

CASE STUDY

CI/CD: Python-Driven Tableau Deployments via Azure DevOps



CHALLENGES

1 Manual and time-consuming deployments

The manual deployment process for Tableau workbooks and server configurations was tedious and prone to errors, resulting in delays and inconsistencies.

2 Lack of version control and auditing

Without proper version control, tracking changes, and auditing deployments, it was challenging to manage different versions and ensure compliance.

3 Complex server configuration

Configuring and maintaining Tableau server settings and connections for Extract/Embedded Datasources required manual intervention, leading to potential configuration errors.

OVERVIEW

Neutrino assisted a global analytics company in automating Tableau workbook and Extract/Embedded Datasource server deployments using Python and Azure DevOps CI/CD (Continuous Integration Continuous Deployment). The goal was to streamline the deployment process, ensure consistency, and enhance efficiency in delivering Tableau visualizations to end-users.

SOLUTIONS

• Azure DevOps CI/CD Setup

Established an Azure DevOps pipeline with appropriate stages for workbook and server deployments, integrating Git for version control and automation scripts written in Python.

• New Server Configuration

Developed Python scripts to package and deploy Tableau workbooks, including data source connections, to the target server automatically.

• Server Configuration as Code

Leveraged Python to define and maintain Tableau server configurations as code, ensuring consistent and reproducible deployments.

• Extract/Embedded Datasource Management

Utilized Tableau's REST API and Python scripting to automate the creation, configuration, and deployment of Extract/Embedded Datasources on the Tableau server.

RESULTS

Streamlined Deployment Process

The automation reduced manual effort and deployment time, allowing for faster and more consistent Tableau workbook and server deployments.

Enhanced Version Control and Auditing

The integration with Git and Azure DevOps provided version control capabilities and comprehensive audit trails, enabling better tracking and compliance.

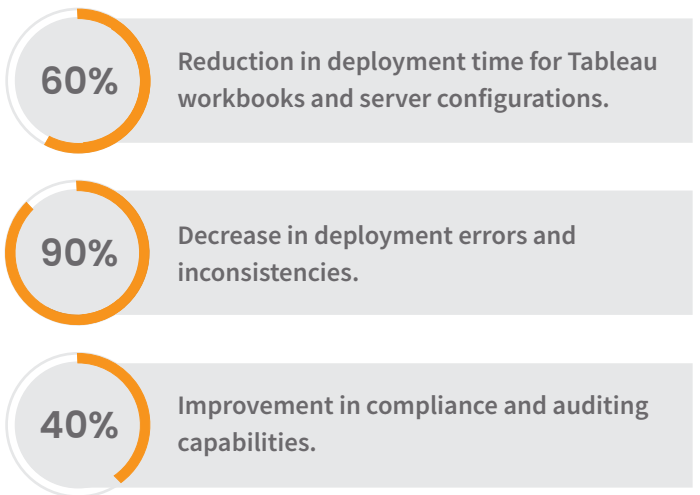
Simplified Server Configuration

The server configuration as code approach eliminated manual errors and inconsistencies, ensuring accurate and reproducible server configurations.

TECH-STACK/SOLUTIONS IMPLEMENTED

- **Azure DevOps**
CI/CD platform for pipeline orchestration and integration with Git repositories.
- **Python**
Programming language used for scripting and automation.
- **Tableau Server**
Platform for hosting Tableau workbooks and managing server configurations.
- **Tableau REST API**
Used for interacting with Tableau Server and automating workbook and datasource deployments.
- **Git**
Version control system for managing codebase and changes.

BENEFITS



REMARKS

The exceptional automation achieved through the implementation of Tableau workbook and Extract Embedded Datasource server deployments using Python and Azure DevOps CI/CD by Neutrino caught the attention of the Tableau organization. Recognizing the significance of this successful endeavour, Tableau has embraced it as a valuable case study within their organization.

TESTIMONIAL

“The automated deployment process implemented by Neutrino using Python and Azure DevOps has significantly improved our efficiency and accuracy in delivering Tableau visualizations. We can now focus more on data analysis rather than manual deployment tasks. – VP – Data and Analytics.”

