

Getting started with TASE API's

API Documentation Guide

Introduction

The Tel Aviv Stock Exchange's (TASE) Data Hub enables access to a variety of TASE data products through an Application Programming Interface (API). The API provides easy and flexible access to TASE databases and allows personally and organizationally customized information to be retrieved by clients on an ongoing basis.

The information packages are designed for the different needs of TASE's assorted customers, both domestic and international: institutional bodies, public companies, back and middle offices, app and information system developers, traders, investors and anyone interested in obtaining simply integrated information from the TASE.

Using the information available in the system, you can, among other things, create trading strategies and models, manage investment products more efficiently, and more.

Please read the guide completely before using the system.

Registration and Subscription

TASE Data Hub manages user accounts to allow access, so you'll need to register and subscribe an application before making API requests. You need to create an account and an application in the TASE OpenAPI site: <https://openapi.tase.co.il/tase/prod/>

Once you registered an application, you can subscribe your application to TASE API products by choosing a plan in the API product page.

TASE API request definition

Every TASE API product has a description page on TASE OpenAPI website. The description page contains: API URL in the resource server, HTTP method, required and optional parameters.

For example: <https://openapi.tase.co.il/tase/prod/product/4717/api/2914>

Indices List 1.0.1 ★★★★★

Filter

Overview

GET /basic-indices/indices-list

Definitions

In this interface you can find the list of indices traded on the Tel Aviv Stock Exchange.

Details Try it

GET Production, Development: <https://openapi.tase.co.il/tase/prod/apiv1/basic-indices/indices-list>

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Authentication

TASE OpenAPI uses OAuth2.0 authorization to allow access, so you'll need to authenticate first before making API requests. You must include a valid access token with every request in order to access to the resource server (API server).

Use this format to create and send the credential code for the authentication server: (Example)

[Application Key]:[Secret ID] (The Application Key and Secret ID are generated once application created)

dd57d11bb2e4ac01*****f39649:ea15602cc3a37b60*****bcd522

Convert the string to Base64 format (google for "Base64 Encoder"):

ZGQ1N2QxMWJiMmU0YWwMTNmYWw0M0MwU2NWJmMzk2NDk6Z*****
*****2Q1Mjl=

Use this credential code to get an access token for your application from the OAuth2.0 authorization server. Every time you need to generate an access token, you need to use this credential code. **The credential code is permanent** (as long as you didn't reset the Application Key or Secret ID).

OAuth2.0 Server HTTP Request

Method	URL
POST	https://openapigw.tase.co.il/tase/prod/oauth/oauth2/token

Header Request Parameters

Add the word **Basic** followed by the credential code to the Authorization header:

Parameter	Required	Value
Authorization	true	Basic ZGQ1N2QxMWJiMmU0YWwMTNmYWw0M0MwU2NWJmMzk2NDk6Z*****2Q1Mjl=
Content-Type	true	application/x-www-form-urlencoded

Body Request Parameters

Parameter	Required	Value
grant_type	true	client_credentials
scope	true	tase

The server replies with an access token and expiration time.

NOTE: If you got your client ID and secret ID only a few minutes ago, and you get an error: 401 Unauthorized, it's possible the changes you made haven't yet propagated. Wait a few minutes, then try again.

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Access to the Resource Server (API Server)

TASE API Resource Server HTTP Request

Method	URL
GET	https://openapigw.tase.co.il/tase/prod/api/v1/XXX

Header Request Parameters

Add the word **Bearer** followed by the access token to the Authorization header:

Parameter	Required	Value
Authorization	true	Bearer [access token]
Accept-Language	true	en-US / he-IL
Content-Type	true	application/json

Using the provided TASE API Postman collection

TASE provides a Postman collection which contains sample of token request and TASE API request. Download the collection from:

https://openapi.tase.co.il/tase/prod/system/files/2020-09/TASE_API_Postman_Collection.json

Open Postman and import the downloaded collection.

Once you finished testing API call (token request + subscribed API request), you can generate the API request code according to your programming language by clicking on "code" in Postman:

The screenshot shows the 'GENERATE CODE SNIPPETS' window in Postman. The selected language is Python (http.client (Python 3)). The generated code is as follows:

```

import http.client
import json

url = "https://openapigw.tase.co.il"

headers = {
    "Accept-Language": "en-US",
    "Content-Type": "application/json",
    "Authorization": "Bearer AAIGMjMhMDg3NjJkNDdjZjEwZmE1IjRlRjI0MjU3MjFhYzTFDkvs6R761AfcpgFL#6urWfPt_RRUB0VaoCR_saQ7N18VIoqQyMLV1AfnHYkKS86*****jyP2k",
    "Cache-Control": "no-cache",
    "X-Request-Id": "87500c0d-086c-88f1-b2b9-41d918fc5a6f"
}

conn = http.client.HTTPSConnection(url)
conn.request("GET", "/tase/prod/api/v1/basic-indices/index-components-basic/137/2020/7/14", headers=headers)
response = conn.getresponse()
data = response.read().decode("utf-8")
    
```

HTTP	Response	Details
400	<code>"statusCode": "400", "httpMessage": "Bad Request", "moreInformation": "One or more required API parameters are missing in the API request."</code>	A missing parameter: - "Accept-Language" header is missing ("en-US" or "he-IL"). - "offset", "limit" headers are missing (for some API's, like "Quotes End of Day"). - Invalid HTTP method for this request.
400	<code>"name": "ValidationError", "errors":</code>	Validation error: - The request contains out of the date range value. - A missing parameter.
401	<code>"error": "unauthorized_client", "error_description": "Invalid client ID or secret, or client not subscribed to this API"</code>	Can't get a token: - The app has to be subscribed to at least one product. - Invalid credentials. Basic {BASE64({application_key}:{secret_id})} - The app_key and secret_id are generated once application created. You can reset them under "Apps" -> "Subscriptions" -> menu -> "Reset Credentials".
401	<code>"statusCode": "401", "httpMessage": "Unauthorized", "moreInformation": "Cannot pass the security checks that are required by the target API or operation, Enable debug headers for more details."</code>	Can't access the API: - Invalid access token. - Access token expired. tokens are valid for 24 hours.
401	<code>"statusCode": "401", "httpMessage": "Unauthorized", "moreInformation": "Invalid client id or secret."</code>	Can't access the API: - Missing "Authorization" header with a valid access token. Bearer {access_token}
401	<code>"statusCode": "401", "httpMessage": "Unauthorized", "moreInformation": "Cannot find valid subscription for the incoming API request."</code>	Can't access the API: - The app is not subscribed to this product. Check the subscribed products under "Apps" -> "Subscriptions".
403	<code>This page can't be displayed due to a security violation. Contact support at +972-76-8160666 for additional information.</code>	- Invalid URL. Check the correct URL in the product page description. - invalid HTTP method for this request.
429	<code>"statusCode": "429", "httpMessage": "Too Many Requests", "moreInformation": "Rate Limit exceeded"</code>	- The requests rate has been exceeded for the plan. - The requests amount has been exceeded for the plan limits. The rates and limits are listed in the product page under plans - "View details". Your subscribed product's plan can be found under "Apps" -> "Subscriptions".
500	<code>"correlationId": "68xxxa2-3cd3-46ab-9966-634xxxxxx1dc"</code>	- The request contains invalid parameter. - An error occurred while executing the request. Try again.