Low-Level Documentation

Investment Analytics - FDI data.

Document Version Control

Version	Date	Author	Comments
0.0.1	23-07-22	Shashank Prakash Patil	First Document prepared

Tableau Server is essentially a communication tool that shares data connections and visualizations with the end-users or clients. So, now that we have learned about the functioning of each component in a Tableau server. Let us understand how all these components work in tandem. For this, we will club the server components into layers or tiers. So, we have five layers or sections in the Tableau Server; customer data, data connectors, main components, gateway, and clients.

The customer data layer contains all sorts of data sources available for a Tableau user like data warehouses, data marts, flat files, and multi-dimensional cubes, relational databases. Next lies the data connectors layers which consist of a data engine, repository, SQL Connector, and MDX Connector. These components interact directly with the data sources. The Data engine processes the data requested by the user and assigns the data type, decides whether it is a measure or a dimension, and creates TDEs (data extracts). In the

background of the data, the engine runs an SQL Connector which creates an SQL query for all the user requests and interacts with the data sources. The SQL Connector primarily deals with data marts and flat files. Similarly, the MDX Connector deals with multi-dimensional cubes.

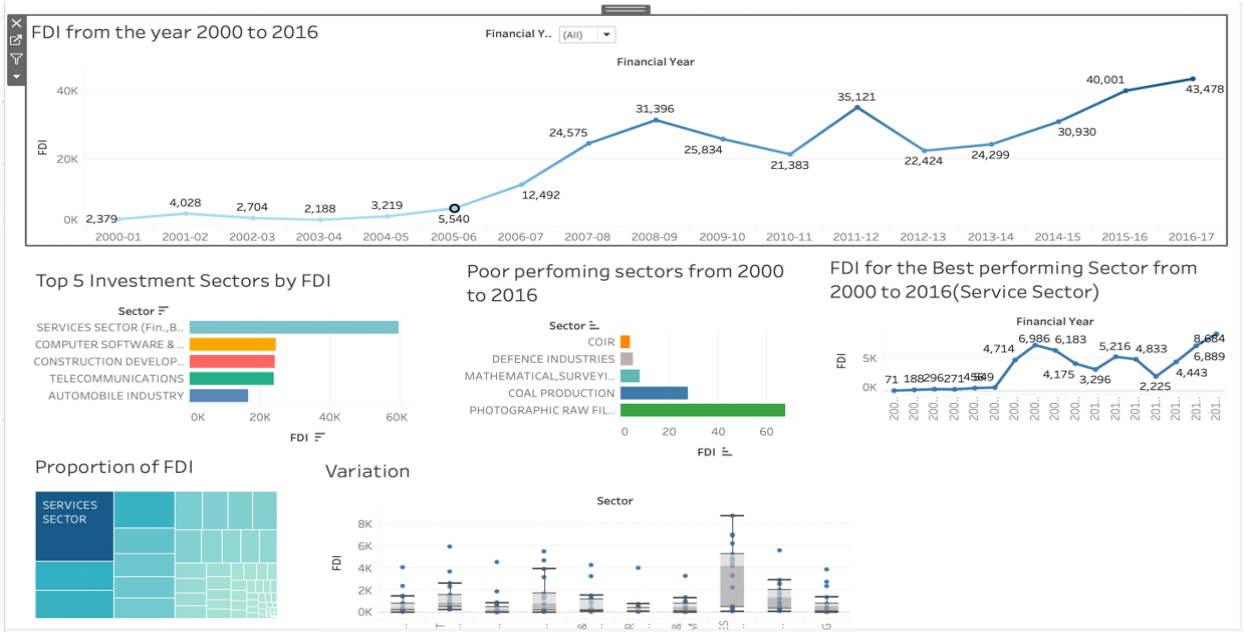
The next layer comprises all the main components, essentially the data server which regulates and monitors the functioning of the components of the data connector layer. Along with this, it includes a VizQL Server and Application Server. The application server takes all the user requests coming from Tableau Desktop, mobile, or browser for accessing the visualization. It processes the requests and detects the type of request, checks user authorization and grants access accordingly. The VizQL Server is a patented component of Tableau, where VizQL stands for Visualization Query language. It works behind the logic of Tableau visualization and creates the visualization as per your instructions on the dashboard.

The gateway acts as a gatekeeper of the Tableau Server and any request or query sent by the client first hits the gateway or load balancer. A gateway is nothing but a primary server that receives the queries and redirects them to an appropriate and available secondary server, known as a worker server.

Data Description

The data comprises FDI data of India from the period: 2000-2001 to 2016-2017. In order to construct the dashboard, we created a pivot view of the columns under years, since having the horizontal data was not very effective for generating views on Tableau.

Here is the Tableau Dashboard:



The drive link of Jupyter Notebook has been attached:

https://drive.google.com/file/d/1ylydY6uL2pOdvieCADUGI4FO722D_0pQ/view?usp=sharing