

Assignment 2

Submitted to

Sri Lanka Institute of Information Technology

Submitted on

17-May-2022

IT20187828

Y3S1-WD.5.2

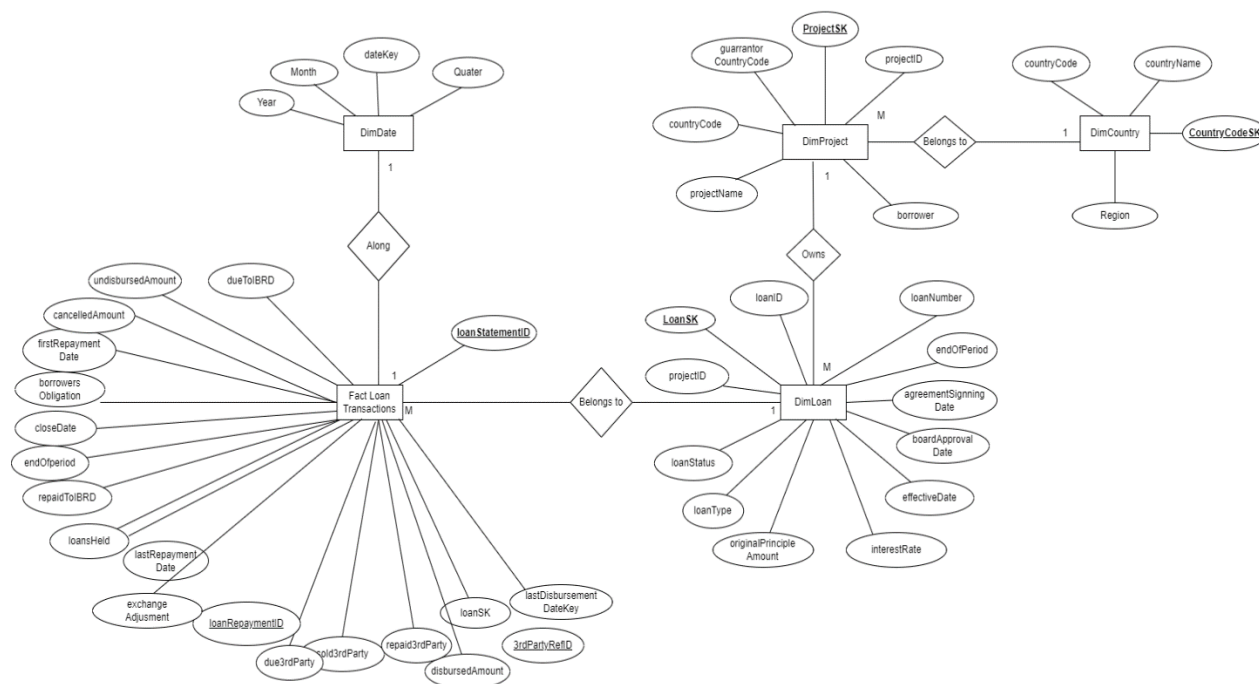
Isurika M.D.A

Step 1: Data Source for the Assignment

Data warehouse includes bank loan details which is given to countries to continue their large developing projects. It includes all the loan bank statement details which issues on the last day of every month.

I have designed the data warehouse using **Snowflake Schema**.

Fact table have relationship with Loan dimension and Date dimension. Then Loan dimension is connected to project dimension. And Project dimension is connected to Country dimension.



Step 2: SSAS Cube Implementation

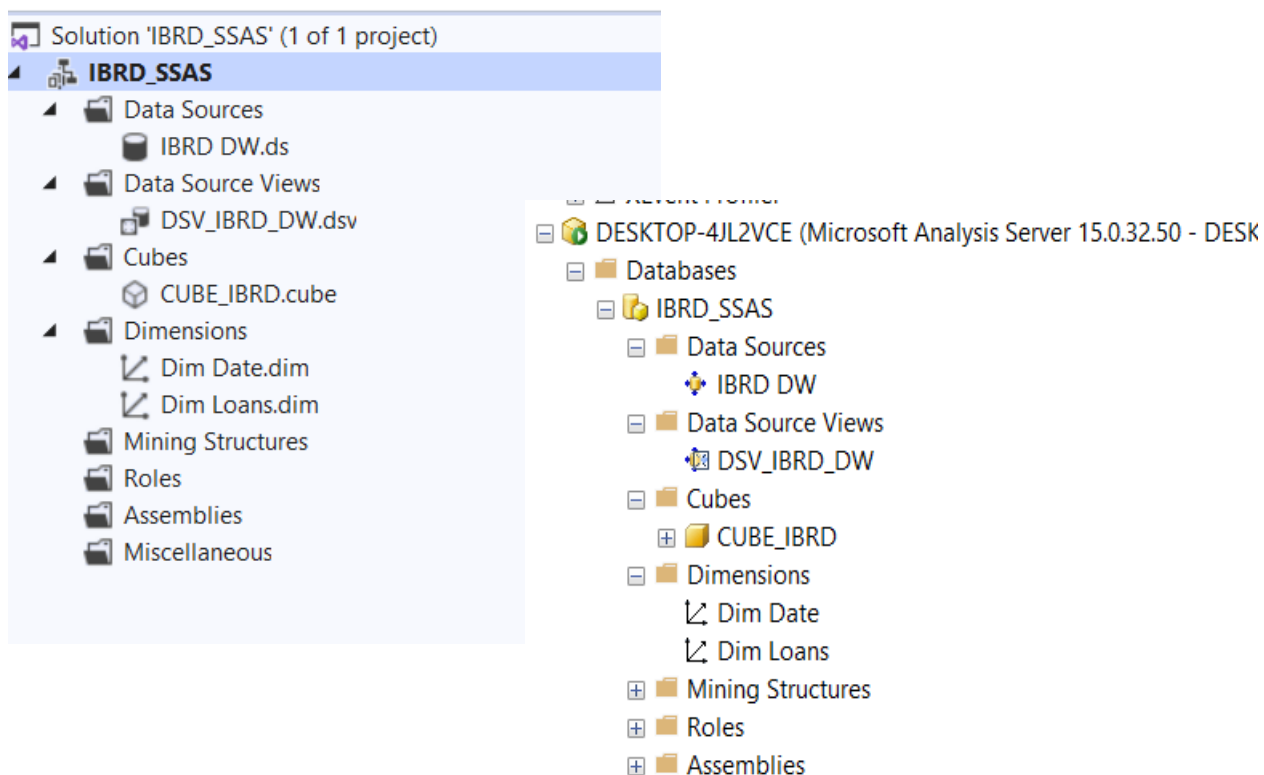
Step1: open new analysis services multidimensional and data mining project.

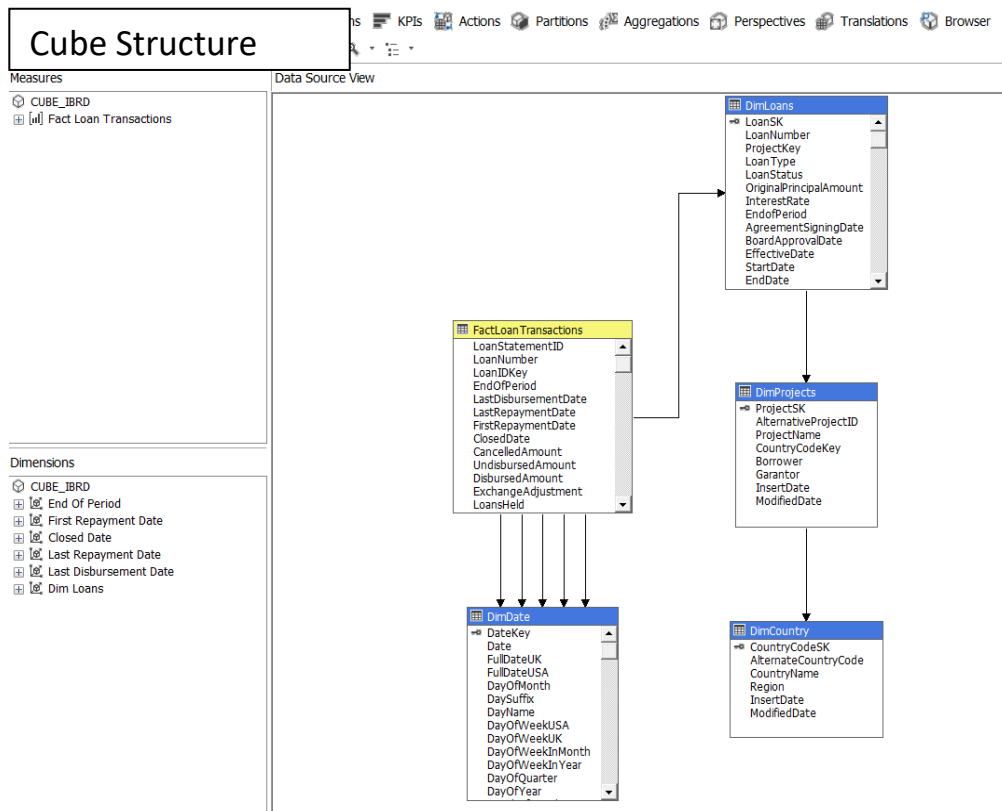
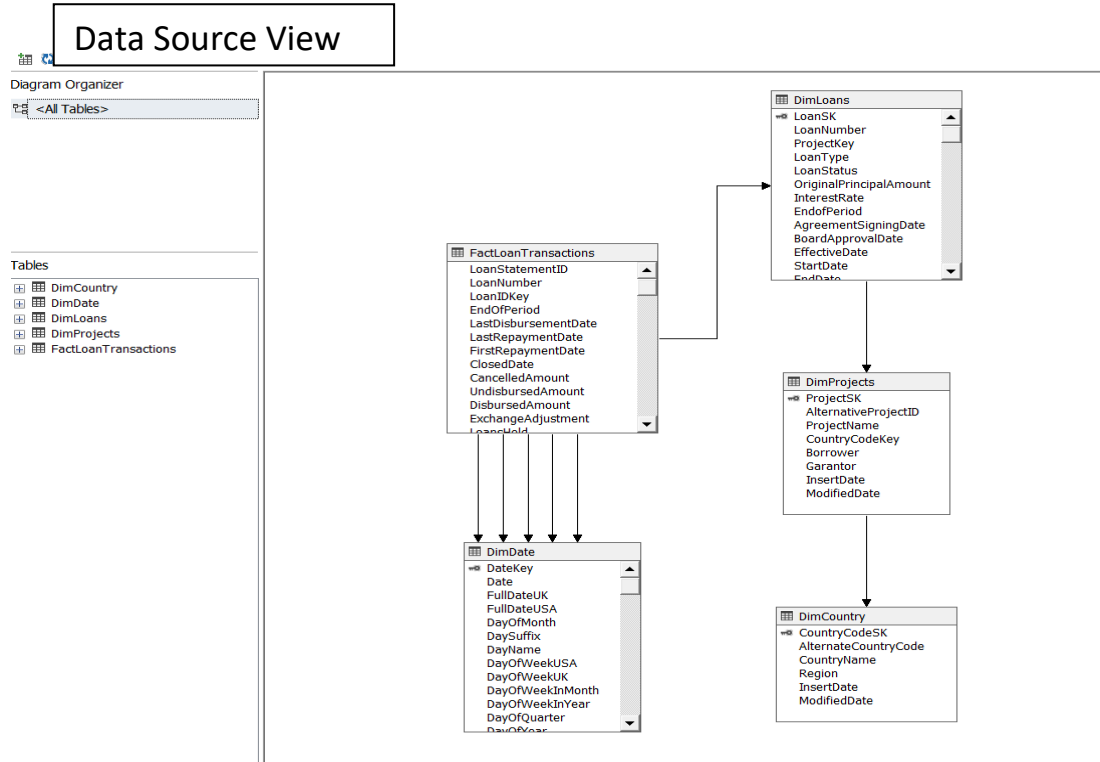
Step2: then inside data sources folder create new data source to connect with data warehouse (IBRD_DW).

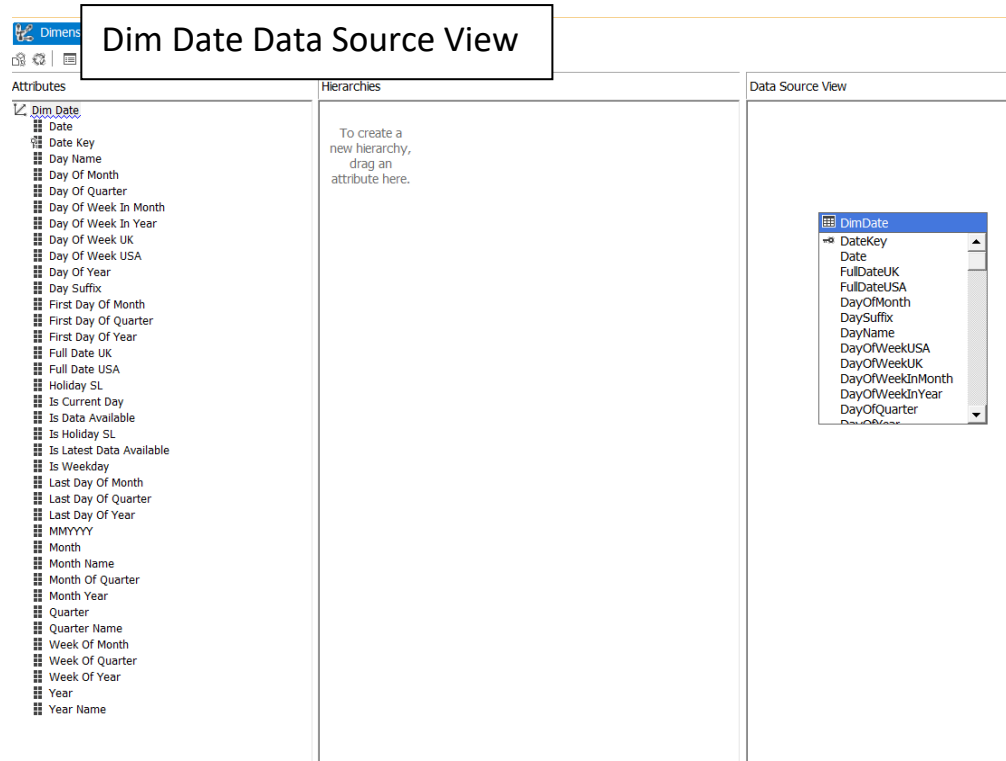
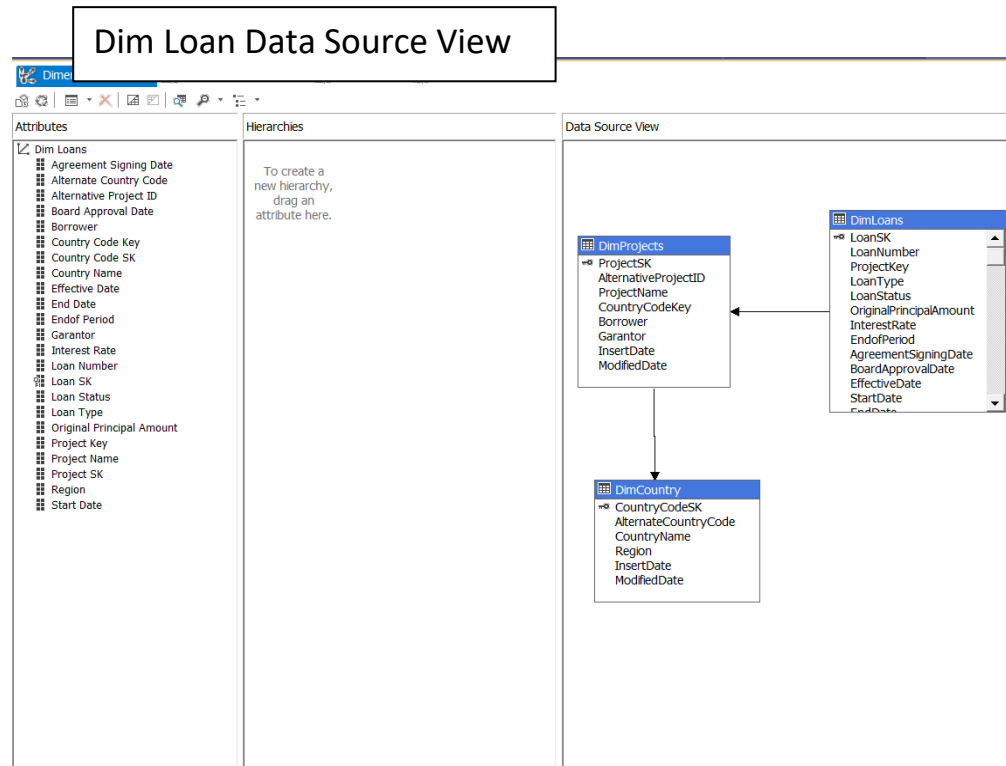
Step3: next inside data source views folder creates new data source view by including all the necessary dimension tables and fact tables.

Step4: next inside cube folder create cube by including only necessary fields which needs for analyzing purposes.

Step5:deploy the cube and import to the MS Studio.







Step 3: Demonstration of OLAP Operations

Step1: I have connected data warehouse to excel workbook by using power pivot option.

** by following steps as below mentioned.

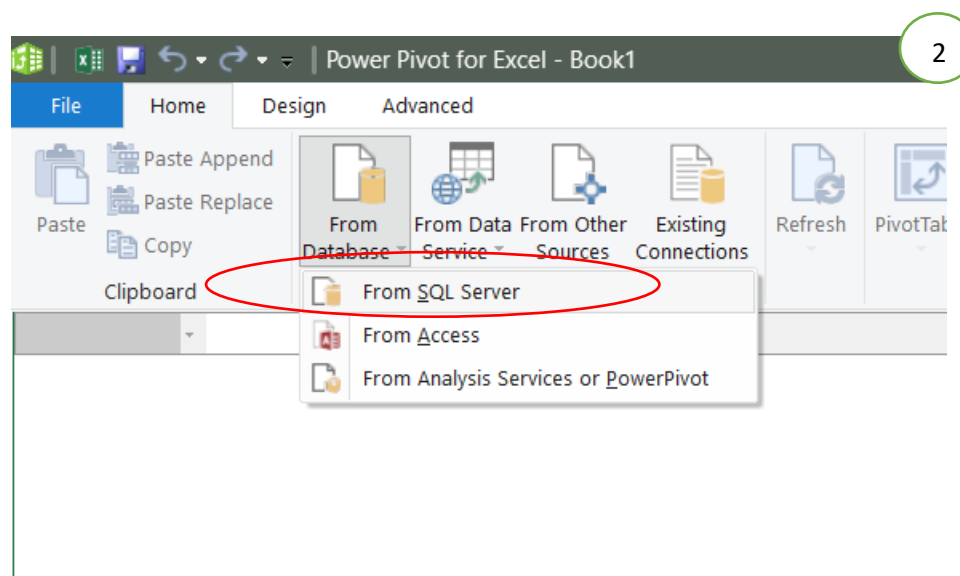
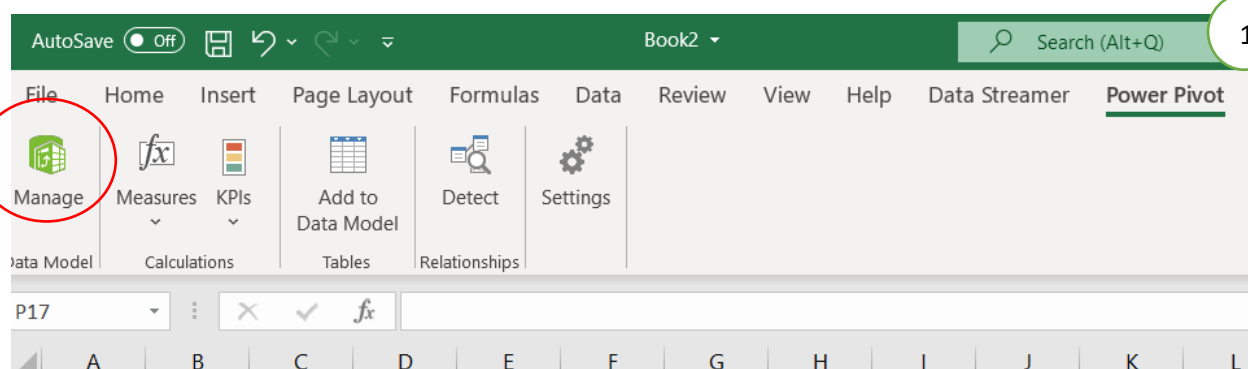


Table Import Wizard

?

3

Connect to a Microsoft SQL Server Database

Enter the information required to connect to the Microsoft SQL Server database.

Friendly connection name: SqlServer DESKTOP-4JL2VCE IBRD_DW

Server name: DESKTOP-4JL2VCE

Log on to the server

☒ Use Windows Authentication

☐ Use SQL Server Authentication

User name:

Password:

☐ Save my password

Database name: IBRD_DW

Advanced Test Connection

Table Import Wizard

?

4

Choose How to Import the Data

You can either import all of the data from tables or views that you specify, or you can write a query using SQL that specifies the data to import.

☒ Select from a list of tables and views to choose the data to import

☐ Write a query that will specify the data to import

Table Import Wizard

5

Select Tables and Views
 Select the tables and views that you want to import data from.

Server: DESKTOP-4JL2VCE
Database: IBRD_DW


Tables and Views:

	Source Table	Schema	Friendly Name	Filter Details
<input type="checkbox"/>	CalculateProcessTime	dbo		
<input checked="" type="checkbox"/>	DimCountry	dbo	DimCountry	
<input checked="" type="checkbox"/>	DimDate	dbo	DimDate	
<input checked="" type="checkbox"/>	DimLoans	dbo	DimLoans	
<input checked="" type="checkbox"/>	DimProjects	dbo	DimProjects	
<input checked="" type="checkbox"/>	FactLoanTransactions	dbo	FactLoanTransactions	
<input type="checkbox"/>	sysdiagrams	dbo		

Table Import Wizard







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Importing
 The import operation might take several minutes to complete. To stop the import operation, click the Stop Import button.


Success

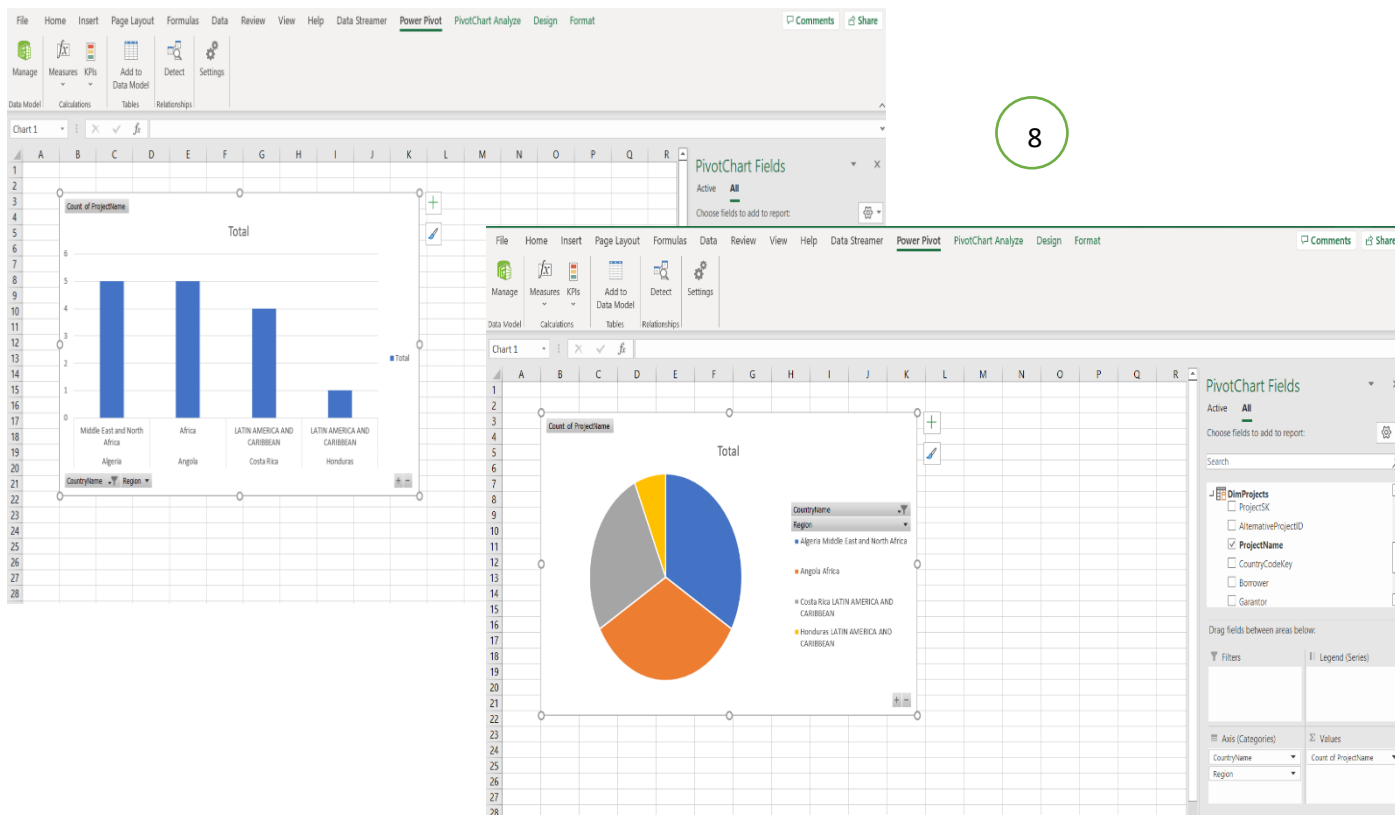
Total: 5 Cancelled: 0
 Success: 5 Error: 0

Details:

Work Item	Status	Message
 DimCountry	Success. 102 rows transferred.	
 DimDate	Success. 39,812 rows transferred.	
 DimLoans	Success. 89,765 rows transferred.	
 DimProjects	Success. 777 rows transferred.	
 FactLoanTransactions	Success. 46,896 rows transferred.	
 Data preparation	Completed	Details

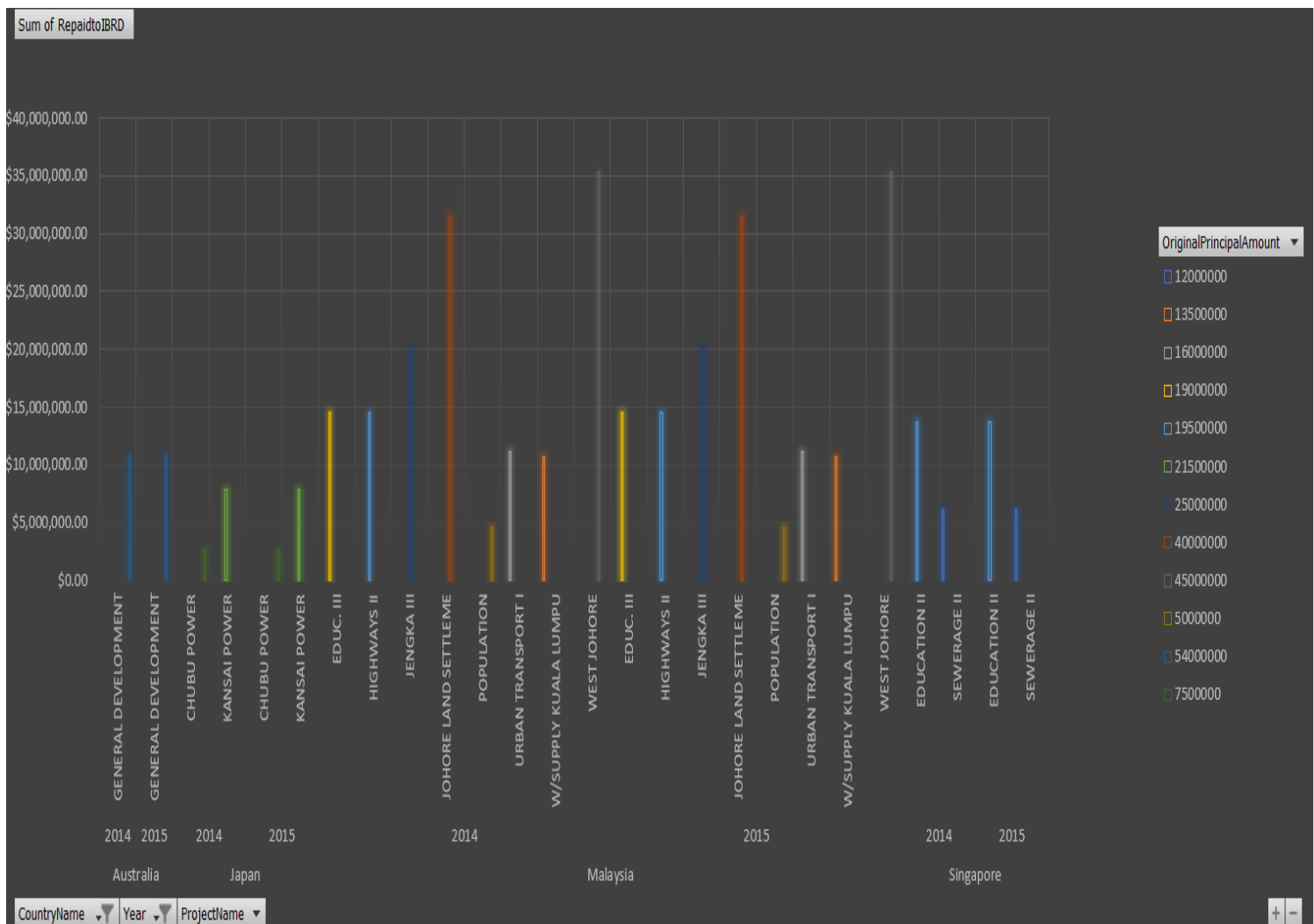
CountryName	ModifiedDate	Add
World	17-May-22 14:...	
Eastern Africa	17-May-22 14:...	
Antigua and Bar...	17-May-22 14:...	
Albania	17-May-22 14:...	
Armenia	17-May-22 14:...	
Angola	08-May-22 ...	17-May-22 14:...
Argentina	08-May-22 ...	17-May-22 14:...
Australia	08-May-22 ...	17-May-22 14:...
Azerbaijan	08-May-22 ...	17-May-22 14:...
Bosnia and Herz...	08-May-22 ...	17-May-22 14:...
Bulgaria	08-May-22 ...	17-May-22 14:...
Bolivia	08-May-22 ...	17-May-22 14:...
Brazil	08-May-22 ...	17-May-22 14:...
Botswana	08-May-22 ...	17-May-22 14:...

7



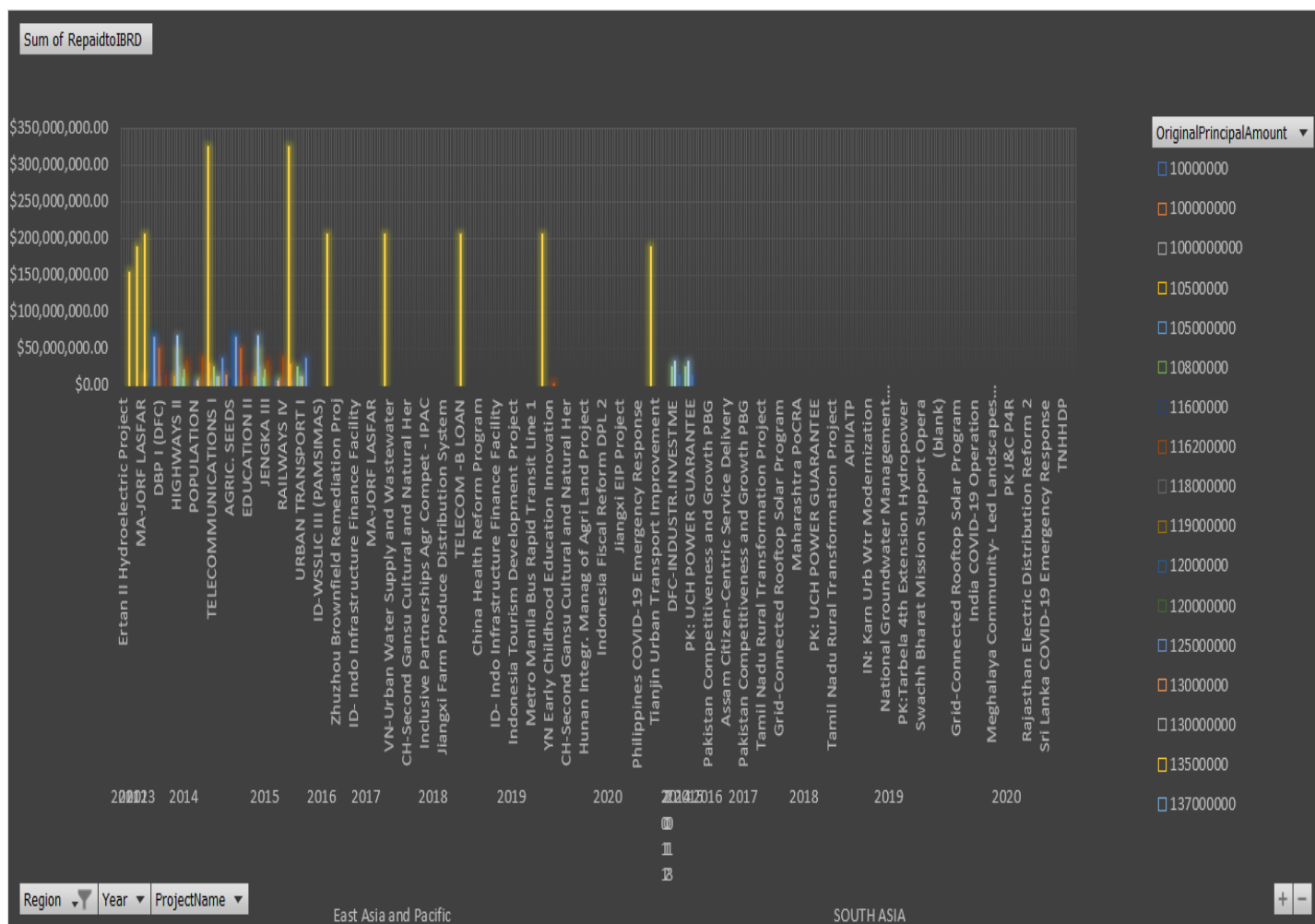
Demonstration of OLAP Operations

Roll up Operation

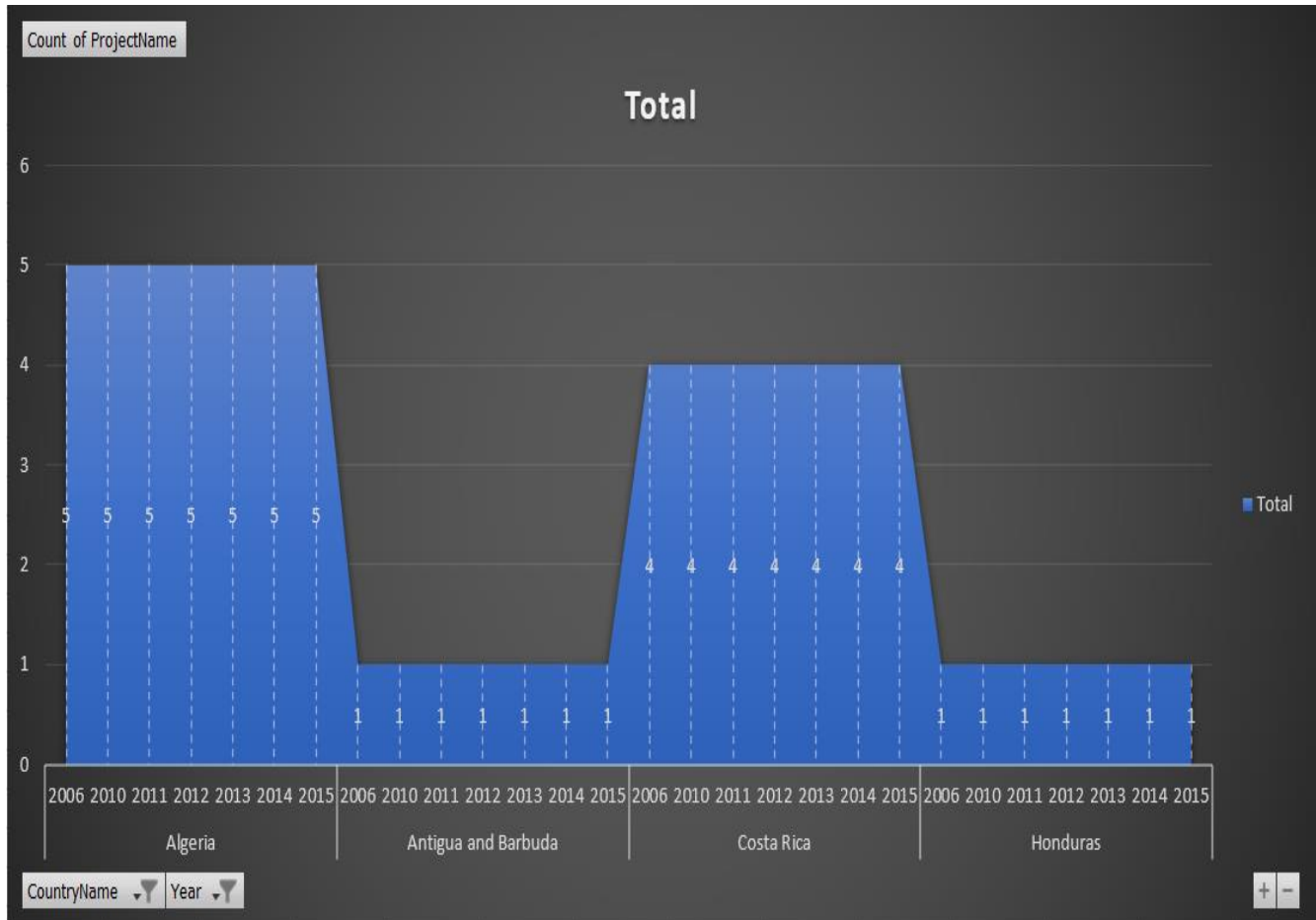


Roll up on Location
 from Country to Region



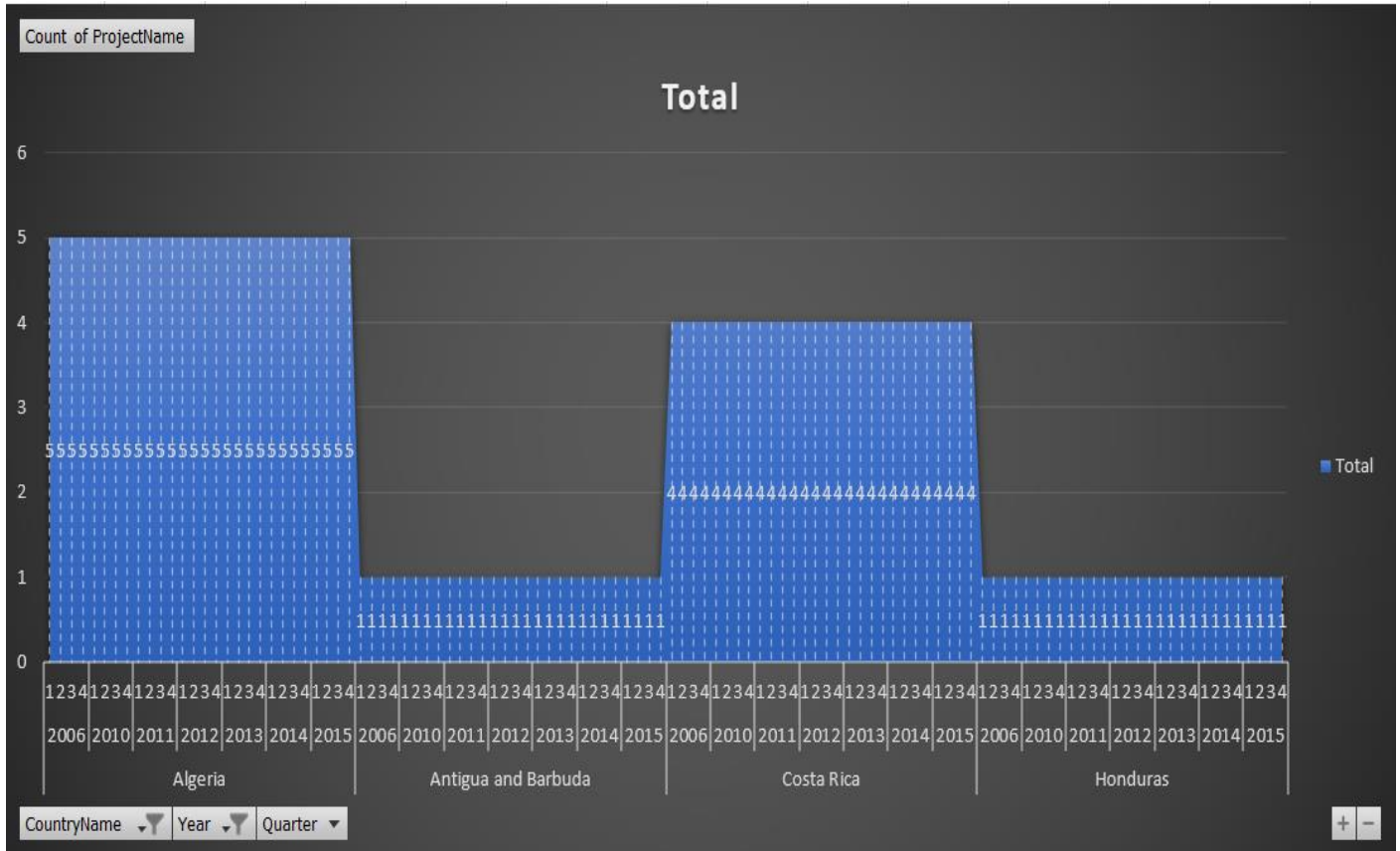


Drill-down operation

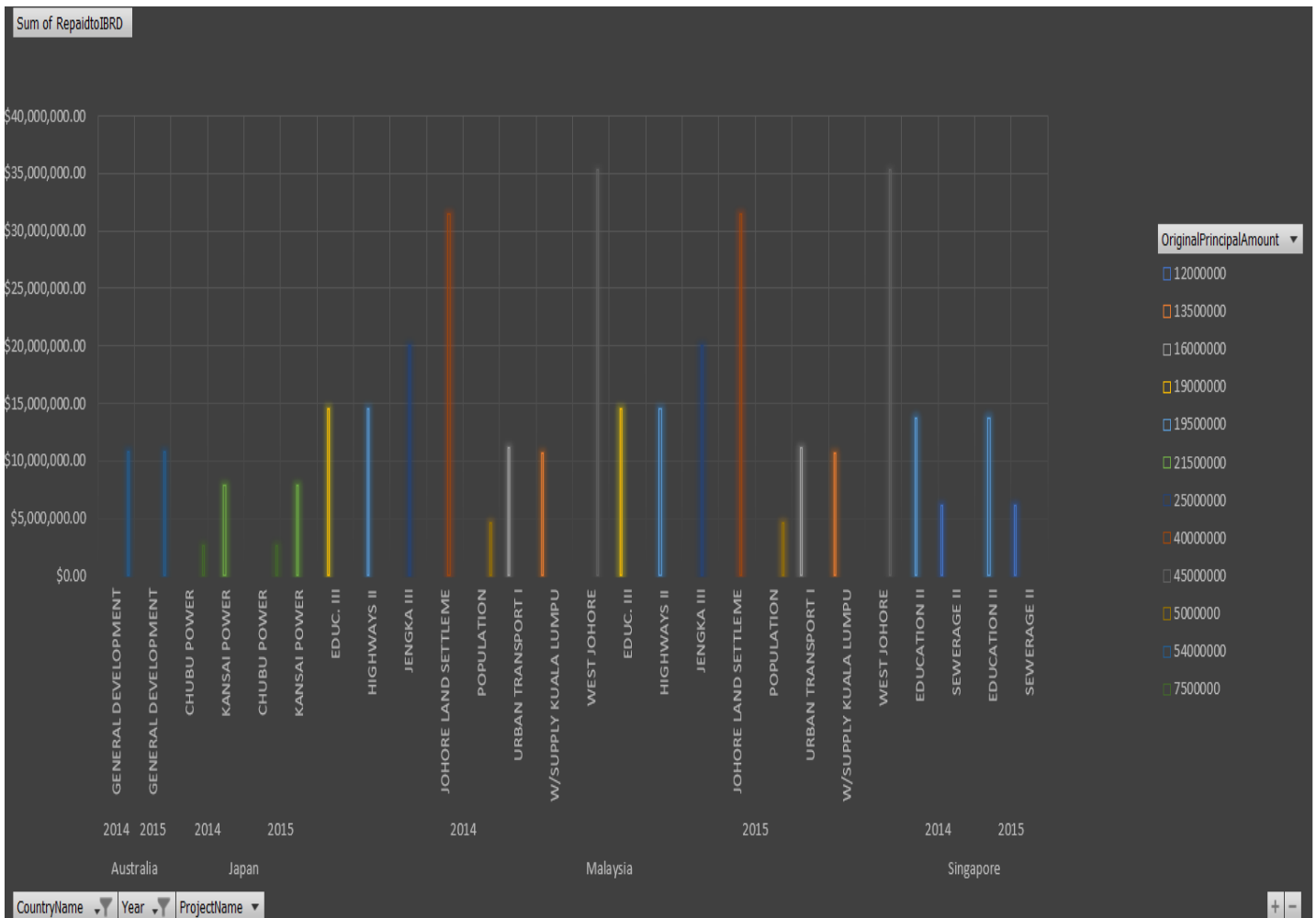


Drill down on time from
 Year to Quarter



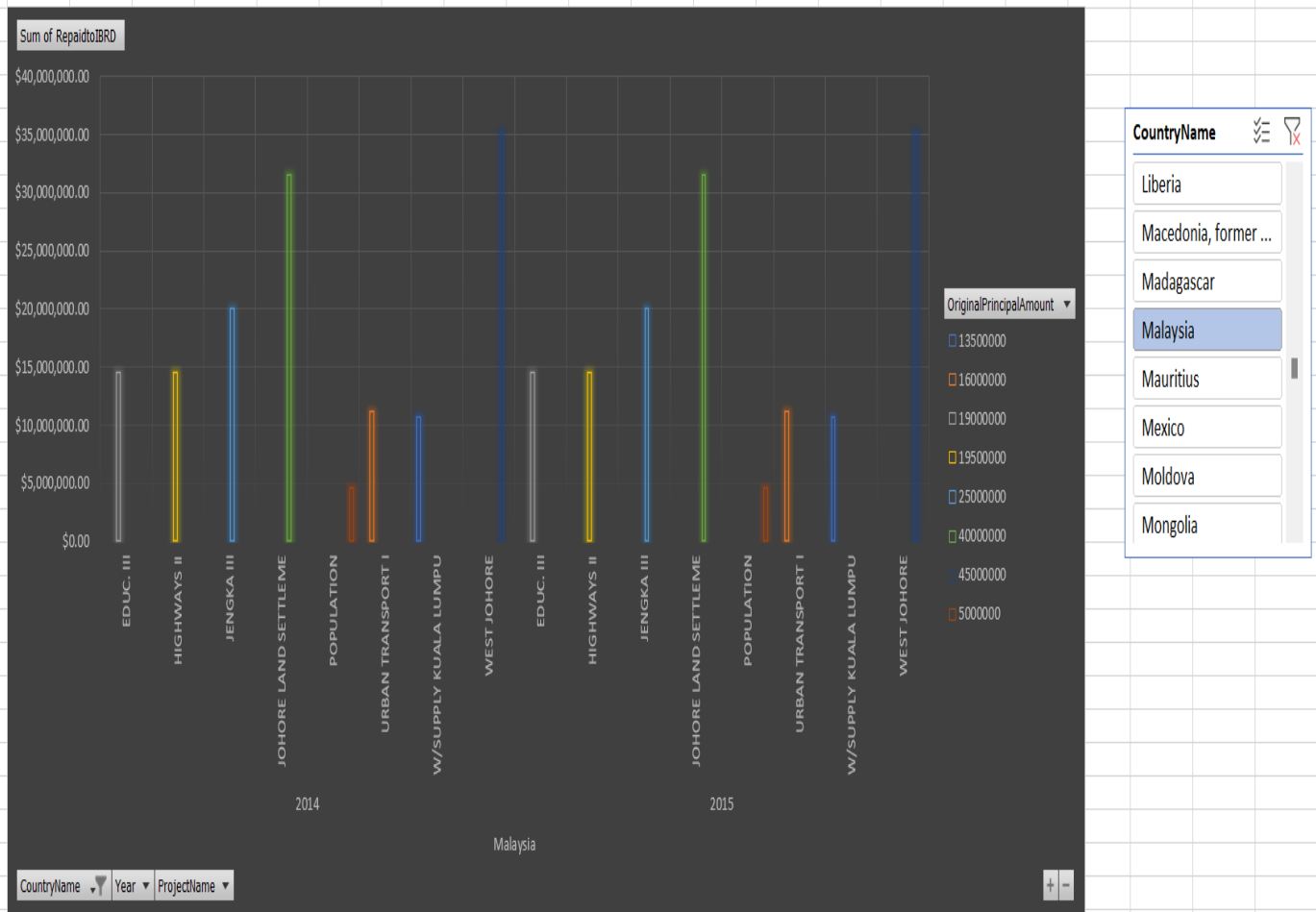


Slice operation

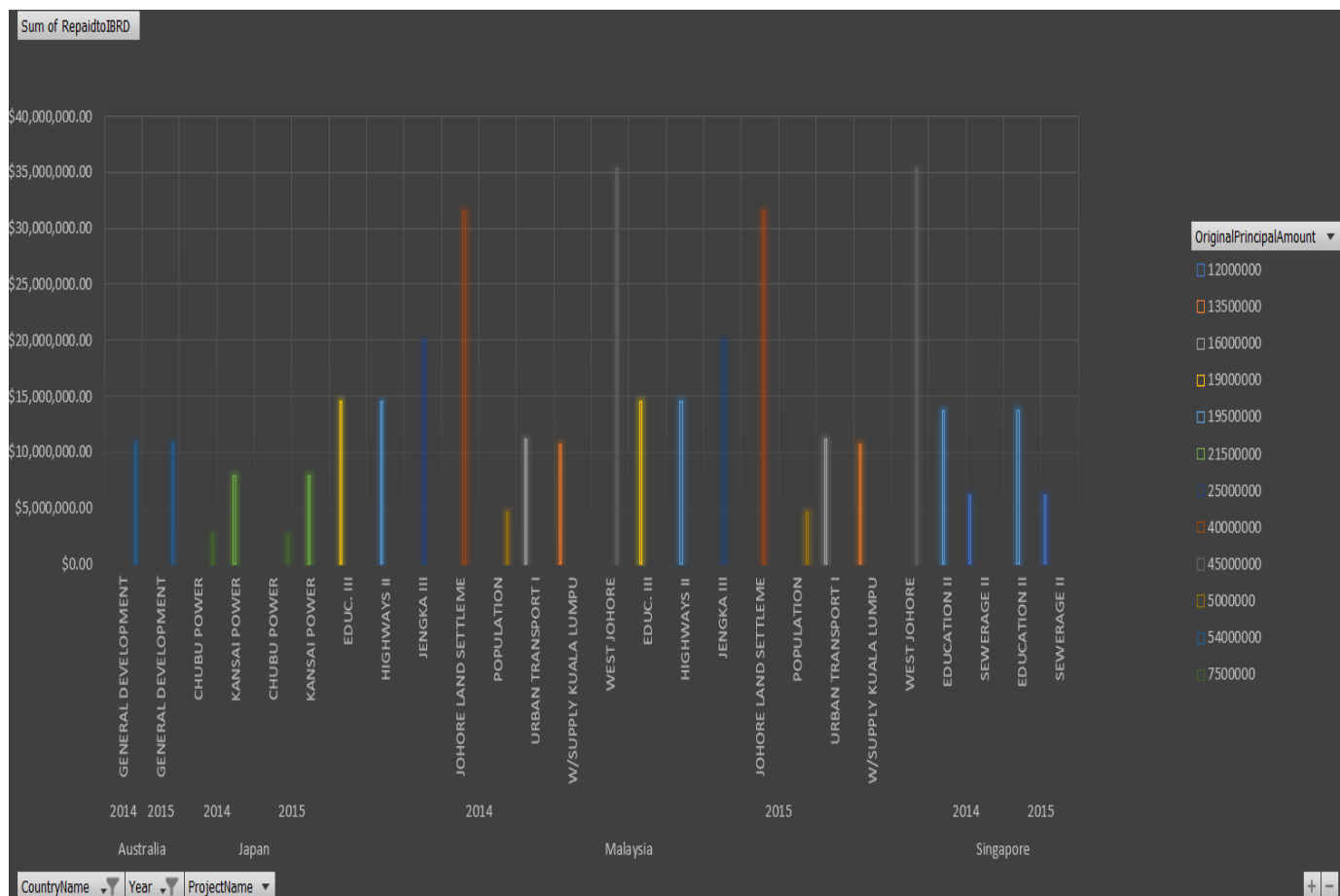


Slice for Country name =
"Malaysia"



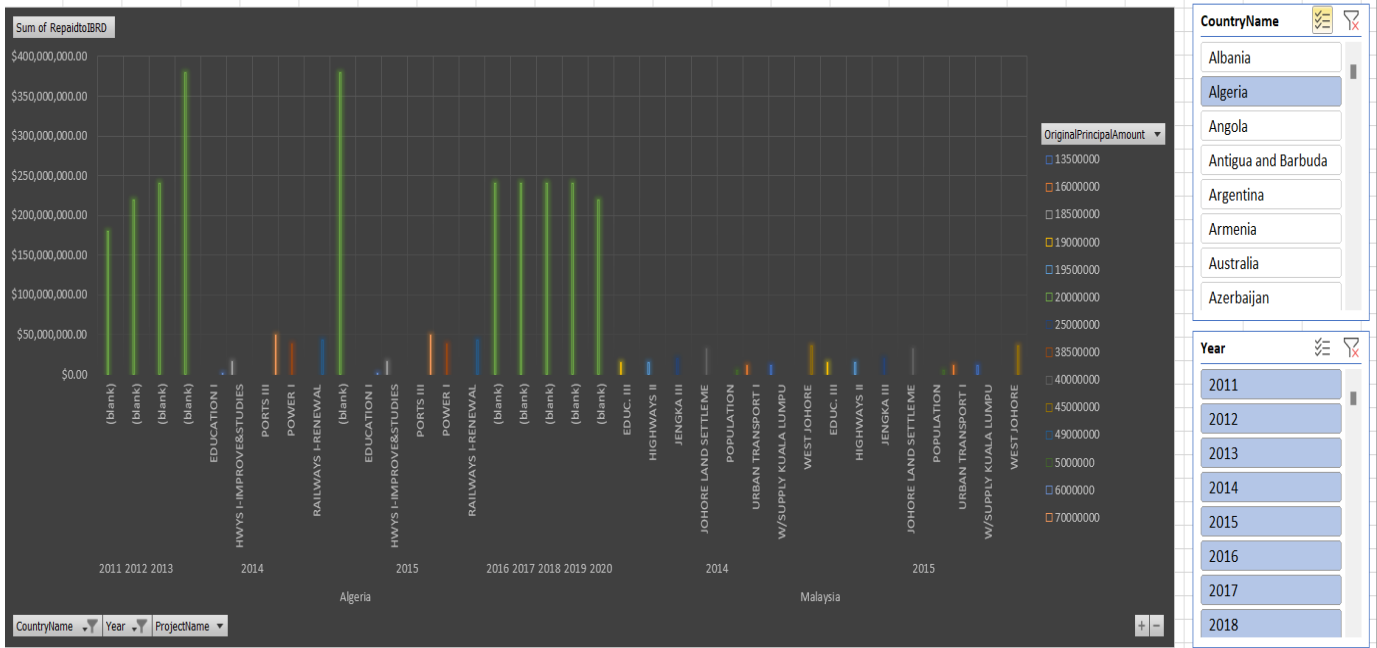


Dice Operation

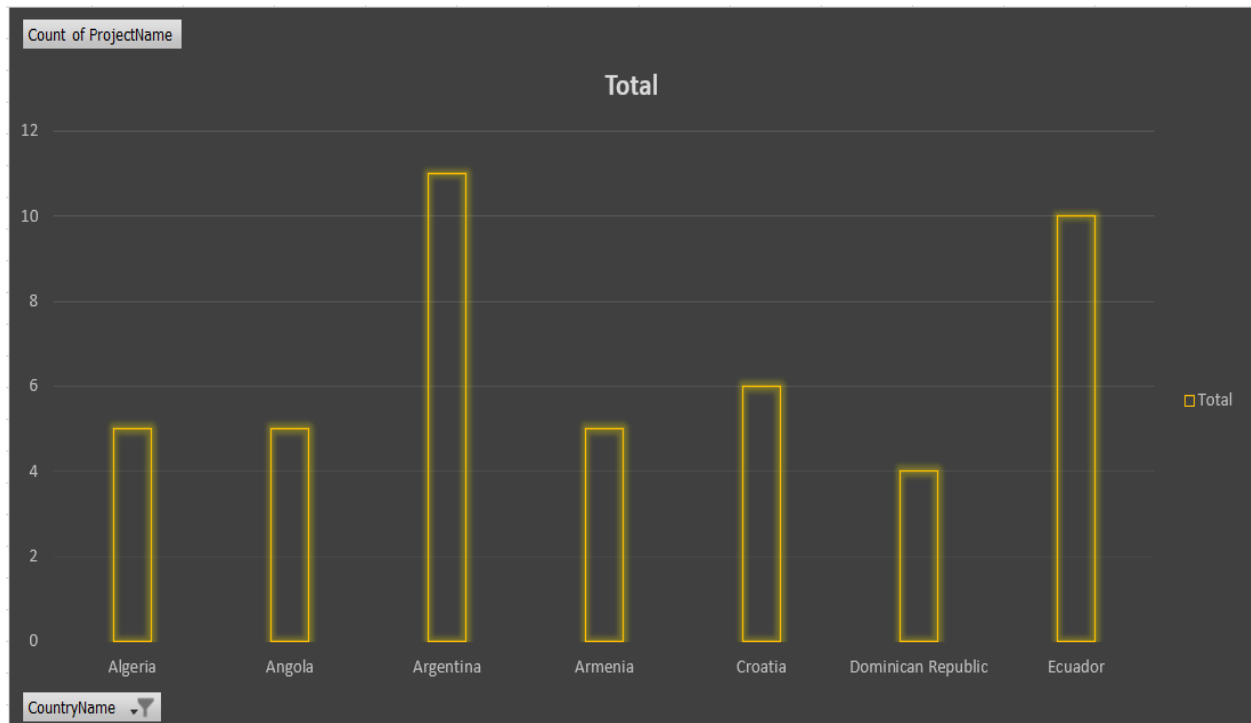
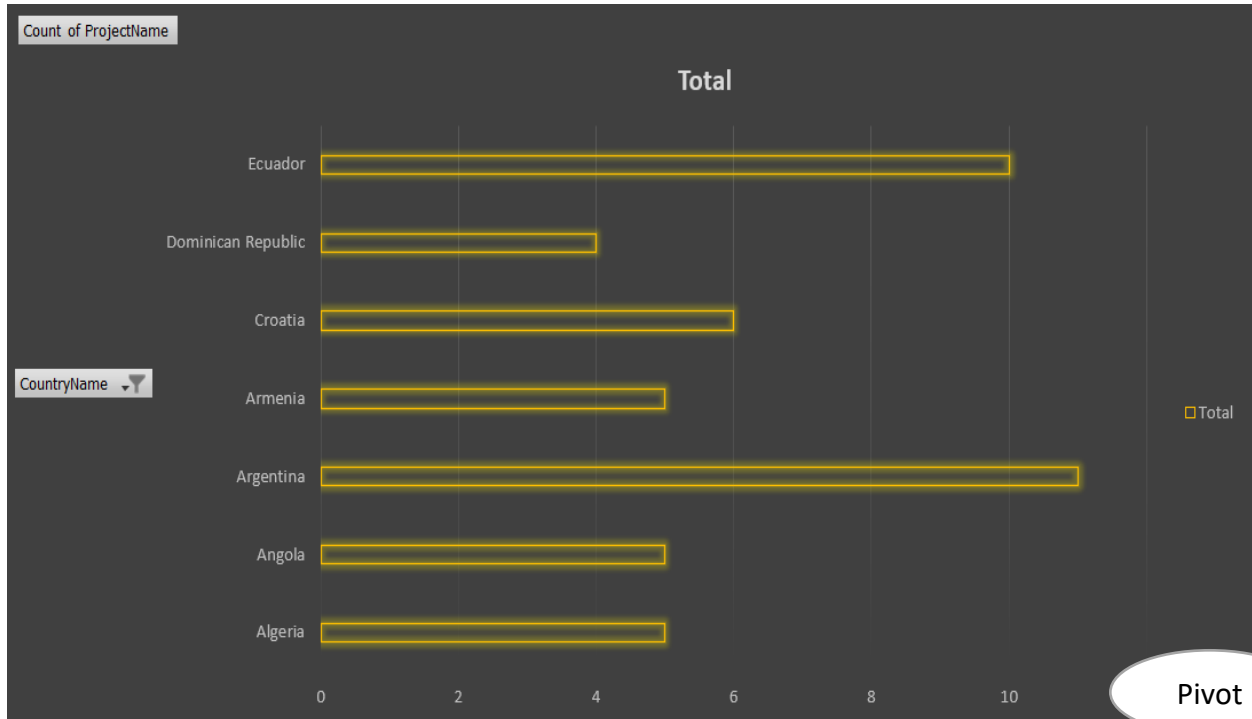


Dice for Country Name="Algeria" and Year="2011-2020"





Pivot Operation



Step 4: SSRS Reports

Step1: first I have connected with the Report Server Configuration Manager

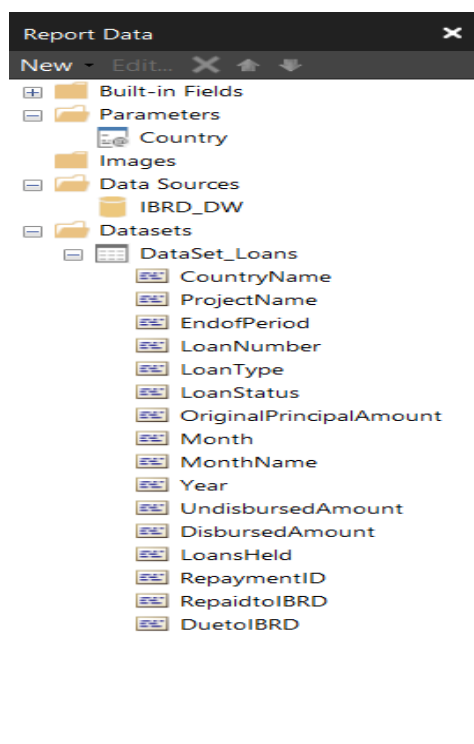
Step2: then open report builder application.

Step3: then configure data source build-in field by adding Data warehouse as IBRD_DW.

Step4: then add all the dimension tables by implement some joining queries inside the data sets build-in filed.

Step5: then do some other configurations like add parameters to generate different types of reports as needed.

Step6: as the last step after all configurations go to INSERT tab and choose table wizard or matrix wizard or charts to create the report.



Data Source Properties

1

General

Credentials

Change name, type, and connection options.

Name:
IBRD_DW

☐ Use a shared connection or report model
☒ Use a connection embedded in my report

Select connection type:
Microsoft SQL Server

Connection string:
Data Source=DESKTOP-4JL2VCE;Initial Catalog=IBRD_DW

Build...

Test Connection

☐ Use single transaction when processing the queries

Dataset Properties

2

Query

Fields

Options

Filters

Parameters

Choose a data source and create a query.

Name:
DataSet_Loans

☐ Use a shared dataset.
☒ Use a dataset embedded in my report.

Data source:
IBRD_DW

New...

Query type:
☒ Text ☐ Table ☐ Stored Procedure

Query:

```

select
dc.CountryName,
dp.ProjectName,
dl.EndOfPeriod,dl.LoanNumber,dl.LoanType,dl.LoanStatus,dl.OriginalPrincipalAmount,
dd.Month,dd.MonthName,dd.Year,
flt.UnDisbursedAmount,flt.DisbursedAmount,flt.LoansHeld,flt.RepaymentID,flt.RepaidtoIBRD,
flt.DuetoIBRD
from FactLoanTransactions flt
inner join DimLoans dl
on flt.LoanIDKey = dl.LoanSK
inner join DimProjects dp
on dl.ProjectKey = dp.ProjectSK
inner join DimCountry dc
on dp.CountryCodeKey = dc.CountryCodeSK
inner join DimDate dd
on flt.EndOfPeriod = dd.DateKey
  
```

Time out (in seconds):

```

select
dc.CountryName,
dp.ProjectName,
dl.EndOfPeriod,dl.LoanNumber,dl.LoanType,dl.LoanStatus,dl.OriginalPrincipalAmount,
dd.Month,dd.MonthName,dd.Year,
flt.UnDisbursedAmount,flt.DisbursedAmount,flt.LoansHeld,flt.RepaymentID,flt.RepaidtoIBRD,flt.DuetoIBRD
from FactLoanTransactions flt
inner join DimLoans dl
on flt.LoanIDKey = dl.LoanSK
inner join DimProjects dp
on dl.ProjectKey = dp.ProjectSK
inner join DimCountry dc
on dp.CountryCodeKey = dc.CountryCodeSK
inner join DimDate dd
on flt.EndOfPeriod = dd.DateKey
  
```

Report Parameter Properties

General

Available Values

Default Values

Advanced

Change name, data type, and other options.

Name:

Prompt:

Data type:

☐ Allow blank value ("")

☐ Allow null value

☒ Allow multiple values

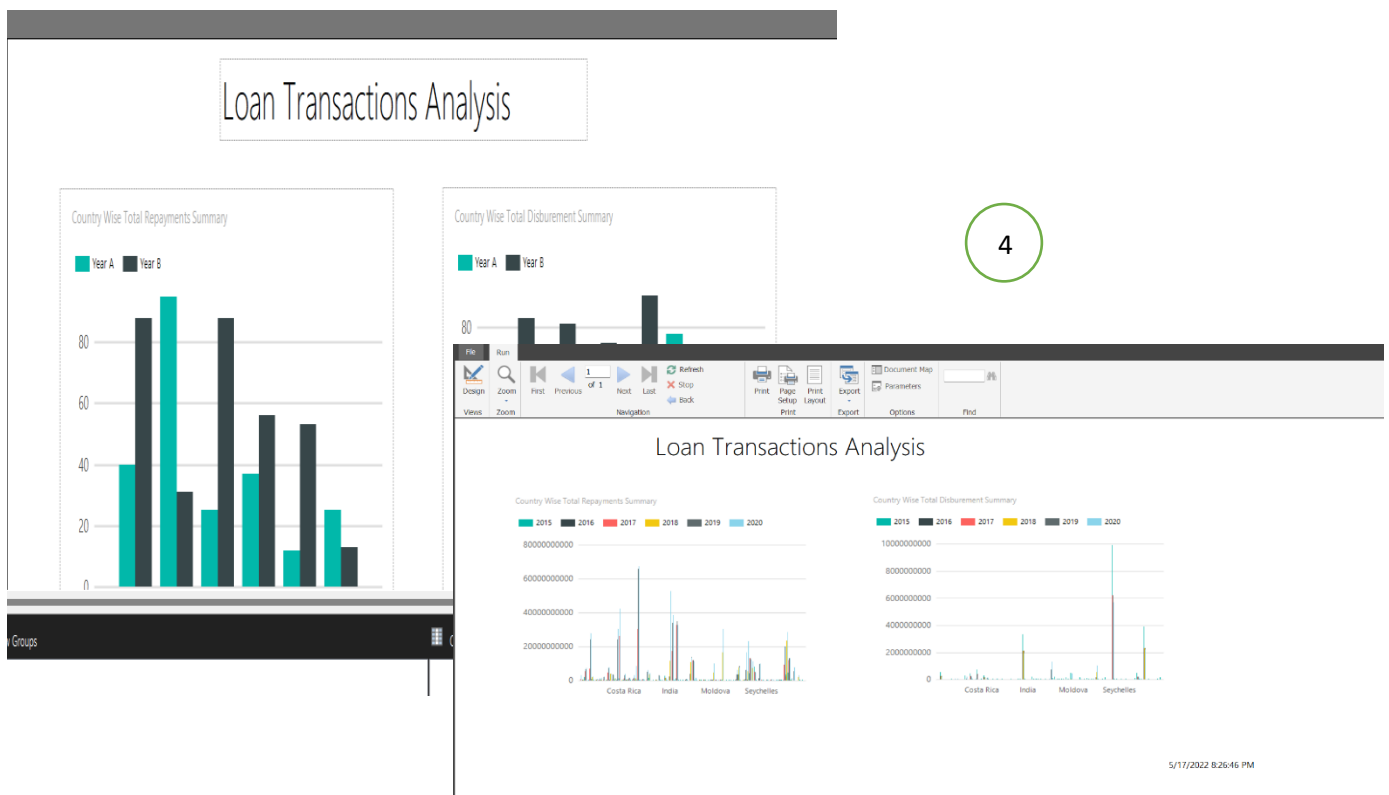
Select parameter visibility:

☐ Visible

☒ Hidden

☐ Internal

3



4

5/17/2022 8:26:46 PM

