

**SAPO Services SDK Documentation**

**v0.6**

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# Introduction

The present document describes how to use the SAPO Services.

Before you can use a service you must create an account at <https://store.services.sapo.pt/>. After creating the account you can acquire services subscriptions. In the customer area you can manage you services and generate authorization information, i.e. an access key.

# Authentication

Every request must contain authentication information to establish the identity of whom making the request and an authorization token denominated **ESBAccessKey**. Note that you can generate this authorization tokens that only can be used by a specific user or that can be used by all users (good for a multi-users application).

The authentication information can be provided as a pair of username (**ESBUsername**) and password (**ESBPassword**) or an authentication token (**ESBToken**) obtained from the **SAPO Security Token Service** (STS) <https://store.services.sapo.pt/en/Catalog/development/free-api-sts>.

If you don't want to constantly send passwords "over the wire" you should use STS. This way you only send the credentials once.

## HTTP Clients

As previously said, every request must include both authentication and authorization information. The authentication information must be supplied in the URI. The authorization information must figure in the **Authorization** HTTP Header. Note that in some services the **ESBAccessKey** may figure in the query string (**...&ESBAccessKey={accessKey}&...**).

Note that in the samples below {token}, {username}, {pass}, and {accessKey} are place holders. In your code you must replace them with your authorization and authentication data.

### Using username and password

The following example presents the structure of a request using **ESBUsername** and **ESBPassword** to do the authentication. Authorization and Host are HTTP headers.

GET https://services.sapo.pt/{service\_name}/{operation\_name}?ESBUsername={username}&ESBPassword={pass}&json=true HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

### Using authentication token

The following example presents the structure of a request using **ESBToken** to do the authentication. Authorization and Host are HTTP headers.

GET https://services.sapo.pt/{service\_name}/{operation\_name}?ESBToken={token}&json=true HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

# Photos Service

The **Photos** service allows to search and to manage of photos that are hosted in **SAPO Photos** (<http://fotos.sapo.pt/>).

To interact with the service are available a SOAP interface and a HTTP-JSON interface.

## HTTP

This section describes the HTTP-JSON interface of the **Photos** service

In all the samples of this chapter it is used **ESBUsername** and **ESBPassword** to do the authentication. But as mentioned in the previous chapter, alternatively you can provide **ESBToken**.

### Submit a photo to the service

To submit a photo to the service you can use the **ImageCreate** operation.

The **ImageCreate** operation is composed by two steps. First you have to send the meta data associated with the photo through a HTTP POST to <https://services.sapo.pt/Photos/ImageCreate>. Second you have to do a HTTP POST to <http://fotos.sapo.pt/uploadPost.html> with the photo file.

#### POST the meta data of the photo

The following example is a sample request of the POST of the meta data of the photo.

POST https://services.sapo.pt/Photos/ImageCreate?json=true&ESBUsername={username}&ESBPassword={password} HTTP/1.1

Content-Type: application/json

Authorization: ESB AccessKey={accessKey}

Content-Length: 48

Host: services.sapo.pt

{"image":{"title":"windows8","tags":"windows8"}}

For the sake of simplicity there are only provided the title and the tags of the image. It's recommended that when you submit a new photo you provide at least this attributes.

The complete list of Image attributes can be found at [https://store.services.sapo.pt/en/Catalog/social/free-api-photos/technical-description#entity-type-Photos-Image](https://store.services.sapo.pt/en/Catalog/social/free-api-photos/technical-description%23entity-type-Photos-Image). But if you go forward a couple of pages you will find a example with all the Image object attributes.

The service response will have a similar structure to the one in example below. In the body of the response figures an object that has a **ImageCreateResponse** attribute. The value attribute is an **ImageCreateResult** object that as two attributes: image and result.

HTTP/1.1 200 OK

Content-Type: application/json; charset=utf-8

Date: Tue, 18 Sep 2012 10:14:54 GMT

Content-Length: 1014

{

"ImageCreateResponse":{

"ImageCreateResult":{

"image":{

"active":"true",

"creationDate":"2012-09-18 11:00:43",

"innapropriate":"false",

"m18":"false",

"password":null,

"pending":"true",

"rating":"0",

"subtitle":null,

"synopse":null,

"tags":"sapo",

"title":"sapo",

"uid":"{...}",

"url":"http://fotos.sapo.pt/{...}/fotos/?uid={...}",

"user":{

"avatar":"http://imgs.sapo.pt/sapofotos/{...}/imgs/avatar.jpg",

"url":"http://fotos.sapo.pt/{...}/perfil",

"username":"{...}"

},

"visualizations":"0"

},

"result":{

"ok":"true"

},

"token":"{photo\_token}"

}

}

}

The image is an instance of **Image** type, which has the meta data supplied and another server generated fields, like **uid** that identifies the photo.

You can see if the request was accepted by the server looking to the **ok** attribute of the **result** object. The **{photo\_token}** attribute is the token that you will have to send along with the photo file.

Note that **{photo\_token}** is place holder and **{...}** is censuring sensitive data like usernames and photo ids.

#### POST the photo file

The second and final step of the upload of the photo is a **multipart** POST.

The structure of the request can be seen in following example.

POST http://fotos.sapo.pt/uploadPost.html HTTP/1.1

Content-Type: multipart/form-data; boundary="imgboundary"

Host: fotos.sapo.pt

Content-Length: 75195

--imgboundary

Content-Disposition: form-data; name="token"

{photo\_token}

--imgboundary

Content-Type: image/png

Content-Disposition: form-data; name="photo"; filename="windows8.png"

{photo\_bytes}

Note that **{photo\_token}** and **{photo\_bytes}** are place holders. The first one is the token returned by the server in the **ImageCreateResult** object. The other is the bytes of the photo file.

If all goes as it should in the response you will get a response with **XML** content where you can find a **Result** tag with "SUCCESS" in the content. Otherwise you will get a response with a smaller **XML** document that has in the **Result** tag the error code. You can see the complete error list at [https://store.services.sapo.pt/en/Catalog/social/free-api-photos/technical-description#service-Photos-operation-ImageCreate](https://store.services.sapo.pt/en/Catalog/social/free-api-photos/technical-description%23service-Photos-operation-ImageCreate).

In the following example you can see a sample response body. In this case the photo was successfully submitted. So in the **XML** document will be present all the **views** generated. Each **view** has a URI (**url** tag) to the photo file. Along with the URI is also provided the **with** and the **height** of the photo.

<?xml version="1.0"?>

<uploadPost>

<Ok/>

<Result>SUCCESS</Result>

<views>

<view>

<size>large</size>

<requestWidth>1600</requestWidth>

<requestHeight>1200</requestHeight>

<url>http://{...}.png</url>

</view>

(...)

</views>

</uploadPost>

In case of error, for instance if you provide an invalid token the body of the response will look like the one in following example.

<?xml version="1.0" encoding="utf-8" ?>

<UploadPost>

<Result>INVALID\_TOKEN</Result>

<Error>Invalid token</Error>

</UploadPost>

**Important:** Note that in case of error the **UploadPost** tag begin with capital letter.

### Search images by terms

To search images by terms you can use the **ImageGetListBySearch** operation.

To do this search you have to do a HTTP GET to the following URI: <https://services.sapo.pt/Photos/ImageGetListBySearch?json=true>.

The search terms must be specified in the **string** query string parameter. But it’s recommended that you can provide additional search information like dates. The complete list of query string parameters that you can provide to this service are:

* **string** – the search terms separated by commas and with no spaces (e.g. “windows,microsoft”);
* **datefrom** – the date from the search results begin in the format “yyyy-mm-dd” (e.g. 2012-10-15);
* **dateto** – the date to the search results end in the format “yyyy-mm-dd” (e.g. 2012-10-17);
* **page** – the results supports paging, in this parameter you can specify the page. (e.g. “1”).

**Important:** Note that it’s mandatory to include **json** parameter and it must be set with **true**. And like all other requests the authentication date must be provided in the query string.

The following example is presented a sample request:

GET https://services.sapo.pt/Photos/ImageGetListBySearch?string=windows,microsoft&page=1&datefrom=2012-09-10&dateto=2012-09-12&json=true&ESBUsername={username}&ESBPassword={pass} HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The service response body will have a similar structure to the one in example below. In the body of the response figures an object that has an **ImageGetListBySearchResponse** attribute. The value attribute is a **ImageGetListBySearchResult** object that as two attributes: **images** and **result**. The **images** attribute is a array of **image** objects.

{

"ImageGetListBySearchResponse":{

"ImageGetListBySearchResult":{

"images":{

"image":[

{

"active":"true",

"creationDate":"2011-09-14 22:56:00",

"innapropriate":"false",

"m18":"false",

"password":null,

"pending":"false",

"subtitle":null,

"synopse":"Windows 8",

"tags":"windows 8",

"title":"windows\_8",

"uid":"{...}",

"url":"http://fotos.sapo.pt/{...}/fotos/?uid={...}",

"user":{ "avatar":"http://imgs.sapo.pt/sapofotos/{...}/imgs/avatar.jpg",

"url":"http://fotos.sapo.pt/{...}/perfil",

"username":"{...}"

},

"views":{

"view":[

{

"requestHeight":"405",

"requestWidth":"540",

"size":"original",

"url":"http://{...}.jpeg"

},

(...)

]

}

},

(...)

]

},

"result":{

"ok":"true",

"page":"1",

"perPage":"50",

"total":"41",

"totalPages":"1"

}

}

}

}

If you pretend to download the photo, in the **image** object’s **views** attribute is provided and array of **view** objects. Each view is a version of the photo with different dimensions (with and height). The **url** attribute has the URI from you can GET the photo file.

### Delete a photo

To delete a photo you can use the **ImageDelete** operation.

To do a delete of a photo you have to do a HTTP GET to the following URI: <https://services.sapo.pt/Photos/ImageDelete?json=true>.

The **uid** of the photo must be included in the query string parameters.

The following example is a sample request to delete the photo with the **uid** {id}.

GET https://services.sapo.pt/Photos/ImageDelete?uid={id}json=true&ESBUsername={username}&ESBPassword={pass} HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

If the photo is successfully deleted the server in the response body will send an json object similar to the one below:

{

"ImageDeleteResponse": {

"ImageDeleteResult":{"ok":"true"}

}

}

### Get photo details

To get the details of a photo you can use the **ImageDetails** operation.

In order to get the details of the photo you have to do a HTTP GET to the following URI: <https://services.sapo.pt/Photos/ImageDetails?json=true>.

The **uid** of the photo must be included in the query string parameters.

The following example is a sample request to get the details of the photo with the **uid** {id}.

GET https://services.sapo.pt/Photos/ImageDetails?uid={id}json=true&ESBUsername={username}&ESBPassword={pass} HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body will be similar to the one in the following example:

{

"ImageDetailsResponse":{

"ImageDetailsResult":{

"image":{

"active":"true",

"creationDate":"2012-09-05 11:16:03",

"innapropriate":"false",

"m18":"false",

"password":null,

"pending":"false",

"subtitle":null,

"synopse":null,

"tags":"stack,windows",

"title":"Windows 8 stack",

"uid":"{...}",

"url":"http://fotos.sapo.pt/{...}/fotos/?uid={...}",

"user":{

"avatar":"http://imgs.sapo.pt/sapofotos/{...}/imgs/avatar.jpg",

"url":"http://fotos.sapo.pt/{...}/perfil",

"username":"test8"

},

"views":{

"view":[

{

"requestHeight":"581",

"requestWidth":"1024",

"size":"original",

"url":"http://{...}.jpeg"

},

(....)

]

}

},

"result":{

"ok":"true"

}

}

}

}

### Get user’s photos

To get the user’s photos you can use the **ImageGetListByUser** operation.

In order to get the list of photos of the user you have to do a HTTP GET to the following URI: <https://services.sapo.pt/Photos/ImageGetListByUser?json=true>.

The **username** of the user should be included in the query string parameters. If you don’t specify the username the service will assume that the user is the authenticated user.

The following example is a sample request to get the photos list of the user with the **username** {username}.

GET https://services.sapo.pt/Photos/ImageGetListByUser?username={username}json=true&ESBUsername={username}&ESBPassword={pass} HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body will be similar to the one in the following example:

{

"ImageGetListByUserResponse":{

"ImageGetListByUserResult":{

"images":{

"image":[

{

"active":"true",

"creationDate":"2012-09-18 11:00:42",

"innapropriate":"false",

"m18":"false",

"password":null,

"pending":"false",

"subtitle":null,

"synopse":null,

"tags":null,

"title":"sapo",

"uid":"{...}",

"url":"http://fotos.sapo.pt/{...}/fotos/?uid={...}",

"views":{

"view":[

{

"requestHeight":"450",

"requestWidth":"450",

"size":"original",

"url":"http://{...}.png"

},

(...)

]

}

},

(...)

]

},

"result":{

"ok":"true",

"page":"1",

"perPage":"50",

"total":"11",

"totalPages":"1"

}

}

}

}

Note that if the photos are in an album the **image** object will have an attribute **albums** with the albums that the photo belongs to.

### Create an Album

To create an album you can use the **AlbumCreate** operation.

The creation is done doing a HTTP POST to the following URI: <https://services.sapo.pt/Photos/AlbumCreate?json=true>. You must provide a JSON object with the album representation.

The following example is a sample request to create an album:

POST https://services.sapo.pt/Photos/AlbumCreate?json=true&ESBUsername={username}&ESBPassword={pass} HTTP/1.1

Host: services.sapo.pt

Authorization: ESB AccessKey={accessKey}

Content-Length: 30

Content-Type: application/json

{"album":{"title":"Windows8"}}

The complete list of the **album** attributes can be found at <https://store.services.sapo.pt/en/Catalog/social/free-api-photos/technical-description#entity-type-Photos-Album>.

If the album is successfully created the response body of the request will be similar to the one in the following example:

{

"AlbumCreateResponse":{

"AlbumCreateResult":{

"album":{

"active":"true",

"cover":"http://fotos.sapo.pt/{...}/capa-de-album/4",

"creationDate":"2012-09-19 12:51:03",

"description":null,

"id":"4",

"ownerId":"181291",

"password":null,

"title":"Windows8",

"url":"http://fotos.sapo.pt/{...}/albuns/?aid=4",

"user":{

"avatar":"http://imgs.sapo.pt/sapofotos/{...}/imgs/avatar.jpg",

"url":"http://fotos.sapo.pt/{...}/perfil",

"username":"{...}"

}

},

"result":{

"ok":"true"

}

}

}

}

### Add an photo to albums

To add a photo to albums you can use the **AlbumCreate** operation.

To do this you have to do a GET request to the following URI: <https://services.sapo.pt/Photos/ImageAddToAlbum?json=true>.

In the query string you have to specify the **image** **uid** and the **albums** **ids**. This is done with the following query string parameters:

* **imageuid** – **image uid**;
* **albumid** – **albums ids** separated by commas (e.g. “2,3”);

The following example is a sample request that adds the photo with the **uid {id}** to **albums** **2** and **3**.

GET https://services.sapo.pt/Photos/ImageAddToAlbum?ESBUsername={user}&ESBPassword={pass}&imageuid={id}&albumid=2,3&json=true HTTP/1.1

Host: services.sapo.pt

Authorization: ESB AccessKey={accessKey}

If the photos are successfully added to the albums, the response body will be similar to the one in the following example:

{

"ImageAddToAlbumResponse":{

"ImageAddToAlbumResult":{

"result":{

"ok":"true"

}

}

}

}

### Get album images

To get a user’s album photos list you can use the **ImageGetListByUserAlbum**.

You have to do a HTTP GET to the following URI, specifying the **SAPO Photos username** and the **album id**: <https://services.sapo.pt/Photos/ImageGetListByUserAlbum?json=true>. The **SAPO Photos username** should be passed as **username** query string parameter and the **album id** should be passed as the **id** query string parameter.

The following example is a sample request to get the photos list of the **album** with **id 2** of the **user** with **SAPO Photos username** **{sapofotos\_username}**:

GET https://services.sapo.pt/Photos/ImageGetListByUserAlbum?ESBUsername={username}&ESBPassword={pass}&username={sapofotos\_username}&id=2&page=1&json=true HTTP/1.1

Host: services.sapo.pt

Authorization: ESB AccessKey={accessKey}

Content-Type: application/json

The response body is similar to the one in the following example:

{

"ImageGetListByUserAlbumResponse":{

"ImageGetListByUserAlbumResult":{

"images":{

"image":[

{

"active":"true",

"creationDate":"2012-09-04 12:58:45",

"innapropriate":"false",

"m18":"false",

"password":null,

"pending":"false",

"subtitle":null,

"synopse":null,

"tags":null,

"title":"microsoft",

"uid":"{...}",

"url":"http://fotos.sapo.pt/{...}/fotos/?uid={...}",

"views":{

"view":[

{

"requestHeight":"465",

"requestWidth":"620",

"size":"original",

"url":"http://{...}.jpeg"

},

(...)

]

}

},

(...)

]

},

"result":{

"ok":"true",

"page":"1",

"perPage":"50",

"total":"2",

"totalPages":"1"

}

}

}

}

# Videos Service

The **Videos** service allows to search and to manage videos that are hosted in **SAPO Videos** (<http://videos.sapo.pt/>);

To interact with the service is available a HTTP interface and a SOAP interface.

## HTTP

This section describes the HTTP-JSON interface of the **Videos** service.

### Submit a video to the service

### Delete a video

### Get video details

### Get user details

### Get user videos

# Verbetes Service

**Verbetes** is a service that answers to requests of type "WhoIs" for public personalities. All the information from **Verbetes** is collected automatically from news sources, and its information is updated on a hour basis, as new news are collected. **Verbetes** also answers to requests of type "WhoIs" for jobs of public personalities mentioned on news.

To interact with the service is available a HTTP-JSON interface.

## HTTP

This section describes the HTTP-JSON interface of the **Verbetes** service.

In all the samples of this chapter it is used **ESBUsername** and **ESBPassword** to do the authentication. But as previously mentioned, alternatively you can provide **ESBToken**.

### Who is

To find “verbetes” about public personalities or jobs you can use the **WhoIs** operation.

To do this searches you have to do a GET request to the following URI: <https://services.sapo.pt/InformationRetrieval/Verbetes/WhoIs>. It’s mandatory to specify one of the following query string parameters:

* **name** – personality’s name;
* **name\_like** – a part of a personality’s name;
* **job** – profession name;
* **job\_like** – a part of a profession’s name;

The are adicional query string parameters that can be included:

* **date** – occured date;
* **margin** – margin of occurrence (in days);
* **min** – retrieve only entries that appear at least this number of times;

For more information about these aditional parameters see the following URI: <https://store.services.sapo.pt/en/Catalog/other/free-api-information-retrieval-verbetes/technical-description#service-InformationRetrieval/Verbetes-operation-WhoIs>

The following example is a sample request that searches for “verbetes” of personalities for name.

GET https://services.sapo.pt/InformationRetrieval/Verbetes/WhoIs?name={name}&date=2012-11-15&margin=60&min=5&format=json&ESBUsername={username}&ESBPassword={pass} HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body is similar to the one in the following example:

{

"verbetes":[

{

"jobs":[

{

"lastSeen":"2012-01-14",

"num":"6",

"ergo":"chefe do Governo",

"active":"no",

"firstSeen":"2010-10-21"

},

(...)

],

"officialName":"José Sócrates",

"alternativeNames":[

"Sócrates"

]

}

]

}

Note that exists a light version of the **WhoIs** operation that’s designed to be faster. It is similiar to the **WhoIs**, so the considerations of this subsection also apply to the light version (**WhoIsLight**).

### Get personalities

To get all personalities that have at least **n** occurences you can use the **GetPersonalities** operation.

Through the **min** query string parameter you can specify the minimum number of occurences of the personalitie “verbete” in order to filter results.

The following example is a sample request to get all the personalities with verbetes, where each verbete has at least 10 occurrences.

GET https://services.sapo.pt/InformationRetrieval/Verbetes/GetPersonalities?min=10&format=json&ESBUsername={username}&ESBPassword={pass}} HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body is similar to the one in the following example (list of pairs **<name>:<number of occurences>** ):

{

"listPersonalities":{

"Jorge Moreira da Silva":98,

"José Eduardo Matos":40,

"Domingos de Azevedo":71,

"João Semedo":266,

"José Mota":178,

(...)

}

}

### Get jobs

To get all jobs that have at least **n** occurrences you can use the **GetErgos** operation.

Through the **min** query string parameter you can specify the minimum number of occurences of the job “verbete” in order to filter results.

The following example is a sample request to get all the personalities with verbetes, where each verbete has at least 300 occurrences.

GET https://services.sapo.pt/InformationRetrieval/Verbetes/GetErgos?min=300&format=json&ESBUsername={username}&ESBPassword={pass} HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body is similar to the one in the following example (list of pairs **<job>:<number of occurences>** ):

{

"listErgos":{

"presidente":9754,

"ministro":4880,

"secretário-geral":3770,

"treinador":3445,

"secretário":2400,

"primeiro-ministro":1640,

}

}

### Get egocentric network of personality

To get the egocentric network of some personality you can use the **GetEgoNet** operation.

In addition to the name of the personalitie that must be specified in the **name** there are other query string parameters that you can specify:

* **depth** – depth of the search in the network;
* **minFrequencyEdges** – minimum number of frequency edges;
* **beginDate** – start date of the dates interval to search;
* **endDate** – end date of the dates interval to search;

The following example is a sample request to get the egocentric network of some personality.

GET https://services.sapo.pt/InformationRetrieval/Verbetes/GetEgoNet?depth=1.5&minFrequencyEdges=20&name={name}&beginDate=2012-09-01&endDate=2012-09-17& ESBUsername={username}&ESBPassword={pass} HTTP/1.1

Host: services.sapo.pt

Authorization: ESB AccessKey={accessKey}

The response body is similar to the one in the following example:

{

"edges":[

{

"source":"André Almeida",

"target":"Carlos Martins",

"edge\_frequency":41

},

{

"source":"André Almeida",

"target":"Maxi Pereira",

"edge\_frequency":40

},

(...)

],

"endDate":"2012-09-17",

"beginDate":"2012-09-01",

"minFrequencyEdges":"20",

"nodes":{

"André Almeida":107,

"Carlos Martins":240,

"Pablo Aimar":45,

(...)

},

"depth":"1.5",

"ego":"Jorge Jesus"

}

### Get personalities co-occurrences

To get the personalities who co-occur with a given personalitie you can use the **GetCoOccurences** operation.

In order to do this search you have to do a GET request to the following URI: <https://services.sapo.pt/InformationRetrieval/Verbetes/GetCoOccurrences>. You should specify in the query string a personality’s name and the date interval of the search (**begin\_date** and **end\_date**).

The following example is a sample request to get the personalities who co-occur with the given personalitie:

GET https://services.sapo.pt/InformationRetrieval/Verbetes/GetCoOccurrences?name={name}&begin\_date=2012-08-01&end\_date=2012-08-30&format=json&ESBUsername={username}&ESBPassword={pass} HTTP/1.1

Host: services.sapo.pt

Authorization: ESB AccessKey={accessKey}

The response body is similar to the one in the following example:

[

{

"Carlos Martins":98

},

(...)

{

"Rui Costa":3

},

{

"Lionel Messi":1

}

]

### Get number of times that two personalities co-occur

To get the number of co-occurences of two given personalities you can use the **GetCoOccurrencesTrends** operation.

In order to do this search you have to do a GET request to the following URI: <https://services.sapo.pt/InformationRetrieval/Verbetes/GetCoOccurrencesTrends>. You should specify in the query string the two personalities names (**name1** and **name2**) and the date interval of the search (**begin\_date** and **end\_date**).

The following example is a sample request to get the number of co-ocurrences of the two given personalities:

GET https://services.sapo.pt/InformationRetrieval/Verbetes/GetCoOccurrencesTrends?name1={name1}&name2={name2}&begin\_date=2012-09-10&end\_date=2012-09-17&format=json&ESBUsername={username}&ESBPassword={pass} HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body is similiar to the one in the following example:

{

"edges":[

{

"source":"André Almeida",

"target":"Javi García",

"edge\_frequency":21

},

{

"source":"Carlos Martins",

"target":"Jorge Jesus",

"edge\_frequency":88

},

(...)

],

"endDate":"2012-09-17",

"beginDate":"2012-09-01",

"minFrequencyEdges":"20",

"nodes":{

"André Almeida":107,

"Carlos Martins":240,

(...)

},

"depth":"1.5",

"ego":"Jorge Jesus"

}

# Auto Service

The **Auto** service allows search of auto vehicles in the contents of **SAPO Auto** (<http://auto.sapo.pt/>).

To interact with the service is available a HTTP interface with both JSON and XML formats.

## HTTP

This section describes the HTTP-JSON interface of the **Auto** service.

### Search by terms

To search for auto vehicles by given terms you can use **JSON** operation freely specifying the terms in the **q** query string parameter.

Furthermore you can specify other query string parameters:

* **rows** – number of results per page;
* **start** – start result’s index;
* **sort** – type of sort;

The following example is a sample request to get the auto vehicles whose name starts with “brav”. The results should be ordered by price in descending order, starting in the index 1 and showing ten results per page.

GET https://services.sapo.pt/Auto/JSON?q=brav\*&start=1&rows=10&sort=Price+desc&ESBUsername={username}&ESBPassword={pass} HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body is similiar to the one in the following example:

{

"rss":{

"channel":{

"copyright":"@2012 PT.COM",

"description":"Auto Sapo Vehicles RSS Feed",

"item":[

{

"category":[

"Carro",

"Peças/Acessórios"

],

"enclosure":{

"length":"1",

"type":"image/jpeg",

"url":"http://ftbs.sl.pt/auto/media/{...}.jpg"

},

"guid":{

"isPermaLink":"true",

"value":"http://auto.sapo.pt/{...}.aspx"

},

"link":"http://auto.sapo.pt/{...}.aspx",

"pubDate":"Wed, 22 Aug 2012 22:26:00 GMT",

"title":"Fiat Brava 1.4 SX (80cv) (5 lug) (3p) 1000000.0"

},

(...)

{

"category":[

"Carro",

"Utilitário"

],

"enclosure":{

"length":"1",

"type":"image/jpeg",

"url":"http://ftbs.sl.pt/auto/media/{...}.jpg"

},

"guid":{

"isPermaLink":"true",

"value":"http://auto.sapo.pt/{...}.aspx"

},

"link":"http://auto.sapo.pt/{...}.aspx",

"pubDate":"Wed, 26 Oct 2011 16:15:00 GMT",

"title":"Fiat Bravo 1.6 Mjet 16v Sport (120cv) (5 lug) (5p) 16500.0"

}

],

"language":"pt-pt",

"link":"http://services.sapo.pt/Auto/RSS",

"openSearch:itemsPerPage":"10",

"openSearch:startIndex":"1",

"openSearch:totalResults":"95",

"title":"Auto Sapo",

"ttl":"60"

},

"version":"2.0",

"xmlns:openSearch":"http://a9.com/-/spec/opensearchrss/1.0/"

}

}

### Search by brand, model, price

To search for auto vehicles by brand, model or price you can use the **JSON** operation.

To do this search you can specify in the **q** query string parameter the brand, model or price with the following syntax: Brand:{brand}+Model:{model}+Price:{price}.

Furthermore you can specify other query string parameters:

* **rows** – number of results per page;
* **start** – start result’s index;
* **sort** – type of sort;

The following example is a sample request to get the auto vehicles whose **brand** is fiat, **model** is bravo and **price** is 2500.

GET https://services.sapo.pt/Auto/JSON?q=Brand:fiat+Model:bravo+Price:2500&start=0&rows=10&sort=Price+desc&ESBUsername={username}&ESBPassword={pass} HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body is similar to the one in the following example:

{

"rss":{

"channel":{

"copyright":"@2012 PT.COM",

"description":"Auto Sapo Vehicles RSS Feed",

"item":{

"category":[

"Comercial",

"Ligeiro de Mercadorias"

],

"enclosure":{

"length":"1",

"type":"image/jpeg",

"url":"http://ftbs.sl.pt/auto/media/{...}.jpg"

},

"guid":{

"isPermaLink":"true",

"value":"http://auto.sapo.pt/{...}.aspx"

},

"link":"http://auto.sapo.pt/{...}.aspx",

"pubDate":"Sun, 30 Sep 2012 22:56:00 GMT",

"title":"Fiat Bravo TD100 Bravo TD100 2500.0"

},

"language":"pt-pt",

"link":"http://services.sapo.pt/Auto/RSS",

"openSearch:itemsPerPage":"10",

"openSearch:startIndex":"0",

"openSearch:totalResults":"1",

"title":"Auto Sapo",

"ttl":"60"

},

"version":"2.0",

"xmlns:openSearch":"http://a9.com/-/spec/opensearchrss/1.0/"

}

}

# PunyURL Service

The **PunyURL** service allows to, given an URI, obtain two compressed URI's: One in Unicode basead on RFC3492 of PunyCode and other with alphanumeric characters in lowercase.

To interact with the service is available a HTTP interface with both JSON and XML formats.

## HTTP

This section describes the HTTP-JSON interface of the **PunyURL** service.

### Get compressed URI

To get a compressed version of a given URI you can use the **GetCompressedURLByURLJSON** operation.

To get the compressed version of a given URI you do a GET request to the following URI specifying the URI to be compressed in the **url** query string parameter: <https://services.sapo.pt/PunyURL/GetCompressedURLByURLJSON>.

The following example is a sample request to get the compressed version of a given URI:

GET https://services.sapo.pt/PunyURL/GetCompressedURLByURLJSON?url=http://www.google.pt&ESBUsername={username}&ESBPassword={pass} HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body is similiar to the one in the following example:

{

"punyURL":{

"ascii":"http://b.lb.sl.pt",

"preview":"http://b.lb.sl.pt /-",

"puny":"http://溯.sl.pt",

"url":{

"cdata":"http://www.google.pt"

},

"xmlns":"http://services.sapo.pt/Metadata/PunyURL"

}

}

### Get URI from compressed URI

To get the URI that corresponds to a given compressed URI you can use the **GetURLByCompressedURL** operation.

To get the URI that corresponds to the given compressed URI you should do a GET request to the following URI specifying the compressed version of the URI in the **url** query string parameter: <https://services.sapo.pt/PunyURL/GetURLByCompressedURL?json=true>.

The following example is a sample request to get the URI from a compressed version of the URI:

GET https://services.sapo.pt/PunyURL/GetURLByCompressedURL?url=http://b.lb.sl.pt&ESBUsername={username}&ESBPassword={pass}&json=true HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body is similar to the one in the following example:

{

"punyURL":{

"ascii":"http://b.lb.sl.pt",

"preview":"http://b.lb.sl.pt/-",

"puny":"http://溯.sl.pt",

"url":"http://www.google.pt/"

}

}

# Captcha Service

The **Captcha** service allows the generation and presentation of a customizable captcha.

To interact with the service is available a HTTP-XML interface.

## HTTP

This section describes the HTTP-XML interface of the **Captcha** service.

You can get captchas in audio or image formats. And note that for the same captcha you can present it as a image and as a audio.

### Get captcha image

The process of obtaining a image captcha requires two diferent steps. First you have to generate the captcha using the **Get** operation. Then you can obtain the captcha image using the **Show** operation and specifying the **id** of the generated captcha.

#### Generate captcha

To generate a captcha you do a GET request to the following URI: <https://services.sapo.pt/Captcha/Get>. Optionally you can specify the captcha’s length, mode (e.g. numeric, mixed) and ttl, through **length**, **mode** and **ttl** query string parameters.

The following request is a sample request to generate a captcha in numeric mode with a ttl of 60 seconds and a length of 7 chars:

GET https://services.sapo.pt/Captcha/Get?ttl=60&length=7&mode=numeric&ESBUsername={username}&ESBPassword={pass} HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body is similar to the one in the following example:

<?xml version="1.0" encoding="UTF-8"?>

<Captcha xmlns="http://services.sapo.pt/Metadata/Captcha">

<id>5f62(...)88de</id>

<code>42933845</code>

<msg>ok</msg>

</Captcha>

#### Get captcha image

To get a image representation for a previously generated captcha do a GET request to the following URI specifying the captcha **id**: <http://services.sapo.pt/Captcha/Show>.

The following example is a sample request to get a image representation for the captcha. Note that in this example the **ESBAccessKey** is specified in the URI. This way you can use for instance a **img** HTML tag to show the captcha.

GET http://services.sapo.pt/Captcha/Show?id=5f62(...)88de &ESBUsername={username}&ESBPassword={pass}&ESBAccessKey={accessKey} HTTP/1.1

Host: services.sapo.pt

Optionally you can specify other parameters in the query string:

* **font** – font type (e.g. Courier\_New.ttf);
* **textcolor** – text color (e.g. ff0000);
* **size** – font size in pixels;
* **background** – background color (e.g. 0000ff).

The request’s response has the captcha’s image file.

### Get captcha audio

The process of obtaining a audio captcha requires two diferent steps. First you have to generate the captcha using the **Get** operation. Then you can obtain the captcha audio using the **Play** operation and specifying the **id** of the generated captcha.

#### Generate captcha

To generate a captcha you do a GET request to the following URI: <https://services.sapo.pt/Captcha/Get>. Optionally you can specify the captcha’s length, mode (e.g. numeric, mixed) and ttl, through **length**, **mode** and **ttl** query string parameters.

The following request is a sample request to generate a captcha in numeric mode with a ttl of 60 seconds and a length of 7 chars:

GET https://services.sapo.pt/Captcha/Get?ttl=60&length=7&mode=numeric&ESBUsername={username}&ESBPassword={pass} HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body is similar to the one in the following example:

<?xml version="1.0" encoding="UTF-8"?>

<Captcha xmlns="http://services.sapo.pt/Metadata/Captcha">

<id>5f62(...)88de</id>

<code>42933845</code>

<msg>ok</msg>

</Captcha>

#### Get captcha audio

To get a audio representation for a previously generated captcha do a GET request to the following URI specifying the captcha **id**: <http://services.sapo.pt/Captcha/Play>.

The following example is a sample request to get a audio representation for the captcha. Note that in this example the **ESBAccessKey** is specified in the URI. This way you can use for instance a **audio** HTML tag to show the captcha.

GET http://services.sapo.pt/Captcha/Play?id=5f62(...)88de &ESBUsername={username}&ESBPassword={pass}&ESBAccessKey={accessKey} HTTP/1.1

Host: services.sapo.pt

The request’s response has the captcha’s audio file.

# Holiday Service

The **Holiday** service returns a list of national, regional and municipal holidays for a given year. Supports calculation of holidays for years between 1582 and 2299.

To interact with the service is available a HTTP-JSON interface and a SOAP interface.

## HTTP

This section describes the HTTP-JSON interface of the **Holiday** service.

### Get all holidays

To get all holidays of a given year you have to do a GET request specifying the year like the one in the following example:

GET http://services.sapo.pt/Holiday/GetAllHolidays?year=2012&ESBUsername={username}&ESBPassword=jsonText=false HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body is similar to the one in the following example:

{

"GetAllHolidaysResponse":{

"GetAllHolidaysResult":{

"Holiday":[

{

"Date":"2012-12-01T00:00:00",

"Description":"A Restauração da Independência é a instauração da casa de Bragança face à dinastia filipina em 1 de dezembro de 1640, que durante 60 anos regeu o país. É comemorada anualmente em Portugal por um feriado no dia 1 de Dezembro.",

"Name":"Restauração da Independência",

"Type":"National"

},

{

"Date":"2012-12-11T00:00:00",

"Description":null,

"Municipality":{

"Id":"0811",

"Name":"Portimão"

},

"Name":"Feriado Municipal",

"Type":"Municipal"

},

(...)

]

}

}

}

### Get Carnival

To get the **Carnival** holiday of a given year you have to do a GET request specifying the year like the one in the following example:

GET http://services.sapo.pt/Holiday/GetCarnival?year=2012&ESBUsername={username}&ESBPassword=jsonText=false HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body is similar to the one in the following example:

{

"GetCarnivalResponse":{

"GetCarnivalResult":{

"Date":"2012-02-21T00:00:00",

"Description":"Feriado facultativo, sendo rara a sua não utilização na prática. A data tem origem na tradição pagã de celebrar o final do inverno e foi depois adaptada pela Igreja Católica marcando agora o período de 40 dias antes da Semana Santa (Quaresma), ou 47 dias antes da Páscoa, sendo conhecido também por Entrudo",

"Name":"Carnaval",

"Type":"Optional"

}

}

}

### Get Corpus Christi

To get the **Corpus Christi** holiday of a given year you have to do a GET request specifying the year like the one in the following example:

GET http://services.sapo.pt/Holiday/GetCorpusChristi?year=2012&ESBUsername={username}&ESBPassword=jsonText=false HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body is similar to the one in the following example:

{

"GetCorpusChristiResponse":{

"GetCorpusChristiResult":{

"Date":"2012-06-07T00:00:00",

"Description":"Corpus Christi (latim para Corpo de Cristo) é uma festa móvel da Igreja Católica que celebra a presença de Cristo na Eucaristia. É realizada na quinta-feira seguinte ao domingo da Santíssima Trindade. É uma festa de \u0027preceito\u0027, isto é, para os católicos é de comparecimento obrigatório assistir à Missa neste dia, na forma estabelecida pela Conferência Episcopal do país respectivo",

"Name":"Corpo de Deus",

"Type":"National"

}

}

}

### Get Easter

To get the **Easter** holiday of a given year you have to do a GET request specifying the year like the one in the following example:

GET http://services.sapo.pt/Holiday/GetEaster?year=2012&ESBUsername={username}&ESBPassword=jsonText=false HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body is similar to the one in the following example:

{

"GetEasterResponse":{

"GetEasterResult":{

"Date":"2012-04-08T00:00:00",

"Description":"Primeiro Domingo após a primeira lua cheia que se verificar a partir de 21 de Março. Sendo celebrado a um Domingo não é classificado como feriado oficial. A Páscoa (do hebraico Pessach, significando passagem) é um evento religioso cristão, normalmente considerado pelas igrejas ligadas a esta corrente religiosa como a maior e a mais importante festa da cristandade. Na Páscoa os cristãos celebram a Ressurreição de Jesus Cristo (Vitória sobre a morte) depois da sua morte por crucificação (ver Sexta-Feira Santa) que teria ocorrido nesta altura do ano em 30 ou 33 d.C.",

"Name":"Páscoa",

"Type":"Religious"

}

}

}

### Get Good Friday

To get the **Good Friday** holiday of a given year you have to do a GET request specifying the year like the one in the following example:

GET http://services.sapo.pt/Holiday/GetGoodFriday?year=2012&ESBUsername={username}&ESBPassword=jsonText=false HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body is similar to the one in the following example:

{

"GetGoodFridayResponse":{

"GetGoodFridayResult":{

"Date":"2012-04-06T00:00:00",

"Description":"A Sexta-feira Santa é a Sexta-feira antes do Domingo de Páscoa. Em algumas localidades este feriado pode ser celebrado noutra data na época da Páscoa de acordo com a tradição local. É a data em que os cristãos lembram o julgamento, paixão, crucificação, morte e sepultura de Jesus Cristo, através de diversos ritos religiosos",

"Name":"Sexta-Feira Santa",

"Type":"National"

}

}

}

### Get local holidays

To get the local holidays of a given year you have to do a GET request specifying the year like the one in the following example:

GET http://services.sapo.pt/Holiday/GetLocalHolidays?year=2012&ESBUsername={username}&ESBPassword=jsonText=false HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body is similar to the one in the following example:

{

"GetLocalHolidaysResponse":{

"GetLocalHolidaysResult":{

"Holiday":[

{

"Date":"2012-01-11T00:00:00",

"Description":null,

"Municipality":{

"Id":"1012",

"Name":"Óbidos"

},

"Name":"Feriado Municipal",

"Type":"Municipal"

},

(...)

]

}

}

}

### Get national holidays

To get the national holidays of a given year you have to do a GET request specifying the year like the one in the following example:

GET http://services.sapo.pt/Holiday/GetNationalHolidays?year=2012&ESBUsername={username}&ESBPassword=jsonText=false HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body is similar to the one in the following example:

{

"GetNationalHolidaysResponse":{

"GetNationalHolidaysResult":{

"Holiday":[

{

"Date":"2012-06-10T00:00:00",

"Description":"O Dia de Portugal; Dia de Camões, de Portugal e das Comunidades Portuguesas, é o dia em que se assinala a morte de Luís Vaz de Camões a 10 de Junho de 1580, e é também o Dia Nacional de Portugal.",

"Name":"Dia de Camões, de Portugal e das Comunidades Portuguesas",

"Type":"National"

},

(...)

]

}

}

}

### Get regional holidays

To get the regional holidays of a given year you have to do a GET request specifying the year like the one in the following example:

GET http://services.sapo.pt/Holiday/GetRegionalHolidays?year=2012&ESBUsername={username}&ESBPassword=jsonText=false HTTP/1.1

Authorization: ESB AccessKey={accessKey}

Host: services.sapo.pt

The response body is similar to the one in the following example:

{

"GetRegionalHolidaysResponse":{

"GetRegionalHolidaysResult":{

"Holiday":[

{

"Date":"2012-05-28T00:00:00",

"Description":"Dia da Região Autónoma dos Açores.",

"Name":"Segunda-Feira do Espírito Santo",

"Type":"Regional"

},

{

"Date":"2012-12-26T00:00:00",

"Description":null,

"Name":"Feriado Regional da Região Autónoma da Madeira",

"Type":"Regional"

}

]

}

}

}

# SMS Service