# IRT Automated & Manual Testing using irtspec.js

The IRT system leverages a JSON object to fully specify each test for automated and/or manual testing, as defined below. These objects are defined within a single text file named irtspec.js and the values therein are used to direct the execution and user interface of each test.

1. **../SecureBrowser/test/irtspec.js**

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| --- | --- | --- |
| **JSON Key** | **Description** | **Example** |
| Id | Unique number across all tests. Does not dictate the order in which this test is run. Any valid Integer is acceptable. | 1 |
| testName | Text to display in UI under “Test Name” column for any given test. | Browser global object check |
| testApi | Text to display in UI under “Test API” for the specific test being executed. | window.browser |
| testResult | This will define whether test is passed or failed and based on true/false, UI will show pass/fail icon under Result column. Valid values are either true/false/null. | true |
| details | Text to display in UI under “Details” column. | 1. Error : browser is not defined 2. Message : As per specification, this API has been removed |
| testApi\_certified | API Signature for certified browser type for given automated test. | browser.security.getMACAddress |
| testApi\_webspeech | API signature for W3C Webspeech supporting browser. | window.speechSynthesis.speak |
| testApi\_SB | API signature for AIR Secure Browser. | SecureBrowser.close |
| testApi\_mobile | API signature for mobile Summit Secure Browser. | runtime.security.getDeviceInfo |
| points | Value to indicate the score weight of the given test. Any valid Integer is acceptable; however it is appropriate to use non negative Integers. | 1 |
| required | This field will determine to check if API is required for given operating system platform.  Valid keys are   * ios * android * windows * linux * macOS * all : If all is true/false no need to configure above keys | {"ios" : **true**, "android" : **false**  }  OR  {“all” : **true**} |
| testPoints | This field is used internally to keep track of the points received by this test after execution. Any value entered here in configuration will be overridden. A passing test will show the value of “points” here; A failing test will show 0. | 0 |
| apiType | Array used to check if API is an object, function, or a boolean value (See b below).  Valid values any combination of the following:   * object * boolean * function   If Array is empty or null, a value of “function” will be assumed. | [ "object" , "boolean", "function" ] |
| isDeprecated | To determine if the given API should be treated as deprecated (See c below). Valid values are either true/false. | true |
| dialogHTML | HTML text to show on manual test confirmation dialog box. | <p>If you see processes in Forbidden Running processes grid, as per your selection,choose <b>Yes</b>. If not, choose <b>No</b></p> |
| dialogTitle | Title text for manual test confirmation dialog box. HTML markup is supported. | Examine Process List Test |
| buttonSliderId | HTML ID provided for any UI component for manual test such as slider or button. | play |
| disableSection | Array to define HTML ID(s) for UI component(s) to be disabled in a given manual test | [“RESUME”, “PAUSE”] |
| enableSection | Array to define HTML ID(s) for UI component(s) to be enabled in a given manual test | [“PLAY”] |
| manualData | To determine if the extra information are required like showing start time and mac address under details column. Valid values are either true/false | true |

1. **../SecureBrowser/factory.js** : The system will get the “browserType” string based on operating system and platform type as well as specific information from the browser. In turn, this variable will be used to get the automated testing API signature from the JSON object. Valid values are below, based on browser object:
   1. certified : window.browser global object is defined
   2. SB : AIR SecureBrowser
   3. mobile : Summit SecureBrowser
2. **../TTS/tts.js** : The system will get the “ttsBrowserType” string based on detected browser text-to-speech support. This variable will be used to get the automated testing API signature from the JSON object. Valid values are below, based on browser text-to-speech support:
3. webspeech : Browser supports W3C WebSpeech
4. certified : Browser supports its own implementation of the text-to-speech API
5. SB : Browser supports its own implementation of the text-to-speech API in case of AIR SecureBrowser
6. mobile : Browser supports its own implementation of the text-to-speech API in case of Summit SecureBrowser
7. The **Default** value for both “**browserType**” and “**ttsBrowserType**” variables is “**certified**”. Both values are global constant for given browser test and will remain same for entire test.
8. **index.js** : System will use **IRT.AUTOMATED\_TEST\_SECTION** JSON object from irtspec.js to identify how many automated test sections are available, and run each of their configured automated tests in the irtspec.js section. The tests in each section are executed in the order they appear. Currently there are two automated test sections:
9. Browser API (“browserapi”)
10. Text-to-Speech (“ttsapi”)
11. Index.js 🡪 runIRTAutomateTest method: This method will execute all automated tests defined in each section as described in 5 above. It will look for:
12. “**testApi\_(browserType/ ttsBrowserType)**” : Based on browserType or ttsBrowserType , system will get API signature to test for API existence. For e.g if browserType = certified then system will use testApi\_certified key to find the API signature for given test.
13. “**apiType**”: Array used to check if API is an object, function, or a boolean value. In certain cases, one browser has method getXXX, while another browser has XXX with a boolean property. In that case, we define the apiType array as ["boolean", "function"], so as to avoid if-else condition for a specific API check. Thus, the system will check for either boolean or function during the automated test, and pass/fail the test accordingly.
14. “**isDeprecated**”: true/false, to determine if the given API is deprecated. In this scenario, the system will check for the **non**-existence of the API in question and pass the test if the system doesn’t find it. If a deprecated API still exists in the browser, the system will display an error message and fail the test.
15. Once all automated test have completed, the system will populate the results along with other information in the respective section's grid.
16. The system will use a manual testing section to provide instructions for performing the manual testing procedures. The respective array keys are used to populate the instruction grid, confirmation dialog HTML and title, and result info during manual testing. Once the manual test is completed, the result JSON is used to populate rows within the appropriate report section.

