HomeWidgets – Documentation (Combined)

# Part 1: HomeWidgets Test Documentation

Purpose: The HomeWidgets class is a TestNG-based automation suite (extends AMTestBase) designed to validate different homepage widgets. Each widget (Product Support, Announcements, Market Barometer, Database Updates, etc.) is represented as a constant, and test methods ensure the API responses are correct and consistent.

## Widget Identifiers

Markets=12, MarketBarometer\_Direct=13, DatabaseUpdates\_Direct=16, Alerts\_Direct=17, ProductSupport=18, AnalystReports=10, ImportSummary=60, Tasks=53, RecentClientsAndProspects=5, etc.

## APIs Under Test

The tests interact mainly with:  
- home.widgetInfo → fetches widget-specific data  
- home.homePage → retrieves overall homepage widgets and their state  
- Custom endpoints via Api.of(id: "...")  
  
Test flow: build request → call API → extract response → parse JSON/XML → assert results.

## Major Test Methods (Examples)

- testProductSupport → verifies Product Support widget API  
- clearHomeWidget / getDefaultWidgets → ensures widgets reset & defaults enabled  
- enableWidgets / validateWidgets → enables and validates widgets  
- testQuickstart, testAlerts, testAnalystReports, testImportSummary, testPracticeSummary  
- testRecentClientsAndProspects, testSecurityAnalysis, testMarketBarometerWidget\_Direct/Office  
- testDatabaseUpdate\_Direct/Office, multiple testAnnouncement methods, testMorningstarMarketUpdate, testMorningstarResearch

## Test Scenarios

Positive cases: API returns 200, default widgets enabled, non-empty JSON/XML, expected tags present.  
Negative cases: invalid XML handled by substring, unknown product → RuntimeException, disabled widgets tested gracefully.  
Reconfiguration: widgets can be cleared, enabled, validated for different states.

## Tools & Frameworks

TestNG, RestAssured, JSON/XML parsing, TemplateUtil, Assert library.

## High-Level Summary

Validates end-to-end functionality of homepage widgets: API availability, data structure, content validation, and state management (clear/enable/defaults).

# Part 2: HomeWidgets Detailed Explanation

The HomeWidgets suite verifies homepage widgets for multiple Morningstar products (DIRECT, OFFICE\_US/UK). Widgets are identified by numeric IDs and tested via REST endpoints, using FreeMarker templates for request bodies. Responses are validated with JSON/XML parsers.

## Key Technologies

TestNG, RestAssured, JSON (org.json), XmlPath, FreeMarker, LogListener, CacheManager.

## High-Level API Flow

1. Select widget ID  
2. Build request body via TemplateUtil  
3. Call API using Api.of(id)  
4. Extract response  
5. Assert HTTP 200, content-type, not-null, and size checks

## Notable Implementation Details

• Logging listener  
• Widget constants map names to IDs  
• selectWidgetIds() chooses correct widgets for product  
• Invalid XML char handled with substring  
• Product-specific widget lists (\_Direct, \_Office, \_Office\_UK)

## Test Methods Summary

|  |  |  |  |
| --- | --- | --- | --- |
| Method | Widget / Area | Goal | Assertions |
| testProductSupport | ProductSupport | Widget availability | Response JSON not null |
| getDefaultWidgets | Home page defaults | Check defaults enabled | Status=200, XML parsed |
| testAnalystReports | AnalystReports | Validate Analyst Reports | Contains tag 'Analyst Reports' |
| testSecurityAnalysis | SecurityAnalysis | Validate Security Analysis | reports.size()==expected |
| testMarketBarometerWidget\_Direct | MarketBarometer | Validate Barometer | JSON path not null; count check |
| testDatabaseUpdate\_Direct | DatabaseUpdates | Validate updates | Articles not null |
| testAnnouncement\* | Announcement | Validate variants | JSONArray length == 10 |

## Response Handling

• Status 200 and correct content-type  
• JSON/Xml parsing with trimming  
• Assertions on size, not-null, string contains

## Templates & Request Bodies

Widget.ftl, SelectHomeWidgets.ftl, WidgetTemplate.ftl, inline XML for widget list and restore layout.

## Parameters & Test Data

prefList includes entries, region, investmenttype, exclude, preferredid, secid, filter, sortby.

## Grouping & Order

Grouped by product/priority; uses dependsOnMethods; some Office/UK tests disabled.

## Edge Cases

Invalid XML leading char trimmed; unknown product → RuntimeException; empty feed checks.

## Human-Readable Scenario Summary

• Default widgets appear after reset (Announcement & Product Support)  
• Widgets can be cleared, enabled, validated  
• Feeds (Announcements, Alerts, Reports, Markets, Database Updates) return correct data  
• Counts match expectations  
• Announcements always return 10 items across sources