Architecture Design

- Project: Insurance Analytics

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Contents

Tableau Server Architecture

Tableau has a highly scalable, n-tier client-server architecture that serves mobile clients, web clients and desktop-installed software. Tableau Server architecture supports fast and flexible deployments.

Tableau Server is internally managed by the multiple server processes.

1. Gateway/Load Balancer
It acts as an Entry gate to the Tableau Server and also balances the load to the Server if multiple Processes are configured.

2) Application Server:-
Application Server processes (wgserver.exe) handle browsing and permissions for the Tableau Server web and mobile interfaces. When a user opens a view in a client device, that user starts a session on Tableau Server. This means that an Application Server thread starts and checks the permissions for that user and that view.

3) Repository:-
Tableau Server Repository is a PostgreSQL database that stores server data. This data includes information about Tableau Server users, groups and group assignments, permissions, projects, data sources, and extract metadata and refresh information.

4) VIZQL Server:-
Once a view is opened, the client sends a request to the VizQL process (vizqlserver.exe). The VizQL process then sends queries directly to the data source, returning a result set that is rendered as images and presented to the user. Each VizQL Server has its own cache that can be shared across multiple users

5) Data Engine:-
It Stores data extracts and answers queries.

6) Backgrounder:-
The backgrounder Executes server tasks which includes refreshes scheduled extracts, tasks initiated from tabcmd and manages other background tasks.

7) Data Server:-
Data Server Manages connections to Tableau Server data sources
It also maintains metadata from Tableau Desktop, such as calculations, definitions, and groups.

Deployment Description

Tableau deployment are the following depending on user requirement.

1. Tableau Online: Get up and running quickly with no hardware required. Tableau Online is fully hosted by Tableau so all upgrades and maintenance are automatically managed for you.

2. Tableau Server deployed on public cloud: Leverage the flexibility and scalability of cloud infrastructure without giving up control. Deploy to Amazon Web Services, Google Cloud Platform, or Microsoft Azure infrastructure to quickly get started with Tableau Server (on your choice of Windows or Linux). Bring your own license or purchase on your preferred marketplace.

3. Tableau Server deployed on-premises: Manage and scale your own hardware and software (whether Windows or Linux) as needed. Customize your deployment as you see fit.