



# ZyLAB Service Utility Tool Manual





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# ZyLAB Service Utility Tool

The ZyLAB Service Utility command line tool (ZyLAB.Platform.ServiceUtil.exe) is a part of the TBIEService solution and enables you to communicate with the following services (with default end point addresses) :

- Indexing (TBIE service)  
net.tcp://localhost:4112/IndexingService
- PlatformSDK  
net.tcp://localhost:4115/ZyIMAGE
- Content Access (CAS)  
net.tcp://localhost:4112/ContentAccess
- Cluster  
net.tcp://localhost:4115/Cluster
- Cluster Management  
net.tcp://localhost:4115/ClusterManagement

Use the tool to create/delete/rebuild/optimize indexes, search, retrieve text of the document from the index, and diagnose problems with platform services.

It can be found at \\Program Files\\ZyLAB\\Information Management Platform\\Services\\Tools



# Commands

- The tool has several predefined commands that allow you to communicate with the listed services. To see the list of available commands run:

```
ZyLAB.Platform.ServiceUtil.exe --help
```

- Use the following format to use this tool:

```
ZyLAB.Platform.ServiceUtil.exe command [--option1 value1 [--option2  
value2 ...]]
```

- Use the following syntax to get information about options for a specific command:

```
ZyLAB.Platform.ServiceUtil.exe command --help
```



Command	Options	Description
action	<p><b>-a, --api</b> - (Default: tbie) API to execute command (tbie or sdk)</p> <p><b>-i, --index</b> - Name of index (required when action name is specified)</p> <p><b>-n, --name</b> - Name of action.</p> <p><b>-l, --list</b> - List available actions supported by TBIE service API. PlatformSDK service API supports following actions: validate, rebuild, delete</p> <p><b>-u, --uri</b> - Service uri (if not set - default will be used)</p>	Perform action on index.
build	<p><b>-a, --api</b> - (Default: tbie) API to execute command (tbie or sdk)</p> <p><b>-i, --index</b> - Required. Name of index</p> <p><b>-f, --force</b> - Delete existing index (this will prevent indexing and adding the same files twice)</p> <p><b>-t, --template</b> - Template for index</p> <p><b>-p, --path</b> - Required. Path to documents</p> <p><b>-m, --mask</b> - Pattern to select files *.* , *.pdf, etc</p> <p><b>-r, --repeat</b> - (Default: 1) Number of times documents should be indexed</p> <p><b>-b, --batch</b> - (Default: 0) Build index in batches (0 means build all at once)</p> <p><b>-u, --uri</b> - Service uri (if not set - default will be used)</p>	Create or add documents to index.



Command	Options	Description
cachearch	<b>-i, --index</b> - Required. Name of index <b>-q, --query</b> - Required. Fulltext query <b>-u, --uri</b> - Service uri (if not set - default will be used)	Perform search and cache results using TBIE service API.
content	<b>-f, --file</b> - Required. File name of the document <b>-o, --output</b> - Name of the output file (outputs to stdout if not set) <b>-i, --index</b> - Required. Name of index <b>-a, --api</b> - (Default: tbie) API to execute command (tbie or sdk) <b>-u, --uri</b> - Service uri (if not set - default will be used)	Generate the content of a document using TBIE service API.
deleteddocuments	<b>-a, --api</b> - (Default: tbie) API to execute command (tbie or sdk) <b>-i, --index</b> - Required. Name of index <b>-d, --documents</b> - Required. Semicolon separated list of document IDs or a name of the file with the list of document IDs <b>-u, --uri</b> - Service uri (if not set - default will be used)	Delete documents from index.



Command	Options	Description
docstats	<p><b>-d, --documents</b> - Required. List of semicolon-separated document ids</p> <p><b>-t, --topterms</b> - Required. Number of top terms to return</p> <p><b>-o, --output</b> - Name of the output file (outputs to stdout if not set)</p> <p><b>-b, --benchmark</b> - Benchmark mode (no results will be outputted)</p> <p><b>-i, --index</b> - Required. Name of index</p> <p><b>-u, --uri</b> - Service uri (if not set - default will be used)</p>	Get all term frequencies and occurrences count per document using TBIE service API.
hits	<p><b>-a, --api</b> - (Default: tbie) API to execute command (tbie or sdk)</p> <p><b>-i, --index</b> - Required. Name of index</p> <p><b>-q, --query</b> - Required. Fulltext query</p> <p><b>-d, --document</b> - Required. Id of the document</p> <p><b>-t, --timeout</b> - (Default: 2147483647) Operation timeout in ms (supported only when using TBIE service API)</p> <p><b>-o, --output</b> - Name of the output file (outputs to stdout if not set)</p> <p><b>-u, --uri</b> - Service uri (if not set - default will be used)</p>	Get hits from index for specified document id. If timeout is specified - hits operation will be cancelled after the specified time (supported only when using TBIE service API).



Command	Options	Description
invoke	<p><b>-s, --service</b> - Required. Use service name to execute method with (TBIE, SDK, CAS, Cluster, ClusterManagement) or an interface name.</p> <p><b>-u, --uri</b> - Service uri (if not set - default for the corresponding service will be used)</p> <p><b>-m, --method</b> - Name of the method (if not specified - list of all available methods will be printed)</p> <p><b>-p, --parameters</b> - Method parameters (file name or JSON directly)</p> <p><b>-o, --output</b> - Name of the output file (outputs to stdout if not set)</p>	<p>Invoke some method of service client. Parameters can be passed as JSON string directly or as a file name that contains it. If JSON string is passed directly - all single quotes (') are replaced with double quotes (") before parsing the string. JSON object passed as parameters is an array of key-value pairs where key is a name of the parameter required by the invoked method and value is a value of that parameter serialized to JSON.</p> <p><b>Simple parameters</b></p> <pre>{     "param1": 123,     "param2": "text" }</pre> <p>It is possible to specify a type hint for the parameter (for example, if invoked method expects an interface). In this case, the value should have additional parameter \$type. For example, TBIE service client provides a method Search that accepts two parameters of types string and SearchInfo. SearchInfo is an abstract class and so a type hint is required to create an object of some specific type.</p> <p><b>Type hint</b></p> <pre>{     "indexName": "3gb_text",     "searchInfo": {         "\$type": "FulltextSearchInfo",         "Query": "test1"     } }</pre>



Command	Options	Description
listindexes	<p><b>-a, --api</b> - (Default: tbie) API to execute command (tbie or sdk)</p> <p><b>-u, --uri</b> - Service uri (if not set - default will be used)</p>	List all available indexes.
processworkflow	<p><b>-l, --list</b> - List all supported workflow types (annotationalyzer, burnfields, converttomultipage, converttotiff, htmlexport, textextraction, tifftopdf, tiffpng, transformimage)</p> <p><b>-p, --path</b> - Path to file (required when not using -l or --list option)</p> <p><b>-w, --workflow</b> - Workflow name (listed in workflow.xml file, default location c:\zylab data\ContentAccessService\Workflows)</p> <p><b>-t, --type</b> - Workflow type (required when not using -l or --list option)</p> <p><b>-o, --output</b> - Output filename (required when not using -l or --list option)</p> <p><b>-a, --arguments</b> - Process workflow arguments (file name or JSON directly, required when not using -l or --list option)</p> <p><b>-u, --uri</b> - Service uri (if not set - default will be used)</p>	<p>Process document using CAS. Arguments can be passed as JSON string directly or as a file name that contains it. If JSON string is passed directly - all single quotes (') are replaced with double quotes (") before parsing the string. JSON object passed as argument should have a type hint. Example of arguments object passed for workflow type ConvertToMultiPage:</p> <p><b>Type hint</b></p> <pre>{     "\$type":     "ConvertToMultiPageArguments",     "ImageOutputFormat":     "SearchablePdf",     "Tifffiles": [         "D:\\Temp\\2\\000001L2.TIF",         "D:\\Temp\\2\\000001L3.TIF"     ] }</pre> <p>Output will always be a zip file. If output path does not end with .zip - it will be added.</p>



Command	Options	Description
read	<p><b>-t, --type</b> - Required. Stream type (search, hit, term, text)</p> <p><b>-i, --input</b> - Required. Name of the input file (with raw stream data)</p> <p><b>-o, --output</b> - Name of the output file (outputs to stdout if not set)</p>	<p>Read saved stream of the specified type from file and outputs the processed result.</p> <p>Supported stream types:</p> <ul style="list-style-type: none"><li>• search (using ZyLAB.Platform.Services.Indexing.SearchStreamReader)</li><li>• hit (using ZyLAB.Platform.Services.Indexing.IClientHitStreamReader)</li><li>• term (using ZyLAB.Platform.Services.Indexing.TermStreamReader)</li><li>• text (using ZyLAB.TBIE.Service.ContentAccess.TextStreamReader)</li><li>• docstat (using ZyLAB.Service.Indexing.DocumentStatStreamReader)</li></ul>
scan	<p><b>-i, --index</b> - Required. Name of index</p> <p><b>-p, --pattern</b> - Required. Pattern</p> <p><b>-t, --timeout</b> - (Default: 2147483647) Operation timeout in ms</p> <p><b>-u, --uri</b> - Service uri (if not set - default will be used)</p>	<p>Scan index dictionary for terms matching to specified pattern using TBIE service API. If timeout parameter is set - scan operation will be cancelled after the specified time.</p>



search	<p><b>-a, --api</b> - (Default: tbie) API to execute command (tbie or sdk)</p> <p><b>-i, --index</b> - Required. Name of index</p> <p><b>-q, --query</b> - Required. Fulltext query</p> <p><b>-d, --document</b> - Do not output internal document ID, will disable printing of document id in the results. Use together with -f option.</p> <p><b>-h, --hits</b> - Do not output number of hits in the document, will disable printing of hits in the results. Used together with -f option.</p> <p><b>-f, --fields</b> - Coma separated list of fields to retrieve (retrieves all fields if not set)</p> <p><b>-s, --skip</b> - (Default: 0) Skip a specified number of search results. For example, when there are 10 results and you skip 2, you will only get the last 8.</p> <p><b>-c, --count</b> - (Default: 18446744073709551615) Count returns not more than the specified number of results.</p> <p><b>-t, --timeout</b> - (Default: 2147483647) Operation timeout in ms (supported only when using TBIE service API)</p> <p><b>-o, --output</b> - Name of the output file (outputs to stdout if not set), where results will be printed.</p> <p><b>-u, --uri</b> - Service uri (if not set - default will be used), define if the service is run on a different machine or port.</p> <p><b>-b, --benchmark</b> - Benchmark mode (no results will be outputted), results will not be printed. It is used to measure speed and for debugging.</p>	<p>Search index. This command allows to skip a number of matches and get some specific number of matches. If timeout is specified - search operation will be cancelled after the specified time (supported only when using TBIE service API).</p> <p>It is possible to request system fields in '-f' option using @FieldName syntax (e.g. @ErrorCode, @HitDensity, etc.)</p>
--------	---	--



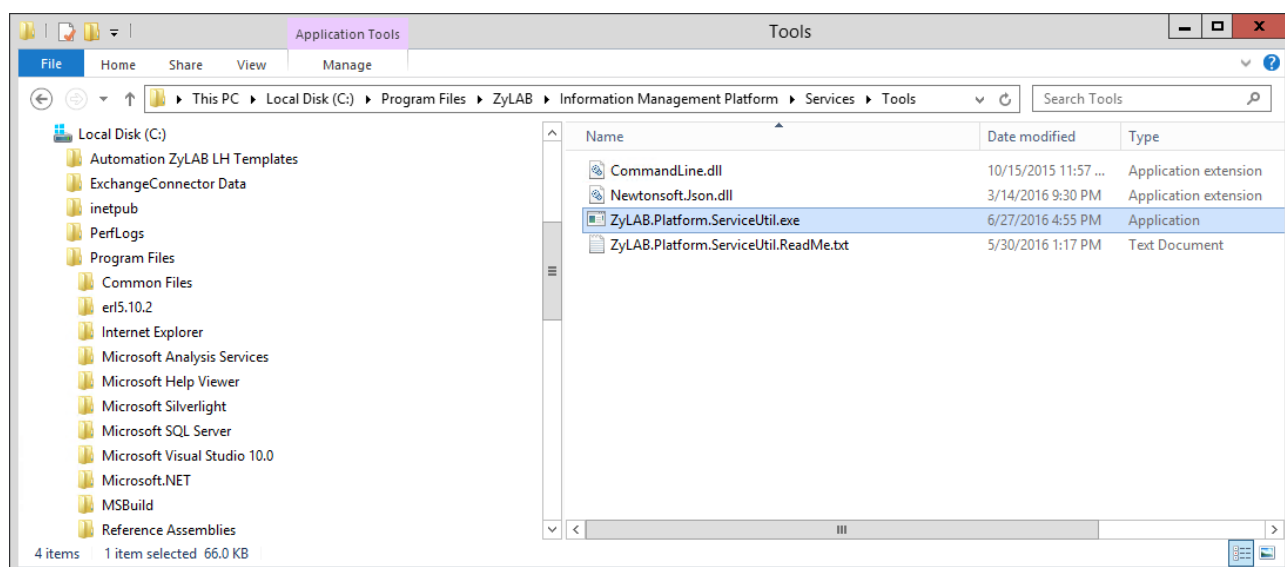
# Using the Service Utility Tool

## Get started

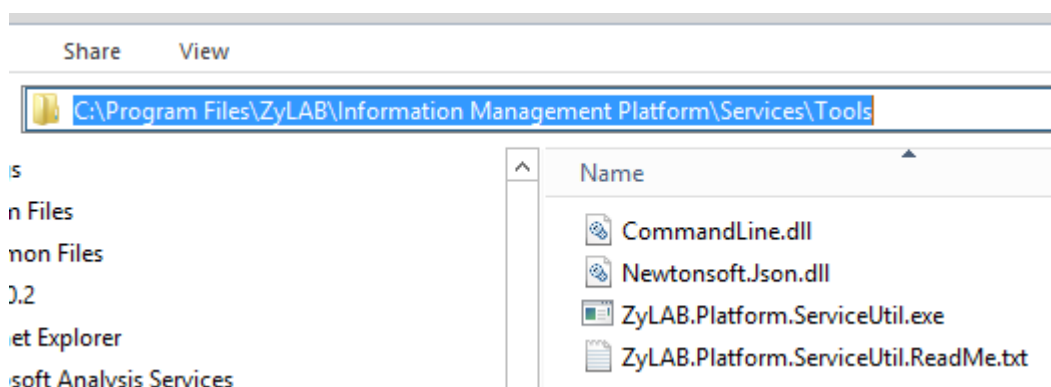
1. There are several ways to get started with the Service Utility Tool. Pick the one that suits you. In cmd, navigate to the correct folder by running the following:

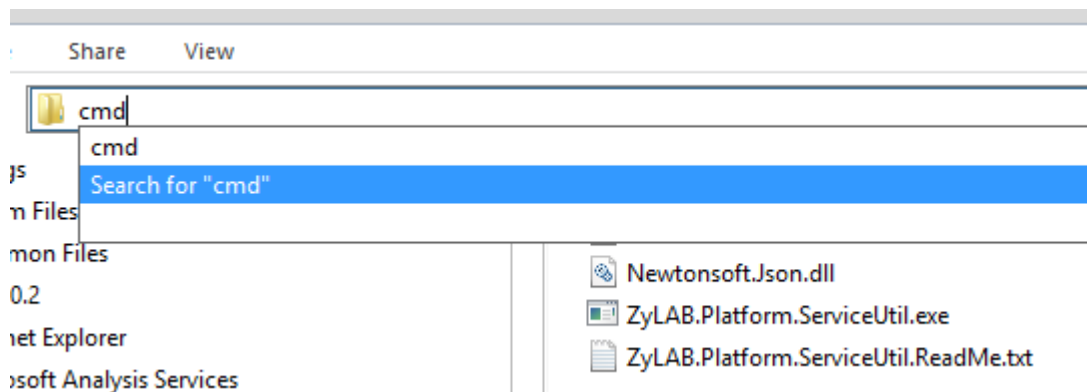
```
cd "C:\Program Files\ZyLAB\Information Management Platform\Services\Tools"
```

- Or, go to \\Program Files\ZyLAB\Information Management Platform\Services\Tools and select ZyLAB.Platform.ServiceUtil.exe.

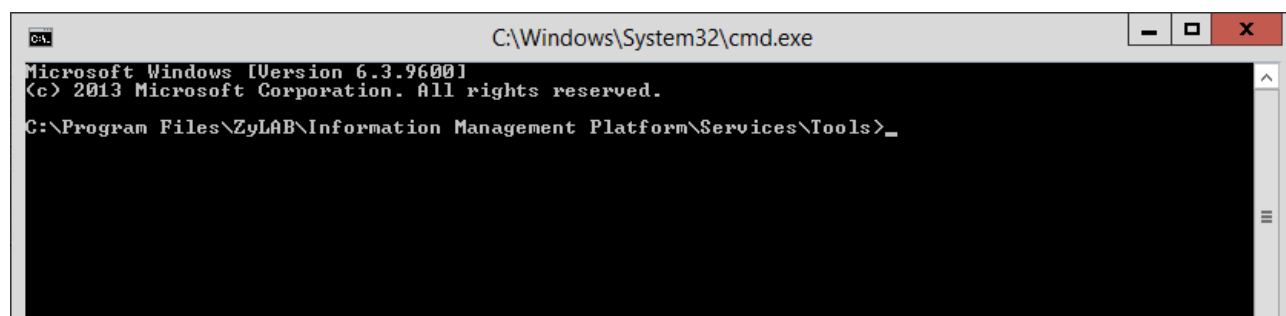


- Click in the address bar, type cmd and press Enter.





- The command line tool is opened.



2. Execute ZyLAB.Platform.ServiceUtil.exe with the following available commands:

- action
- build
- cachesearch
- content
- deletedocuments
- docstats
- hits
- invoke
- listindexes
- processworkflow
- read
- scan
- search

3. To view the options you can use with a command, add '--help':

```
zylab.platform.serviceutil.exe command --help
```



```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Program Files\ZyLAB\Information Management Platform\Services\Tools>zylab.platform.serviceutil.exe
action --help_
```

4. A list with all the options for that command (in this example 'action') will be shown:

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Program Files\ZyLAB\Information Management Platform\Services\Tools>zylab.platform.serviceutil.exe
action --help
ZyLAB Service Utility 6.600
Copyright 2013-2016 c ZyLAB Technologies

-l, --list      List available actions
-n, --name      Name of action <required when not using -l or --list option>
-i, --index     Name of index <required when not using -l or --list option>
-a, --api       <Default: thie> API to execute command <thie or sdk>
-u, --uri       Service uri <if not set - default will be used>
--help         Display this help screen.
--version      Display version information.

Command execution time: 00:00:00.1293044
C:\Program Files\ZyLAB\Information Management Platform\Services\Tools>_
```

#### Tips

- Use the Up Arrow Key to insert a previously used command line
- Use double quotes when adding, for example, a file path with spaces: "c:\temp\test data"



## Create an Index and Index Files

1. To create an index, use the build command.

For example, to create an index with the name 'testindex' using files located on c:\temp, run the following:

```
zylab.platform.serviceutil.exe build --index testindex --path c:\temp
```

```
C:\Program Files\ZyLAB\Information Management Platform\Services\Tools>zylab.platform.serviceutil.exe
build --index testindex --path c:\temp
Using TBIE service API.
Adding documents...
Added 415 documents <415 in total>
Total documents added: 415
Building index...
Done in: 00:02:17.5840576
Command execution time: 00:02:18.5571831
```

**Result:** You created a default TBIE index, located at C:\ZyLAB Data\SearchEngine\Indexes\testindex or C:\ZyLAB Data\TBIE Indexes\testindex (in case of an upgrade).

2. You can add more options, for example:

- --force  
To make sure a new index is created when using the same index name. This to prevent the same files from being indexed and added again to the existing index.
- --mask  
To add only specified files (\*.\*, \*.pdf, \*.txt, etc.).
- --repeat  
To define how many times documents should be indexed (default 1).
- --batch  
To create several batches (default 0, which means build all at once).

You can, for example, run the following:

```
zylab.platform.serviceutil.exe build --index testindex --force --
path c:\temp --mask *.pdf --repeat 2 --batch 2
```

This would create an index called 'testindex', containing only .pdf files from the c:\temp location (indexed twice) and saving those indexed files in batches.

The Repeat option will index the files two times: file1, file2, file3, file1, file2, file3

The Batch option will index the files in parts (each part consisting of two files): file1, file2 / file3, file1 / file2, file3

The result will be presented as one index.



## Notes

- The Default template is used when creating an index. Other templates that can be used are located at C:\ZyLAB Data\SearchEngine\Templates (or C:\ZyLAB Data\TBIE Templates). HAPI index templates can be found at C:\ZyLAB Data\ZyINDEX Templates.

For example, use the audio template:

```
zylab.platform.serviceutil.exe build --index testindex --template  
audio --path c:\temp
```

Or, create a HAPI index using the Audit Trail Database template:

```
zylab.platform.serviceutil.exe build --api sdk --index testindex --  
template "c:\zylab data\zyindex templates\audit trail database" --  
path c:\temp
```

- You can only open HAPI indexes (created with the -a sdk option) in ZyINDEX.



## Delete an Index

To delete an index, use the action command.

For example, to delete an index with the name 'testindex', run the following:

```
zylab.platform.serviceutil.exe action -i testindex -n delete
```

Or, if the index was created with the `-a sdk` parameter:

```
zylab.platform.serviceutil.exe action -a sdk -i testindex -n delete
```



## Search files

- To search files, use the search command. For example, to search for 'test', run the following:

```
zylab.platform.serviceutil.exe search --index testindex --query  
test
```

```
C:\Program Files\ZyLAB\Information Management Platform\Services\Tools>zylab.platform.serviceutil.exe  
search --index testindex --query test  
Using TBIE service API.  
Output:  
25 1 0;c:\temp\test.txt False test.txt c:\temp 4 0 131117659160845810 <6D00A364-E741-4C50-AE62-56AE4  
FE9739D>  
Total documents found: 1  
Command execution time: 00:00:00.4663698  
C:\Program Files\ZyLAB\Information Management Platform\Services\Tools>_
```

- When you search for a field value, run the following:

```
zylab.platform.serviceutil.exe search --index testindex --query  
test -f file_name
```

```
C:\Program Files\ZyLAB\Information Management Platform\Services\Tools>zylab.platform.serviceutil.exe  
search -i testindex -q test -f file_name  
Using TBIE service API.  
Output:  
7 1 test.txt  
14 3 test.txt  
Total documents found: 2  
Command execution time: 00:00:00.4871022
```

The field results are preceded by the document id and the number of hits. If you do not want to see them, run the following:

```
zylab.platform.serviceutil.exe search --index testindex --query  
test -f file_name --document --hits
```

```
C:\Program Files\ZyLAB\Information Management Platform\Services\Tools>zylab.platform.serviceutil.exe  
search -i testindex -q test -f file_name --document --hits  
Using TBIE service API.  
Output:  
test.txt  
test.txt  
Total documents found: 2  
Command execution time: 00:00:00.5150269
```

- When you want to search and cache the results, run the following:

```
zylab.platform.serviceutil.exe cachesearch --index testindex --  
query test
```

Next time when the search command is used, results will be taken from cache.



## Run Multiple Searches in Parallel

- Use the following command (to simulate high load on the search engine):

```
FOR /L %G IN (1,1,10) DO start ZyLAB.Platform.ServiceUtil.exe  
search -a sdk -i "INDEXNAME" -q "QUERY"
```

- Use the %G parameter to randomize your queries. For example like this:

```
FOR /L %G IN (1,1,10) DO start ZyLAB.Platform.ServiceUtil.exe  
search -a sdk -i "INDEXNAME" -q "[a-z]{1,%G}"
```



## Get Hits

To get the number of hits in a file, use the hits command.

For example, to get the number of hits for the query 'test' in a specific file in index 'testindex', run the following:

```
zylab.platform.serviceutil.exe hits -i testindex -q test --document  
{827ecddd-c7d6-4934-adfa-db7e9268d44b}
```

A screenshot of a Windows command prompt window. The title bar shows the path 'C:\Program Files\ZyLAB\Information Management Platform\Services\Tools'. The command prompt shows the command 'zylab.platform.serviceutil.exe hits -i testindex -q test --document {827ecddd-c7d6-4934-adfa-db7e9268d44b}' being executed. The output shows 'Using TBIE service API.', 'Output:', '[1-0:4]', 'Total hits: 1', and 'Command execution time: 00:00:00.6426982'.

```
C:\Program Files\ZyLAB\Information Management Platform\Services\Tools>zylab.platform.serviceutil.exe  
hits -i testindex -q test --document {827ecddd-c7d6-4934-adfa-db7e9268d44b}  
Using TBIE service API.  
Output:  
[1-0:4]  
Total hits: 1  
Command execution time: 00:00:00.6426982
```

One hit was found.



## View Content

To view the content of a file, use the content command.

For example, run the following:

```
zylab.platform.serviceutil.exe content -i testindex -file  
c:\temp\test.txt
```

A screenshot of a Windows command prompt window. The title bar reads "C:\Program Files\ZyLAB\Information Management Platform\Services\Tools>zylab.platform.serviceutil.exe". The command entered is "content -i testindex -f c:\temp\test.txt". The output shows "Using TBIE service API.", "Reading content of document 'c:\temp\test.txt'...", and "Output:" followed by three lines: "test line 1 <one>", "test line 2 <two>", and "test line 3 <three>". The command execution time is displayed as "00:00:00.8858916".

```
C:\Program Files\ZyLAB\Information Management Platform\Services\Tools>zylab.platform.serviceutil.exe  
content -i testindex -f c:\temp\test.txt  
Using TBIE service API.  
Reading content of document "c:\temp\test.txt"...  
Output:  
test line 1 <one>  
test line 2 <two>  
test line 3 <three>  
Command execution time: 00:00:00.8858916
```

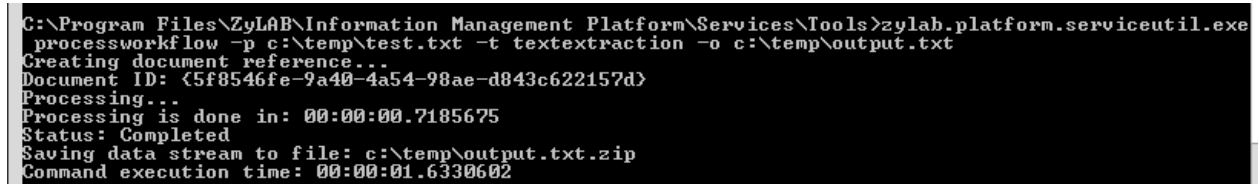


## Extract Text

To extract text, use the processworkflow command.

For example, run the following:

```
zylab.platform.serviceutil.exe processworkflow -p c:\temp\test.txt -t  
textextraction -o c:\temp\output.txt
```

A screenshot of a Windows command prompt window. The title bar reads 'C:\Program Files\ZyLAB\Information Management Platform\Services\Tools>zylab.platform.serviceutil.exe'. The command entered is 'processworkflow -p c:\temp\test.txt -t textextraction -o c:\temp\output.txt'. The output shows: 'Creating document reference...', 'Document ID: {5f8546fe-9a40-4a54-98ae-d843c622157d}', 'Processing...', 'Processing is done in: 00:00:00.7185675', 'Status: Completed', 'Saving data stream to file: c:\temp\output.txt.zip', and 'Command execution time: 00:00:01.6330602'.

```
C:\Program Files\ZyLAB\Information Management Platform\Services\Tools>zylab.platform.serviceutil.exe  
processworkflow -p c:\temp\test.txt -t textextraction -o c:\temp\output.txt  
Creating document reference...  
Document ID: {5f8546fe-9a40-4a54-98ae-d843c622157d}  
Processing...  
Processing is done in: 00:00:00.7185675  
Status: Completed  
Saving data stream to file: c:\temp\output.txt.zip  
Command execution time: 00:00:01.6330602
```

The output file will always be saved as a zipfile.

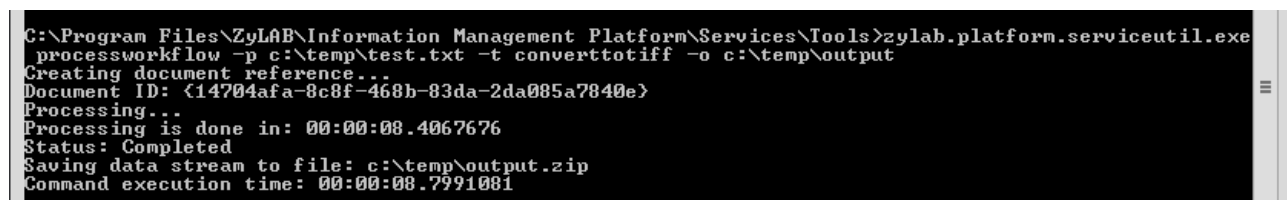


## Generate Tiff (png or jpg) of document

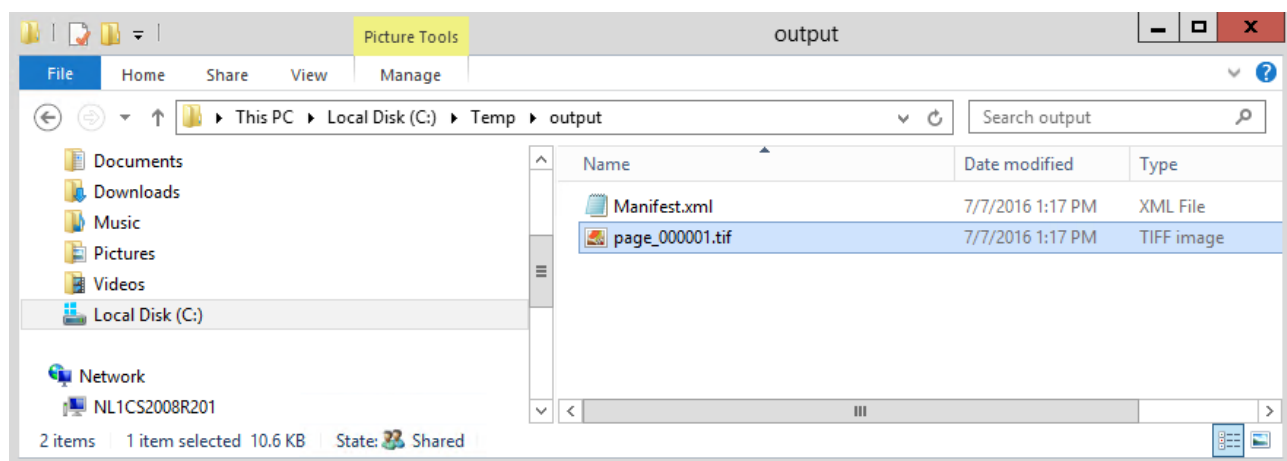
- To generate a tiff of a document, use the processworkflow command.

For example, run the following:

```
zylab.platform.servicutil.exe processworkflow -p c:\temp\test.txt  
-t converttotiff -o c:\temp\output
```



```
C:\Program Files\ZyLAB\Information Management Platform\Services\Tools>zylab.platform.servicutil.exe  
processworkflow -p c:\temp\test.txt -t converttotiff -o c:\temp\output  
Creating document reference...  
Document ID: {14704afa-8c8f-468b-83da-2da085a7840e}  
Processing...  
Processing is done in: 00:00:08.4067676  
Status: Completed  
Saving data stream to file: c:\temp\output.zip  
Command execution time: 00:00:08.7991081
```



- Another example for an inputfile made accessible to ContentAccess service:

```
zylab.platform.servicutil.exe processworkflow -t converttotiff -p  
"INPUTFILE" -o result.zip
```

You can use Content Access service located on another machine by specifying url with -u argument.

- To provide specific tiff conversion arguments (for example, convert specific pages of the document), run the following:

```
ZyLAB.Platform.ServiceUtil.exe processworkflow -t ConvertToTiff -p  
"INPUTFILE" -o result.zip -a  
"{\"$type\": \"ZyLAB.TBIE.Service.ContentAccess.ConvertToTiffArgumen  
ts\", \"UsePageRange\": true, \"StartPage\": 2, \"EndPage\": 3}"
```

- To convert to tiff all files in a given folder, run the following:

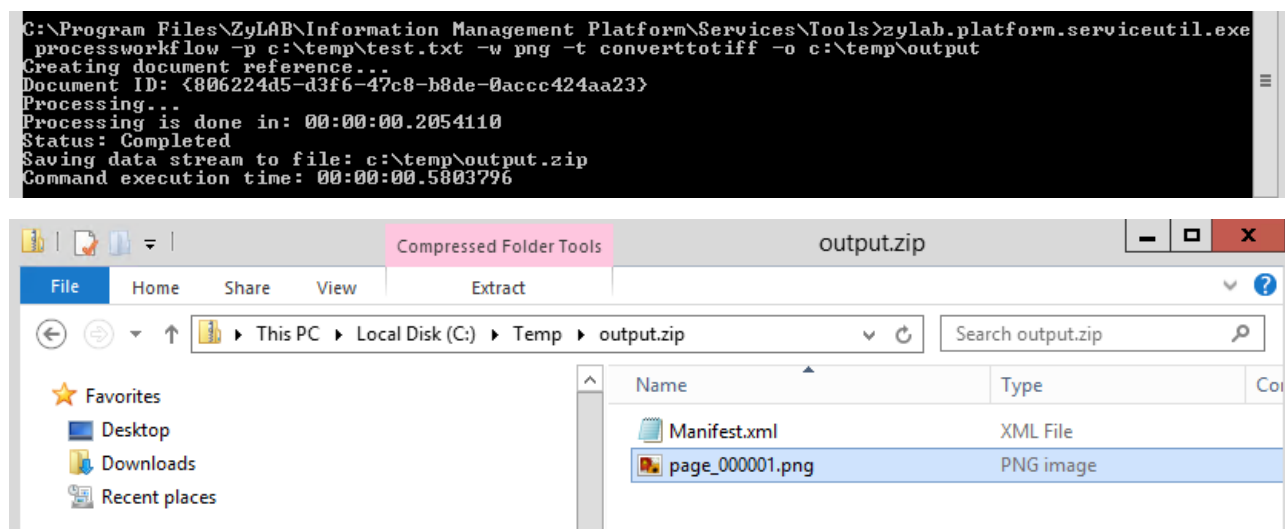


```
FOR /R "<FOLDER WITH FILES>" %I IN (*.*) DO
ZyLAB.Platform.ServiceUtil.exe processworkflow -t ConvertToTiff -p
"%I" -o "%~nxI.zip"
```

## Generate PNG or JPG file

In the workflow.xml file (default location c:\zylab data\ContentAccessService\Workflows) you can see if there are workflow names. For the option converttotiff, we have the following workflow names: png and jpg. Use them to convert a file to png or jpg. For example, run the following:

```
zylab.platform.serviceutil.exe processworkflow -p c:\temp\test.txt -w png
-t converttotiff -o c:\temp\output
```





## View a list of all indexes

To view a list of all indexes, use the listindexes command.

ZyLAB.Platform.ServiceUtil.exe listindexes

```
C:\Program Files\ZyLAB\Information Management Platform\Services\Tools>zylab.platform.serviceutil.exe
listindexes
Using TBIE service API.
Index
index001
index002
index003
Index01
index10
index11
index12
m_11
m_11_m
m_12
m_12_m
m_2
m_2_m
m_3
m_3_m
m_4sy
m_4sy_m
m_5i77yi
m_5i77yi_m
m_654u
m_654u_m
m_77y
m_77y_m
mail
mailk
testdata
testindex
testindex01
testtest
Command execution time: 00:00:00.2605256
```