

Performance Testing

Why Performance Testing?

Performance testing ensures that the Tableau dashboards:

- **Load quickly**, even with large datasets.
- Provide a **smooth interactive experience** (filters, drill-downs, story transitions).
- Can handle **expected user loads** without lags or failures.

It's critical for adoption by marketing teams who need fast, reliable insights to make decisions.

Performance Testing Plan

Aspect	Description / Test Goals
Load Time	Ensure dashboards load in <5 seconds for typical user interactions.
Filter Responsiveness	Test how quickly filters and drop-downs apply (<2s ideally).
Data Volume Stress	Validate dashboard performance when scaling to 2x or 5x data size , simulating future data growth.
Concurrent Users	(If using Tableau Server) Test access by multiple users simultaneously without degradation.
Drill-Down Speed	Ensure that clicking on charts / heatmaps to drill down returns results in <3s.

How To Execute

- Use Tableau's **Performance Recording** feature to measure load times, query times, and rendering.
- Check **Query Inspector** to identify slow SQL extracts or calculations.
- Simulate increased data volume by duplicating datasets to see how dashboards hold up.
- If using Tableau Server/Public, test with multiple browser sessions or colleagues opening dashboards at once.

Performance Tuning Techniques

Issue Found	Resolution Strategy
Slow filters	Use Extracts instead of live connections, aggregate data upfront.
Lag due to high cardinality	Reduce detail level (e.g., month instead of day) where not critical.
Complex calculations delaying rendering	Pre-calculate fields in data prep (Python/SQL), minimize calculated fields in Tableau.
Too many sheets on one dashboard	Break into multiple stories/pages or use collapsible containers.

Performance Testing Acceptance Criteria

Metric	Target
Dashboard load time	≤ 5 seconds
Filter application time	≤ 2 seconds
Drill-down load time	≤ 3 seconds
Large dataset support	Up to 5x current size without critical slowdowns

Concurrent access Handles **10+ users simultaneously** with stable performance (for Tableau Server/Online cases)



Performance Testing Deliverables

✓ A **Performance Summary Report** outlining:

- Load times and bottlenecks
- Actions taken to optimize dashboards
- Recommendations for future scaling

✓ Updated, optimized Tableau dashboards.