

Tableau Workbook Cleanup Process for Handoff

A 2-phase process for standardizing Tableau workbooks before client handoff.

Overview

This process ensures calculated fields are:

- **Well-documented** - Comments explain purpose/logic
 - **Organized** - Grouped into logical folders
-

Phase 1: Adding Comments

What You're Doing

Adding a comment line at the top of each calculated field's formula to explain its purpose. This helps future developers understand the logic without having to decode the formula.

Comment Format

Comments in Tableau use `//` syntax, just like many programming languages.

Step-by-Step Process

Step 1: Analyze Each Calc

For each calculated field, determine:

- What does this calc do?
- Why does it exist?
- Are there special cases or parameter dependencies?

Step 2: Write Concise Comments

Good comments explain the **purpose**, not just restate the formula:

Bad Comment	Good Comment
<code>// Returns 1 or 2</code>	<code>// Red for decline, black for flat/growth</code>
<code>// Case statement</code>	<code>// Routes to metric source based on parameter</code>
<code>// Date calculation</code>	<code>// Reference date for YoY comparisons (most recent data date)</code>

Step 3: Add Comments in XML

In the XML, find the `formula=` attribute and prepend the comment.

XML Encoding Required:

- Newline = `
`
- This goes between the comment and the formula

```

<!-- Before -->
<calculation class='tableau' formula='CASE [Parameter] WHEN 1 THEN...' />

<!-- After -->
<calculation class='tableau' formula='// Routes to metric source based on
parameter&#13;&#10;CASE [Parameter] WHEN 1 THEN...' />

```

CRITICAL: Escaping Special Characters in Comments

Comments are inside the XML `formula` attribute, so special characters in comment text **MUST** be escaped:

Character	Must Use	Example in Comment
<code>&</code>	<code>&amp;</code>	// AE & CM roles displays as "AE & CM roles"
<code>'</code>	<code>&apos;</code>	// Owner's goal displays as "Owner's goal"
<code>"</code>	<code>&quot;</code>	// Filter for "All"

Common Errors:

- "expected entity name for reference" → Unescaped `&` in comment
- "whitespace expected" → Unescaped `'` in comment (breaks the attribute delimiter)

Examples:

```

<!-- WRONG - Will cause XML error -->
formula='// Individual owner's margin goal&#13;&#10;...'
formula='// Won & Closed opps&#13;&#10;...'

<!-- CORRECT -->
formula='// Individual owner&apos;s margin goal&#13;&#10;...'
formula='// Won &amp; Closed opps&#13;&#10;...'

```

Step 4: Handle Multiple Datasources

If the workbook has multiple datasources, the same formula may appear multiple times. Use find-and-replace with "Replace All" to update all instances.

Step 5: Verify

1. Save the file
2. Open in Tableau Desktop

3. Click on a calculated field to view its formula
4. Confirm comment appears at the top

Comment Examples by Field Type

Field Type	Example Comment
Boolean filter	// True when Wages metric selected (parameter = 4)
Date reference	// Reference date for YoY comparisons (most recent data date)
Metric routing	// Routes to Hiring, Job Openings, or Employment based on parameter
Color coding	// Red for negative YoY change, black otherwise
Top N filter	// Filters to top 5 ranked skills
Aggregation	// Aggregates track metric; wages uses AVG, others use SUM

Phase 2: Folder Grouping

What You're Doing

Organizing calculated fields into logical folders within Tableau's Data pane. This makes it much easier to find fields when there are dozens of calcs.

CRITICAL: XML Character Escaping

Special characters in folder names **MUST** be escaped or Tableau will fail to open the workbook:

Character	Must Use	Example
&	&	Config & Security displays as "Config & Security"
<	<	
>	>	
"	"	
'	'	

Common Error: "expected entity name for reference" at position (line, col)

Cause: Unescaped & character in folder name

Fix: Replace & with & in the XML

Step-by-Step Process

Step 1: Categorize Your Calcs

Review all calculated fields and group them by function:

Category	What Goes Here
Core Metrics	Primary KPIs, main measures
Time Series/Trends	YoY calcs, trend arrows, rolling averages
Projections	Forecasts, future-looking calcs
Filters and Flags	Boolean filters, flag indicators
Rankings	Top N filters, RANK() calcs
UI/Tooltips	Display formatting, tooltip text
Security	RLS filters, user-based calcs

Step 2: Gather Internal Names

For each calc, you need the **internal name** (not the caption). Find it in the XML:

```
<column caption='Anchor Date' name='[Calculation_1458603337042436098]' ...>
```

The internal name is: [Calculation_1458603337042436098]

Create a mapping table:

Caption	Internal Name	Folder
Anchor Date	[Calculation_1458603337042436098]	Time Series
Is Most Recent Date	[Calculation_1217660758139621380]	Filters and Flags

Step 3: Find the Insert Location

In the XML, search for `<layout>`. The `<folders-common>` block must be placed **immediately before** this tag.

```
</group>           <!-- Some element ends here -->
<folders-common>   <!-- INSERT FOLDERS HERE -->
...
</folders-common>
<layout ... />    <!-- Layout tag comes after -->
```

Step 4: Build the XML Structure

Create the folder structure:

```
<folders-common>
  <folder name='Core Metrics'>
    <folder-item name='[Calculation_1458603337029099520]' type='field' />
```

```

<folder-item name='[Calculation_2696530285372162049]' type='field' />
</folder>
<folder name='Time Series and Trends'>
  <folder-item name='[Calculation_1458603337042436098]' type='field' />
  <folder-item name='[Calculation_1502231959450402818]' type='field' />
</folder>
<folder name='Projections'>
  <folder-item name='[Calculation_2696530285393555459]' type='field' />
</folder>
<folder name='Filters and Flags'>
  <folder-item name='[Calculation_1217660758139621380]' type='field' />
</folder>
<folder name='Top 5 Rankings'>
  <folder-item name='[Calculation_2638546445126889473]' type='field' />
</folder>
</folders-common>

```

Step 5: Add Emoji Prefixes (Optional)

Each folder can have a unique emoji for visual distinction:

Emoji	Meaning
📊	Core Metrics
📈	Time Series/Trends
🔮	Projections/Forecasts
🚩	Filters and Flags
🏆	Rankings
💡	UI/Toolips
🔒	Security

Example with emojis (remember to escape &):

```

<folders-common>
  <folder name='📊 Core Metrics'>
    ...
  </folder>
  <folder name='💡 Filters & Selectors'>
    ...
  </folder>
  <folder name='📅 Dates & Time'>
    ...
  </folder>
</folders-common>

```

Step 6: Verify in Tableau

1. Save the XML file
 2. Open workbook in Tableau Desktop
 3. Right-click in the Data pane
 4. Select **Group by Folder**
 5. Confirm all calcs appear in their assigned folders
-

Common Errors and Fixes

"Attribute not declared" Error

Cause: Using **role** attribute inside `<folders-common>`

Fix: Remove any **role** attributes from folder elements

"expected entity name for reference" Error

Cause: Unescaped **&** character in folder name

Fix: Replace all **&** with **&** in folder names

```
<!-- WRONG -->
<folder name='Config & Security'>

<!-- CORRECT -->
<folder name='Config &amp; Security'>
```

Folder Not Appearing

Cause: `<folders-common>` placed after `<layout>` tag

Fix: Move `<folders-common>` block before `<layout>`

Field Not in Folder

Cause: Wrong internal name in `<folder-item>`

Fix: Verify the **name** attribute matches the `[Calculation_...]` from the column definition exactly

Workbook Won't Open

Cause: Malformed XML (missing quote, unclosed tag)

Fix: Use a text editor with XML validation, check for syntax errors near your edits

"whitespace expected" Error

Cause: Unescaped apostrophe `'` in a comment or other attribute

Fix: Replace ' with ' in comment text. Common culprits:

- Possessives: owner's → owner's
 - Contractions: don't → don't
 - Quoted words: 'All' → 'All'
-

Complete Checklist

Phase 1: Comments

- Analyzed each calc's purpose
- All calcs have header comments
- Comments explain purpose/logic (not just "what")
- Special cases documented (parameter values, edge cases)
- Used `
` for newlines in XML
- **No unescaped & in comments** (use &)
- **No unescaped ' in comments** (use ')
- Verified comments appear in Tableau

Phase 2: Folders

- Categorized all calcs by function
 - Gathered internal names for each calc
 - Created <folders-common> structure
 - Placed before <layout> tag
 - All calcs assigned to folders
 - **No unescaped & in folder names** (use &)
 - Folder names have emoji prefixes (optional)
 - Verified folders appear in Tableau (Group by Folder)
-

XML Escaping Quick Reference

Before saving, search for these patterns and fix them:

Search For	Replace With	Common In
& (ampersand + space)	&	Folder names, comments with "X & Y"
's (apostrophe-s)	's	Comments like "owner's goal"
' in comments	'	Quoted words like 'All' or 'Current'

Regex to find unescaped ampersands:

```
& (?amp;|apos;|quot;|lt;|gt;)
```

Common words that need escaping in comments:

- AE & CM → AE & CM
 - Won & Closed → Won & Closed
 - owner's → owner's
 - 'All' → 'All'
 - 'Current' → 'Current'
-

Document created: December 2024 Updated: December 2025 - Added prominent XML escaping warning based on real-world errors