Diamond Hands Investment Fantasy League

Technical Documentation

Software Engineering

14:332:452

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User

Register User

Registering a user to the database.

- **URL**

  `/user/register`

- **Method:**

  `POST`

- **URL Params**

  None

- **Data Params**

  `username`: String, user's desired username
  `email`: String, user's email
  `password`: String, user's desired password

- **Success Response:**

  - **Code:** 200
    Content: `{ {savedUser} }`

- **Error Response:**

  - **Code:** 422 UNPROCESSABLE ENTRY
    Content: `{ error : "Invalid email/password" }`

- **Sample Call Body:**

```
{
    "username": "username123", <br>
    "email": "email123@gmail.com", <br>
    "password": "password123"
}
```

Login User

Authenticates the user and assigns the user a token.

- **URL**

  `/user/login`

- **Method:**

  `POST`

- **URL Params**

  None

- **Data Params**

  `username`: String, username
  `password`: String, password

- **Success Response:**

  - **Code:** 200
    Content: `{ {token} }`

- **Error Response:**

  - **Code:** 401 UNAUTHORIZED
    Content: `{ error : "Incorrect username/password" }`

- **Sample Call Body:**

```
{
    "username": "username123",
    "password": "password123"
}
```

Get League by User

Gets all leagues that a user is a part of. Returns an empty array if there are no leagues found.

- **URL**

  `/user/:username/league`

- **Method:**

  `GET`

- **URL Params**

  `username`: String, username

- **Data Params**

  None

- **Success Response:**

  - **Code:** 200
    Content: `{ {list of League objects} }`

- **Error Response:**

  - **Code:** 404 NOT FOUND
    Content: `{ error : "League(s) not found" }`

Get All AI Players

Gets all AI players in all leagues (required to update AI portfolios)

- **URL**

  `/user/ai`

- **Method:**

  `GET`

- **URL Params**

  None

- **Data Params**

None

- **Success Response:**

  - **Code:** 200
    Content: `{ {list of User objects} }`

- **Error Response:**

  - **Code:** 404 NOT FOUND
    Content: `{ "League not found" }`

League

Create League

Allows an authenticated user to create a league and returns league json object. Initializes an empty portfolio and makes user the league manager by default.

- **URL**

  `/league/create`

- **Method:**

  `POST`

- **Headers**

  Bearer token in authorization header. (Ex: Authorization: 'Bearer ' + token)

- **URL Params**

  None

- **Data Params**

  Required

  `leagueName`: String, desired league name
  `settings`: Object, object that contains settings params
  `settings.balance`: Number, balance that everyone in the league starts out with
  `settings.endDate`: Date, date at which the league expires and is disbanded
  `settings.maxPlayers`: Number, max players that are allowed in the league

  Other

  `leagueKey`: String, specifies a key that is essentially used a password to join a league. defaults to empty string.
  `settings.aiPlayer`: String, number of ai players that will be added to the league.
  `settings.public`: Bool, league visibility; whether a league key is required or not. defaults to false.

When this is false, `leagueKey` must be set.
`settings.commissionPercent`: Number, specifies commission percentage which is deducted as part of a transaction. defaults to 0.
`settings.tradeLimit`: Number, number of trades allowed within a trading day. defaults to 0.

- **Success Response:**

  - **Code:** 200
    Content: `{ {savedLeague} }`

- **Error Response:**

  - **Code:** 422 UNPROCESSABLE ENTRY
    Content: `{ error : "Incorrect params" }`

- **Sample Call Body:**

```
{
    "leagueName": "My Awesome League",
    "leagueKey": "secretkey123",
    "settings": {
        "balance": 500,
        "aiPlayer": 0,
        "endDate": "2022-04-23T18:25:43",
        "maxPlayers": 5,
    }
}
```

Join League

Allows an authenticated user to join a league and returns league json object. Initializes an empty portfolio with each new user.

- **URL**

  `/league/join`

- **Method:**

  `POST`

- **Headers**

  Bearer token in Authorization header. (See above)

- **URL Params**

  None

- **Data Params**

  Required

  `leagueName`: String, league name
  `leagueKey`: String, associated league key, if applicable, otherwise exclude this param

- **Success Response:**

  - **Code:** 200
    Content: `{ 'Successfully joined league! ({leagueName}) }`

- **Error Response:**

  - **Code:** 404 NOT FOUND
    Content: `{ error: 'League not found'}`

  - **Code:** 422 UNPROCESSABLE ENTRY
    Content: `{ error : 'Cannot join league that you are already a part of! ({leagueName}) }`

  - **Code:** 400 BAD REQUEST
    Content: `{ error : 'Cannot join league since it is full! ({leagueName}) }`

- **Sample Call Body:**

```
{
    "leagueName": "My Awesome League",
    "leagueKey": "secretkey123"
}
```

Leave League

Allows an authenticated user to leave a league and returns league json object. Removes associated portfolio in said league.

- **URL**

  `/league/leave`

- **Method:**

  `POST`

- **Headers**

  Bearer token in Authorization header. (See above)

- **URL Params**

  None

- **Data Params**

  Required

  `leagueName`: String, league name

- **Success Response:**

  - **Code:** 200
    Content: `{ 'Successfully left league! ({leagueName}) }`

- **Error Response:**

  - **Code:** 404 NOT FOUND
    Content: `{ error: 'League not found'}`

- **Sample Call Body:**

```
{
    "leagueName": "My Awesome League",
}
```

Disband League

Allows an authenticated league manager to delete a league entirely and returns a confirmation message.

- **URL**

  `/league/disband`

- **Method:**

  `POST`

- **Headers**

  Bearer token in Authorization header. (See above)

- **URL Params**

  None

- **Data Params**

  Required

  `leagueName`: String, league name

- **Success Response:**

  - **Code:** 200
    Content: `{ 'Successfully disbanded league! ({leagueName}) }`

- **Error Response:**

  - **Code:** 404 NOT FOUND
    Content: `{ error: 'League not found'}`

  - **Code:** 401 UNAUTHORIZED
    Content: `{ Cannot disband league. User is not the league manager}`
  - **Code:** 422 UNPROCESSABLE ENTRY
    Content: `{ Cannot disband league cleanly. Unknown Error occurred. {err}'}`

- **Sample Call Body:**

```
{
    "leagueName": "My Awesome League",
}
```

Kick Player from League

Allows an authenticated league manager to kick a specific player from their league.

- **URL**

  `/league/:league/kick`

- **Method:**

  `POST`

- **Headers**

  Bearer token in Authorization header. (See above)

- **URL Params**

  `league`: String, league name

- **Data Params**

  Required

  `username`: String, player to kick

- **Success Response:**

  - **Code:** 200
    Content: `{ Successfully kicked player {username} from {league}! }`

- **Error Response:**

  - **Code:** 404 NOT FOUND
    Content: `{ Error: 'League not found'}`
  - **Code:** 404 NOT FOUND
    Content: `{ Error: 'Player to Kick not found'}`

  - **Code:** 401 UNAUTHORIZED
    Content: `{ Cannot kick player. User is not the league manager}`

  - **Code:** 401 UNAUTHORIZED
    Content: `{ Cannot kick the league manager from league}`

  - **Code:** 422 UNPROCESSABLE ENTRY
    Content: `{ Cannot kick player cleanly. Unknown Error occurred. {err}'}`

- **Sample Call:**

`POST /league/MyAwesomeLeague/kick`

```
{
    "username": "jscheire3",
}
```

Give Money to Player

Allows an authenticated league manager to add money to a specific player who is in their league. Money is added directly to the specified user's portfolio as cash

- **URL**

  `/league/:league/donate`

- **Method:**

  `POST`

- **Headers**

  Bearer token in Authorization header. (See above)

- **URL Params**

  `league`: String, league name

- **Data Params**

  Required

  `username`: String, player to kick, `cash`: Number, amount to add to portfolio

- **Success Response:**

  - **Code:** 200
    Content: `{ Successfully gave $ {cash} to player {username} in {league}! }`

- **Error Response:**

- **Code:** 404 NOT FOUND
  Content: `{ Error: 'League not found'}`

- **Code:** 404 NOT FOUND
  Content: `{ Error: 'Recipient player not found'}`

- **Code:** 401 UNAUTHORIZED
  Content: `{ Cannot add money to player. User is not the league manager}`

- **Code:** 422 UNPROCESSABLE ENTRY
  Content: `{ Cannot give money to player cleanly. Unknown Error occurred. {err}'}`

- **Sample Call:**

`POST /league/MyAwesomeLeague/donate`

```
{
    "username": "jscheire3",
    "cash": 100,
}
```

Get All Leagues

Get all league objects in the database.

- **URL**

  `/league/find/all`

- **Method:**

  `GET`

- **URL Params**

  None

- **Data Params**

  None

- **Success Response:**

  - **Code:** 200
    Content: `{ {all the leagues} }`

- **Error Response:**

  - **Code:** 404 NOT FOUND
    Content: `{ error: 'League not found'}`

Get League Names

Get all league names from the database.

- **URL**

  `/league/find/names`

- **Method:**

  `GET`

- **URL Params**

  None

- **Data Params**

  None

- **Success Response:**

  - **Code:** 200
    Content: `{ {all the league names} }`

- **Error Response:**

  - **Code:** 404 NOT FOUND
    Content: `{ error: 'League not found'}`

Get League By ID

Get a league by its MongoDB ID

- **URL**

  `/league/findid/:id`

- **Method:**

  `GET`

- **URL Params**

  `id`: String, ID of league

- **Data Params**

  None

- **Success Response:**

  - **Code:** 200
    Content: `{ {League Object} }`

- **Error Response:**

- **Code:** 404 NOT FOUND
  Content: `{ error: 'Leagues not found'}`

Get League by Name

Get a league by specifying a league name. Returns a league object.

- **URL**

  `/league/find/:leagueName`

- **Method:**

  `GET`

- **URL Params**

  `leagueName`: String, league name

- **Success Response:**

  - **Code:** 200
    Content: `{ {league object} }`

- **Error Response:**

  - **Code:** 404 NOT FOUND
    Content: `{ error: 'League not found'}`

Get Portfolio

Get the portfolio of the authenticated user for the league requested. Returns a portfolio object.

- **URL**

  `/league/portfolio/:league`

- **Method:**

  `GET`

- **URL Params**

  `league`: String, league name

- **Success Response:**

  - **Code:** 200
    Content: `{ {Portfolio object} }`

- **Error Response:**

  - **Code:** 404 NOT FOUND
    Content: `{ error: 'League not found'}`

  - **Code:** 400 BAD REQUEST
    Content: `{ {error} }`

Get Specified Portfolio

Get the portfolio of a user for the league requested. Returns a portfolio object.

- **URL**

  `/league/specifiedportfolio/:league/:username`

- **Method:**

  `GET`

- **URL Params**

  `league`: String, league name, `username`: String, player whose portfolio we want

- **Success Response:**

  - **Code:** 200
    Content: `{ {Portfolio object} }`

- **Error Response:**

  - **Code:** 404 NOT FOUND
    Content: `{ error: 'League not found'}`

  - **Code:** 400 BAD REQUEST
    Content: `{ {error} }`

Get Curated News

Get a curated news feed based on the user's holdings in a league

- **URL**

  `/league/news/:league/`

- **Method:**

  `GET`

- **URL Params**

  `league`: String, league name,

- **Success Response:**

  - **Code:** 200
    Content: `{ {News objects} }`

- **Error Response:**

  - **Code:** 404 NOT FOUND
    Content: `{ error: 'League not found'}`
  - **Code:** 400 BAD REQUEST
    Content: `{ {error} }`

Get Summary

Get a summary based on the user's holdings in a league for the week and other player's performances.

- **URL**

  `/league/summary/:leagueName/`

- **Method:**

  `GET`

- **URL Params**

  `leagueName`: String, league name,

- **Success Response:**

  - **Code:** 200
    Content:

```
{
  "startAverage" : (number),
  "endAverage" : (number),
  "leaguePercentageReturn" : (number),
  "leagueDollarReturn" : (number),
  "leaguePercentageReturnDifference" : (number),
  "leagueDollarReturnDifference" : (number),
  "personalStartWorth" : (number),
  "personalEndWorth" : (number),
  "personalPercentageReturn" : (number),
  "personalDollarReturn" : (number),
  "dollarReturnRankings" : (number),
  "percentageReturnRankings" : (number),
  "dollarReturnPlace" : (number),
  "percentageReturnPlace" : (number),
  "SPPercentageReturn" : (number),
  "SPReturnDifference" : (number),
}
```

- **Error Response:**

  - **Code:** 404 NOT FOUND
    Content: `{ error: 'League(s) not found'}`

  - **Code:** 400 BAD REQUEST
    Content: `{ {error} }`

Get Overview

Get a updated prices of all user portfolios within the league. Get list of transactions within the league as well.

- **URL**

  `/league/overview/:leagueName/`

- **Method:**

  `GET`

- **URL Params**

  `leagueName`: String, league name,

- **Success Response:**

  - **Code:** 200
    Content:

    ```
    {
      "portfolios" : [ {Portfolio Objects} ],
      "transactions" : [ {Transaction Objects} ],
    }
    ```

- **Error Response:**

  - **Code:** 404 NOT FOUND
    Content: `{ error: 'League not found'}`

  - **Code:** 400 BAD REQUEST
    Content: `{ {error} }`

Trade

Make Trade

Execute a trade in a league of the user's choice. Returns relevant portfolio.

- **URL**

  `/trade/submit`

- **Method:**

`POST`

- **URL Params**

  None

- **Data Params**

  None

  Required

  `leagueName`: String, league name to perform trade in
  `orderType`: String, type of order to execute. For now, you can specify marketBuy and marketSell.
  `quantity`: Number, quantity of shares to buy
  `tickerSymbol`: String, ticker to specify which share to buy
  `expiryDate`: Date, date and time when the outstanding order should expire

- **Success Response:**

  - **Code:** 200
    Content: `{ {Portfolio Object} }`

- **Error Response:**

  - **Code:** 400 BAD REQUEST
    Content: `{ error: 'Insufficient cash for transaction'}`

  - **Code:** 404 NOT FOUND
    Content: `{ error: 'League not found'}`

- **Sample Call Body:**

```
{
    "leagueName": "My Awesome League",
    "orderType": "marketBuy",
    "quantity": 1,
    "tickerSymbol": "GME",
    "expiryDate": "2022-04-23T18:25:43"
}
```

Tooltips

Get all Tooltips

Returns all tooltips from the database

- **URL**

`/tooltips/`

- **Method:**

  `GET`

- **URL Params**

  None

- **Data Params**

  None

- **Success Response:**

  - **Code:** 200
    Content: `{ {Tooltip Object}, ... }`

- **Error Response:**

  - **Code:** 422 UNPROCESSABLE ENTRY
    Content: `{ error : "Database error" }`

Get Tooltip

Returns all tooltips from the database

- **URL**

  `/tooltips/:term`

- **Method:**

  `GET`

- **URL Params**

  `term`: String, Word to Define

- **Data Params**

  None

- **Success Response:**

  - **Code:** 200
    Content: `{ {Tooltip Object} }`

- **Error Response:**

  - **Code:** 422 UNPROCESSABLE ENTRY
    Content: `{ error : "Database error" }`

Stock Services

Request Current Price

Returns the latest price data available for a ticker

- **URL**

  `/equity/current/:ticker`

- **Method:**

  `GET`

- **URL Params**

  None

- **Data Params**

  None

- **Success Response:**

  - **Code:** 200
    Content: `{ "price": (number) }`

- **Error Response:**

  - **Code:** 400 BAD REQUEST
    Content: `{ "error" : {err} }`

- **Sample Call:**

  `/equity/current/twtr`

```
{
  "price": 65.27
}
```

Request Intraday Price

Returns a ticker's price data for the day (or last available day in case of weekends)

- **URL**

  `/equity/intraday/:ticker`

- **Method:**

  `GET`

- **URL Params**

  None

- **Data Params**

  None

- **Success Response:**

  - **Code:** 200
    Content:

    ```
    {
      {time1}: (number),
      {time2}: (number),
      ...
    }
    ```

- **Error Response:**

  - **Code:** 400 BAD REQUEST
    Content: `{ "error" : {err} }`

- **Sample Call:**

  `/equity/intraday/twtr`

```
{
  "09:30": 65.18,
  "09:31": 65.068,
  "09:32": 64.926,
  "09:33": 65.235,
  "09:34": 65.28,
  "09:35": 65.198,
  ...
}
```

Request Historical Data

Returns the price data for the given ticker and time frame

- **URL**

  `/equity/historical/:ticker?timeframe={timeframe}`

  timeframe must be in `['5d', '1m', '6m', 'ytd', '1y', '5y']`

- **Method:**

`GET`

- **URL Params**

  None

- **Data Params**

  None

- **Success Response:**

  - **Code:** 200
    Content:

    ```
    {
      {time1}: (number),
      {time2}: (number),
      ...
    }
    ```

- **Error Response:**

  - **Code:** 400 BAD REQUEST
    Content: `{ Invalid timeframe }`

  - **Code:** 400 BAD REQUEST
    Content: `{ "error" : {err} }`

- **Sample Call:**

  `/equity/historical/twtr?timeframe=1m`

```
{
  "2021-02-23": 73.17,
  "2021-02-24": 71.92,
  "2021-02-25": 74.59,
  "2021-02-26": 77.06,
  "2021-03-01": 77.63,
  "2021-03-02": 73.67,
  "2021-03-03": 70.86,
  "2021-03-04": 66.75,
  "2021-03-05": 66.95,
  "2021-03-08": 63.48,
  "2021-03-09": 67.52,
  "2021-03-10": 64.83,
  "2021-03-11": 68.46,
  "2021-03-12": 68.1,
  "2021-03-15": 70.28,
  "2021-03-16": 69.25,
  "2021-03-17": 70.2,
```

```
    "2021-03-18": 66.72,
    "2021-03-19": 66.23,
    "2021-03-22": 65.21
  }
```

Request Ticker Statistics

Returns statistics for an equity

- **URL**

  `/equity/statistics/:ticker`

- **Method:**

  `GET`

- **URL Params**

  None

- **Data Params**

  None

- **Success Response:**

  - **Code:** 200
    Content:

    ```
    {
      "peRatio":        (number),
      "dividend":       (number),
      "tickerSymbol":   (string),
      "__v":            (number),
      "askPrice":       (number),
      "avgVolume":      (number),
      "beta":           (number),
      "bidPrice":       (number),
      "currentPrice":   (number),
      "dayHigh":        (number),
      "dayLow":         (number),
      "earningsDate":   (date),
      "eps":            (number),
      "equityName":     (string),
      "exDividend":     (number),
      "marketCap":      (number),
      "openPrice":      (number),
      "percentChange":  (number),
      "previousClose":  (number),
      "time":           (date),
      "volume":         (number),
    ```

```
  "week52High":     (number),
  "week52Low":      (number)
}
```

- **Error Response:**

  - **Code:** 400 BAD REQUEST
    Content: `{ "error" : {err} }`

- **Sample Call:**

  `/equity/statistics/twtr`

```
{
  "peRatio": -45.83157108280366,
  "dividend": 0,
  "_id": "6058085f8ecf8b81f934319a",
  "tickerSymbol": "twtr",
  "__v": 0,
  "askPrice": 81,
  "avgVolume": 22957837,
  "beta": 1.236305599208382,
  "bidPrice": 65.01,
  "currentPrice": 65.07,
  "dayHigh": null,
  "dayLow": null,
  "earningsDate": "2021-02-09T00:00:00.000Z",
  "eps": -1.44,
  "equityName": "Twitter Inc",
  "exDividend": null,
  "marketCap": 52047523742,
  "openPrice": null,
  "percentChange": -0.00215,
  "previousClose": 65.21,
  "time": "2021-03-23T15:51:21.891Z",
  "volume": 218993,
  "week52High": 80.75,
  "week52Low": 22.36
}
```

Validate Ticker

Returns whether or not a ticker is a valid tracked ticker

- **URL**

  `/equity/tickers/:ticker`

- **Method:**

  `GET`

- **URL Params**

  None

- **Data Params**

  None

- **Success Response:**

  - **Code:** 200
    Content: `{ "exists": (boolean) }`

- **Error Response:**

  - **Code:** 503 SERVICE UNAVAILABLE
    Content: `{ "error" : "Unable to access database" }`

- **Sample Call:**

  `/equity/tickers/twtr`

```
{
  "exists": true
}
```

News Services

Request News

Returns news data given an equity

- **URL**

  `/news/newsInfo/:ticker`

- **Method:**

  `GET`

- **URL Params**

  `ticker`: String, Equity Symbol

- **Data Params**

  None

- **Success Response:**

  - **Code:** 200
    Content: [{News Objects}]

    News Object:

    ```
    {
      "headline" : (string),
      "source" : (string),
      "image" : (url),
      "url" : (url),
      "date" : (date),
    }
    ```

- **Error Response:**

  - **Code:** 400 BAD REQUEST
    Content: `{ "error" : {err} }`

- **Sample Call:**

  `/news/newsInfo/AAPL`

```
[
  {
    "headline":"2021 iPad Pro: The best new features video - CNET",
    "source":"CNET",
    "image":"https://cloud.iexapis.com/v1/news/image/8993058e-2eab-4ce8-bdc8-
9076c6522d31",
    "url":"https://cloud.iexapis.com/v1/news/article/8993058e-2eab-4ce8-bdc8-
9076c6522d31",
    "date":"2021-05-07T12:00:03.000Z"
  },
  {
    "headline":"Cathie Wood dimezza quota Apple, riduce Google e Fastly",
    "source":"Investing.com Italy",
    "image":"https://cloud.iexapis.com/v1/news/image/112cdbf3-1ddc-4f25-99d9-
88dc371a4c61",
    "url":"https://cloud.iexapis.com/v1/news/article/112cdbf3-1ddc-4f25-99d9-
88dc371a4c61",
    "date":"2021-05-07T10:05:25.000Z"
  },
  {
    "headline":"Why Apple Customers Are Drilling Holes Into Their AirTags",
    "source":"Benzinga",
    "image":"https://cloud.iexapis.com/v1/news/image/0fe63ee8-d2d8-4a2c-8d11-
47cd5c5e19e6",
    "url":"https://cloud.iexapis.com/v1/news/article/0fe63ee8-d2d8-4a2c-8d11-
47cd5c5e19e6",
    "date":"2021-05-07T09:44:35.000Z"
  },
```

```
    ...
]
```

AI Services

Request Ticker Mean Reversion

Returns the latest mean reversion data available for a ticker

- **URL**

  `/ai/mean/:ticker`

- **Method:**

  `GET`

- **URL Params**

  `ticker`: String, equity ticker symbol

- **Data Params**

  None

- **Success Response:**

  - **Code:** 200
    Content:

    ```
    {
        "smaDates": [dates]
        "smaPrices": [numbers]
        "smaLower": [numbers]
        "smaUpper": [numbers]
        "smaBuyers": [numbers]
        "smaSellers": [numbers]
    }
    ```

- **Error Response:**

  - **Code:** 400 BAD REQUEST
    Content: `{ "error" : {err} }`

- **Sample Call:**

  `/ai/mean/aapl`

```
{
    "smaDates": [
        "2020-05-28",
        "2020-05-29",
        "2020-06-01",
        "2020-06-02",
        "2020-06-03",
        "2020-06-04",
        "2020-06-05",
        "2020-06-08",
        "2020-06-09",
        ...,
        "2021-04-29",
        "2021-04-30"
        ],
    "smaPrices": [
        "76.748510",
        "77.058615",
        "77.476019",
        "77.861224",
        "78.213990",
        "78.493852",
        "78.849314",
        "79.139479",
        "79.499915",
        ...,
        "131.830500",
        "132.337500"
        ],
    "smaLower": [
        "71.879064",
        "72.441736",
        "73.419035",
        "74.266459",
        "74.917595",
        "75.567034",
        "75.805211",
        "75.699095",
        "75.043654",
        ...,
        "124.966574",
        "126.862483"
        ],
    "smaUpper": [
        "81.617956",
        "81.675493",
        "81.533004",
        "81.455989",
        "81.510385",
        "81.420670",
        "81.893417",
        "82.579863",
        "83.956176",
        ...,
        "138.694427",
        "137.812518"
        ],
    "smaBuyers": [
        "NaN",
        "NaN",
        "NaN",
        "NaN",
        "NaN",
        "NaN",
        "NaN",
        "NaN",
        "NaN",
        ...,
        "NaN",
        "NaN"
        ],
    "smaSellers": [
        "NaN",
        "NaN",
        "NaN",
        "NaN",
        "NaN",
        "NaN",
        "82.460152",
        "82.947685",
        "85.567009",
        ...,
        "NaN",
        "NaN"
        ]
    }
```

Request Ticker Close Prices

Returns (at most) 1 year of close price data for a ticker

- **URL**

  `/ai/close/:ticker`

- **Method:**

  `GET`

- **URL Params**

  `ticker`: String, equity ticker symbol

- **Data Params**

  None

- **Success Response:**
  - **Code:** 200
    Content: `{ "data": [numbers] }`
- **Error Response:**
  - **Code:** 400 BAD REQUEST
    Content: `{ "error" : {err} }`
- **Sample Call:**

  `/ai/close/aapl`

```
{
    "data": [
        "79.164230",
        "79.087120",
        "80.059723",
        "80.430351",
        "80.873131",
        "80.176636",
        "82.460152",
        "82.947685",
        "85.567009",
        ...,
        "133.580002",
        "131.830500",
        "132.336500"
        ]
}
```

Request Ticker Momentum Data

Returns momentum graph data for a ticker

- **URL**

  `/ai/momentum/:ticker`

- **Method:**

  `GET`

- **URL Params**

  `ticker`: String, equity ticker symbol

- **Data Params**

  None

- **Success Response:**

  - **Code:** 200
    Content:

    ```
    {
        "dates": [dates],
        "rsi": [numbers],
        "buy": [numbers],
        "sell": [numbers],
    }
    ```

- **Error Response:**

  - **Code:** 400 BAD REQUEST
    Content: `{ "error" : {err} }`

- **Sample Call:**

  `/ai/momentum/aapl`

```
{
    "dates": [
        "2020-05-21",
        "2020-05-22",
        "2020-05-26",
        "2020-05-27",
        "2020-05-28",
        "2020-05-29",
        "2020-06-01",
        "2020-06-02",
        "2020-06-03",
        ...,
        "2021-04-29",
        "2021-04-30"
        ],
    "rsi": [
        "69.637951",
        "70.785354",
        "67.861129",
        "68.749366",
        "68.843453",
        "68.352780",
        "71.146222",
        "72.154873",
        "73.353311",
        ...,
        "57.985592",
        "56.700859"
        ],
```

```
    "buy": [
        "NaN",
        "NaN",
        "NaN",
        "NaN",
        "NaN",
        "NaN",
        "NaN",
        "NaN",
        "NaN",
        ...,
        "NaN",
        "NaN"
        ],
    "sell": [
        "NaN",
        "70.785354",
        "NaN",
        "NaN",
        "NaN",
        "NaN",
        "71.146222",
        "72.154873",
        "73.353311",
        ...,
        "NaN",
        "NaN"
        ]
}
```

Request Ticker Candlesticks Data

Returns candlesticks graph data for a ticker

- **URL**

  `/ai/candlesticks/:ticker`

- **Method:**

  `GET`

- **URL Params**

  `ticker`: String, equity ticker symbol

- **Data Params**

  None

- **Success Response:**

  - **Code:** 200
    Content:

    ```
    Response:
    {
        "data": [ {Candlesticks Objects} ],
    }

    Candlesticks Object:
    {
        "x": (Date),
        "y": [number, number, number, number]
    }
    ```

- **Error Response:**

  - **Code:** 400 BAD REQUEST
    Content: `{ "error" : {err} }`

- **Sample Call:**

  `/ai/candlesticks/aapl`

```
{
    "data": [
        {
            "x":"2021-02-01",
            "y":["133.75","135.38","130.93","134.14"]
        },
        {
            "x":"2021-02-02",
            "y":["135.73","136.31","134.61","134.99"]
        },
        {
            "x":"2021-02-03",
            "y":["135.76","135.77","133.61","133.94"]
        },

        ...,

        {
            "x":"2021-04-29",
            "y":["132.45","2021.00","137.07","136.47"]
        },
        {
            "x":"2021-04-30",
            "y":["131.37","2021.00","133.56","131.78"]
        }
        ]
}
```