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| API specification document for  CoinClaim REST APIs |
| Version 0.1 |

Revision History

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Version** | **Author** | **Section(s)** | **Revision Notes** | **Date** |
| 0.1 | iRESlab |  | Initial draft | 05 Mar 2018 |

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# Introduction

This document contains the information about service endpoints, method types, request-response parameters for all the REST APIs to be consumed by CoinClaim.io backend system.

Services will be exposed as rest services over HTTPS (Http over SSL or HTTP Secure) protocol.

# REST APIs

## Access Token

API authentication and authorization implemented using OAUTH 2.0. Access token provides access to all other APIs.

**URL:** [{URL}/api/oauth/token?grant\_type=client**\_**credentials](http://localhost:8086/electra/oauth/token?grant_type=client_credentials)

**Request Type** : POST

**Headers:**

* **Content-Type :** application/json
* **Authorization :** Basic <Base64Hash(client\_id:client\_secret)>
  + **client\_id =** coinclaim
  + **client\_secret =** c@incl&im

**Parameter List:** Nil

**Sample Request (JSON Payload):**

{ }

**Sample Response (JSON Payload):**

* ***Success:***

{

"access\_token": "395a94f6-7849-472d-806b-dc31eaf14640",

"token\_type": "bearer",

"expires\_in": 59,

"scope": "trust read write"

}

* ***Error:***

{

"timestamp": 1520255664497,

"status": 401,

"error": "Unauthorized",

"message": "Bad credentials",

"path": "[/api/oauth/token](chrome-extension://hgmloofddffdnphfgcellkdfbfbjeloo/electra/oauth/token)"

}

## Generate Address

Generates unique address for specific blockchain

**URL**: {URL}/api/address?access\_token=<access-token>

**Request Type** : POST

**Headers:**

* **Content-Type :** application/json

**Parameter List:**

* companyCorrelationId : uniquely identifies the company
* type : identifies the target blockchain (Bitcoin – BTC, Ethereum – ETH etc.)

**Sample Request (JSON Payload):**

{

"companyCorrelationId" : "4cc86e25641048788d87fad7df010601",

"type" : "BTC"

}

**Sample Response (JSON Payload):**

{

"status" : "100",

"description" : "TRANSACTION\_SUCCESS",

"address" : "mjPme2hxCpPoywurppUPPAGJqHdHDrGiQV"

}

**Notes:**

* List of all possible response ‘status’ & corresponding ‘description’ in JSON response will be predefined. Refer to Section x.x for response codes.

## Transfer Tokens

Transfer tokens from company account to user account.

**URL**: {URL}/api/transfer?access\_token=<access-token>

**Request Type** : POST

**Headers:**

* **Content-Type :** application/json

**Parameter List**:

* companyCorrelationId
* type : BTC
* userAddress : user bitcoin address where coins will be allocated to
* noOfTokens : total tokens to be transferred

**Sample Request (JSON Payload):**

{

"companyCorrelationId" : "4cc86e25641048788d87fad7df010601",

"type" : "BTC",

"userAddress " : "[mxSkG37DEHMEJrYn5vfU8ALd6t3uQMZ96m](https://test-insight.bitpay.com/address/mxSkG37DEHMEJrYn5vfU8ALd6t3uQMZ96m)",

"noOfTokens " : "10"

}

**Sample Response (JSON Payload):**

{

"status": "100",

"description": "TRANSACTION\_SUCCESS"

}

## Account Balance

**URL:** {URL}/api/balance?access\_token=<access-token>

**Request Type** : GET

**Headers:**

* **Content-Type :** application/json

**Parameter List**:

* companyCorrelationId
* type

**Sample Request (JSON Payload):**

{

"companyCorrelationId" : "4cc86e25641048788d87fad7df010601",

"type" : "BTC"

}

**Sample Response (JSON Payload):**

{

"status": "100",

"description": “TRANSACTION\_SUCCESS”,

"accountBalance": "000025023000"

}

# Response Codes

Following are the different response codes returned by Rest APIs based on internal processing and response received from blockchain:

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| --- | --- | --- |
| **Response Code** | **Description** | **Remarks** |
| 100 | TRANSACTION\_SUCCESS |  |
| 801 | GENERAL\_ERROR | Internal server error |
| 802 | INVALID\_REQUEST | Request data sent to Rest API is invalid or incomplete |
| 803 | TRANSACTION\_OVERLIMIT |  |
| 804 | ACCOUNT\_ALREADY\_EXIST | Company with correlation id already exists |
| 805 | ACCOUNT\_NOT\_EXIST | Company with correlation Id doesn’t exists |
| 806 | NOT\_SUFFICIENT\_FUND | Company account has insufficient funds to make a transaction |
| 807 | USER\_ADDRESS\_INVALID | User address is invalid |