Architecture Design
ANALYZING AMAZON SALES DATA

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Document Control

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Contents

1. Introduction

1.1   What is Architecture Design Document?

Any software needs an architectural design to represent the design of the software. IEEE defines architectural design as "the process of defining a collection of hardware and software components and their interfaces to establish the framework for the development of a computer system." The software that is built for computer-based systems can exhibit one of these many architectures.
Each style will describe a system category that consists of:

- A set of components (e.g.: a database, computational modules) that will perform a function required by the system.
- The set of connectors will help in coordination, communication, and cooperation between the components.
- Conditions that how components can be integrated to form the system.
- Semantic models help the designer to understand the overall properties of the system.

1.2   What is Scope?

Architecture Design Document (ADD) is an architectural design process that follows a step-by-step refinement process. The process can be used for designing data structures, required software architecture, source code and ultimately, performance algorithms. Overall, the design principles may be defined during requirement analysis and then refined during architectural design work.

2. Architecture

2.1 TABLEAU Architecture:

Tableau is a versatile business intelligence platform comprising key components:

A. Tableau Desktop: Connects to data sources, transforms data, and creates visualizations.

B. Tableau Server: Central platform for sharing and publishing reports and dashboards.

C. Tableau Online: Cloud-based version for web-based content sharing

D. Tableau Prep: Tool for data preparation and cleansing.

E. Tableau Mobile: Mobile apps for on-the-go access.

F. Tableau Reader: Free desktop application for viewing Tableau content.

In summary, Tableau offers a robust and flexible architecture that empowers users to connect to data, prepare it for analysis, and create compelling visualizations, all within a collaborative and accessible environment. This architecture facilitates data-driven decision-making and enhances business intelligence capabilities.
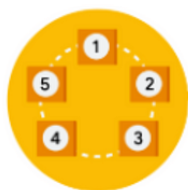
Ask	Prepare	Process	Analyze	Share	Act
Ask questions and define the problem.	**Prepare** data by collecting and storing the information.	**Process** data by cleaning and checking the information.	**Analyze** data to find patterns, relationships, and trends.	**Share** data with your audience.	**Act** on the data and use the analysis results.

2.2 Components of TABLEAU Architecture

1. **Data Sources**
   An important component of Tableau is its vast range of data sources. Tableau allows users to seamlessly import data from these sources, enabling effective data analysis, visualization, and reporting. This flexibility in data connectivity supports Tableau's mission of providing data-driven insights and empowering informed decision-making. Some commonly used data sources in Tableau are:
   a) Excel
   b) Text/CSV
   c) XML
   d) JSON
   e) Oracle Database
   f) IBM DB2 Database
   g) MySQL Database
   h) PostgreSQL Database
   i) Sybase Database
   j) Teradata Database
   k) SAP HANA Database
   l) SAP Business Warehouse server
   m) Amazon Redshift
   n) Impala
   o) Google Big Query (Beta)
   p) Azure SQL Database
   q) Salesforce Reports
   r) Google Analytics
   s) Facebook
   t) GitHub

2. **TABLEAU Desktop**
   Tableau Desktop is a client-side tool known as a companion development and authoring tool.

   This desktop-based software is loaded with tools and functionalities to connect to data sources, transform data, data modelling and create reports.

3. **TABLEAU Service**
   Tableau Service is a web-based platform from where you can share reports made on Tableau Desktop, collaborate with other users, and create dashboards. It is available in three versions:
   - Free version
   - Pro version
   - Premium version

4. **TABLEAU Report Server**
   The Tableau Report Server is similar to the Tableau Service. The only difference between these two is that Tableau Report Server is an on-premise platform. It is used by organizations who do not want to publish their reports on the cloud and are concerned about the security of their data.
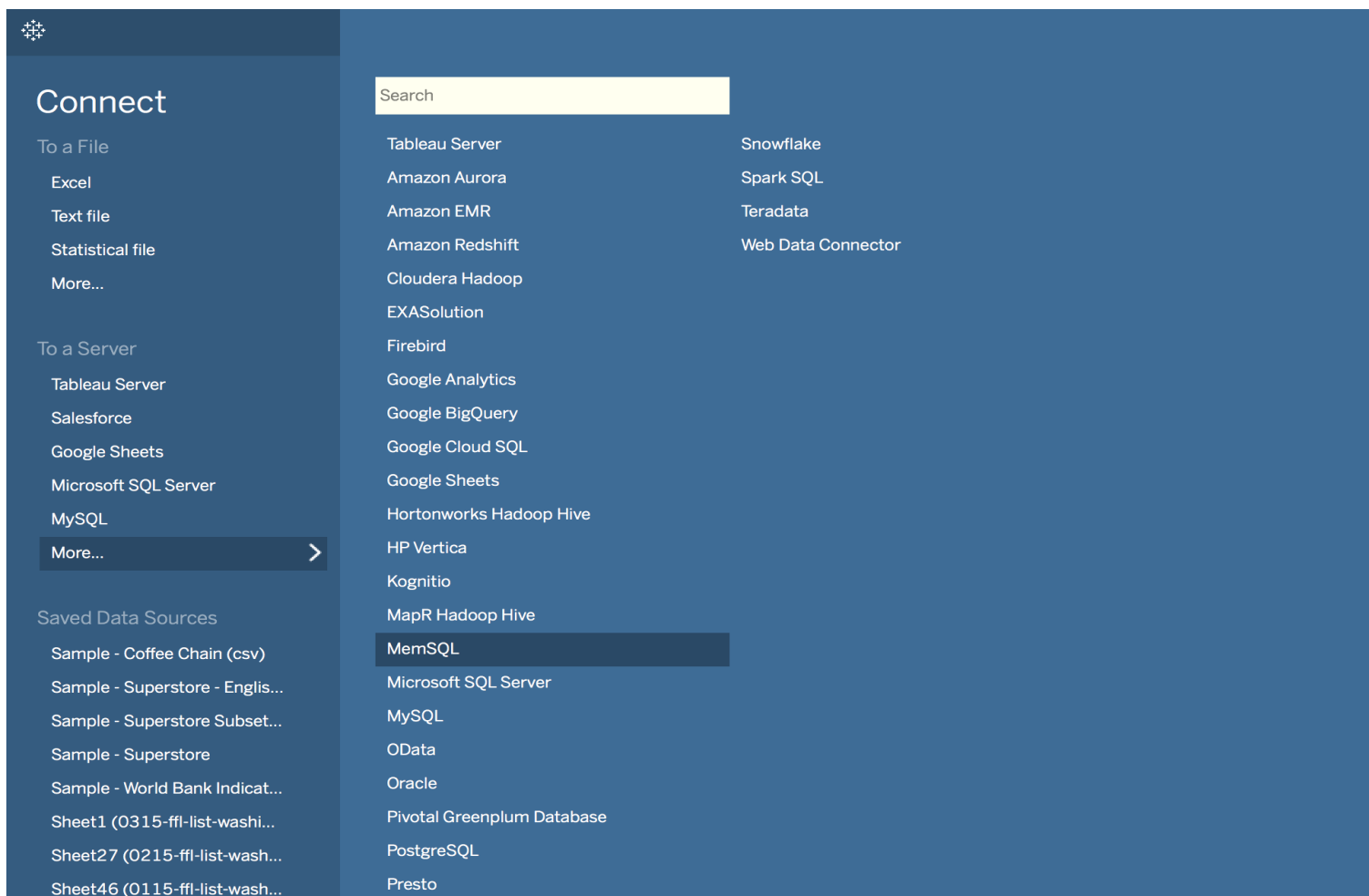
3. Deployment

3.1 TABLEAU Deployment

The deployment process lets you clone content from one stage in the pipeline to another, typically from development to test, and from test to production.

During deployment, Tableau copies the content from the current stage, into the target one. The connections between the copied items are kept during the copy process. Power BI also applies the configured deployment rules to the updated content in the target stage. Deploying content may take a while, depending on the number of items being deployed. During this time, you can navigate to other pages in the Tableau portal, but you cannot use the content in the target stage.

3.2 Publish datasets and reports from TABLEAU Desktop

When you publish a Tableau Desktop file to the Tableau service, you publish the data in the model to your Tableau workspace. The same is true for any reports you created in Report view. You'll see a new dataset with the same name, and any reports in your Workspace navigator.

Publishing from Tableau Desktop has the same effect as using Get Data in Tableau to connect to and upload a Tableau Desktop file.
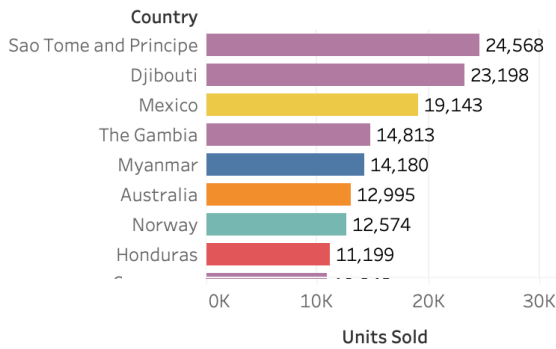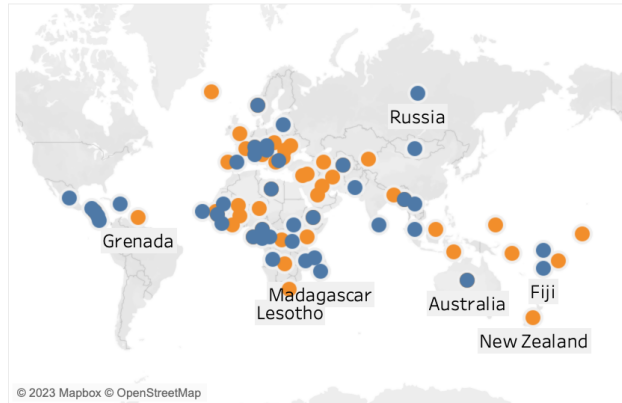
Analyzing Amazon Sales data

Total Revenue :

137,348,768

Sales based on countries :

Country

Country	Units Sold
Sao Tome and Principe	24,568
Djibouti	23,198
Mexico	19,143
The Gambia	14,813
Myanmar	14,180
Australia	12,995
Norway	12,574
Honduras	11,199

Units Sold: 0K 10K 20K 30K

Sales Channel

Region
- Asia
- Australia and Oc..
- Central America ..
- Europe
- Middle East and ..
- North America
- Sub-Saharan Afr..

Sales Channel
- Offline
- Online

Russia, Grenada, Madagascar, Lesotho, Australia, Fiji, New Zealand

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Year
2010 — 2116

Total Profit and Total cost

Asia, Asia, Asia, Europe

Countries with the highest number of orders and thier item types

Country

Units Sold: 0K 10K 20K

Mexico, Norway, Fiji, Rwanda, Iceland, Lithuania, Romania, Sri Lanka, Senegal, Malaysia, Democratic Republic of.., Mozambique, Slovenia, Zambia, Cote d'Ivoire, Grenada, France, Mauritania, Slovakia