

# Tableau Workbook Cleanup Process for Handoff

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

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## Overview

This process ensures calculated fields are:

- **Well-documented** - Comments explain purpose/logic
  - **Organized** - Grouped into logical folders
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## 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
// Returns 1 or 2	// Red for decline, black for flat/growth
// Case statement	// Routes to metric source based on parameter
// Date calculation	// Reference date for YoY comparisons (most recent data date)

#### Step 3: Add Comments in XML

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

XML Encoding Required:

- Newline = `&#13;&#10;`
- 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>&amp;amp;</code>	<code>// AE &amp;amp; CM roles</code> displays as "AE & CM roles"
'	<code>&amp;apos;</code>	<code>// Owner&amp;apos;s goal</code> displays as "Owner's goal"
"	<code>&amp;quot;</code>	<code>// Filter for &amp;quot;All&amp;quot;</code>

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
&	&amp;	Config &amp; Security displays as "Config & Security"
<	&lt;	
>	&gt;	
"	&quot;	
'	&apos;	

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

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

**Fix:** Replace & with &amp; 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/Tooltips
🔒	Security

Example with emojis (remember to escape &):

```
<folders-common>
  <folder name='📊 Core Metrics'>
    ...
  </folder>
  <folder name='🚩 Filters &amp; Selectors'>
    ...
  </folder>
  <folder name='📅 Dates &amp; 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
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## 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 `&amp;` 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 &apos; in comment text. Common culprits:

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

## 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 &#13;&#10; for newlines in XML
- ☐ **No unescaped & in comments** (use &amp;)
- ☐ **No unescaped ' in comments** (use &apos;)
- ☐ 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 &amp;)
- ☐ 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)	&amp;	Folder names, comments with "X & Y"
's (apostrophe-s)	&apos;s	Comments like "owner's goal"
' in comments	&apos;	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*