DIRECT RT

MARKET DATA via API

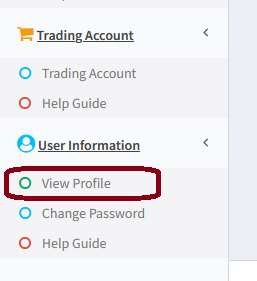
# TOC

1. API Key
2. Authentication
3. Get Tickers
4. Get Historical Data
5. Get Option Chain
6. Streaming Feed via WebSocket

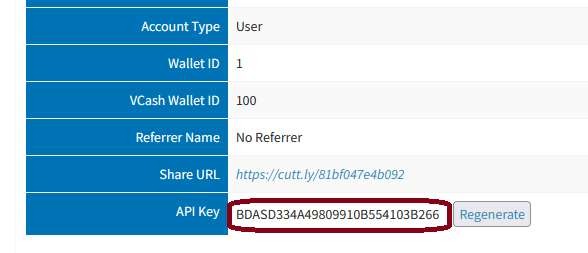
# API Key

Unique api key is required for all process. The below steps will help you get the API key.

1. Create a new account in https://crown.vbiz.in.
2. Click View Profile on bottom side of the left side navigation menu



1. The API Key is available on the profile page. Check the image below.



You will be using this API Key throughout the API requests & websocket connection.

1. You also need your login ID, which can be found on the dashboard



# Authentication

You need to get AccessToken for successfully calling the API end points. To generate a AccessToken you need to call.

API:

http:/s3.vbiz.in/directrt/gettoken?loginid={your\_loginid}&product={sub scribed\_product}&apikey={api\_key}

Parameter:

|  |  |
| --- | --- |
| loginid | Login ID of your account. |
| product | Product that you subscribed. DIRECTPLUS, DIRECTRTPRO |

Response: The response from the server will contain all necessary information that are required for the implementation.

|  |  |
| --- | --- |
| Status | Response |
| SUCCESS | {  "Status": true,  "AccessToken": "36988837e1284a7384203202c491c602",  "MaxSymbol": 70,  "Message":  "<csvheader>Ticker,UniqueName,Symbol,Expiry,StrikePrice,Opti onType,LTD,LTT,Open,High,Low,LTP,Vol,PrevVol,OI,PrevOI,TT Q,TTV,DayOpen,DayHighest,DayLowest,BBQ,BBP,BSQ,BSP,Pr evClose,IV</csvheader>  <ocnheader>CE\_DayOpen,CE\_DayHighest,CE\_DayLowest,CE\_ PrevClose,CE\_LTP,CE\_LTD,CE\_LTT,CE\_TTQ,CE\_TTV,CE\_OI,  CE\_PrevOI,CE\_Vol,CE\_PrevVol,CE\_BBP,CE\_BBQ,CE\_BSP,CE  \_BSQ,CE\_ATP,CE\_IV,CE\_BSMPrice,CE\_Delta,CE\_Theta,CE\_ Gamma,CE\_Rho,CE\_PCRValue,CE\_PCRVol,CE\_PCROI,CE\_In trinsic,CE\_Extrinsic,CE\_Probability,CE\_Moneyness,Symbol,Expi ry,Strike,PE\_DayOpen,PE\_DayHighest,PE\_DayLowest,PE\_Prev Close,PE\_LTP,PE\_LTD,PE\_LTT,PE\_TTQ,PE\_TTV,PE\_OI,PE\_P revOI,PE\_Vol,PE\_PrevVol,PE\_BBP,PE\_BBQ,PE\_BSP,PE\_BSQ, PE\_ATP,PE\_IV,PE\_BSMPrice,PE\_Delta,PE\_Theta,PE\_Gamma, |
|  | PE\_Rho,PE\_PCRValue,PE\_PCRVol,PE\_PCROI,PE\_Intrinsic,PE \_Extrinsic,PE\_Probability,PE\_Moneyness</ocnheader>  <tickrtheader>Instrument,Symbol,Expiry,Strike,OptionType,Skip,  TimeStamp,BidPrice,BidQty,AskPrice,AskQty,LTP,Volume,Skip, Open,High,Low,PrevClose,ATP,TTV,Skip</tickrtheader>  <tickoiheader>Instrument,Symbol,Expiry,Strike,OptionType,OI,S kip,TimeStamp,Skip</tickoiheader>  <grkheader>IV,BSMPrice,Delta,Theta,Gamma,Rho,PCRValue,P CRVol,PCROI,Intrinsic,Extrinsic,Probability,Moneyness,MaxPain </grkheader>",  "UpdateTime": "2025-02-11T20:01:04.1347087+05:30", "ValidUntil": "2025-02-11T23:59:59"  } |
| FAILED | "No user account is found for {LoginID}. Ensure your login id is from your registered account." |
|  | "No active/valid license found for {LoginID} and  {Product}. You may need to subscribe/renew." |

Failed response will contain the reason.

Whereas the response for successful authentication will return the following as json.

|  |  |
| --- | --- |
| Property | Description |
| Status | True/false. The subscription status.  True if you have a valid subscription.  False, if you don’t have valid subscription. |
| AccessToken | Accesstoken that you would require to use in all future calls |
| MaxSymbol | The number of symbols that you can subscribe. This depends on the package that you subscribed. |
| Message | Contains the header info for the data that are delivered via web socket in csv format. The header data are xml encoded.  <csvheader> => header for 1 minute live csv data received.  <ocnheader> => header for live Option Chain data received in csv format.  <tickrtheader> => header for live tick data received in csv format.  <tickoiheader> => header for live OI tick data received in csv format. |
|  | <grkheader> => header for option greeks data received in csv format. |
| UpdateTime | The time of validation. |
| ValidUntil | Time until which this accesstoken will be valid. |

Note: You can subscribe to live data in either csv or json format. Header information are required only for csv formatted data.

# Get Tickers

Tickers list are symbol masters, our backend uses a specific format of symbol names to identify each without any ambiguity. These tickers are unique for each symbols. You can create the unique symbol name using the below mentioned format.

Format:

[EXCHANGE]\_[INSTRUMENT TYPE]\_[SYMBOL]\_[EXDPIRY]\_[STRIKE PRICE]\_[OPTION TYPE]

Examples:

* NSE\_INDICES\_BANKNIFTY
* NSE\_INDICES\_NIFTY
* NSE\_FUTIDX\_BANKNIFTY\_30JAN2025
* NSE\_STOCK\_BEML
* BSE\_STOCK\_BEML
* NSE\_OPTIDX\_FINNIFTY\_30JAN2025\_23150\_CE
* NSE\_OPTSTK\_BERGEPAINT\_30JAN2025\_460\_CE
* MCX\_FUTCOM\_ALUMINI\_31JAN2025
* MCX\_OPTCOM\_COPPER\_24JAN2025\_815\_PE

You can also download the tickers list from our API. These tickers are generated everyday between 8:00 AM and 8:15 AM.

API:

http:/qbase1.vbiz.in/directrt/gettickers?

gettickers?loginid={loginid}&product={product}&accesstoken={accesstoke n}

Parameter:

|  |  |
| --- | --- |
| Parameters | Description |
| loginid | Login ID of the account. |
| product | Subscribed product. |
| accesstoken | Accesstoken received while successful authentication. |

The response will be a file contain the list of tickers generated for the today.

# Get Historical Data

Historical data is available in 1 minute time format via API call. The data will be in CSV format and the header information will be included in the data.

API:

http:/qbase1.vbiz.in/directrt/gethistorical?loginid={your\_loginid}&pro duct={subscribed\_product}&accesstoken={accesstoken}&startdate={ddMMMyy yy}&enddate={ddMMyyyy}&exch={exchange}&inst={instrument type}&symbol={symbol}&expiry={expirydate}&strike={strike}&optiontype={ optiontype}

Parameter:

|  |  |
| --- | --- |
| Parameters | Description |
| loginid | Login ID of the account. |
| product | Subscribed product. |
| accesstoken | Accesstoken received while successful authentication. |
| startdate | Start date of the backfill period. |
| enddate | End date of the backfill period. |
| exch | Exchange name of the symbol. Possible values NSE/BSE/MCX |
| inst | Instrument type of the symbol. Possible values  INDEX/STOCK/FUTIDX/FUTSTK/OPTIDX/OPTSTK |
| symbol | Symbol name. |
| expiry | Expiry date. Not required. |
| strike | Strike price of the symbol. Not required. |
| optiontype | Option type of the symbol. Not required. |

Sample:

http:/qbase1.vbiz.in/directrt/gethistorical?loginid=DC-

ADMI8096&product=DIRECTRTLITE&accesstoken=177687887a0683409e9d8c8598f8 27ef49&startdate=12FEB2025&enddate=12FEB2025&exch=NSE&inst=STOCK&symbo l=SBIN

Response:

Ticker,Skip,Date,Time,Open,High,Low,Close,Volume,OI

SBIN,,20250212,0915,734.15,736.7,730.4,731.15,130213,0

SBIN,,20250212,0916,731.25,732.75,731,732.5,50196,0

SBIN,,20250212,0917,732.75,734.5,732.5,733.5,64725,0

…

…

…

SBIN,,20250212,1528,732.65,732.9,732.1,732.8,26139,0

SBIN,,20250212,1529,732.6,733,732.5,732.95,18889,0

# Get Option Chain

You can receive option chain data for a specific underlying symbol in a single call. The data will be sent as CSV format. The header information is available in the authentication response. Check data enclosed in <ocnheader> tag. The header is also appended in the response.

API:

http:/qbase1.vbiz.in/directrt/gettickers? getoptionchain?loginid={loginid}&product={product}&accesstoken={access token}&exchange={exchange name}&instrument={instrument type}&symbol={underlyingsymbol}&expiry={ddMMMyyyy}

Parameter:

|  |  |
| --- | --- |
| Parameters | Description |
| loginid | Login ID of the account. |
| product | Subscribed product. |
| accesstoken | Accesstoken received while successful authentication. |
| Exchange | Exchange name of the symbol. Possible values NSE/BSE/MCX |
| instrument | Instrument type of the symbol. Use OPTIDX/OPTSTK. |
| symbol | Symbol name. |
| expiry | Expiry date. Not required. |

Sample:

http:/qbase1.vbiz.in/directrt/GetOptionChain?loginid=DC-

ADMI8096&product=DIRECTRTLITE&accesstoken=1787a068340343549e9d8c8598f8 27ef49&exchANGE=NSE&instrument=OPTIDX&symbol=NIFTY&expiry=13FEB2024

Response:

CE\_DayOpen,CE\_DayHighest,CE\_DayLowest,CE\_PrevClose,CE\_LTP,CE\_LTD,CE\_L

TT,CE\_TTQ,CE\_TTV,CE\_OI,CE\_PrevOI,CE\_Vol,CE\_PrevVol,CE\_BBP,CE\_BBQ,CE\_B

SP,CE\_BSQ,CE\_ATP,CE\_IV,CE\_BSMPrice,CE\_Delta,CE\_Theta,CE\_Gamma,CE\_Rho, CE\_PCRValue,CE\_PCRVol,CE\_PCROI,CE\_Intrinsic,CE\_Extrinsic,CE\_Probabili ty,CE\_Moneyness,Symbol,Expiry,Strike,PE\_DayOpen,PE\_DayHighest,PE\_DayL owest,PE\_PrevClose,PE\_LTP,PE\_LTD,PE\_LTT,PE\_TTQ,PE\_TTV,PE\_OI,PE\_PrevOI ,PE\_Vol,PE\_PrevVol,PE\_BBP,PE\_BBQ,PE\_BSP,PE\_BSQ,PE\_ATP,PE\_IV,PE\_BSMPri ce,PE\_Delta,PE\_Theta,PE\_Gamma,PE\_Rho,PE\_PCRValue,PE\_PCRVol,PE\_PCROI,P E\_Intrinsic,PE\_Extrinsic,PE\_Probability,PE\_Moneyness

0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,,NIFTY,13

FEB2025,21100,0.2,0.25,0.05,0.25,0.05,20250213,135848,12506175,150074

1,3118500,5797500,75,43578975,0,0,0.05,935700,0.12,50.78,0,0,-

0.36,0.000002,0,0,0,0,0,0.05,100,OTM

0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,,NIFTY,13

FEB2025,21200,0.25,0.25,0.05,0.25,0.05,20250213,135852,1644300,279531

,638325,751425,975,5885100,0.05,846900,0.1,142800,0.17,47.97,0,0,-

0.33,0.000002,0,0,0,0,0,0.05,100,OTM

1766.05,1766.05,1752.8,1910.2,1752.8,20250213,92413,150,263913,150,0,

75,0,1730.85,75,1774.85,750,1759.42,0,1769.63,1,-

5.83,0,0.58,0,0,0,1752.8,0.0,100,ITM,NIFTY,13FEB2025,21300,0.3,0.35,0 .1,0.3,0.1,20250213,135439,2241000,359881,419100,938925,124350,449220

0,0.1,277425,0.15,267825,0.17,47.62,0,0,-

0.65,0.000004,0,0,0,0,0,0.1,100,OTM

0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,,NIFTY,13

FEB2025,21400,0.3,0.4,0.05,0.35,0.05,20250213,135730,2121900,339504,3

26700,591600,75,3603975,0,0,0.05,145800,0.16,43.4,0,0,-

0.35,0.000003,0,0,0,0,0,0.05,100,OTM

0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

# Streaming Feed via WebSocket

DirectRT uses socketcluster.io (documentation) for streaming live market feeds. Please refer the documentation via the link the shared.

Streaming data are available for

|  |  |
| --- | --- |
| DATA CATEGORY | Format |
| 1 Minute Live data | CSV + JSON |
| Tick Data | CSV only |
| Option Chain | CSV + JSON |
| Option Greeks | CSV + JSON |

Connecting to the server:

Websocket Server Url :

"ws://116.202.165.216:992/directrt/?loginid={loginid}&accesstoken={acc esstkn}&product={product}";

Parameter:

|  |  |
| --- | --- |
| Parameters | Description |
| Loginid | Login ID of the account. |
| Product | Subscribed product. |
| Accesstoken | Accesstoken received while successful authentication. |

Upon successful authentication, 1 concurrent connection is allowed for each API Key. Upon reconnection the old connection will be logged out.

Subscribe to Live Stream:

To receive live streaming data you should subscribe to the symbols. To subscribe for a symbol you should call the subscribe method on the socketcluster client. Please refer the sample application for reference.

Socket.subscribe("{ticker}.{dataformat}")

Parameter:

|  |  |
| --- | --- |
| Parameters | Description |
| ticker | Ticker name that is downloaded from the server. |
| dataformat | csv or json. |

Examples:

socket.subscribe("NSE\_INDICES\_NIFTY.CSV") -> to receive live streaming data for 1 MIN NIFTY Spot in CSV format.

socket.subscribe("NSE\_INDICES\_NIFTY.JSON") -> to receive live streaming data for NIFTY spot in JSON format.

socket.subscribe("NSE\_INDICES\_NIFTY.RAW") -> to receive live streaming TICK BY TICK data for NIFTY Spot in CSV format.

socket.subscribe("NSE\_FUTIDX\_NIFTY.JSON") -> to receive live streaming data for NIFTY Future in JSON format.

socket.subscribe("NSE\_OPTIDX\_NIFTY\_25FEB2024\_23400\_CE.JSON") -> to receive live streaming data for NIFTY 23400 CALL Option contract with expiry 25 Feb 2025 in JSON format.

socket.subscribe("NSE\_OPTIDX\_NIFTY\_25FEB2024\_23400\_CE.OCN.JSON") -> to receive live streaming OPTION CHAIN data for NIFTY 23400 CALL Option contract with expiry 25 Feb 2025 in JSON format.

socket.subscribe("NSE\_OPTIDX\_NIFTY\_25FEB2024\_23400\_CE.GRK.JSON") -> to receive live streaming OPTION GREEKS data for NIFTY 23400 CALL Option contract with expiry 25 Feb 2025 in JSON format.

As soon as you subscribe for a symbol you will start receiving the message from the server via onmessage event.

Similarly to stop receiving data for a particular symbol, you can do so by calling the unsubscribe method of the client socket.

Socket.unsubscribe("{ticker}.{dataformat}")