HomeWidgets – Detailed Functional & Test Documentation

Source: 17 screenshots extracted from the provided video (HomeWidgets.java).

Purpose. The *HomeWidgets* suite is a TestNG-based API automation pack that verifies homepage widgets for multiple Morningstar products (e.g., DIRECT, OFFICE_US/UK). Each widget has a numeric identifier and is exercised via REST endpoints exposed behind a helper client (*Api.of(id: ...)*). Payloads are generated from FreeMarker templates and responses are validated as JSON or XML using assertions and path queries.

Key Technologies. TestNG (grouping/dependencies), RestAssured (HTTP), JSON (org.json), XML (XmlPath), FreeMarker templates (*TemplateUtil*), log listener (*@Listeners(LogListener.class)*), and internal helpers (*CacheManager.GlobalDict*, *Users.NormalAccount*).

High-level API Flow. Choose target widget ID (e.g., *ProductSupport=18*). Build request body via *TemplateUtil.getInstance().loadTemplate("Widget.ftl", templateArgs)*. Call endpoint through *Api.of(id: "home.widgetInfo" | "home.homePage" | "home.widgetTemplate")* with chained methods: *.setUserName(...).setParams("widgetId", ...).setBody(...).call()*. Extract response: *extract().body().asString()* or *jsonPath()/XmlPath*. Assert: HTTP 200, content-type (XML for some), non-null/size checks, or string contains expected tags.

Notable Implementation Details.

- Class annotated with @Listeners(LogListener.class) for enhanced logging.
- Widget constants map names → numeric IDs (e.g., Markets=12, MarketBarometer_Direct=13).
- Environment & product pulled via CacheManager.GlobalDict (e.g., env, productId).
- Helper methods getWidgetResponse(...) centralize API calls & body creation.
- selectWidgetIds() chooses correct widget sets per product; throws on unknown product.
- Known server quirk: first char of XML sometimes invalid → trimmed via substring(1).

Widget Identifiers (examples observed). Markets (12), MarketBarometer_Direct (13), MarketBarometer_Office (9), DatabaseUpdates_Direct (16), DatabaseUpdates_Office (52), Alerts_Direct (17), Alerts_Office (7), MorningstarDefinedUniverses (22), SecurityAnalysis (23), DataUpdateMonitor (24), RecentMergesLiquidations (25), RecentAdditions (26), RecentCloses (27), MarketCapBreakpoints (29), CategoryReviews (45), MorningstarMarketUpdates (50), FocusOnTargetDateStrategies (56), RecentFiles (58), QuickstartForNewUsers_Direct (70), QuickstartForNewUsers_Office (72), CITsModelsReports (74), ManagerResearch (62), MorningstarResearch (61), Quickstart (4), TopSecuritiesInPractice (6), MessageCenter (75), Announcement (14), ProductSupport (18), AnalystReports (10), ActivitiesSummary (3), ImportSummary (60), PracticeSummary (2), RecentClientsAndProspects (5), Tasks (53), Appointments_Office_UK (8), Getting_Started_Office_UK (48), MorningstarNews_UK (54), MorningstarResearch_Office_UK (30).

Customizable Widget Sets.

The class maintains product-specific lists (e.g., customizableWidgetIds_Direct / _Office / _Office_UK). These lists power bulk enable/validate flows.

Key Test Methods Observed (from screenshots)

Method	Widget / Area	Goal	Core Assertions
testProductSupport	ProductSupport	Widget available and returns data	JSONObject not null
clearHomeWidget	Home page	Clear widget selections	200 on set/clear
getDefaultWidgets	Home page defaults	Ensure defaults auto-enabled	200, content-type XML, enable
enableWidgets	Home page	Bulk enable widgets via template	200 on update
validateWidgets	Home page	Validate enabled widgets	XML 'selected'=='1' for expecte
testQuickstart	Quickstart	Validate 'Quick Start' presence	Response contains expected st
testAlertsOffice / testAlerts	Alerts (Office/Direct)	Validate Alerts widgets	Contains <Alerts> tag or 200
testTopSecuritiesInPractice	TopSecuritiesInPractice	Validate widget	Contains 'Top Securities in Pra
testAnalystReports	AnalystReports	Validate reports widget	Contains 'Analyst Reports'
testImportSummary	ImportSummary	Validate import summary	Expected tag present

testPracticeSummary	PracticeSummary	Validate practice summary	Expected tag present
testRecentClientsAndProspects	RecentClientsAndProspects	Validate clients/prospects	Expected tag present
testTasks	Tasks	Validate tasks widget	Expected filters/entry size
testSecurityAnalysis	SecurityAnalysis	Validate analysis	reports.size()==expected
testQuickstartForNewUsers_Direct	QuickstartForNewUsers_Direct	Validate quickstart template	Response contains 'widget-*' m
testMarketBarometerWidget_Direct/Office	MarketBarometer	Validate barometer	200; JSON path not null; quote
testDatabaseUpdate_Direct/Office	DatabaseUpdates	Validate DB updates	JSONPath 'articles' not null; ex
testMarketCapBreakpoint	MarketCapBreakpoints	Validate breakpoints flow	200
testMorningstarMarketUpdate	MorningstarMarketUpdates	Validate market updates	200
testMorningstarResearch	MorningstarResearch	Validate research feed	Contains expected string
testMarketsWidget	Markets	Validate market data	jsonPath().get('market.size()')=
testRecentAdditions/Closes/Files/Recent	RecentMergesLiquidations	Validate recents data	jsonPath sizes equal expected
testAnnouncement*	Announcement	Validate multiple data sources/backend	JSONArray 'announcement'.ler

Response Handling Patterns

• Status & content-type: assert 200, and XML where applicable.
• Parsing: JSON via JSONObject/JsonPath; XML via XmlPath with first-character trim when needed.
• Assertions: equality on counts (e.g., 3/5/9/10), non-null for keys like 'articles', and string containment for titles.

Templates & Request Bodies

• Widget.ftl – generic widget query.
• SelectHomeWidgets.ftl – bulk enable/disable.
• WidgetTemplate.ftl – quickstart templating.
• Inline XML bodies: GetWidgetListBody and SetDefaultWidgetListBody for layout & selection.

Parameters & Test Data

Tests pass 'prefList' maps including: entries, region, investmenttype, exclude, preferredid, secid, filter, sortby. These constrain response size or determine filtering behavior per widget.

Test Grouping & Order

Groups: Priority.p1/p2 and Products.DIRECT_ID/OFFICE_ID_US/OFFICE_ID_UK. Execution order is controlled with dependsOnMethods (e.g., clearHomeWidget → getDefaultWidgets → enableWidgets → validateWidgets). Some Office-specific tests are disabled (enabled=false).

Edge Cases & Error Management

Unknown products cause a RuntimeException; invalid XML byte is trimmed; defensive asserts prevent passing on empty feeds.

Human■Readable Scenario Summary

- Default widgets are present after a reset (Announcement & Product Support).
- Operations teams can clear, enable, and validate widget selections per product.
- All key widgets (Announcements, Alerts, Analyst Reports, Market Barometer, Markets, Security Analysis, Database Updates, Morningstar Research) respond with the correct structure and content.
- Counts in feeds (e.g., markets/reports/recents) match expectations.
- Multiple announcement backends consistently output 10 items.

This document was compiled from the code visible in the 17 screenshots; fill in any environment-specific IDs or titles if they differ in your branch.