**MultiTool for Basware API Integration Platform**

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Purpose: a command line tool to interact with the basware open API platform for troubleshooting and analyze purpose**

|  |  |  |
| --- | --- | --- |
| Document | Description |  |
| 1.0.0 | Initial version | |
| 1.0.1 | Updated with executing tasks | |
| 1.0.2 |  | |
| 1.0.2a | Added entityType filter for requestStatus | |
| 1.0.3 | Added MatchingOrders and MatchingOrderLines | |
|  |  | |
|  |  | |

# Introduction

During project implementation with customers using the basware Open API platform with P2P I stumbled upon many questions from the customer developers regarding verifying the data that was send and the troubleshooting of the data if something went wrong. Everytime when customer raised a question about missing data, I had to start postman, request a token when OAUHT02 authentication was in usage, copy the token to the task to verify the data, applying filter to reduce the return result and then verifying the json payload returns. As you can read this is a process that takes time for something simple. For this purpose I wrote the MultiTool command line application.

# What does it do

Multitool connects to the basware Open API platform and executes a request for the given user credentials provided. The result is then written into an excel Document, that contains all the fields provided by the API endpoint schema. (for more information about the schema see https://developer.basware.com website). Having an excel document it is easier to see the data in one overview, to filter the data if needed for troubleshooting.

# First time setup

To get started with the multitool, copy the executable into a given destination on your windows machine. Once the file is copied, open a windows terminal into the given folder and run ‘multiTool.exe’

Graphical user interface, text, application

Description automatically generated

Once executed for the first time the following information is displayed into the output:

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Description automatically generated

The multiTool application is searching the users $HOME directory for a folder called ‘.multiTool’. If the folder does not exists it will create it. The following example displays my user folder where the ‘.multiTool’ folder is created

Graphical user interface, application

Description automatically generated

The multiTool application then checks for a configuration file. By default it searches within this folder ‘.multiTool ’for the file ‘multiTool.yaml’. If the file does not exist, it will be created.

Graphical user interface, application

Description automatically generated

However you can specify a parameter to the executable with the value ‘—config <filename>.yaml’ where it searches for the provided configuration file into provided directory. The following displays an example that searches for the configuration file within the ‘c:\temp’ folder with the given name ‘test.yaml’

Graphical user interface, application

Description automatically generated

After the initial run the application stops so the configuration file can be configurated for the first time.

# Update the configuration file

Depending on the task to be executing (later about this more) settings can be added to the configuration file that is to be used. But the following settings are required for every task

|  |  |  |
| --- | --- | --- |
| Parameter | Value | Description |
| api\_username |  | Username provided by basware support to access the API platform. This parameter is used for BASIC authentication only. If OAUT02 authentication is used it can be ignored |
| api\_password |  | Password provided by basware support to access the API platform. This parameter is used for BASIC authentication only. If OAUT02 authentication is used it can be ignored |
| api\_pagesize | 100 | Number of records to be returned in a single execution call. If more pages are available the application will retrieve them automatically |
| authmethod |  | Authentication method to be used: 1 = BASIC Authentication 2 = OAUTH02 Authentication |
| debug | False | Sets debug mode: false = deactivated true = activated |
| api\_endpointurl |  | Location to the basware open API platform: for test: <https://test-api.basware.com>/ for prod: <https://api.basware.com/> |
| api\_clientid |  | Username provided by basware support to access the API platform. This parameter is used for OAUTH02 authentication only. If BASIC authentication is used it can be ignored |
| api\_clientsecret |  | Password provided by basware support to access the API platform. This parameter is used for OAUTH02 authentication only. If BASIC authentication is used it can be ignored |
| api\_token |  | Generated OAUTH02 token. This token is retrieved when using OAUTH02 authentication. The api\_token parameter is added or updated to the configuration file during execution of a task. |

# Executing a task

If the standard setup of the configuration file as been done you can start using the mulitTool for specific tasks. Depending on the given task additional parameters can be amended to the configuration file.

Which tasks is available is depending on the version of the multiTool application. The version is displayed on the screen when execute the ‘multiTool.exe’ in a windows terminal.

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Description automatically generated

The following tasks are available:

|  |  |  |
| --- | --- | --- |
| Taskname | Version | Description |
| report | 1.0.0 | Retrieves the data from the basware API platform and stores the content into an Excel document. |
| Text  Description automatically generated | | |
| Reprocess | 1.0.1 | Reprocess a given API payload based on entityType and externalCode(s) back into the system by redistribution. |

# Report Tasks

The report task has several subcommands. One for each supported API extraction. The following subcommands are available:

|  |  |  |
| --- | --- | --- |
| Taskname | Version | Description |
| requestStatus | 1.0.0 | Retrieves the data from the requestStatus API. |
| accountingDocuments | 1.0.1 | Retrieves the data from the accountsDocuments API. |
| genericLists | 1.0.1 | Retrieves the data from the lists API |
| vendors | 1.0.1 | Retrieves the data from the vendors API. |
| matchingOrders matchingOrderLines |  | -- to be implemented |
| purchaseRequisitions |  | -- to be implemented |
| purchaseOrders |  | -- to be implemented |
|  |  |  |

## Task: report requestStatus

The task requestStatus makes a request to the basware Open API endpoint requestStatus. This endpoint method returns an overview of all response messages that has been sendback from the subscribed services. In our case the messages for the P2P application.

### Parameters for the task

|  |  |  |
| --- | --- | --- |
| Parameter | Value | Description |
| scope | requestStatus.read | When OAUTH02 authentication is used the task set the scope parameter automatically. It does not read this value from the configuration settings |
| pageSize | 500 | Number of records to be retrieved for each execution (page) run. If more pages are to be retrieved it will be done automatically. Default = 500 unless provided in the configuration file under api\_pagesize. |
| system | P2P | This parameter is set automatically. It does not read this value from the configuration settings |
| entityType | PurchaseOrder PurchaseReceipt TaxCode Vendor … |  |

### Output file

The requestStatus task generates an Excel document within the created folder “.multiTools”. The first column within the worksheet contains all available fields as specified within the API schema for the given endpoint provided at <https://developer.basware.com>.

|  |  |  |
| --- | --- | --- |
| Filename | Number of sheets | Sheet names |
| requestStatus.xlsx | 1 | requestStatus |
|  |  |  |

**Example:**Graphical user interface

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## Task: report accountingDocuments

The task accountingDocuments makes a request to the basware Open API endpoint accountingDocuments. This endpoint returns all documents that is send from P2P to the platform using the prebook or transfer action.

### Parameters for the task

|  |  |  |
| --- | --- | --- |
| Parameter | Value | Description |
| scope | accountingDocuments.read | When OAUTH02 authentication is used the task set the scope parameter automatically. It does not read this value from the configuration settings |
| pageSize | 100 | Number of records to be retrieved for each execution (page) run. If more pages are to be retrieved it will be done automatically. Default = 100 unless provided in the configuration file under api\_pagesize. |
| system | P2P | This parameter is set automatically. It does not read this value from the configuration settings |

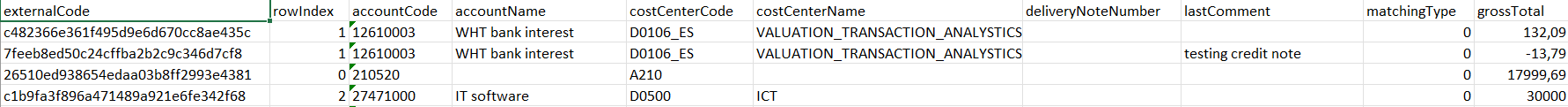
### Output file

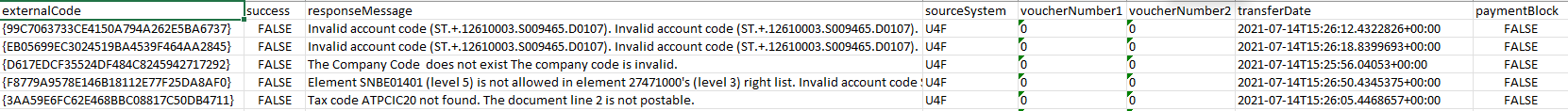
The accountingDocuments task generates an Excel document within the created folder “.multiTools”. The first column within the worksheet contains all available fields as specified within the API schema for the given endpoint provided at <https://developer.basware.com>.

|  |  |  |
| --- | --- | --- |
| Filename | Number of sheets | Sheet names |
| accountingDocuments.xlsx | 8 | accountingDocuments |
|  |  | orderNumbers |
|  |  | codingRows |
|  |  | transferParameters |
|  |  | transferResponses |
|  |  | removeResponses |
|  |  | prebookResponses |
|  |  | paymentResponses |

**Example - accountingDocuments:**Graphical user interface

Description automatically generated

**Example - codingRows:**

**Example – transferResponses:**

## Task: report genericLists

The task genericLists makes a request to the basware Open API endpoint lists. This endpoint returns all documents available within the lists storage. The mandatory parameter ‘’api\_lists’ needs to be set within the configuration file.

### Parameters for the task

|  |  |  |
| --- | --- | --- |
| Parameter | Value | Description |
| scope | lists.read | When OAUTH02 authentication is used the task set the scope parameter automatically. It does not read this value from the configuration settings |
| pageSize | 500 | Number of records to be retrieved for each execution (page) run. If more pages are to be retrieved it will be done automatically. Default = 500 unless provided in the configuration file under api\_pagesize. |
| system | P2P | This parameter is set automatically. It does not read this value from the configuration settings |
| api\_lists | ACC\_LIST\_1 | The lists API requires a listkey to be able to retrieve the data from the storage. The listkey values that can be used are specified on the webpage at developer.basware.com. Within the configuration file multiple parameter values can be added separated by a comma. E.g ACC\_LIST\_1, INV\_LIST\_1. In case there is no data in the provided listkey and a 404 message is returned, the task skips the listkey and fetches the next one if provided. |

### Output file

The genericLists task generates an Excel document within the created folder “.multiTools”. The first column within the worksheet contains all available fields as specified within the API schema for the given endpoint provided at <https://developer.basware.com>.

|  |  |  |
| --- | --- | --- |
| Filename | Number of sheets | Sheet names |
| <listname>.xlsx | 2 | list |
|  |  | companies |

**Example: Files generated overview:  
Graphical user interface, application

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**Example - list:**Table

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**Example – companies:**Table

Description automatically generated

## Task: report Vendors

### Parameters for the task

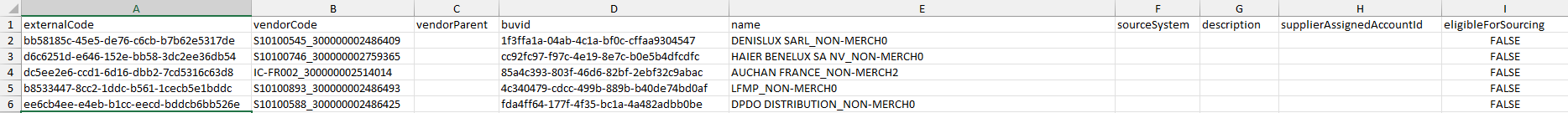
|  |  |  |
| --- | --- | --- |
| Parameter | Value | Description |
| scope | vendors.read | When OAUTH02 authentication is used the task set the scope parameter automatically. It does not read this value from the configuration settings |
| pageSize | 500 | Number of records to be retrieved for each execution (page) run. If more pages are to be retrieved it will be done automatically. Default = 500 unless provided in the configuration file under api\_pagesize. |
| system | P2P | This parameter is set automatically. It does not read this value from the configuration settings |
| externalCode |  | This parameter can be parsed as a commandline argument. When set an single vendor will be retrieved based on the provided externalCode example: multiTool.exe report vendors –externalCode 10196\_300000005236762 |

### Output file

The vendors task generates an Excel document within the created folder “.multiTools”. The first column within the worksheet contains all available fields as specified within the API schema for the given endpoint provided at <https://developer.basware.com>.

|  |  |  |
| --- | --- | --- |
| Filename | Number of sheets | Sheet names |
| vendors.xlsx | 1 | Vendors |
|  |  | Identifiers |
|  |  | Addresses |
|  |  | AdditionalAddressFields |
|  |  | Contacts |
|  |  | DeliveryTerms |
|  |  | PaymentMeans |
|  |  | FinancialInstitutions |
|  |  | FinancialAccountIdentifiers |
|  |  | OrderingDetails |
|  |  | ProcessingStatus |
|  |  | Tags |
|  |  | CustomFields |
|  |  | companies |

**Example:**

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## Task: report MatchingOrders

The report task for MatchingOrders is executing both the matchingOrders API and matchingOrderLines API. For the matchingOrderLines API execution the parameter orderExternalCode is parsed along so that only the lines are retrieved for the order that is currently being processed.

### Parameters for the task

|  |  |  |
| --- | --- | --- |
| Parameter | Value | Description |
| scope | matchingOrders.read matchingOrderLines.read | When OAUTH02 authentication is used the task set the scope parameter automatically. It does not read this value from the configuration settings |
| pageSize | 500 | Number of records to be retrieved for each execution (page) run. If more pages are to be retrieved it will be done automatically. Default = 500 unless provided in the configuration file under api\_pagesize. |
| system | P2P | This parameter is set automatically. It does not read this value from the configuration settings |

### Output file

The genericLists task generates an Excel document within the created folder “.multiTools”. The first column within the worksheet contains all available fields as specified within the API schema for the given endpoint provided at <https://developer.basware.com>.

|  |  |  |
| --- | --- | --- |
| Filename | Number of sheets | Sheet names |
| matchingOrders.xlsx | 5 | matchingOrder |
|  |  | matchingOrderLines |
|  |  | orderLineCodings |
|  |  | goodsReceipts |
|  |  | referenceUsers |

# Reprocess Tasks

The reprocess makes a request to the basware Open API for redistributing a given payload or payloads for a given entityType.

***!! NOTE !! using this task is for basware concultants and basware partners only !!***

### Parameters for the task

|  |  |  |
| --- | --- | --- |
| Parameter | Value | Description |
| scope | redistribute.write | When OAUTH02 authentication is used the task set the scope parameter automatically. It does not read this value from the configuration settings |
|  |  |  |
| subscribedService | All | This tool currently only supporting the value All. |
| version | V1 | Default set to V1. For entityType: Project this value must be set to V2. |
| listKey | ACC\_LIST\_1 | The listkey values that can be used are specified on the webpage at developer.basware.com under GenericList API swagger instructions. Only a single listKey is currently supported by this tool. E.g `GenericList` |
| entityType\* |  | Sets the interface method to be executed. E.g Vendors. For available entityType values please check the requestStatus swagger instructions at developer.basware.com |
| externalCode\* |  | Externalcode value as is set for the given record for the given entityType. Multiple externalCode values can be provided on the commandline with a comma as separator. In case all data needs to reprocessed provide `--externalCode=[]` as value |

The following table displays possible status response values

|  |  |
| --- | --- |
| Status | Description |
| 200 | All is well. Redistribution request has been send and processed |
| 202 | All is well. Redistribution request is accepted and queued for processing |
| 400 | Something went wrong. Possible reason is that the given ‘externalCode’ does not exists (anymore) |
| 403 | Not authorized |

Text

Description automatically generatedFig: Example reprocess all for genericlist

# Acknowledge Tasks

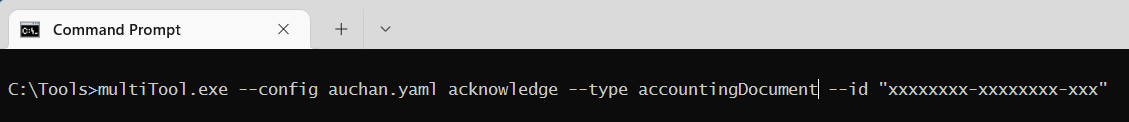
The acknowledge tasks sends a request to mark the given ‘id’ to be purged from the list. The task runs a status 200 message when the value is purged or a status 400 if the given id does not exists.

### Parameters for the task

|  |  |  |
| --- | --- | --- |
| Parameter | Value | Description |
| scope | requestStatus.write accountingDocuments.write | When OAUTH02 authentication is used the task set the scope parameter automatically. It does not read this value from the configuration settings |
|  |  |  |
| type\* |  | Sets the interface method to be executed. Supported values are: - requestStatus - accountingDocument |
| id\* |  | requestStatus Id value(s) when requestStatus type is parsed or AccountingDocument invoice Id when accountingDocument type is parsed. Multiple externalCode values can be provided on the commandline with a comma as separator. |

A screenshot of a computer

Description automatically generated with medium confidence  
fig: usage for requestStatus

  
fig: usage for accountingDocument

The following table displays possible status response values

|  |  |
| --- | --- |
| Status | Description |
| 200 | All is well. Acknowledge request has been send and processed |
| 202 | All is well. Acknowledge request is accepted and queued for processing |
| 400 | Something went wrong. Possible reason is that the given ‘id’ does not exists (anymore) |
| 403 | Not authorized |