POWERBI

DATA GOVERNANCE
DASHBOARD

(User Guide)

Introduction

This user guide provides step-by-step instructions for navigating and utilizing the Power BI Workspace Usage Dashboard built using Streamlit. The dashboard integrates with the Power BI REST API and allows users to visualize reports, datasets, and user activity across multiple workspaces.

Software Requirements:

Language: Python

UI Framework: Streamlit

API: Power BI REST API

Libraries :Streamlit,Pandas,Requests,Plotly,Seaborn

IDE Recommended: Visual Studio Code

SET-UP:

Install Required Packages Run the following command in your terminal or command prompt:

```
pip install streamlit pandas matplotlib seaborn plotly requests
```
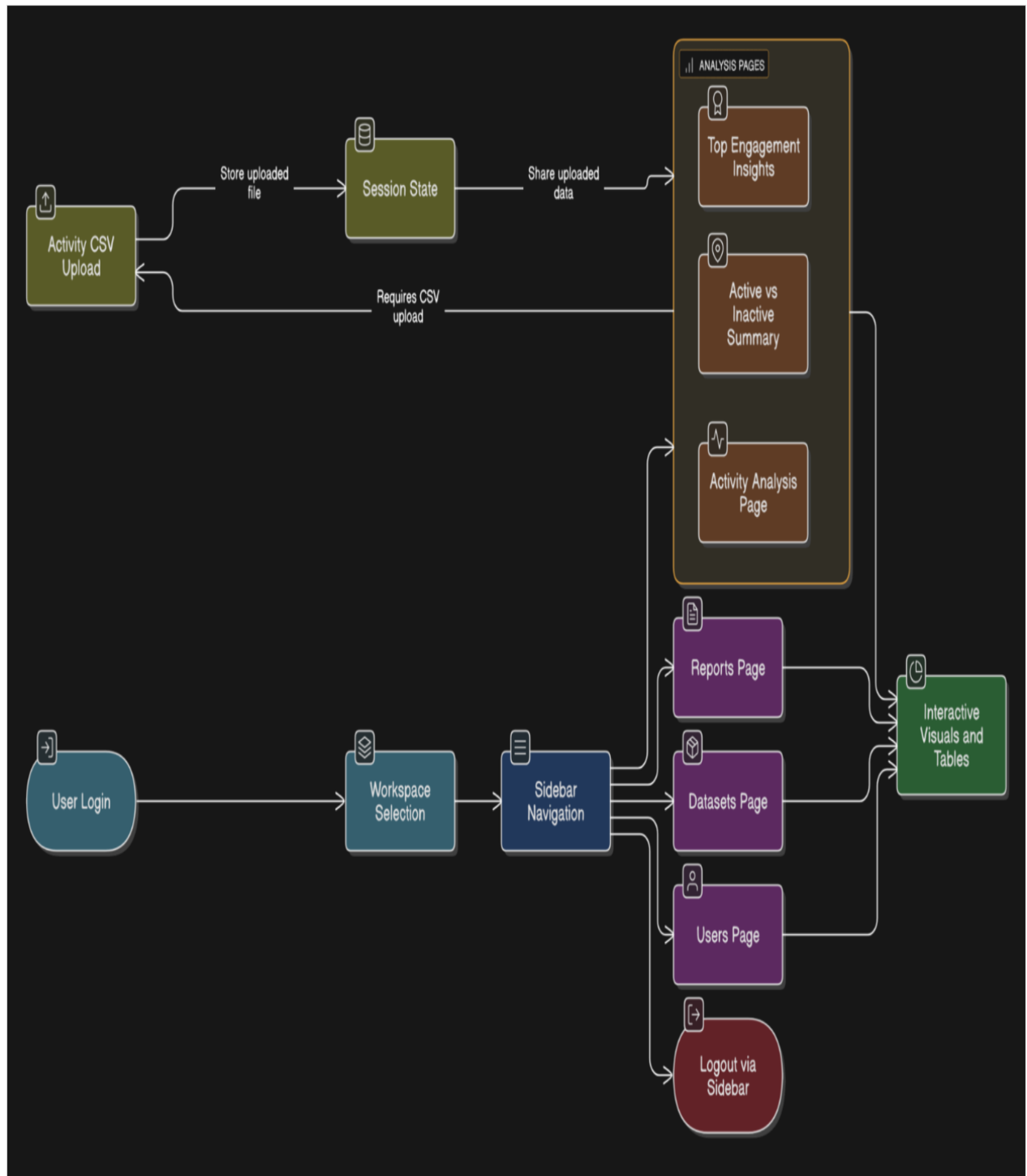
Navigate to the app directory.

```
cd your_app_directory_name
```

Launch the App Run the main Streamlit script
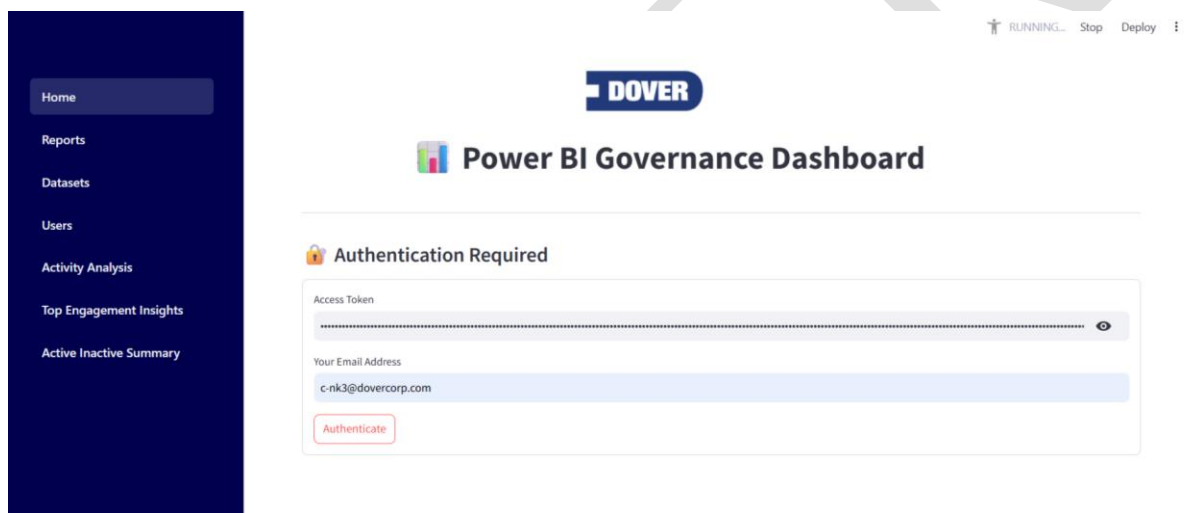
```
Streamlit run Home.py
```

WORKFLOW

HOME

Authentication

- Copy your access token from microsoft.
- Enter or confirm your email address.
- Click the Authenticate button.
- On success, you'll be redirected to the Workspace Selection

After successful authentication, you will be directed to the **Workspace Selection** page, where you can choose the Power BI workspace you wish to analyze.

After selection of Workspaces,

Use the **sidebar** to start exploring filtered insights based on your selected workspaces.
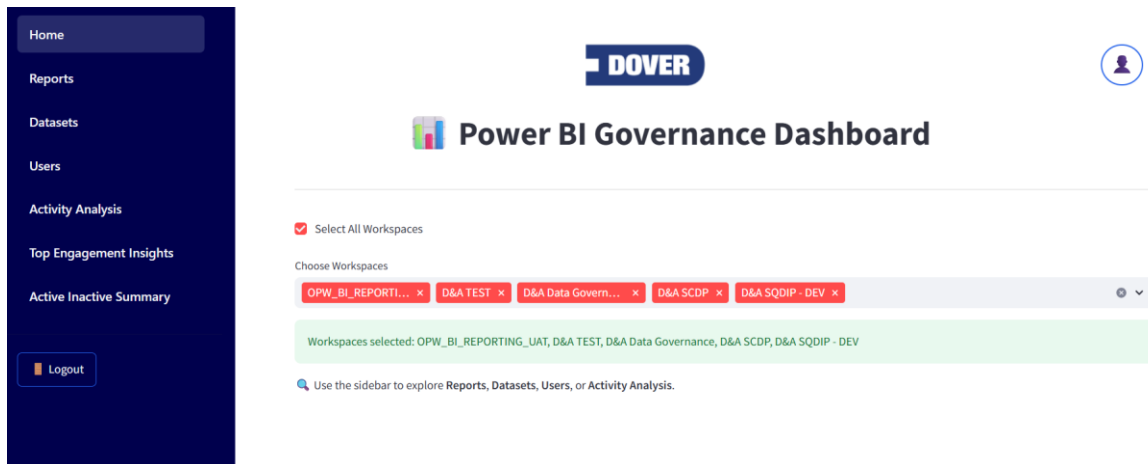
Dashboard Navigation   Use the sidebar to explore : Reports, Datasets, Users , Activity Analysis ,Top Engagement Insights ,Active and Inactive assets

REPORTS

This dashboard provides a comprehensive view of Power BI reports across the selected workspaces

Click the button to analyze the reports across your selected workspaces. The dashboard will display the following key metrics:

- **Total Reports**:
  Shows the total number of Power BI reports available in the selected workspaces.

- **Up to Date**:
  Displays the number of reports that are current and actively maintained.

- **Needs Attention**:
  Highlights reports that may require updates, reviews, or verification.

- **Expired**:
  Indicates reports that are outdated, unused, or no longer relevant.
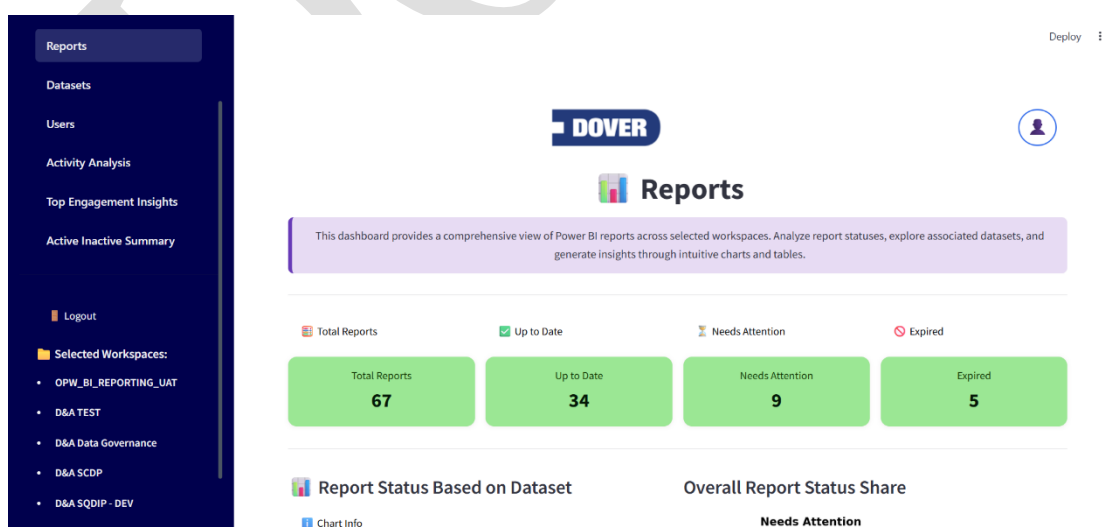
📋 **Filtered Reports:** Up to Date

📁 **Status Count by Workspace**

	Workspace	Count
0	D&A Data Governance	16
1	D&A TEST	12
2	D&A SQOIP - DEV	6

Report Name	Status	Workspace	Dataset	Link
PIM Dashboard (UAT)	Up to Date	D&A TEST	PIM Dashboard (UAT)	Explore
REGO-MEC UAT	Up to Date	D&A TEST	REGO-MEC UAT	Explore
SIC Dashboard	Up to Date	D&A TEST	SIC Dashboard	Explore
Draft	Up to Date	D&A TEST	Draft	Explore

Visualisations

This section includes two key visualizations that help users understand the status distribution of Power BI reports across selected workspaces.

The below visualisations focuses on showing reports status based on related dataset.

- **Up to Date**: Reports linked to datasets and actively maintained.
- **Needs Attention**: Reports that are linked but potentially outdated or inactive.
- **Expired**: Reports considered obsolete or unused for a long time.
- **Unknown:** Reports not linked to any dataset, making status determination impossible.

Bar Chart – Report Status Based on Dataset
   To display the number of reports in each status category, grouped by workspace and based on their associated datasets.

Pie Chart – Overall Report Status Share (in %)

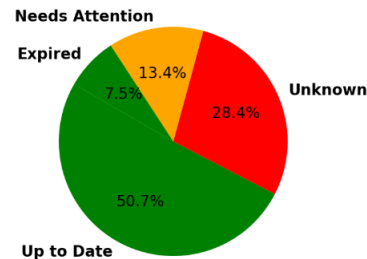To provide a percentage-based distribution of all reports by their current status,

Click the View Reports and Explore Reports Dataframe buttons to explore reports for each workspace.

BY Clicking the link You will get redirect to the corresponding report in the Power BI Service workspace, where you can view or manage it further.

Home
Reports
Datasets
Users
Activity Analysis
Top Engagement Insights
Active Inactive Summary

Logout

Selected Workspaces:
- OPW_BI_REPORTING_UAT
- D&A TEST
- D&A Data Governance
- D&A SCDP
- D&A SQDIP - DEV

View Reports

Explore Reports DataFrame

Full Reports Table Grouped by Workspace

Workspace: D&A Data Governance (22 reports)

Download CSV

	Report Name	Report URL	Status
0	Usage Metrics Report	https://app.powerbi.com/groups/cf7a33dd-365c-465d-b3a6-89cd2a3ef08c/reports/9cc4a64b-7463-46d4-8800-3f49191e41a	Needs Attention
1	Report Usage Metrics Report	https://app.powerbi.com/groups/cf7a33dd-365c-465d-b3a6-89cd2a3ef08c/reports/9c7a8c6a-a6cb-4ee1-a0be-0207fb1b59	Expired
2	PBI Audit Report	https://app.powerbi.com/groups/cf7a33dd-365c-465d-b3a6-89cd2a3ef08c/reports/ccde9be1-e307-42e6-8a5b-89552Bb1a7	Needs Attention
3	CDP Data Governance	https://app.powerbi.com/groups/cf7a33dd-365c-465d-b3a6-89cd2a3ef08c/reports/5acc72ac-a8ab-400a-bba8-396f370830	Needs Attention
4	DataGovernance	https://app.powerbi.com/groups/cf7a33dd-365c-465d-b3a6-89cd2a3ef08c/reports/7dbfcb83-206e-4796-aa2d-13f11a1642	Up to Date
5	CPC DG	https://app.powerbi.com/groups/cf7a33dd-365c-465d-b3a6-89cd2a3ef08c/reports/42ee37d7-5f40-4003-9a22-da63e9f781	Up to Date
6	Azure Cost	https://app.powerbi.com/groups/cf7a33dd-365c-465d-b3a6-89cd2a3ef08c/reports/1152a458-5014-4cba-ab17-09abff77af4	Up to Date
7	Data Governance Consolidate	https://app.powerbi.com/groups/cf7a33dd-365c-465d-b3a6-89cd2a3ef08c/reports/808d4893-afc4-425e-990a-d76a0c65bf	Up to Date
8	Azure Cost Analysis	https://app.powerbi.com/groups/cf7a33dd-365c-465d-b3a6-89cd2a3ef08c/reports/4d2d7d3a-353d-4b2c-861d-7c460db61	Up to Date
9	Service Now Tickets	https://app.powerbi.com/groups/cf7a33dd-365c-465d-b3a6-89cd2a3ef08c/reports/16f3bd12-0e52-4804-81b1-4b947a4db1	Up to Date

Workspace: D&A SCDP (20 reports)

Download CSV

	Report Name	Report URL	Status
0	Report Usage Metrics Report	https://app.powerbi.com/groups/dc5090e8-0007-4391-9ce4-2966879e575e/reports/e8f6ff06-fdea-481B-9bde-ee6f90463866	Expired
1	Opco	https://app.powerbi.com/groups/dc5090e8-0007-4391-9ce4-2966879e575e/rdlreports/cf30c606-af07-4fcf-8eb0-9ab3b856c6bd	Unknown
2	Consumption	https://app.powerbi.com/groups/dc5090e8-0007-4391-9ce4-2966879e575e/rdlreports/98116e94-d6ca-4a9e-bc3c-4052efac0c3	Unknown
3	Demand	https://app.powerbi.com/groups/dc5090e8-0007-4391-9ce4-2966879e575e/rdlreports/6dcf68I4-dda1-493c-a36f-c1a5b6c7f7b	Unknown
4	Inventory Planning	https://app.powerbi.com/groups/dc5090e8-0007-4391-9ce4-2966879e575e/rdlreports/eb63f251-c7a6-4ae4-a6f4-b3c046a3b4a	Unknown
5	PEEP	https://app.powerbi.com/groups/dc5090e8-0007-4391-9ce4-2966879e575e/rdlreports/95086592-c804-47be-9b16-a5dc9a9echi	Unknown

DATASETS

The **Datasets Page** provides an in-depth overview of all Power BI datasets available in the **selected workspaces**.

Users can track dataset health, monitor refresh status, analyze creation trends

Click any of the status buttons to filter and explore datasets based on their freshness:
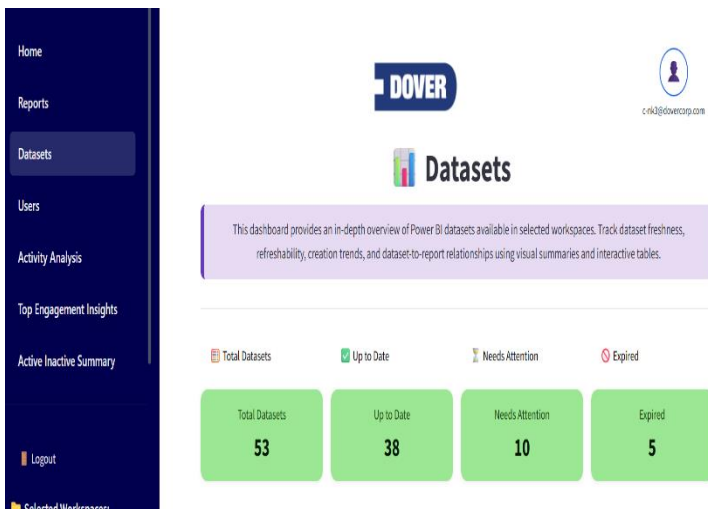
Up to Date :
   Displays datasets that have been created and refreshed within the last 12 months.

Needs Attention
   Shows datasets where the creation date is date older than 12 months, indicating potential staleness.

Expired
   Lists datasets that have not been refreshed in over 12 months and are considered inactive or outdated.

Visualisations :

Refreshable vs Static Datasets (Bar Chart) - This chart compares datasets based on their ability to refresh

Dataset Creation Timeline (Line Chart) - Displays the trend of dataset creation over time.

Dataset Freshness Status by Workspace (Stacked Bar Chart) - This visual breaks down the **freshness** of datasets per workspace
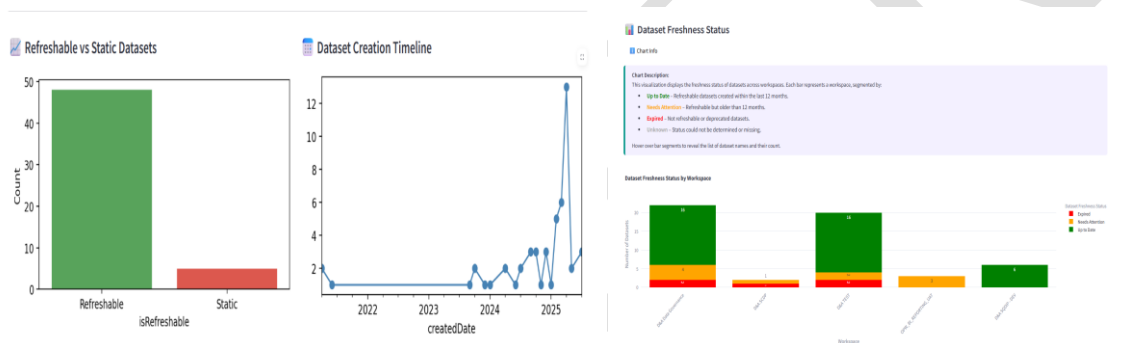
Click the View Datasets and Explore Dataset Dataframe buttons to explore reports for each workspace.

Clicking the Actions will redirect you to the corresponding dataset in the Power BI Service workspace, where you can view or manage it further.

USERS

The **User Dashboard** provides an interactive overview of user access across selected Power BI workspaces. It allows authenticated users to visualize and analyze key metrics related to user roles, email domains, and administrative rights.
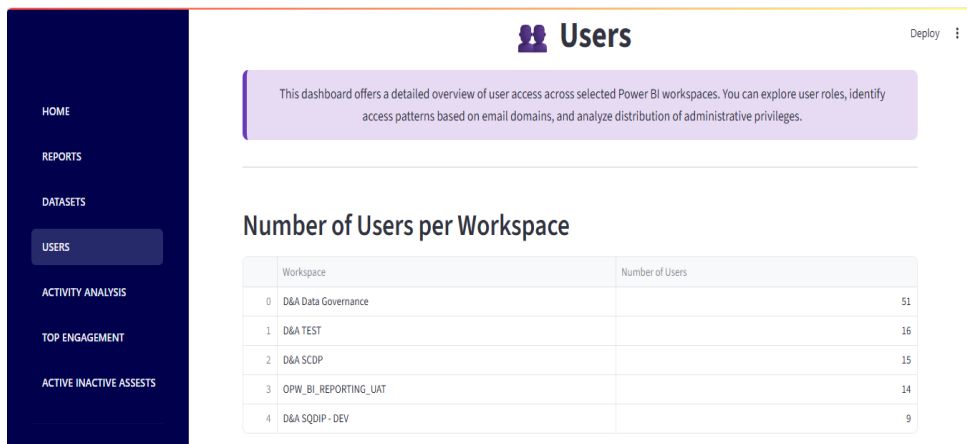
VISUALISATIONS :

Group User Access Rights (Pie Chart)

This chart displays the distribution of user roles across the selected Power BI workspaces. Each slice represents a role such as **Admin**, **Contributor**, **Member**, or **Viewer**, with the percentage indicating how commonly each role appears.

Workspace Access by Email Domain (Bar Chart)

This horizontal bar chart shows how many users belong to specific email domains (e.g., gmail.com, company.com), helping spot patterns based on organization or user base.
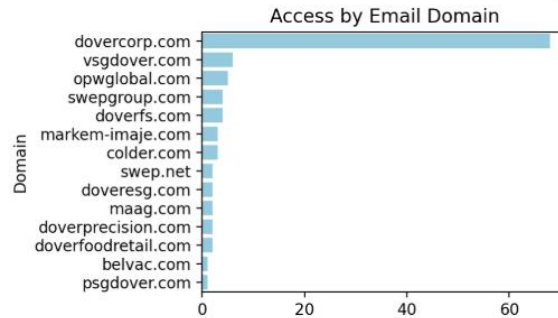
Email Domain Distribution by Workspace

A dynamic treemap visualization that segments user counts by workspace and domain. Each rectangle's size reflects the number of users in that domain within a workspace.
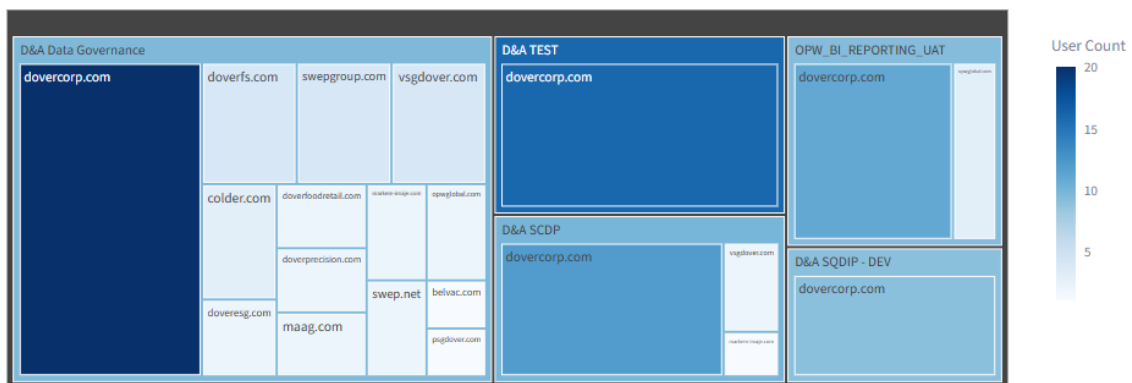
📊 Group User Access Rights

Group Access Rights

Member
Contributor
13.3%
18.1%
35.2%
33.3%
Viewer
Admin

🌐 Workspace Access by Email Domain
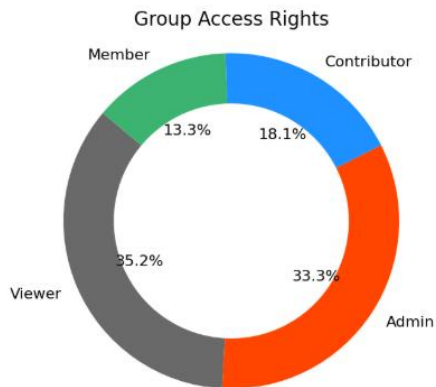
Access by Email Domain

🌐 Email Domain Distribution by Workspace

Click the View Users and Explore User Dataframe buttons to explore reports for each workspace.

Deploy ⋮

📄 View Users   📄 Explore Users DataFrame

📍 **Workspace:** D&A Data Governance (51 users)

📌 ID	😀 Name	👤 Email	👥 Access Rights	🏷️ Type	📚 Workspace
1	Christophe COISSARD	ccoissard@markem-imaje.com	Viewer	User	D&A Data Governance
2	Dan Jonsson	dan.jonsson@swepgroup.com	Viewer	User	D&A Data Governance
3	Raj Yadav	raj.yadav@dovercorp.com	Admin	User	D&A Data Governance
4	Prem Swaroop	pswaroop@dovercorp.com	Member	User	D&A Data Governance
5	Pontus Rasmusson	pontus.rasmusson@swep.net	Viewer	User	D&A Data Governance

HOME

REPORTS

DATASETS

USERS

ACTIVITY ANALYSIS

TOP ENGAGEMENT

ACTIVE INACTIVE ASSESTS

🟧 Logout

📁 Selected Workspaces:

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ACTIVITY ANALYSIS

This dashboard provides a centralized view of all user interactions with reports and datasets. Explore usage trends, identify top artifacts and users, analyze activity patterns, and detect unused resources to improve data governance
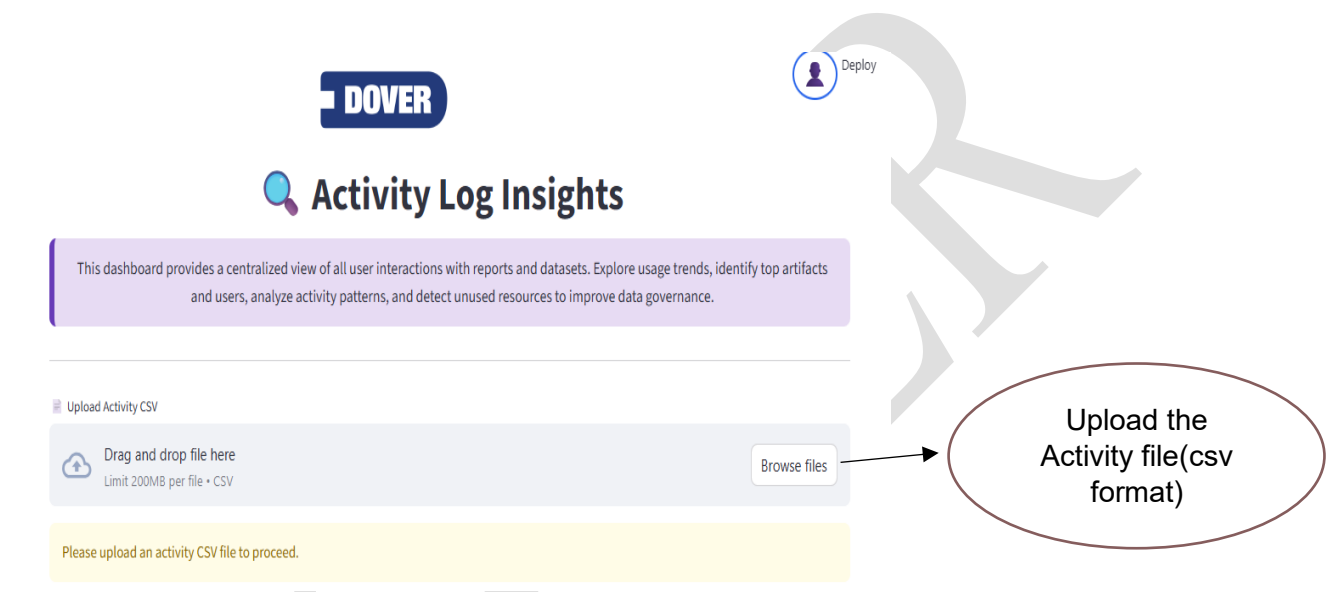

After Uploading ,Expand the Visualisations section to begin Analysis .
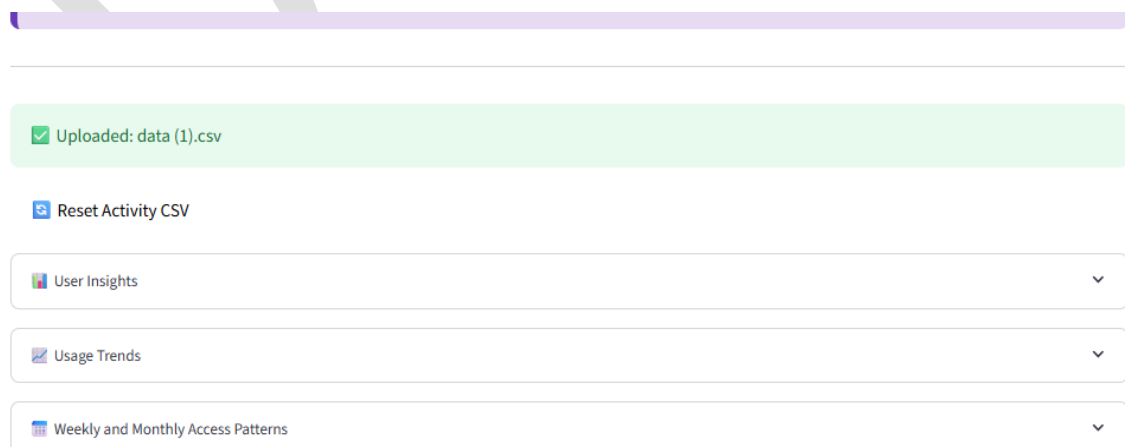
VISUALISATIONS :

1.Artifact Access Heatmap

- This heatmap presents a grid-style view of user interactions with various reports and datasets.

- Helps identify which artifacts are most engaged with and which users are the top contributors. It can reveal both active and inactive usage zones.

- Each cell shows how often a user accessed a specific artifact. Darker shades indicate higher access frequency.
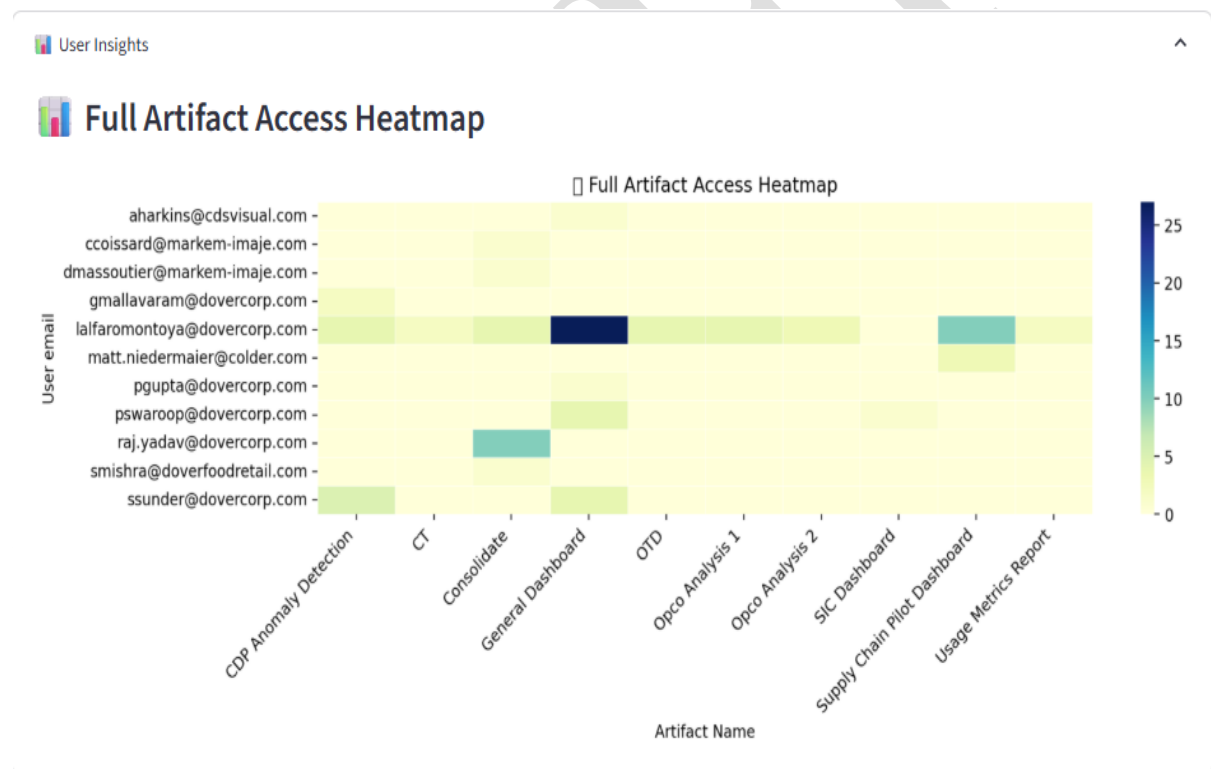
2. Top 10 Accessed Artifacts

- A bar chart ranking the most accessed artifacts (reports/datasets) by total interaction count.

3. Usage Trends by Domain (Opcos)

- This chart shows how many unique users belong to each email domain (e.g., company.com, gmail.com).

- Useful for understanding organizational distribution and external access.
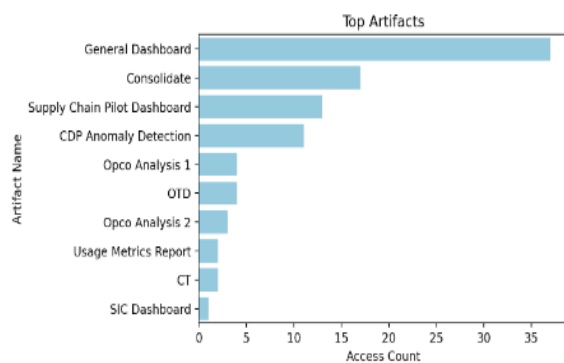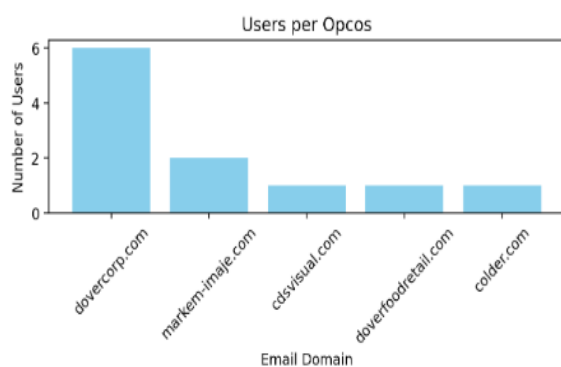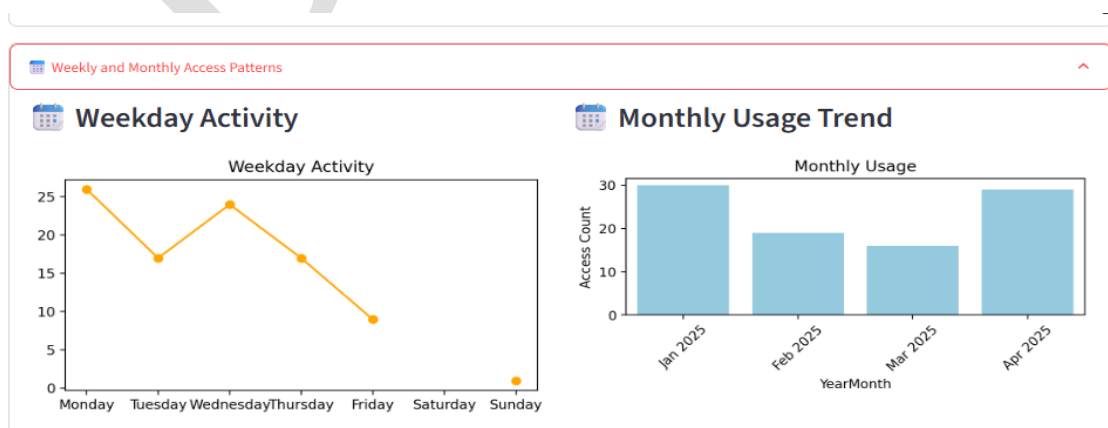

4. Weekday Activity Line Chart

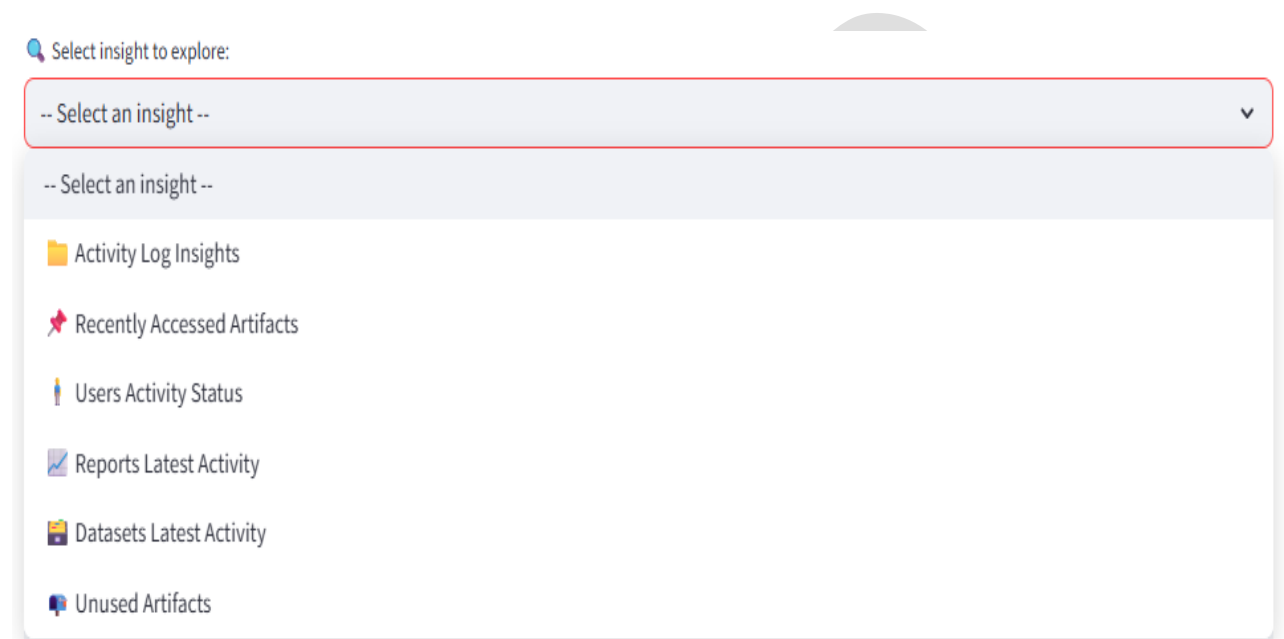A time-series line chart showing user activity levels across days of the week.

5. Monthly Usage Trend

A bar chart showing user interactions over each month.

Activity Insights Section

This interactive module allows users to explore detailed activity metrics across Power BI artifacts and users. By selecting an insight from the dropdown, users can access specific dimensions of usage behavior, enhancing transparency, optimization, and governance.
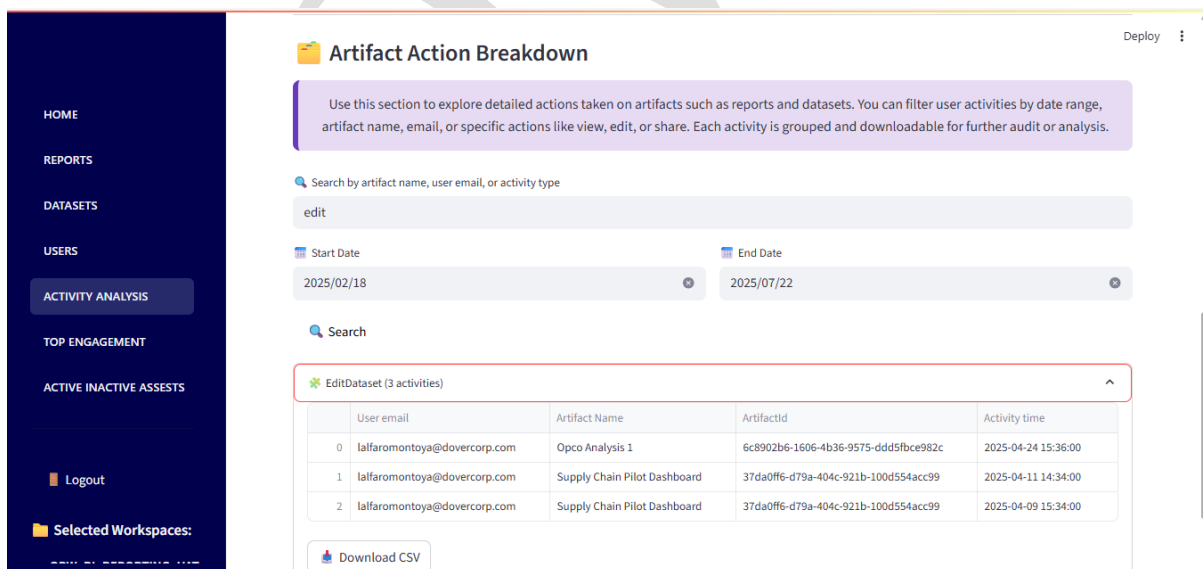
🔍 Select insight to explore:

-- Select an insight --	⌄

-- Select an insight --

📁 Activity Log Insights

📌 Recently Accessed Artifacts

📍 Users Activity Status

📈 Reports Latest Activity

💾 Datasets Latest Activity

📢 Unused Artifacts

Insights	Purpose
Activity Log Insights	Displays raw logs of every access event, including who, what, and when.
Recently Accessed Artifacts	Highlights most recently accessed reports/datasets.
Users Activity Status	Displays user's latest activity and active/inactive label (last 3 months).

Reports Latest Activity	Tracks access frequency for each report.
Datasets Latest Activity	Provides detailed usage and freshness metrics for datasets.
Unused Artifacts	Lists reports/datasets with no recorded usage. .

Artifact Action Breakdown

Use the search panel to filter and view specific user activity logs by date, user email, artifact name, or action type—like view, edit, or share—with download options for each grouped activity.
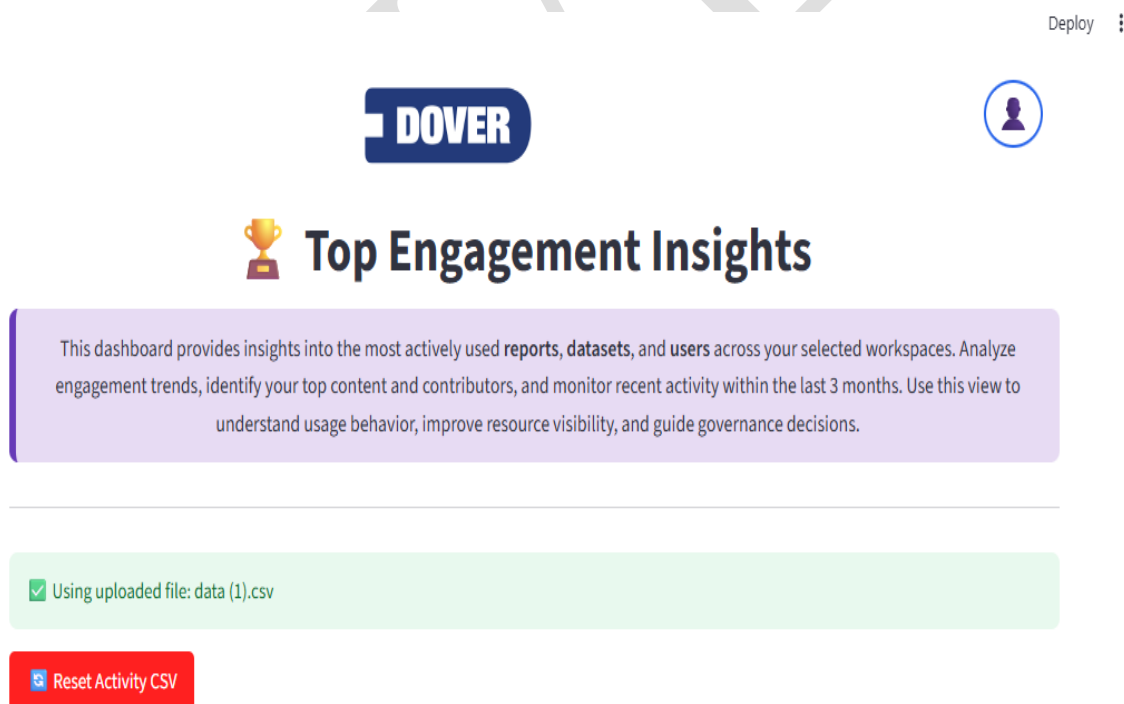
TOP ENGAGEMENT INSIGHTS

This dashboard provides a strategic overview of high-engagement assets and users within selected Power BI workspaces.

It highlights the most actively accessed **reports**, **datasets**, and **users.**

- Once the activity CSV is uploaded, it remains available across all dashboard pages no need to re-upload.
- If needed, you can reset the file anytime to upload a new one

VISUALISATIONS :

| Panel	Purpose	How It Works
Top Reports	Identifies the 5 most frequently accessed reports	Filters activity logs by report IDs and ranks them by usage count
Top Datasets	Highlights the 5 datasets with highest engagement	Filters dataset activity, aggregates access events, and plots the top performers
Top Users	Displays users with the most total interactions across artifacts	Counts activity entries per user and visualizes engagement levels
Recent Active Users (3 Months)	Tracks users who have interacted recently (within last 90 days)	Filters recent activity and identifies top contributors based on email mapping and usage volume

ACTIVE INACTIVE SUMMARY

This dashboard provides a high-level overview of active and inactive reports, datasets, and users within selected Power BI workspaces. It's designed to help teams monitor data engagement, identify underused resources, and enhance governance efforts.
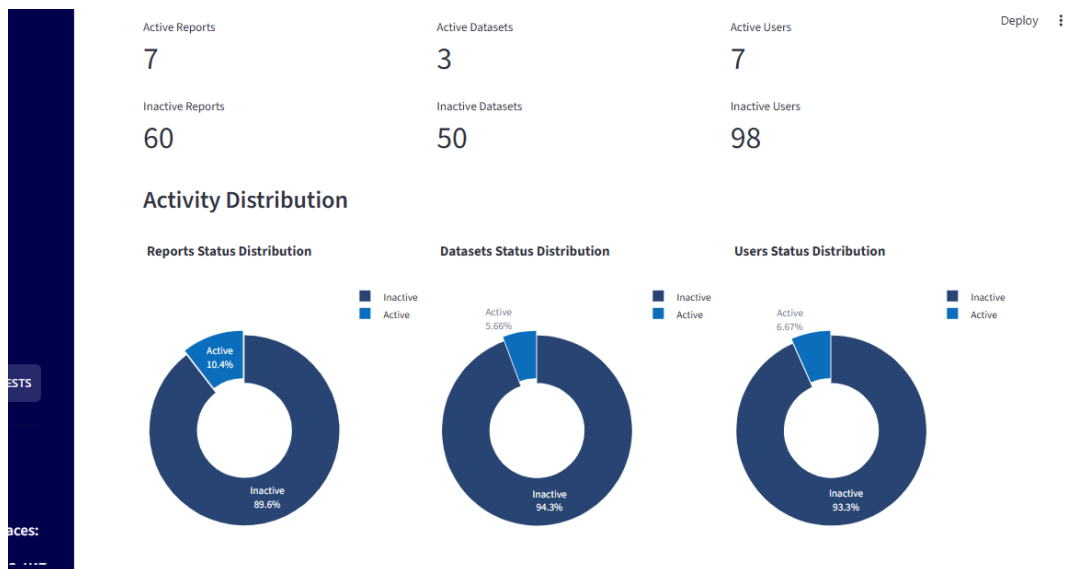
STEPS

1. **Select the workspaces** you want to analyze from the dropdown.
2. Click **" View Summary"** to load insights for the selected workspaces.
3. **Upload the activity CSV file.**

   - Once uploaded, the file stays available across all dashboard pages—no need to re-upload.

   - If you'd like to use a different file, you can reset the upload anytime.
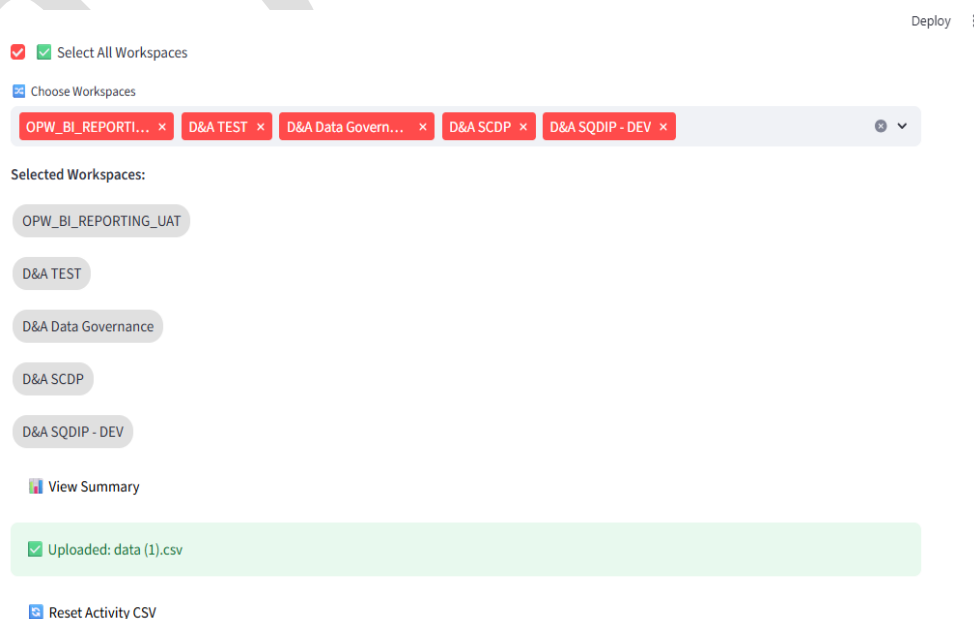
After Selection of Workspaces ,

- Displays counts of active and inactive reports, datasets, and users.
- Visualizes percentage breakdowns of activity status for each category

Detailed Tables

Allows users to explore and filter asset-level activity status.

Logout

- Click the "Logout" button in the sidebar if needed

- This will clear session state and return you to login view

Application Development

Enable Microsoft SSO Authentication: Integrate Azure AD to support secure, seamless sign-in for users via organizational credentials.

Deploy App to Cloud Environment: Host the Streamlit app on Azure or AWS for secure, scalable access across teams