**Equivalence Class Partitioning (ECP):**

**1. Dashboard Creation:**

- Valid Equivalence Class: Users with valid permissions.

- Invalid Equivalence Class: Users with invalid permissions, unauthorized users.

**2. Dashboard Editing:**

- Valid Equivalence Class: Valid changes within dashboard editor.

- Invalid Equivalence Class: Invalid changes (e.g., special characters in titles).

**3. Visualization Types:**

- Valid Equivalence Class: Various chart types (bar chart, line chart).

- Invalid Equivalence Class: Unsupported or deprecated chart types.

**4. Dashboard Interactivity:**

- Valid Equivalence Class: Valid interactions (click, hover).

- Invalid Equivalence Class: No user interactions.

**5. Dashboard Sharing:**

- Valid Equivalence Class: Shared with specific users/groups.

- Invalid Equivalence Class: Attempt to share with non-existing users/groups.

**6. Dashboard Performance:**

- Valid Equivalence Class: Average-sized datasets.

- Invalid Equivalence Class: Extremely large datasets or no data at all.

**Boundary Value Analysis (BVA):**

**1. Dashboard Creation:**

- Boundary Values: Minimum and maximum allowed characters for dashboard names and descriptions.

**2. Dashboard Editing:**

- Boundary Values: Test with the smallest and largest valid changes permissible.

**3. Visualization Types:**

- Boundary Values: Test with the smallest and largest datasets for each chart type.

**4. Dashboard Interactivity:**

- Boundary Values: Test with minimum and maximum filter options and data points for interaction.

**5. Dashboard Sharing:**

- Boundary Values: Test sharing with the maximum number of users/groups allowed.

**6. Dashboard Performance:**

- Boundary Values: Test with a dataset that is just below and just above the application’s performance threshold.

**Risk Analysis:**

**1. High-Risk Scenarios:**

- Testing dashboard creation and editing by unauthorized users.

- Testing the handling of extremely large datasets, which might affect system performance.

**2. Medium-Risk Scenarios:**

- Testing interactions on visualizations and ensuring they don’t compromise data security.

- Testing scheduled report functionality to avoid confidential data exposure.

**3. Low-Risk Scenarios:**

- Testing UI layout on different devices and screen sizes.

- Testing the responsiveness of the dashboard with moderately sized datasets.

**Other Considerations:**

**1. Security Testing:**

- Test for vulnerabilities like SQL Injection in filter inputs.

- Verify that sensitive data is not exposed in error messages.

**2. Localization Testing:**

- Test the dashboard’s functionality with different languages and ensure translations are accurate and complete.

**3. Integration Testing:**

- Test third-party integrations (if any) for seamless data exchange.