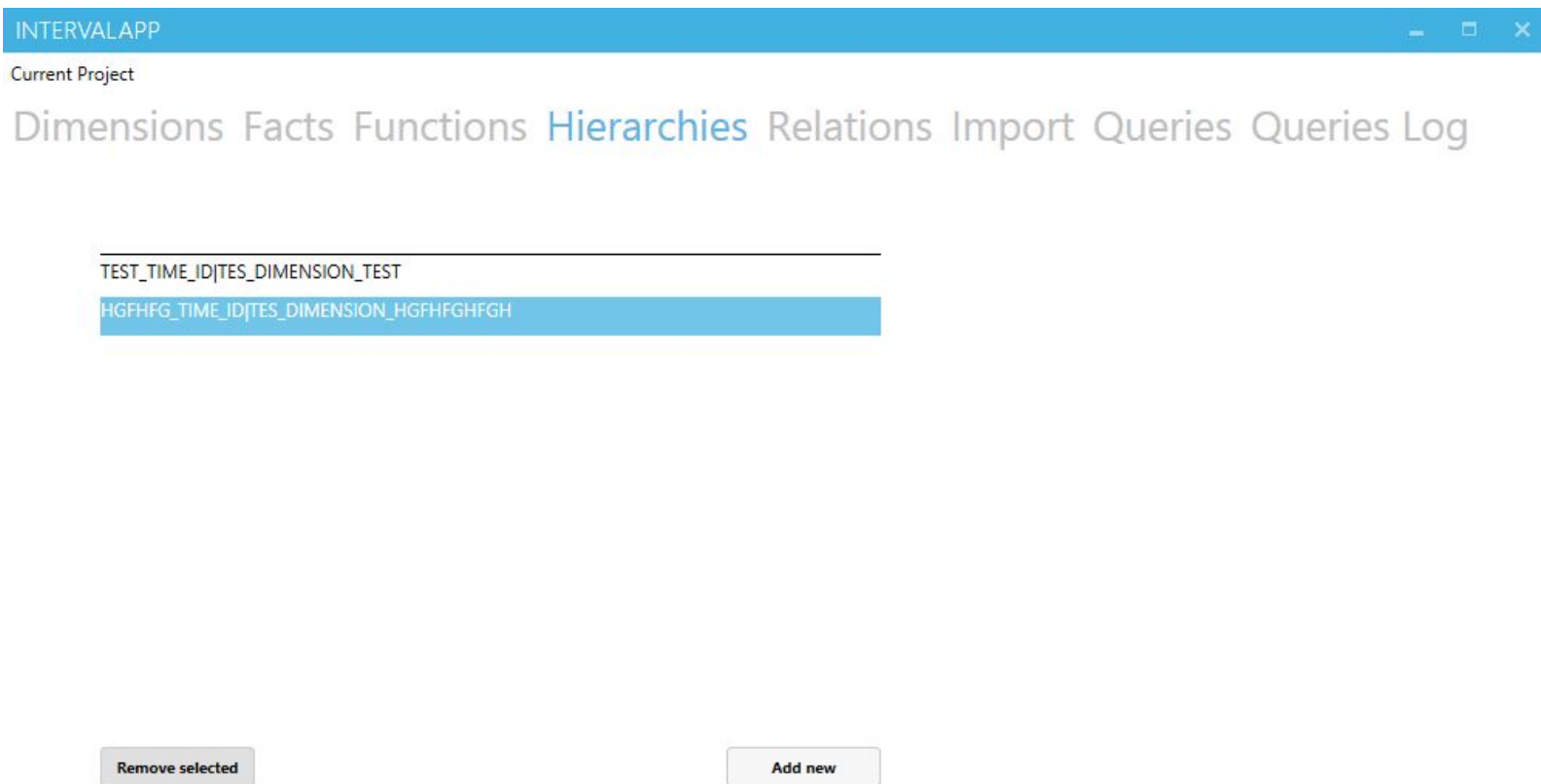
Create

goBack

If error occurs, it will be shown here

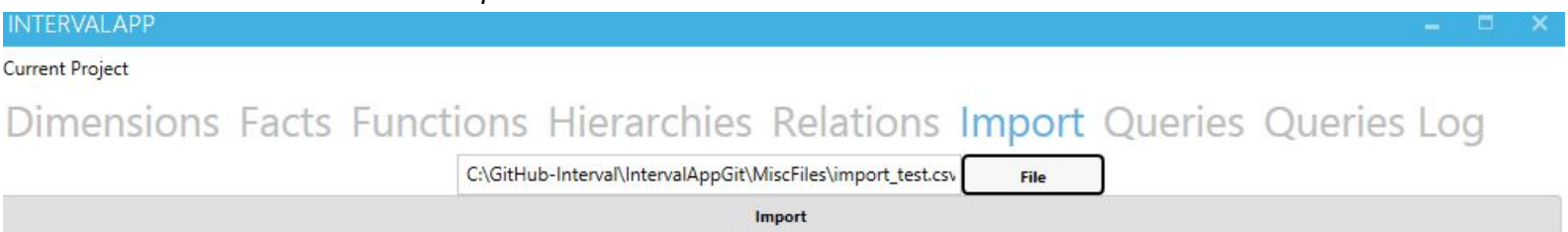
12. Delete hierarchy

1. Go to *Hierarchies* tab
2. Select hierarchy.
3. Click *Remove selected* button.



13. Import data

1. Go to *Import* tab.
2. Fill path field or use *Windows* file dialog to choose csv file.
3. Click *Import* button.



14. Create function

1. Go to *Functions* tab
2. Click *Add* button

INTERVALAPP

Current Project

Dimensions Facts **Functions** Hierarchies Relations Import Queries Queries Log

TESFUNCTION_TEST
TESFUNCTION_TEST23
TESFUNCTION_TAEST3

Add

3. Fill all required fields with columns names with prefixes if needed(*Table name*, *Key* - information to identify row, *Event time* - *Datetime* or *Number*, *Event value*, *From*).
4. Fill required field - *From* with tables names and joins.
5. Fill optional field *Where* if needed.
6. Click *Generate query* button.

INTERVALAPP

Table name TestFuncnt

Key ro.roomNumber

Event time ti.timet ☐ Number column

Event value en.measurement

From ERGY en join TES_DIMENSION_TIME ti on ti.id=en.id_time join TES_DIMENSION_ROOM ro on ro.id=en.id_room

Where ro.roomNumber = 2

Generate query

Table sheet

Execute query

Back

If error occurs it will be shown here.

7. App will generate query to create function table. User can modify it if needed.
8. Click *Execute query* if everything is fine
User can use *Table sheet* button to open new window which contains all projects tables with columns name

IntervalApp

Table name

TestFunc

Key

ro.roomNumber

Event time

ti.timet

Number column

Event value

en.measurement

From

ERGY en join TES_DIMENSION_TIME ti on ti.id=en.id_time join TES_DIMENSION_ROOM ro on ro.id=en.id_room

Where

ro.roomNumber = 2

Generate query

```
CREATE TABLE TES_FUNCTION_TestFunc AS SELECT ro.roomNumber as KEY_ID, ti.timet AS START_INTERVAL, LEAD(ti.timet) OVER(ORDER BY ro.roomNumber, ti.timet) AS END_INTERVAL, REGR_SLOPE(en.measurement, TO_NUMBER(TO_CHAR(ti.timet,'YYYYMMDD'))) OVER(ORDER BY ro.roomNumber, ti.timet ROWS BETWEEN CURRENT ROW AND 1 FOLLOWING) AS SLOPE, REGR_INTERCEPT(en.measurement, TO_NUMBER(TO_CHAR(ti.timet,'YYYYMMDD'))) OVER(ORDER BY ro.roomNumber, ti.timet ROWS BETWEEN CURRENT ROW AND 1 FOLLOWING) AS INTERCEPT FROM TES_FACT_ENERGY en join TES_DIMENSION_TIME ti on ti.id=en.id_time join TES_DIMENSION_ROOM ro on ro.id=en.id_room WHERE ro.roomNumber = 2
```

Table sheet

Execute query

Back

If error occurs it will be shown here.

15. Delete function

1. Go to *Functions* tab
2. Select function table button

INTERVALAPP

Current Project

Dimensions Facts **Functions** Hierarchies Relations Import Queries Queries Log

TESFUNCTION_TEST

TESFUNCTION_TEAT23

TESFUNCTION_TAEST3

Add

3. Click *Delete function* button.

Table name

TEAT23

Delete function

KEYID	STARTINTERVAL	ENDINTERVAL	SLOPE	INTERCEPT	
1	1/1/2012 10:00:00 AM	1/2/2012 10:00:00 AM	1	-20120100	
1	1/2/2012 10:00:00 AM	1/3/2012 10:00:00 AM	3	-60360304	
1	1/3/2012 10:00:00 AM	1/4/2012 10:00:00 AM	4	-80480407	
1	1/4/2012 10:00:00 AM	1/5/2012 10:00:00 AM	9	-181080927	
1	1/5/2012 10:00:00 AM	1/6/2012 10:00:00 AM	-8	160960858	
1	1/6/2012 10:00:00 AM	1/7/2012 10:00:00 AM	12	-241441262	
1	1/7/2012 10:00:00 AM	1/8/2012 10:00:00 AM	12	-241441262	
1	1/8/2012 10:00:00 AM	1/9/2012 10:00:00 AM	1	-20120074	

Back

16. Execute query

1. Go to *Queries* tab.
2. Write your query into main field.
3. Choose if your query should return table (checkbox *Returning table?* selected) or no.
4. Click *Execute* button.

INTERVALAPP

Current Project

Dimensions Facts Functions Hierarchies Relations Import **Queries** Queries Log

select * from main_projects;

table sheet

If error occurs it will be shown here.

☒ Returning table? ☐ Save Comment

Execute

5. If in 16.3 checkbox was select, app will open new window with result

INTERVALAPP

NAME	PREFIX
TEST	TES

0 ms

Back

17. Save query

1. Go to *Queries* tab.
2. Write your query into main field.
3. Choose if your query return table (checkbox *Returning table?* selected) or no.
4. Click *Save* checkbox.
5. Fill *Comment* textbox if needed.
6. Click *Execute* button.
7. If in 16.3 checkbox was select, app will open new window with result
8. Query will be save.

Current Project

Dimensions Facts Functions Hierarchies Relations Import **Queries** Queries Log

select * from main_projects;

table sheet

If error occurs it will be shown here.

☒ Returning table?

☒ Save

Random comment

Execute

18. Select saved queries and create plot

1. Go to *Queries Log*.
2. Select query log form first list view.
3. Click *Add query log* button to add it to plot.

INTERVALAPP

Current Project

Dimensions Facts Functions Hierarchies Relations Import Queries **Queries Log**

SQL	TIME	COMMENT
	3	Comment history
select * from test_function_teat23	5	Comment function
select * from test_function_teat23	6	Comment function
select * from test_function_teat23	2	Comment function
select * from tes_function_teat23	1	Comment function
select * from tes_function_test	1	Comment function2
select * from tes_function_test	8	Comment function2
select * from tes_function_test	1	Comment function2

Refresh lists

Add query log

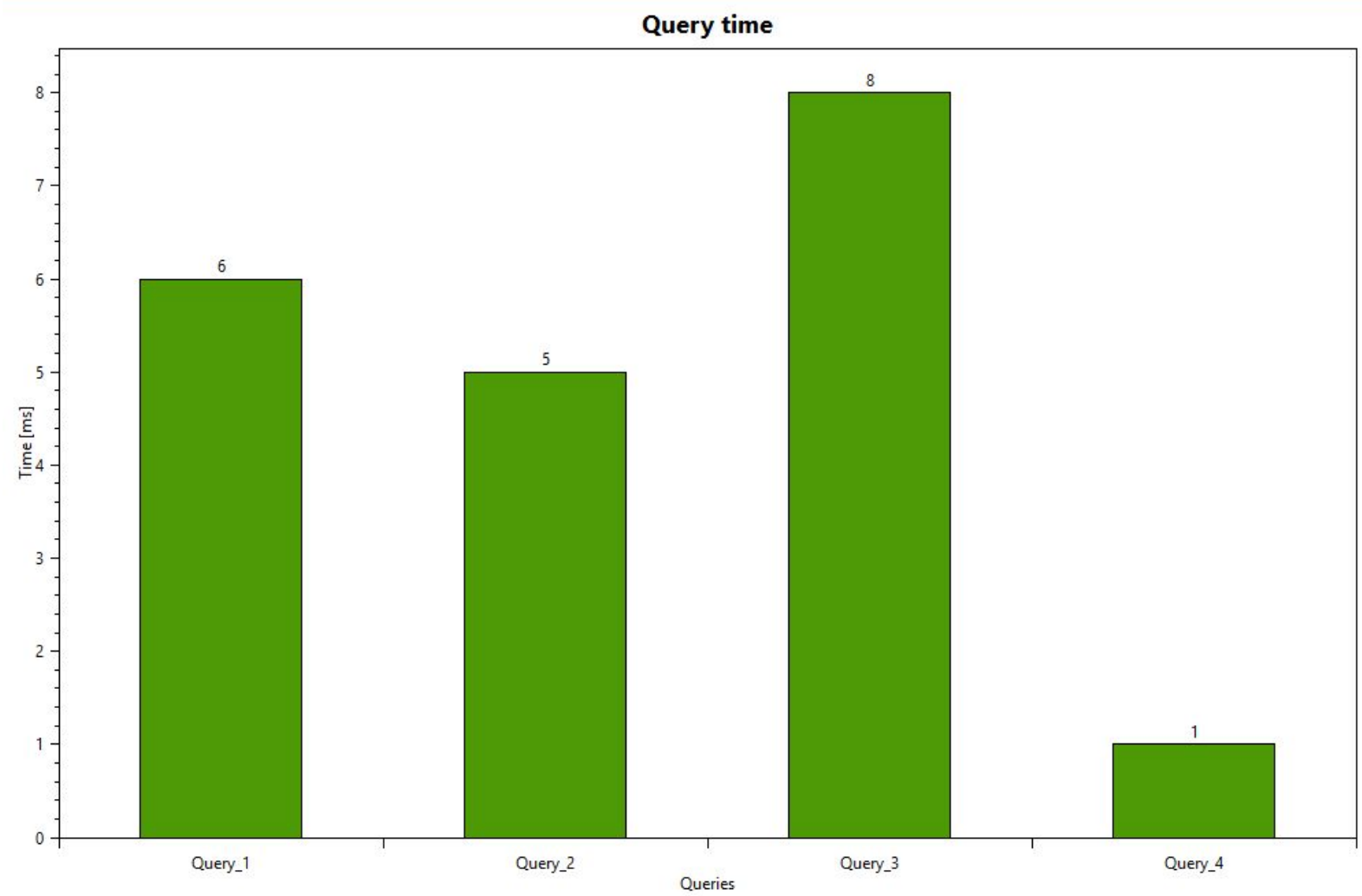
Clear selected queries view

SQL	TIME	COMMENT
-----	------	---------

Chart

Delete selected from database

4. Click *Chart* button to how window with bar chart.
 - Button *Refresh lists* will download for database all logs.
 - Button *Clear selected queries view* to clean second list view.
 - Button *Delete selected form database* will delete all query logs in second list view in database.



19. Table sheet

- Some views contains *Table sheet* button. This button open new window.
- Window contains tables name in three columns (*Dimensions*, *Facts*, *Functions*).
- Click on table name to show columns

Facts		Dimensions		Functions	
TES_FACT_NAME_OF_FACT	ID	TES_DIMENSION_TIME	ID	TES_FUNCTION_TEST	KEY_ID
TES_FACT_ENERGY	BLABLA	TES_DIMENSION_TESTIMPC	ROOMNUMBER	TES_FUNCTION_TEAT23	START_INTERVAL
	ID_TIME	TES_DIMENSION_TEST		TES_FUNCTION_TAEST3	END_INTERVAL
	ID_ROOM	TES_DIMENSION_ROOM			SLOPE
	ID_HGFHFG	TES_DIMENSION_HGFHFG			INTERCEPT

20. Import file examples

- Import file must be csv file
- Required markers
 - table config row - table;
<table_name>;<FACT,FUNCTION,DIMENSION>
 - column config row - columns;<column_name1>|<column type1>
<primarykey>;<column_name2>|<column type2> <primarykey>;(...)
 - data - after this next rows must be contains data to insert, this marker must be the last one config markers.
 - insert row - <data1>;<data2>;(..)<dataN>
- Optional markers
 - onlydata - if table exists rows after data marker will be add to database, otherwise you will get MessageBox. **File must contain this marker if table exists.**
 - drop - drop old table if exists and create new one
- Example 1 - create table + insert

```
table;testimport;dimension;
columns;id|int;name|varchar2(50);test|int;
data;
1;test;1;
2;test2;2;
3;test3;3;
4;test4;4;
```
- Example 2 - only data

```
onlydata
table;testimport;dimension;
columns;id|int;name|varchar2(50);test|int;
data;
5;test5;5;
6;test6;6;
7;test7;7;
8;test8;8;
```
- Example 3 - drop and create table + insert

```
drop
table;testimport;dimension;
columns;id|int;name|varchar2(50);test|int;
data;
8;test8;8;
9;test9;9;
```


21. GitHub link

- <https://github.com/Adek2kk/IntervalAppGit>