

# Solutions Business Manager JSON API Guide

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# **Table of Contents**

| Overview                    | 4  |
|-----------------------------|----|
| Access and Authentication   | 4  |
| Requesting a Security Token | 5  |
| Reference                   | 7  |
| GET Functions               |    |
| GetItem                     | 7  |
| GetItemsByInternalID        | 10 |
| GetItemsByItemID            | 12 |
| GetItemsByListingReport     | 15 |
| GetItemsByReportFilter      | 19 |
| GetItemTransitions          | 22 |
| GetVersion                  | 24 |
| POST Functions              | 24 |
| FinishTransition            | 25 |
| StartSubmitToAux            | 27 |
| StartSubmitToProject        | 29 |
| StartTransition             | 32 |
| SubmitToAux                 | 35 |
| SubmitToProject             | 38 |
| JSON API Options            | 40 |
| ItemOptions                 | 40 |
| Transition                  | 42 |

## **Overview**

This document describes how to use the SBM JSON API. SBM is a Web-architected change request and process management solution that empowers application development teams to improve communication and development processes across the enterprise.

The SBM JSON API provides a set of RESTful services that enable you to perform CRUD (create, read, update, and delete) operations against SBM items via GET and POST calls.

#### For example:

- You can send a JSON API POST call from JavaScript on a custom form to update an item.
- You can create a REST data source in Composer and initiate a GET call against a separate SBM instance to return external items and populate a Kanban board in SBM Work Center.
- You can work with SBM items by invoking GET and POST calls from any external application that is capable of sending RESTful calls.

## **Audience and Scope**

This document is intended for experienced developers interested in integrating their products with SBM.



**Important:** Support for development efforts writing REST Web services is provided by Professional Services. Questions regarding use of API functions as documented in the following sections are handled by customer support.

## **Access and Authentication**

This section describes how to access all of the JSON API functions.

To access the API directly, use the following format:

http://AEserverName/jsonapi/getitem/1000/2

Alternatively, start with any of the following addresses:

```
http://AEserverName/tmtrack/tmtrack.dll?
http://AEserverName/workcenter/tmtrack.dll?
http://AEserverName/workcenter/tmtrack.dll?shell=swc&
```

and append the function call ( $JSON_Func=$ ) and any required parameters ( $JSON_P1=$ ,  $JSON_P2=$ ):

 $\tt JSONPage\&command=jsonapi\&JSON\_Func=getitem\&JSON\_P1=1000\&JSON\_P2=2$ 

Note that the order of the parameters on the URL is important. For example, the GetItem call fails if you have the table ID parameter value in the item ID parameter and vice versa.



Tip: If you are calling a function via JavaScript on a custom form, begin the URL with tmtrack.dll?JSONPage&command=. This ensures the call will succeed in both the classic interface and in Work Center.

Every JSON API call contains a result in the response. For every call that is successfully authenticated, the result contains a type of either OK or ERROR. Every ERROR result has an English message after msg and may also contain a localizable message in msgLoc.

```
"result":{"type":"OK", "msg":""}
"result":{"type":"ERROR", "msg": "Could not read specified record by ID"}
"result":{"type":"ERROR", "msg": "Could not read specified record by ID",
→"msgLoc":"The item could not be found."}
```

All functions are accessible from the browser using existing authentication methods such as Windows Authentication or Single Sign-On (SSO). You can use the TokenService call to acquire and send an SSO token in the HTTP header for SBM server configurations that use SSO. For details, refer to Requesting a Security Token [page 5].

If authentication fails, or the required SSO token is not found, the authentication type is returned with the message Authentication failed:

```
"request": {
"url": "http://AE/tmtrack/tmtrack.dll?JSONPage&command=jsonapi&JSON Func=getVersion&"
"error": {
"type": "authentication"
"msg": "Authentication failed"
"sso": {
"idp": "http://SSOserverName:8085/idp/services/Trust"
"msa": ""
"code": ""
```

All functions provided by the JSON API honor SBM user privileges; additional privileges are not required to access the API functions.

# Requesting a Security Token

For SBM systems that are configured to use Single Sign-On (SSO), you must provide a security token in the HTTP header with the JSON call. Upon successful authentication, the TokenService call returns a valid SSO SAML token that you can pass in subsequent JSON API calls, SOAP-based calls via the SBM Application Engine Web Services API, or other SBM interfaces that require a valid SAML token.

#### To request a security token:

1. Invoke the TokenService POST call using the following URL (with your SSO server's host name):

http://SSOHostName:8085/idp/services/rest/TokenService/

2. Pass the following header information:

```
• Content-Type: application/json; charset=UTF-8
```

- Accept: application/json
- 3. Include authentication credentials in the payload:

```
{"credentials": { "username" : "bill", "password":"mypassword"}}
      For example:
Content-Type: application/json; charset=UTF-8
Accept: application/json
Content-Length: 56
Source message
POST /idp/services/rest/TokenService/ HTTP/1.1
HOST: SSOHostName: 8085
content-type: application/json;charset=UTF-8
accept: application/json
content-length: 56
 {"credentials": { "username" : "bill", "password":"mypassword"}}
      If authentication succeeds, a response message is returned:
"status": "OK"
"lifetime": {
"created": 1467228623885
"expires": 1467257423885
"token": {
"tokenType": "SSO"
"encoding": "base64"
```

The token information is in the base64-encoded <code>value</code> string. You now have a valid security token that you can pass with <code>ALFSSOAuthNToken</code> in the HTTP header in subsequent JSON API calls or as part of the WS-trust envelope for SOAP-based calls made via the SBM Application Engine Web Services API.

The following example shows how to pass the token in ALFSSOAuthNToken with the GetVersion call:

```
GET /jsonapi/GetVersion HTTP/1.1
HOST: SSOHostName
alfssoauthntoken: PHNhbWw6QX...<base64 encoded string>...dGlvbj4=
cookie: authrequired=
```

"value": "PHNhbWw6QXNzZXJ0...pBc3NlcnRpb24+"

An alternative option is to use the <code>GetSSOToken()</code> function that exists on custom forms. This function attempts to retrieve your current SSO token, or ping a new one (synchronously) if needed. It is defined in custom forms' shared aeplugin script, and used elsewhere throughout such as in the relational grid widget or REST service wrappers.

Refer to the headers example below to see a generic jQuery post() call to the JSON API with GetSSOToken():

```
jQuerySBM.ajax({
                async: true,
                url: dburl,
                headers: { alfssoauthntoken: GetSSOToken() },
                dataType: "json",
                data: data,
                type: "POST",
                contentType: "application/json; charset=utf-8",
```

## **Related Topics**

- GET Functions [page 7]
- POST Functions [page 24]

## Reference

The functions described in this section are divided into the following categories:

- GET Functions [page 7]
- POST Functions [page 24]

## **GET Functions**

- GetItem [page 7]
- GetItemsByInternalID [page 10]
- GetItemsByItemID [page 12]
- GetItemsByListingReport [page 15]
- GetItemsByReportFilter [page 19]
- GetItemTransitions [page 22]
- GetVersion [page 24]

## **GetItem**

Gets a primary or auxiliary item.

#### **Parameters**

| Name | Туре | Description |
|------|------|-------------|
|------|------|-------------|

| GetItem | Function   | Returns a primary or auxiliary item.       |
|---------|--|--|
| table   | <ul><li>ID (integer)</li><li>UUID (string)</li><li>dbname (string)</li><li>name (string)</li></ul> | The primary or auxiliary table identifier. |
| item    | <ul><li>ID (integer)</li><li>UUID (string)</li></ul>   | The item identifier.                       |

## **Post Data**

You can optionally use the GetItem function in an HTTP POST and include one or more of the following objects:

| Name                      | Туре                     | Description  |
|---------------------------|--------------------------|--|
| itemOptions (optional)    | ItemOptions<br>[page 40] | Use itemOptions to limit the response data.  When itemOptions are included, only the specified fields, plus fields required by the transition, are sent in the response. |
| getTransitions (optional) | boolean                  | Include getTransitions to return a list of transitions that are currently available for this item.   |

## **Example**

URL:

```
http://AEserverName/jsonapi/GetItem/1000/109
```

#### Post data:

```
{fixedFields: false, includeNotes: true,
    →fields: [{dbname:"TITLE"}, {dbname: "FUNCTIONAL_AREA"}]}

    Response:
{
    "item": {
        "id": {
            "id": 109,
```

```
"uuid": "cle62a05-5dd1-46e7-9cdc-b91518893b23",
    "itemIdPrefixed": "BUG000173",
    "itemId": "000173",
    "url": "http://AEserverName:80/tmtrack/tmtrack.dll?...&TableId=1000"
  },
  "table": {
    "id": 1000,
    "uuid": "dc8cd329-b430-436f-bb75-bf90008e6a50",
    "name": "Issues",
    "dbName": "UBG ISSUES"
  "fieldMetadata": [
      "id": 54,
      "name": "Title",
      "dbname": "TITLE",
      "syscode": 4,
      "type": "text",
      "renderHtml": false,
      "password": false,
      "maxLength": 80
    },
      "id": 75,
      "name": "Functional Area",
      "dbname": "FUNCTIONAL AREA",
      "syscode": 0,
      "type": "selection",
      "renderHtml": false,
      "isMultiSelect": false
    }
  ],
  "fields": {
    "TITLE": {
      "value": "Image Builder crashes my system."
    "FUNCTIONAL AREA": {
      "id": 30,
      "name": "User Interface"
 },
 "notes": []
"result": {
 "type": "OK",
 "msq": ""
```

}

Because the TS\_ID is subject to change in a promotion context, you may need to update the table and item parameters with the TS\_ID from the target environment after the promote is finished.

# **GetItemsByInternalID**

Gets multiple items matching one or more internal IDs (TS\_IDs).

#### **Parameters**

| Name                 | Туре   | Description   |
|----------------------|--|---|
| GetItemsByInternalId | Function   | Gets multiple items matching the internal IDs that are passed. Item IDs are not unique, so this query returns an array of results. Unlike the report-based calls, you cannot request a second page of results with this query. Results are sorted by the Item ID field.   |
| table                | • ID   (integer) • UUID   (string) • dbname   (string) • name   (string) | The primary or auxiliary table identifier.  Note that name is case sensitive and can be changed in SBM Composer and deployed.   |
| internalId           | • ID (string)  | A comma-separated list of TS_IDs. For example: 1,2,3,4,5.  Note that this parameter is optional in POST calls if the requestedItems option (described below) is provided in the POST data. If you include the internalId parameter on a POST call, it takes precedence over the requestedItems data if it is also included. This means only the integers on the URL will be included in the result. |

## Usage

In the direct access URL, you can specify the items by TS\_ID:

http://AEserverName/jsonapi/getitemsbyinternalid/Issues/1,2,3,4?pagesize=2

## Longer URL format example:

## **Post Data**

You can optionally use the GetItemsByItnternalID function in an HTTP POST and include one or more of the following objects:

| Name                      | Туре                     | Description  |  |
|---------------------------|--------------------------|--|--|
| requestedItems (optional) | string                   | A comma-separated list of TS_IDs (integers).   |  |
| itemOptions (optional)    | ItemOptions<br>[page 40] | Use itemOptions to limit the response data.  When itemOptions are included, only the specified fields are sent in the response.                        |  |
| pagesize (optional)       | integer                  | Add &pagesize=100 to the URL to override the user's page size preference. For example, &pagesize=1 ensures that only the first item found is returned. |  |

## **Example**

**URL:** 

```
http://AEserverName/jsonapi/GetItemsByInternalID/Issues/1,2,3?pagesize=1
```

#### Post data:

```
{fixedFields: false, fields: [{dbname: "TITLE"}, {dbname: "FUNCTIONAL AREA"}]}
```

## Response:

```
"searchResults": {
"totalItems": 2,
"pageSize": 1
},
"table": {
"id": 1000,
"uuid": "dc8cd329-b430-436f-bb75-bf90008e6a50",
"name": "Issues",
"dbName": "UBG ISSUES"
},
"fieldMetadata": [
"id": 54,
"name": "Title",
"dbname": "TITLE",
"syscode": 4,
"type": "text",
"renderHtml": false,
```

```
"password": false,
"maxLength": 80
},
 {
"id": 75,
"name": "Functional Area",
"dbname": "FUNCTIONAL AREA",
"syscode": 0,
"type": "selection",
"renderHtml": false,
"isMultiSelect": false
],
"items": [
"id": {
"id": 2,
"uuid": "46ad4b77-4c8e-445d-b6d8-e84b71cfb8ab",
"itemIdPrefixed": "BUG000002",
"itemId": "000002",
"url": "http://AEserverName:80/tmtrack/tmtrack.dll?
IssuePage&RecordId=2&Template=view&TableId=1000"
},
"fields": {
"TITLE": {
"value": "Upgrade from 4.0 does not work correctly"
"FUNCTIONAL AREA": {
"id": 0,
"name": "(None)"
"result": {
"type": "OK",
"msq": ""
}
```

Because the TS\_ID is subject to change in a promotion context, you may need to update the table parameter with the TS\_ID from the target environment after the promote is finished.

## **GetItemsByItemID**

Gets multiple items matching the specified prefix and ID.

#### **Parameters**

| Name Type Description |
|-----------------------|
|-----------------------|

| GetItemsByItemId | Function   | Gets multiple items matching the prefix and ID that are passed. Item IDs are not unique, so this query returns an array of results. Unlike the report-based calls, you cannot request a second page of results with this query. Results are sorted by the Item ID field. |
|------------------|--|--|
| table            | • ID (integer) • UUID (string) • dbname (string) • name (string) | The primary or auxiliary table identifier.  Note that name is case sensitive and can be changed in SBM Composer and deployed.  |
| itemId           | • ID (string)  | The item ID. For example: BUG2, ENH000079, *, %, BUG, BUG*, BUG*2, BUG*2*.   |

## Usage

In the direct access URL, you can specify the item ID as BUG2 or BUG000002:

http://AEserverName/jsonapi/getitemsbyitemid/Issues/BUG2?pagesize=2

Note that you cannot use \* or % in the path part of the URL. However, in the longer URL format, you can specify either wildcard.

For example:

JSONPage&command=jsonapi&JSON Func=getitemsbyitemid&JSON P1=1000&JSON P2=BUG\*2

## **Post Data**

You can optionally use the GetItemsByItemID function in an HTTP POST and include one or more of the following objects:

| Name                   | Туре                     | Description   |  |
|------------------------|--------------------------|---|--|
| itemOptions (optional) | ItemOptions<br>[page 40] | Use itemOptions to limit the response data.  When itemOptions are included, only the specified fields are sent in the response. |  |

| pagesize   | integer | Add &pagesize=100 to the URL to override the user's   |
|------------|---------|---|
| (optional) |         | page size preference. For example, <code>&amp;pagesize=1</code> ensures that only the first item found is returned. |

## **Example**

URL:

```
http://AEserverName/jsonapi/GetItemsByItemID/Issues/BUG?pagesize=2
```

```
Post data:
{fixedFields: false, fields: [{dbname:"TITLE"}, {dbname: "FUNCTIONAL AREA"}]}
     Response:
  "searchResults": {
    "totalItems": 69,
    "pageSize": 2
  "table": {
    "id": 1000,
    "uuid": "dc8cd329-b430-436f-bb75-bf90008e6a50",
    "name": "Issues",
    "dbName": "UBG ISSUES"
  } ,
  "fieldMetadata": [
      "id": 54,
      "name": "Title",
      "dbname": "TITLE",
      "syscode": 4,
      "type": "text",
      "renderHtml": false,
      "password": false,
      "maxLength": 80
    },
      "id": 75,
      "name": "Functional Area",
      "dbname": "FUNCTIONAL_AREA",
      "syscode": 0,
      "type": "selection",
      "renderHtml": false,
      "isMultiSelect": false
    }
  ],
  "items": [
      "id": {
        "uuid": "46ad4b77-4c8e-445d-b6d8-e84b71cfb8ab",
```

```
"itemIdPrefixed": "BUG000002",
      "itemId": "000002",
      "url": "http://AEserverName:80/tmtrack/tmtrack.dll?...Template=view&TableId=1000"
    "fields": {
      "TITLE": {
        "value": "Upgrade from 4.0 does not work correctly"
      "FUNCTIONAL AREA": {
        "id": 0,
        "name": "(None)"
    }
  },
    "id": {
      "id": 13,
      "uuid": "9506eb9c-0822-4944-b023-5142696c64d1",
      "itemIdPrefixed": "BUG000028",
      "itemId": "000028",
      "url": "http://AEserverName:80/tmtrack/tmtrack.dll?...Template=view&TableId=1000"
    },
    "fields": {
      "TITLE": {
        "value": "404 page not found error"
      "FUNCTIONAL AREA": {
        "id": 0,
        "name": "(None)"
      }
    }
  }
"result": {
 "type": "OK",
  "msq": ""
```

}

Because the TS\_ID is subject to change in a promotion context, you may need to update the table parameter with the TS ID from the target environment after the promote is finished.

# **GetItemsByListingReport**

Gets primary or auxiliary items from a listing report.

#### **Parameters**

There are two ways to specify the report. Parameters differ depending on the option you use.

Option 1 (report):

| Name                    | Туре                           | Description   |
|-------------------------|--------------------------------|---|
| GetitemsByListingReport | Function                       | Returns primary or auxiliary items from a specified listing report. |
| report                  | • ID (integer) • UUID (string) | The listing report identifier.                                      |

## Option 2 (table and reportReferenceName):

| Name                    | Туре   | Description   |
|-------------------------|--|---|
| GetitemsByListingReport | Function   | Returns a primary or auxiliary item.  |
| table                   | • ID (integer) • UUID (string) • dbname (string) • name (string) | The table identifier. For example:  UBG_ISSUES  |
| reportReferenceName     | string   | The reference name for the report, used in combination with the table identifier.  For example:  IDM_all_active_crs |

## **Post Data**

You can optionally use the GetItemsByListingReport function in an HTTP POST and include one or more of the following objects:

| Name | Туре | Description |   |
|------|------|-------------|---|
|      |      |             | 4 |

| itemOptions (optional)           | ItemOptions<br>[page 40] | Use itemOptions to limit the response data.  When itemOptions are included, only the specified fields, plus fields required by the transition, are sent in the response.  |
|----------------------------------|--------------------------|---|
| hasruntimeparams (optional)      | integer                  | Use hasruntimeparams with query-at-runtime reports to fill in the blanks in the report filter.  For example:  example: &hasruntimeparams=1&f80v1=0  |
| pagesize<br>(optional)           | integer                  | Report results honor the user's page size preferences. You can override this setting using pagesize, but the results will still be limited to the maximum that is set in the system setting "MaxItemsPerPage".  For example:   &pagesize=5000                     |
| rptkey and recno (both optional) | integer                  | Reports cache the result set under the key value rptkey. A second page of report results can be requested by repeating the report call and appending rptkey and the desired starting index (0-based) to the URL.  For example:  example: &rptkey=1312321&recno=20 |

## **Example**

URL:

```
http://AEserverName/jsonapi/getitemsbylistingreport/106?pagesize=2
```

```
Post data:
```

```
{fixedFields: false, fields: [{dbname:"TITLE"}, {dbname: "FUNCTIONAL AREA"}]}
     Response:
  "report": {
   "id": 106,
   "uuid": "8949036c-c217-480b-9214-f831fda3155f",
   "name": "All Issues With Reject Count > 0",
```

```
"comment": "",
    "url": "tmtrack.dll?ReportPage&Template=reports%2Flist&ReportId=106",
    "refURL": "tmtrack.dll?ReportPage&template=reports%2Flist&ReportUUID=
\rightarrow 8949036c-c217-480b-9214-f831fda3155f\&embedded"
  },
  "reportResults": {
    "totalItems": 6,
    "pageSize": 2,
    "firstRecordIndex": 0,
    "rptkey": 1846002703
  "table": {
    "id": 1000,
    "uuid": "dc8cd329-b430-436f-bb75-bf90008e6a50",
    "name": "Issues",
    "dbName": "UBG ISSUES"
  } ,
  "fieldMetadata": [
    {
      "id": 54,
      "name": "Title",
      "dbname": "TITLE",
      "syscode": 4,
      "type": "text",
      "renderHtml": false,
      "password": false,
      "maxLength": 80
    },
      "id": 75,
      "name": "Functional Area",
      "dbname": "FUNCTIONAL AREA",
      "syscode": 0,
      "type": "selection",
      "renderHtml": false,
      "isMultiSelect": false
    }
  ],
  "items": [
      "id": {
        "id": 109,
        "uuid": "",
        "itemIdPrefixed": "BUG000173",
        "itemId": "000173",
        "url": "http://AEserverName:80/tmtrack/tmtrack.dll?...view&TableId=1000"
      },
      "fields": {
        "TITLE": {
          "value": "Image Builder crashes my system."
        },
        "FUNCTIONAL AREA": {
          "id": 30,
          "name": "User Interface"
        }
```

```
},
      "id": {
        "id": 47,
        "uuid": "",
        "itemIdPrefixed": "BUG000084",
        "itemId": "000084",
        "url": "http://AEserverName:80/tmtrack/tmtrack.dll?...view&TableId=1000"
      },
      "fields": {
        "TITLE": {
          "value": "Program shuts down"
        "FUNCTIONAL AREA": {
          "id": 30,
          "name": "User Interface"
  ],
  "result": {
    "type": "OK",
    "msq": ""
}
```

Because the TS\_ID is subject to change in a promotion context, you may need to update the report and table parameters with the TS\_ID from the target environment after the promote is finished.

## **GetItemsByReportFilter**

Gets multiple items using a report filter.

## **Parameters**

| Name                   | Туре     | Description  |
|------------------------|----------|--|
| GetitemsByReportFilter | Function | Gets multiple items using a report filter to identify which items to return. |

| reportFilter | • ID (integer)  | The report filter identifier. |
|--------------|-----------------|-------------------------------|
|              | • UUID (string) |                               |
|              | • name (string) |                               |

#### **Post Data**

You can optionally use the GetItemsByReportFilter function in an HTTP POST and include one or more of the following objects:

| Name                   | Туре                     | Description   |
|------------------------|--------------------------|---|
| itemOptions (optional) | ItemOptions<br>[page 40] | Use itemOptions to limit the response data.  When itemOptions are included, only the specified fields are sent in the response. |

## **Example**

URL:

http://AEserverName/jsonapi/getitemsbyreportfilter/1?pagesize=2

#### Post data:

```
{fixedFields: false, includeNotes: true,
→fields: [{dbname:"TITLE"}, {dbname: "FUNCTIONAL AREA"}]}
     Response:
  "reportFilter": {
    "id": 1,
    "uuid": "ac956c79-3784-4c92-bdaf-d0f6a98f1ba8",
    "name": "IDM report filter"
  "reportResults": {
    "totalItems": 60,
   "pageSize": 2,
    "firstRecordIndex": 0,
    "rptkey": 284626196
  } ,
  "table": {
    "id": 1000,
    "uuid": "dc8cd329-b430-436f-bb75-bf90008e6a50",
    "name": "Issues",
```

```
"dbName": "UBG ISSUES"
},
"fieldMetadata": [
    "id": 54,
    "name": "Title",
    "dbname": "TITLE",
    "syscode": 4,
    "type": "text",
    "renderHtml": false,
    "password": false,
    "maxLength": 80
  },
    "id": 75,
    "name": "Functional Area",
    "dbname": "FUNCTIONAL_AREA",
    "syscode": 0,
    "type": "selection",
    "renderHtml": false,
    "isMultiSelect": false
  }
],
"items": [
    "id": {
      "id": 2,
      "uuid": "",
      "itemIdPrefixed": "BUG000002",
      "itemId": "000002",
      "url": "http://AEserverName:80/tmtrack/tmtrack.dll?...Template=view&TableId=1000"
    "fields": {
      "TITLE": {
        "value": "Upgrade from 4.0 does not work correctly"
      "FUNCTIONAL AREA": {
        "id": 0,
        "name": "(None)"
    }
  },
    "id": {
     "id": 3,
      "uuid": "",
      "itemIdPrefixed": "ENH000005",
      "itemId": "000005",
      "url": "http://AEserverName:80/tmtrack/tmtrack.dll?...Template=view&TableId=1000"
    "fields": {
        "value": "Change icons to more modern look"
      },
      "FUNCTIONAL AREA": {
```

Because the TS\_ID is subject to change in a promotion context, you may need to update the reportFilter parameter with the TS\_ID from the target environment after the promote is finished.

## **GetItemTransitions**

Gets available transitions for a primary item.

#### **Parameters**

| Name               | Туре   | Description   |
|--------------------|--|---|
| Getitemtransitions | Function   | Returns a list of available transitions for an item. The calling user's privileges are considered when returning the list of transitions.  Use GetItemTransitions to identify transitions for use with other calls. |
| table              | • ID (integer) • UUID (string) • dbname (string) • name (string) | The primary table identifier.   |

| item | • ID (integer)  | The item identifier. |
|------|-----------------|----------------------|
|      | • UUID (string) |                      |

## **Post Data**

None.

## **Example**

URL:

http://AEserverName/jsonapi/getitemtransitions/1000/2

## Response:

```
"transitions": [
      "id": 18,
      "name": "Re-Open",
      "uuid": "e44d9bfe-6d54-426e-a1ac-4711a09b6243",
      "type": "regular",
      "isQuick": false
    },
      "id": 1,
      "name": "Update",
      "uuid": "update",
      "internalName": "UPDATE",
      "type": "update",
      "isQuick": false
    },
      "id": 2,
      "name": "Delete",
      "uuid": "delete",
      "internalName": "DELETE",
      "type": "delete",
      "isQuick": false
  ],
  "result": {
    "type": "OK",
    "msg": ""
}
```

Because the TS\_ID is subject to change in a promotion context, you may need to update the table and item parameters with the TS\_ID from the target environment after the promote is finished.

## **GetVersion**

Gets the current Application Engine version.

#### **Parameters**

| Name       | Туре     | Description   |  |
|------------|----------|---|--|
| GetVersion | Function | Returns the version of the target Application Engine. |  |

#### **Post Data**

None.

## **Example**

URL:

http://AEserverName/jsonapi/getversion

```
Response:
```

```
{
  "version": "Version 11.01.00.00.354",
  "result": {
    "type": "OK",
    "msg": ""
  }
}
```

#### **Comments**

None.

## **POST Functions**

- FinishTransition [page 25]
- StartSubmitToAux [page 27]
- StartSubmitToProject [page 29]
- StartTransition [page 32]
- SubmitToAux [page 35]
- SubmitToProject [page 38]

# **FinishTransition**

Completes a transition on an item.

The specified item will get a recordlock if the table uses record-locking. This record-lock is passed to the FinishTransition call.

## **Parameters**

| Name             | Туре   | Description   |
|------------------|--|---|
| FinishTransition | Function   | Completes a transition on an item. You can send new field values with the post data using the transition object.  |
| table            | • ID   (integer) • UUID   (string) • dbname   (string) • name   (string) | The table identifier.   |
| item             | • ID (integer) • UUID (string)   | The item identifier.  |
| transition       | • ID (integer) • UUID (string) • internal name (string)                  | The transition identifier to use. If 0, a valid Update transition is used (if found).  Tip: Run GetItemTransitions first to determine the transition identifier that you will specify.  Not all transitions have an internal name. Those that do return the internal name as dbname in the GetItemTransitions response. |

| record-lock ID | ID (integer) | Use one of the following:  The ID value from the StartTransition response   |
|----------------|--------------|---|
|                |              | <ul> <li>0 if the table does not use record locking</li> <li>-1 if you did not invoke StartTransition and you want to run the transition without first getting the current field values of the item.</li> </ul> |

## **Post Data**

| Name                   | Туре                     | Description  |
|------------------------|--------------------------|--|
| itemOptions (optional) | ItemOptions<br>[page 40] | Used to define the item's values that will be included in the response if the transition succeeds.  When itemOptions are included, only the specified fields are sent in the response.   |
| breakLock (optional)   | boolean                  | Allows the JSON API to steal the record lock from any user who might have one on this item, so that this call should not fail due to a user having the record locked. However, this causes any user who has a transition form open on this item to get an error when he or she tries to commit the transition. |
| transition (optional)  | object                   | Use the transition object to provide new field values for the transition. Only provide values for fields you want to change.   |

## **Example**

URL:

```
http://AEserverName/jsonapi/finishTransition/1000/3/18/-1
```

#### Post data:

```
"uuid": "c2379ef5-6f2d-4e21-924f-5c2aa2a0382e",
    "itemIdPrefixed": "ENH000005",
    "itemId": "000005",
    "url": "http://AEserverName:80/tmtrack/tmtrack.dll?...Template=view&TableId=1000"
  },
  "table": {
    "id": 1000,
    "uuid": "dc8cd329-b430-436f-bb75-bf90008e6a50",
    "name": "Issues",
    "dbName": "UBG ISSUES"
  "fieldMetadata": [
      "id": 65,
      "name": "Status Log",
      "dbname": "STATUS LOG",
      "syscode": 0,
      "type": "journal",
      "renderHtml": false,
      "appendOnly": true,
      "sortNewestFirst": false
    },
      "id": 63,
      "name": "Tester",
      "dbname": "TESTER",
      "syscode": 0,
      "type": "user",
      "renderHtml": false,
      "isMultiSelect": false
    }
  ],
  "fields": {
    "STATUS LOG": {
      "value": "07/13/2016 03:49:48 PM - Bill Admin:\r\n\nReopen issue\r\n"
    "TESTER": {
      "id": 3,
      "name": "Chris Tester"
 }
},
"result": {
  "type": "OK",
  "msq": ""
```

None.

}

## **StartSubmitToAux**

Starts a submit to a specified auxiliary table.

## **Parameters**

| Name             | Туре   | Description   |
|------------------|--|---|
| startsubmittoaux | Function   | Starts a submit to a specified auxiliary table. The main purpose of this function is to get the item's current field values, as well as information about which fields are required or read-only. |
| table            | <ul> <li>ID (integer)</li> <li>UUID (string)</li> <li>internal name (string)</li> <li>name (string)</li> </ul> | The table identifier.   |

## **Post Data**

| Name                   | Туре                     | Description  |
|------------------------|--------------------------|--|
| itemOptions (optional) | ItemOptions<br>[page 40] | Use itemOptions to limit the response data.  When itemOptions are not included, all fields are sent in the response. When itemOptions are included, only the specified fields, plus fields required by the transition, are sent in the response. |

## **Example**

URL:

```
http://AEserverName/jsonapi/startsubmittoaux/UBG_IDM_CONFIGURATIONS

Post data:
```

```
{fixedFields: false, fields: [{dbname:"TITLE"}, {dbname: "FIELD_NAME"}]}

Response:
{
   "startSubmitToAux": {
    "item": {
      "id": 1004,
      "uuid": "dcfead12-5fa4-471d-af37-7f9a36dee2c3",
      "name": "IDM Configurations",
```

```
},
    "fieldMetadata": [
        "id": 152,
        "name": "Application",
        "dbname": "TITLE",
        "syscode": 4,
        "type": "text",
        "required": true,
        "readonly": false,
        "renderHtml": false,
        "sectionId": 1,
        "helpText": "Name of the application the configuration record pertains to",
        "password": false,
        "maxLength": 80
      },
        "id": 153,
        "name": "Field Name",
        "dbname": "FIELD NAME",
        "syscode": 0,
        "type": "text",
        "required": true,
        "readonly": false,
        "renderHtml": false,
        "sectionId": 1,
        "helpText": "The field name of the configuration data",
        "password": false,
        "maxLength": 80
      }
    ],
    "fields": {
      "TITLE": {
        "value": ""
      "FIELD NAME": {
        "value": ""
      }
  }
},
"result": {
  "type": "OK",
  "msq": ""
```

None.

}

## **StartSubmitToProject**

Starts a submit to a specified project.

"dbName": "UBG IDM CONFIGURATIONS"

## **Parameters**

| Name                 | Туре  | Description   |
|----------------------|---|---|
| startsubmittoproject | Function  | Starts a submit to a specified project. The main purpose of this function is to get the item's current field values, as well as information about which fields are required or read-only. |
| project              | <ul><li>ID (integer)</li><li>UUID (string)</li><li>internal name (string)</li></ul> | The project identifier.   |

## **Post Data**

| Name                   | Туре                     | Description  |
|------------------------|--------------------------|--|
| itemOptions (optional) | ItemOptions<br>[page 40] | Use itemOptions to limit the response data.  When itemOptions are not included, all fields are sent in the response. When itemOptions are included, only the specified fields, plus fields required by the transition, are sent in the response. |

## **Example**

**URL:** 

http://AEserverName/jsonapi/startsubmittoproject/UBG ISSUES.ANIMATION PRO

#### Post data:

```
{fixedFields: false, includeNotes: true,
    →fields: [{dbname:"TITLE"}, {dbname: "REPRODUCIBLE_"}]}

    Response:
{
    "startSubmitToProject": {
        "transition": {
            "id": 3,
            "name": "Submit",
            "uuid": "a78f0a30-1305-46c2-b661-df8219c105b2",
            "type": "regular",
            "isQuick": false,
```

```
"noteRequired": false,
  "urlRequired": false,
  "fileRequired": false,
  "itemRequired": false
},
"item": {
  "table": {
    "id": 1000,
    "uuid": "dc8cd329-b430-436f-bb75-bf90008e6a50",
    "name": "Issues",
    "dbName": "UBG ISSUES"
  },
  "fieldMetadata": [
   {
      "id": 54,
      "name": "Title",
      "dbname": "TITLE",
      "syscode": 4,
      "type": "text",
      "required": true,
      "readonly": false,
      "renderHtml": false,
      "sectionId": 1,
      "helpText": "",
      "password": false,
      "maxLength": 80
    },
      "id": 70,
      "name": "Reproducible",
      "dbname": "REPRODUCIBLE ",
      "syscode": 0,
      "type": "binary",
      "required": false,
      "readonly": false,
      "renderHtml": false,
      "sectionId": 2,
      "helpText": "",
      "selections": [
          "id": 0,
          "name": "No"
        },
        {
          "id": 1,
          "name": "Yes"
      ]
    }
  "fields": {
    "TITLE": {
      "value": ""
    },
    "REPRODUCIBLE ": {
```

None.

## **StartTransition**

Starts a transition on an item.

The specified item will get a recordlock if the table uses record-locking. This record-lock is passed to the FinishTransition call.

#### **Parameters**

| Name            | Туре   | Description   |
|-----------------|--|---|
| StartTransition | Function   | Starts a transition on an item. Use this function to lock the item and get current field values, as well as information about which fields are required or read-only in the transition. |
| table           | • ID (integer) • UUID (string) • dbname (string) • name (string) | The table identifier.   |

| item       | • ID (integer) • UUID (string)                          | The item identifier.   |
|------------|---|--|
| transition | • ID (integer) • UUID (string) • internal name (string) | The transition to start. If 0, a valid Update transition is used (if found).  Tip: Run GetItemTransitions first to determine the transition identifier that you will specify.  Not all transitions have an internal name. Those that do return the internal name as dbname in the GetItemTransitions response. |

## **Post Data**

| Name                              | Туре                     | Description  |
|-----------------------------------|--------------------------|--|
| <pre>itemOptions (optional)</pre> | ItemOptions<br>[page 40] | Use itemOptions to limit the response data.  When itemOptions are not included, all fields are sent in the response. When itemOptions are included, only the specified fields, plus fields required by the transition, are sent in the response.   |
| breakLock (optional)              | boolean                  | Allows the JSON API to steal the record lock from any user who might have one on this item, so that this call should not fail due to a user having the record locked. However, this causes any user who has a transition form open on this item to get an error when he or she tries to commit the transition. |

## **Example**

URL:

http://AEserverName/jsonapi/startTransition/1000/2/18

## Post data:

{fixedFields: false, fields: [{dbname: "FUNCTIONAL\_AREA"}], breaklock: true}



**Note:** In this example, only Functional Area is returned to illustrate the response structure. You will typically want to return all fields to determine which fields are required for the transition.

#### Response:

```
"startTransition": {
  "transition": {
    "id": 18,
    "name": "Re-Open",
    "uuid": "e44d9bfe-6d54-426e-a1ac-4711a09b6243",
    "type": "regular",
    "isQuick": false,
    "noteRequired": false,
    "urlRequired": false,
    "fileRequired": false,
    "itemRequired": false
  },
  "item": {
    "id": {
      "id": 2,
      "uuid": "46ad4b77-4c8e-445d-b6d8-e84b71cfb8ab",
      "itemIdPrefixed": "BUG000002",
      "itemId": "000002",
      "url": "http://AEserverName:80/tmtrack/tmtrack.dll?...Template=view&TableId=1000",
      "itemLockId": 1719
    },
    "table": {
      "id": 1000,
      "uuid": "dc8cd329-b430-436f-bb75-bf90008e6a50",
      "name": "Issues",
      "dbName": "UBG ISSUES"
    "fieldMetadata": [
        "id": 75,
        "name": "Functional Area",
        "dbname": "FUNCTIONAL AREA",
        "syscode": 0,
        "type": "selection",
        "required": false,
        "readonly": false,
        "renderHtml": false,
        "sectionId": 2,
        "helpText": "",
        "isMultiSelect": false,
        "isSearchable": false,
        "selections": [
            "id": 0,
            "name": "(None)"
          },
            "uuid": "18f578a6-4953-4008-9c96-bdae21e615cb",
            "name": "Administrator"
          },
          {
```

```
"id": 28,
            "uuid": "a95673f2-5375-4eac-8070-4b4cd7391e7f",
            "name": "Help"
          },
            "id": 29,
            "uuid": "fbb29892-a25e-4b4c-9fc2-54b89d697dc2",
            "name": "Setup"
          },
            "id": 30,
            "uuid": "844cfc6d-64c3-45c4-94be-46dea304baf5",
            "name": "User Interface"
          },
            "id": 64,
            "uuid": "ce247e8c-e9d6-44b4-8020-41c9e1ec9177",
            "name": "Compiled Modules"
        ]
      }
    "fields": {
      "FUNCTIONAL AREA": {
        "id": 0,
        "name": "(None)"
      }
  }
},
"result": {
 "type": "OK",
  "msg": ""
```

None.

}

## **SubmitToAux**

Submits a new item into a specified auxiliary table.

#### **Parameters**

| Name        | Туре     | Description  |
|-------------|----------|--|
| submittoaux | Function | Submits a new item into an auxiliary table. Call StartSubmitToAux first to get an item's field names or IDs. |

| table | • ID (integer)          | The table identifier. |
|-------|-------------------------|-----------------------|
|       | • UUID (string)         |                       |
|       | • internalname (string) |                       |
|       | • name (string)         |                       |

#### **Post Data**

| Name                   | Туре                    | Description  |
|------------------------|-------------------------|--|
| itemOptions (optional) | ItemOptions [page 40]   | Use itemOptions to limit the response data.  When itemOptions are included, only the specified fields, plus fields required by the transition, are sent in the response.                         |
| transition             | Transition<br>[page 42] | Use transition to provide new field values. Only provide values for fields that you want to change. Note that you must provide values for any required fields in the transition you are calling. |

## **Example**

URL:

```
http://AEserverName/jsonapi/submittoaux/UBG IDM CONFIGURATIONS
```

#### Post data:

```
{fixedFields: false, transition: {"TITLE": "This is the title", "FIELD_NAME": "My Field"}}}

Response:

{
   "item": {
        "id": 2,
        "uuid": "6deb6fdc-aa6d-4844-a78a-4e3b8ccellbe",
        "itemIdPrefixed": "",
        "itemId": "",
        "url": "http://AEserverName:80/tmtrack/tmtrack.dll?...Template=view&TableId=1004"
    },
   "table": {
        "id": 1004,
        "uuid": "dcfead12-5fa4-471d-af37-7f9a36dee2c3",
        "name": "IDM Configurations",
```

```
"dbName": "UBG IDM CONFIGURATIONS"
},
"fieldMetadata": [
    "id": 152,
    "name": "Application",
    "dbname": "TITLE",
    "syscode": 4,
    "type": "text",
    "renderHtml": false,
    "password": false,
    "maxLength": 80
  },
    "id": 153,
    "name": "Field Name",
    "dbname": "FIELD NAME",
    "syscode": 0,
    "type": "text",
    "renderHtml": false,
    "password": false,
    "maxLength": 80
  },
    "id": 154,
    "name": "Clear Value",
    "dbname": "CLEAR VALUE",
    "syscode": 0,
    "type": "text",
    "renderHtml": false,
    "password": false,
    "maxLength": 255
  },
    "id": 155,
    "name": "Hidden Value",
    "dbname": "HIDDEN VALUE",
    "syscode": 0,
    "type": "text",
    "renderHtml": false,
    "password": true,
    "maxLength": 127
],
"fields": {
  "TITLE": {
   "value": "This is the title"
  "FIELD NAME": {
    "value": "My Field"
  "CLEAR VALUE": {
    "value": ""
  "HIDDEN_VALUE": {
```

```
"value": ""
}

}

result": {
    "type": "OK",
    "msg": ""
}
```

None.

# **SubmitToProject**

Submits a new item into a specified project.

## **Parameters**

| Name            | Туре   | Description   |
|-----------------|--|---|
| submittoproject | Function   | Submits a new item into a project. Call StartSubmitToProject first to get an item's field names or IDs. |
| project         | <ul><li>ID (integer)</li><li>UUID (string)</li></ul> | The project identifier.   |
|                 | • internalname (string)                              |   |

## **Post Data**

| Name                   | Туре                    | Description  |
|------------------------|-------------------------|--|
| itemOptions (optional) | ItemOptions [page 40]   | Use itemOptions to limit the response data.  When itemOptions are included, only the specified fields, plus fields required by the transition, are sent in the response.                         |
| transition             | Transition<br>[page 42] | Use transition to provide new field values. Only provide values for fields that you want to change. Note that you must provide values for any required fields in the transition you are calling. |

## **Example**

URL:

```
http://AEserverName/jsonapi/submittoproject/UBG ISSUES.ANIMATION PRO
     Post data:
{transition:{"TITLE":"Browser hangs"}, fixedFields: false, fields: [{dbname:"TITLE"}]}
     Response:
  "item": {
    "id": {
      "id": 142,
      "uuid": "e3e94173-92e8-4c98-bd07-33277f58dd62",
      "itemIdPrefixed": "000196",
      "itemId": "000196",
      "url": "http://AEserverName:80/tmtrack/tmtrack.dll?...Template=view&TableId=1000"
    "table": {
      "id": 1000,
      "uuid": "dc8cd329-b430-436f-bb75-bf90008e6a50",
      "name": "Issues",
      "dbName": "UBG ISSUES"
    "fieldMetadata": [
        "id": 54,
        "name": "Title",
        "dbname": "TITLE",
        "syscode": 4,
        "type": "text",
        "renderHtml": false,
        "password": false,
        "maxLength": 80
      }
    ],
    "fields": {
      "TITLE": {
        "value": "Browser hangs"
    }
  "result": {
    "type": "OK",
    "msg": ""
}
```

#### **Comments**

None.

# **JSON API Options**

Use the following options when working with items and transitions.

- ItemOptions [page 40]
- Transition [page 42]

# **ItemOptions**

Limits the data that is returned with an item.

## **Parameters**

| Name         | Туре   | Description  |
|--------------|--|--|
| fields       | • ID (integer) • UUID (string) • dbname (string) • name (string) | An array of objects used to specify the fields to display. Empty by default.   |
| fixedFields  | boolean  | Combines with the fields array to determine the outputted fields. True by default. See usage notes below.  |
| includeNotes | boolean  | When true, the item's notes are included in the response. False by default.  The user's note preferences are honored, including the sort order and the number of notes to display. If the user has selected None as the display option for notes, no notes are returned. |

## **Usage**

The fixedFields parameter combines with the fields array to determine the outputted fields as follows:

- fixedFields = true and fields is empty:
   System fields listed below are included in output.
- fixedFields = true and fields is populated:

System fields listed below and specified fields are included.

• fixedFields = false and fields is populated:

Specified fields are included.

• fixedFields = false and fields is empty:

All fields are included in output.

• fixedFields is unspecified and fields is populated:

Specified fields are included.

• fixedFields is unspecified and fields is empty:

System fields are included.

When fixedFields = true, the following system fields are included:

- Issue Type
- Project
- Title
- Description
- Submitter
- Last Modifier
- Submit Date
- Last Modified Date
- Active/Inactive
- State
- Owner
- Secondary Owner

## **Example**

Return all notes on the item, but only returns the "Title" and "Functional Area" fields:

```
{fixedFields: false, includeNotes: true, fields: [{id:"54"}, {id: "75"}]}
     Response:
```

```
"fieldMetadata": [2]
0: {
"id": 54
"name": "Title"
"dbname": "TITLE"
"syscode": 4
```

```
"type": "text"
"renderHtml": false
"password": false
"maxLength": 80
1: {
"id": 75
"name": "Functional Area"
"dbname": "FUNCTIONAL AREA"
"syscode": 0
"type": "selection"
"renderHtml": false
"isMultiSelect": false
"fields": {
"TITLE": {
"value": "Image Builder crashes my system."
"FUNCTIONAL AREA": {
"id": 30
"name": "User Interface"
"notes": [1]
"title": "Please update this ticket"
"contents": "This ticket needs more details."
"author": {
"id": 8
"name": "Administrator"
"modificationDateTime": {
"svalue": "06/28/2016 02:48:23 PM"
"value": 1467146903
}
}
```

- Because the TS\_ID is subject to change when a process app is promoted, you may need to update the fields parameter with the TS\_ID from the target environment after the promote is finished.
- If you specify the database name in fields, do not include the TS prefix.
- Avoid using the field name when specifying each field to return in fields; the field name can be changed in SBM Composer at any time.

## **Transition**

Defines values for fields that you want to change in a transition

## **Values**

| Name                      | Туре  | Description   |
|---------------------------|---|---|
| E-<br>signature<br>values | <ul><li>authUser (string)</li><li>authPassword<br/>(string)</li></ul>   | Provide these values if the transition requires an electronic signature. For details on electronic signatures, refer to the <i>SBM Composer Guide</i> . |
| Fields                    | <ul> <li>Text, Numeric (string)</li> <li>Binary/Trinary, Project, Single-Relational, Single Selection, User (integer)</li> <li>Numeric (integer or double)</li> <li>Multi-Selection, Multi-Relational, Multi-Group, Multi-User (array of integers)</li> </ul> | Specify fields by the database field name (without the TS_ prefix).   |

## **Usage**

The transition object defines which fields you want to change as part of a transition.

When specifying values for each field, note the following:

- In Journal or append-only Journal fields, the string value is appended to the current value.
- In Binary/Trinary and selection fields, provide the value of the new selection. Refer to the StartTransition response data for available selections.
- In Numeric fields, send a integer for integer fields and a double for floating point or fixed precision fields. For string values, the new value will be parsed from the string.

## **Example**

The following example provides values for the Status Log and Tester fields:

```
{transition: {"STATUS LOG": "Reopen issue", "TESTER": "7"}}
```

Response:

```
"fieldMetadata": [
  {
    "id": 65,
   "name": "Status Log",
    "dbname": "STATUS LOG",
    "syscode": 0,
    "type": "journal",
    "renderHtml": false,
    "appendOnly": true,
    "sortNewestFirst": false
   "id": 63,
   "name": "Tester",
    "dbname": "TESTER",
    "syscode": 0,
    "type": "user",
    "renderHtml": false,
    "isMultiSelect": false
],
"fields": {
  "STATUS LOG": {
    "value": "07/13/2016 03:49:48 PM - Bill Admin:\r\n\nReopen issue\r\n"
  },
  "TESTER": {
   "id": 3,
    "name": "Chris Tester"
}
```

Integer values for field selections will be different in different environments. When you deploy or promote a process app, UUIDs are kept in sync but not TS\_IDs.