Package ‘bitmexr’

October 12, 2022

Type Package
Title R Client for BitMEX
Version 0.3.2
Description A client for cryptocurrency exchange BitMEX
           <https://www.bitmex.com/> including the ability to obtain historic
           trade data and place, edit and cancel orders. BitMEX’s Testnet and
           live API are both supported.
License MIT + file LICENSE
     https://hfshr.github.io/bitmexr/
BugReports https://github.com/hfshr/bitmexr/issues/
Imports attempt, curl, digest, dplyr, httr, jsonlite, lubridate,
        magrittr, progress, purrr, rlang, stringr, utils
Suggests covr, ggplot2, httptest, knitr, rmarkdown, testthat,
        tidyquant
VignetteBuilder knitr
Encoding UTF-8
RoxygenNote 7.2.1
NeedsCompilation no
Author Harry Fisher [cre, aut, cph]
Maintainer Harry Fisher <harryfisher21@gmail.com>
Repository CRAN
Date/Publication 2022-09-30 17:30:02 UTC

R topics documented:

<table>
<thead>
<tr>
<th>available_symbols</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>bitmexr</td>
<td>3</td>
</tr>
<tr>
<td>bucket_trades</td>
<td>3</td>
</tr>
</tbody>
</table>

1
### Description

Available symbols

### Usage

```r
available_symbols()
```

### Value

A character vector of currently available symbols to be used as the symbol value in functions within the package.

### Examples

```r
## Not run:
available_symbols()

## End(Not run)
```
Description

bitmexr provides tools to access the API for the BitMEX cryptocurrency derivatives exchange https://www.bitmex.com/.

See Also

- https://www.bitmex.com/app/apiOverview
- https://www.bitmex.com/api/explorer/

bucket_trades

Bucketed trade data

Description

bucket_trades() retrieves open high low close (OHLC) data for the specified symbol/time frame.

Usage

bucket_trades(  
  binSize = "1m",  
  partial = "false",  
  symbol = "XBTUSD",  
  count = 1000,  
  reverse = "true",  
  filter = NULL,  
  columns = NULL,  
  start = NULL,  
  startTime = NULL,  
  endTime = NULL,  
  use_auth = FALSE
)

Arguments

- **binSize**: character string. The time interval to bucket by, must be one of: "1m", "5m", "1h" or "1d".
- **partial**: character string. Either "true" of "false". If "true", will send in-progress (incomplete) bins for the current time period.
- **symbol**: a character string for the instrument symbol. Use available_symbols() to see available symbols.
bucket_trades

count  an optional integer to specify the number of rows to return. Maximum of 1000 (the default) per request.

reverse  an optional character string. Either "true" or "false". If "true", result will be ordered with starting with the newest (defaults to "true").

filter  an optional character string for table filtering. Send JSON key/value pairs, such as "{"key": 'value'}". See examples.

columns  an optional character vector of column names to return. If NULL, all columns will be returned.

start  an optional integer. Can be used to specify the starting point for results.

startTime  an optional character string. Starting date for results in the format "yyyy-mm-dd" or "yyyy-mm-dd hh-mm-ss".

endTime  an optional character string. Ending date for results in the format "yyyy-mm-dd" or "yyyy-mm-dd hh-mm-ss".

use_auth  logical. Use TRUE to enable authentication with API key.

Details

The API will only return 1000 rows per call. If the desired time frame requires more than one API call, consider using map_bucket_trades().

Value

bucket_trades() returns a data.frame containing:

- timestamp: POSIXct. Date and time of trade.
- open: numeric. Opening price for the bucket.
- high: numeric. Highest price in the bucket.
- low: numeric. Lowest price in the bucket.
- close: numeric. Closing price of the bucket.
- trades: numeric. Number of trades executed within the bucket.
- volume: numeric. Volume in USD.
- lastSize: numeric. Size of the last trade executed.
- turnover: numeric. How many satoshi were exchanged.
- homeNotional: numeric. BTC value of the bucket.
- foreignNotional: numeric. USD value of the bucket.

References

urlhttps://www.bitmex.com/api/explorer/#!/Trade/Trade_getBucketed
cancel_all_orders

Examples

## Not run:

# Return most recent data for symbol "ETHUSD" for 1 hour buckets

bucket_trades(
    binSize = "1h",
    symbol = "ETHUSD",
    count = 10
)

## End(Not run)

cancel_all_orders  Cancel all orders

Description

Cancel all orders that have been placed for a specific symbol, or use a filter to select specific orders.

Usage

cancel_all_orders(symbol = NULL, filter = NULL, text = NULL)

Arguments

symbol   string. Optional symbol. If provided, only cancels orders for that symbol.
filter   string. Optional filter for cancellation. Use to only cancel some orders, e.g. "side": "Buy".

text     string. Optional cancellation annotation. e.g. 'Spread Exceeded'.

Value

Returns a data.frame with information about the orders that were cancelled. See https://www.bitmex.com/api/explorer/#!/Order/Order_cancelAll for more information.

Examples

## Not run:

# cancel all "Buy" orders
cancel_all_orders(filter = '{"side": "Buy"}')

## End(Not run)
cancel_order

Description

Cancel an order that has been placed.

Usage

cancel_order(orderID = NULL, clOrdID = NULL, text = NULL)

Arguments

orderID  string. Order ID.
clOrdID   string. Optional client ID set when placing an order.
text     string. Optional cancellation annotation. e.g. 'Spread Exceeded'.

Value

Returns a data.frame with details about the order that was cancelled. See https://www.bitmex.com/api/explorer/#!/Order/Order_cancel for more information.

Examples

## Not run:
# Cancel an order
cancel_order(clOrdID = "myorderid")

## End(Not run)

edit_order

Description

Edit an order that has been placed.
Usage

```r
edit_order(
  orderID = NULL,
  origClOrdID = NULL,
  clOrdID = NULL,
  orderQty = NULL,
  leavesQty = NULL,
  price = NULL,
  stopPx = NULL,
  pegOffsetValue = NULL,
  text = NULL
)
```

Arguments

- **orderID** string. Order ID.
- **origClOrdID** string. The original client order ID.
- **clOrdID** string. Optional new client order ID.
- **orderQty** double. Order quantity in units of the instrument (i.e. contracts).
- **leavesQty** string. Optional leaves quantity in units of the instrument (i.e. contracts). Useful for amending partially filled orders.
- **price** double. Optional limit price for 'Limit', 'StopLimit', and 'LimitIfTouched' orders.
- **stopPx** double. Optional trigger price for 'Stop', 'StopLimit', 'MarketIfTouched', and 'LimitIfTouched' orders. Use a price below the current price for stop-sell orders and buy-if-touched orders. Use execInst of 'MarkPrice' or 'LastPrice' to define the current price used for triggering.
- **pegOffsetValue** string. Optional trailing offset from the current price for 'Stop', 'StopLimit', 'MarketIfTouched', and 'LimitIfTouched' orders; use a negative offset for stop-sell orders and buy-if-touched orders. Optional offset from the peg price for 'Pegged' orders.
- **text** string. Optional amend annotation. e.g. 'Adjust skew'.

Value

A `data.frame` with information about the amended order. See [https://www.bitmex.com/api/explorer#!/Order/Order_amend](https://www.bitmex.com/api/explorer#!/Order/Order_amend) for more information.

Examples

```r
## Not run:

# place an order

place_order(symbol = "XBTUSD", price = 5000, orderQty = 100, clOrdID = "myorderid")

# edit the order
```
get_bitmex

edit_order(origClOrID = "myorderid", orderQty = 200)

## End(Not run)

---

get_bitmex | GET requests

### Description

Use `get_bitmex()` to send GET requests. For private endpoints, authentication is required.

### Usage

```r
get_bitmex(path, args = NULL, use_auth = FALSE)
```

### Arguments

- **path**: string. Endpoint for the API.
- **args**: A named list containing valid parameters for the given API endpoint.
- **use_auth**: logical. Use `TRUE` to access private endpoints if authentication has been set up.

### Value

Returns a `data.frame` containing the response from the request.

### References

https://www.bitmex.com/api/explorer/

### Examples

```r
## Not run:

# Access a public endpoint
chat <- get_bitmex(path = "/chat", args = list(channelID = 1, reverse = "true"))

# Access private endpoint using `use_auth` = `TRUE`.
user <- get_bitmex(path = "/execution", args = list(symbol = "XBTUSD"), use_auth = TRUE)

## End(Not run)
```
**map_bucket_trades**  

*Bucket trade data over an extended period*

**Description**

`map_bucket_trades()` uses `purrr::map_dfr` to execute multiple API calls. This is useful when the data you want to return exceeds the maximum 1000 row response limit, but do not want to have to manually call `bucket_trades()` repeatedly.

**Usage**

```r
test <- map_bucket_trades(
  start_date = "2015-09-25 13:00:00",
  end_date = now(tzone = "UTC"),
  binSize = "1d",
  symbol = "XBTUSD",
  partial = "false",
  filter = NULL,
  use_auth = FALSE,
  verbose = FALSE
)
```

**Arguments**

- **start_date**: character string. Starting date for results in the format "yyyy-mm-dd" or "yyyy-mm-dd hh:mm:ss".
- **end_date**: character string. Ending date for results in the format "yyyy-mm-dd" or "yyyy-mm-dd hh:mm:ss".
- **binSize**: character string. The time interval to bucket by, must be one of: "1m", "5m", "1h" or "1d".
- **symbol**: a character string for the instrument symbol. Use `available_symbols()` to see available symbols.
- **partial**: character string. Either "true" or "false". If "true", will send in-progress (incomplete) bins for the current time period.
- **filter**: an optional character string for table filtering. Send JSON key/value pairs, such as "{'key': 'value'}". See examples in `trades()`.
- **use_auth**: logical. Use TRUE to enable authentication with API key.
- **verbose**: logical. If TRUE, will print information to the console. Useful for long running requests.

**Details**

`map_bucket_trades()` takes a start and end date, and creates a sequence of start dates which are passed in to the ‘startTime’ parameter in `bucket_trades()`.
The length of time between each start time in each API call is determined by the binSize. For example, "1d" is chosen as the binSize the length of time between start dates will be 1000 days. If "1h" is chosen, it will be 1000 hours etc.

The function will print the number of API calls being sent and provides a progress bar in the console

Public API requests are limited to 30 per minute. Consequently, `map_bucket_trades()` uses `purrr::slowly` to restrict how often the function is called.

Value

`map_bucket_trades` returns a `data.frame` containing:

- `timestamp`: POSIXct. Date and time of trade.
- `open`: numeric. Opening price for the bucket.
- `high`: numeric. Highest price in the bucket.
- `low`: numeric. Lowest price in the bucket.
- `close`: numeric. Closing price of the bucket.
- `trades`: numeric. Number of trades executed within the bucket.
- `volume`: numeric. Volume in USD.
- `lastSize`: numeric. Size of the last trade executed.
- `turnover`: numeric. How many satoshi were exchanged.
- `homeNotional`: numeric. BTC value of the bucket.
- `foreignNotional`: numeric. USD value of the bucket.

References

https://www.bitmex.com/api/explorer/#!/Trade/Trade_getBucketed

Examples

```r
## Not run:
# Get hourly bucketed trade data between 2020-01-01 and 2020-02-01

map_bucket_trades(
  start_date = "2020-01-01",
  end_date = "2020-02-01",
  binSize = "1h"
)

## End(Not run)
```
map_trades

Trade data over an extended period

Description

The map variant of trades() uses a repeat loop to continually request trade data between two time points. The function will stop when the start_date is greater than end_date. Given the large number of trades executed per day, a warning message with a choice to continue is presented when inputting a date range spanning more than one day.

Usage

map_trades(
  symbol = "XBTUSD",
  start_date = "2019-01-01 12:00:00",
  end_date = "2019-01-01 12:15:00",
  filter = NULL,
  use_auth = FALSE,
  verbose = FALSE
)

Arguments

symbol a character string for the instrument symbol. Use available_symbols() to see available symbols.

start_date character string. Starting date for results in the format "yyyy-mm-dd" or "yyyy-mm-dd hh-mm-ss".

end_date character string. Ending date for results in the format "yyyy-mm-dd" or "yyyy-mm-dd hh-mm-ss".

filter an optional character string for table filtering. Send JSON key/value pairs, such as "{"key":"value"}". See examples in trades().

use_auth logical. Use TRUE to enable authentication with API key.

verbose logical. If TRUE, will print information to the console. Useful for long running requests.

Details

Warning! Due to the extremely large number of trades executed on the exchange, using this function over an extended of time frame will result in an extremely long running process. For example, during 2019 the exchange averaged approximately 630000 trades per day, with a maximum of 2114878 trades being executed in a single day. Obtaining the trade data for this day alone would take over an hour, and the use of map_bucket_trades() with a small 'binSize' (e.g., "1m") is preferrable.
Value

map_trades() returns a data.frame containing:

- timestamp: POSIXct. Date and time of trade.
- symbol: character. The instrument ticker.
- side: character. Whether the trade was buy or sell.
- size: numeric. Size of the trade.
- price: numeric. Price the trade was executed at
- tickDirection: character. Indicates if the trade price was higher, lower or the same as the previous trade price.
- trdMatchID: character. Unique trade ID.
- grossValue: numeric. How many satoshi were exchanged. 1 satoshi = 0.00000001 BTC.
- homeNotional: numeric. BTC value of the trade.
- foreignNotional: numeric. USD value of the trade.

References

https://www.bitmex.com/api/explorer/#/Trade/Trade_get

Examples

## Not run:

# Get all trade data between 2019-05-03 12:00:00 and 2019-05-03 12:15:00

map_trades(
  start_date = "2019-05-03 12:00:00",
  end_date = "2019-05-03 12:15:00",
  symbol = "XBTUSD"
)

## End(Not run)

---

place_order  

**Place an order**

Description

Place an order using the Bitmex API. Requires API key.
place_order

Usage

place_order(
    symbol = NULL,
    side = NULL,
    orderQty = NULL,
    price = NULL,
    displayQty = NULL,
    stopPx = NULL,
    clOrdID = NULL,
    pegOffsetValue = NULL,
    pegPriceType = NULL,
    ordType = NULL,
    timeInForce = NULL,
    execInst = NULL,
    text = NULL
)

Arguments

symbol string. Instrument symbol. e.g. 'XBTUSD'.
orderQty double. Order quantity in units of the instrument (i.e. contracts).
price double. Optional limit price for 'Limit', 'StopLimit', and 'LimitIfTouched' orders.
displayQty double. Optional quantity to display in the book. Use 0 for a fully hidden order.
stopPx double. Optional trigger price for 'Stop', 'StopLimit', 'MarketIfTouched', and 'LimitIfTouched' orders. Use a price below the current price for stop-sell orders and buy-if-touched orders. Use execInst of 'MarkPrice' or 'LastPrice' to define the current price used for triggering.
clOrdID string. Optional Client Order ID. This clOrdID will come back on the order and any related executions.
pegOffsetValue string. Optional trailing offset from the current price for 'Stop', 'StopLimit', 'MarketIfTouched', and 'LimitIfTouched' orders; use a negative offset for stop-sell orders and buy-if-touched orders. Optional offset from the peg price for 'Pegged' orders.
pegPriceType string. Optional peg price type. Valid options: LastPeg, MidPricePeg, MarketPeg, PrimaryPeg, TrailingStopPeg.
ordType string. Order type. Valid options: Market, Limit, Stop, StopLimit, MarketIfTouched, LimitIfTouched, Pegged. Defaults to 'Limit' when price is specified. Defaults to 'Stop' when stopPx is specified. Defaults to 'StopLimit' when price and stopPx are specified.
timeInForce string. Time in force. Valid options: Day, GoodTillCancel, ImmediateOrCancel, FillOrKill. Defaults to 'GoodTillCancel' for 'Limit', 'StopLimit', and 'LimitIfTouched' orders.
execInst  string. Optional execution instructions. Valid options: ParticipateDoNotInitiate, AllOrNone, MarkPrice, IndexPrice, LastPrice, Close, ReduceOnly, Fixed. 'AllOrNone' instruction requires displayQty to be 0. 'MarkPrice', 'IndexPrice' or 'LastPrice' instruction valid for 'Stop', 'StopLimit', 'MarketIfTouched', and 'LimitIfTouched' orders.

text  string. Optional order annotation. e.g. 'Take profit'.

Value

A tibble containing information about the trade that has been placed. See https://www.bitmex.com/api/explorer/#!/Order/Order_new for more details.

Examples

```r
## Not run:
# place limit order to Buy 10 contracts at a specific price
place_order(symbol = "XBTUSD", price = 6000, orderQty = 10)
## End(Not run)
```

---

**post_bitmex**  **POST requests**

**Description**

Use `post_bitmex()` to send POST requests. All POST requests require authentication.

**Usage**

```r
post_bitmex(path, args = NULL)
```

**Arguments**

- `path`  string. End point for the api.
- `args`  A named list containing valid parameters for the given API endpoint.

**Value**

Returns a `data.frame` containing the response from the request.

**References**

https://www.bitmex.com/api/explorer/
Examples

```r
## Not run:
# edit leverage on a position

post_bitmex(
  path = "/position/leverage",
  args = list("symbol" = "XBTUSD", "leverage" = 10)
)

## End(Not run)
```

**tn_bucket_trades**  
*Bucketed trade data (testnet)*

### Description

`tn_bucket_trades()` retrieves open high low close (OHLC) data for the specified symbol/time frame.

### Usage

```r
tn_bucket_trades(
  binSize = "1m",
  partial = "false",
  symbol = "XBTUSD",
  count = 1000,
  reverse = "true",
  filter = NULL,
  columns = NULL,
  start = NULL,
  startTime = NULL,
  endTime = NULL,
  use_auth = FALSE
)
```

### Arguments

- **binSize**: character string. The time interval to bucket by, must be one of: "1m", "5m", "1h" or "1d".
- **partial**: character string. Either "true" or "false". If "true", will send in-progress (incomplete) bins for the current time period.
- **symbol**: a character string for the instrument symbol. Use `available_symbols()` to see available symbols.
- **count**: an optional integer to specify the number of rows to return. Maximum of 1000 (the default) per request.
### tn_cancel_all_orders

**Description**

Cancel all orders that have been placed using testnet API for a specific symbol, or use a filter to select specific orders.

**Usage**

```r
tn_cancel_all_orders(symbol = NULL, filter = NULL, text = NULL)
```
tn_cancel_order

Arguments

symbol  string. Optional symbol. If provided, only cancels orders for that symbol.
filter  string. Optional filter for cancellation. Use to only cancel some orders, e.g. "side": "Buy".
text  string. Optional cancellation annotation. e.g. ‘Spread Exceeded’.

Value

Returns a data.frame with information about the orders that were cancelled. See https://www.bitmex.com/api/explorer/#!/Order/Order_cancelAll for more information.

Examples

## Not run:
# cancel all "Buy" orders
tn_cancel_all_orders(filter = '{"side": "Buy"}')

## End(Not run)

---

tn_cancel_order  Cancel order (testnet)

Description

Cancel an order that has been placed using the testnet API.

Usage

tn_cancel_order(orderID = NULL, clOrdID = NULL, text = NULL)

Arguments

orderID  string. Order ID.
clOrdID  string. Optional client ID set when placing an order.
text  string. Optional cancellation annotation. e.g. 'Spread Exceeded'.

Value

Returns a data.frame with details about the order that was cancelled. See https://www.bitmex.com/api/explorer/#!/Order/Order_cancel for more information.
tn_edit_order

Examples

```r
## Not run:
# Cancel an order
tn_cancel_order(clOrdID = "myorderid")

## End(Not run)
```

tn_edit_order  Edit an order (testnet)

Description

Edit an order that has been placed with the testnet API.

Usage

```r
tn_edit_order(
  orderID = NULL,
  origClOrdID = NULL,
  clOrdID = NULL,
  orderQty = NULL,
  leavesQty = NULL,
  price = NULL,
  stopPx = NULL,
  pegOffsetValue = NULL,
  text = NULL
)
```

Arguments

- `orderID` string. Order ID.
- `origClOrdID` string. The original client order ID
- `clOrdID` string. Optional new client order ID.
- `orderQty` double. Order quantity in units of the instrument (i.e. contracts).
- `leavesQty` string. Optional leaves quantity in units of the instrument (i.e. contracts). Useful for amending partially filled orders.
- `price` double. Optional limit price for 'Limit', 'StopLimit', and 'LimitIfTouched' orders.
- `stopPx` double. Optional trigger price for 'Stop', 'StopLimit', 'MarketIfTouched', and 'LimitIfTouched' orders. Use a price below the current price for stop-sell orders and buy-if-touched orders. Use `execInst` of 'MarkPrice' or 'LastPrice' to define the current price used for triggering.
pegOffsetValue  string. Optional trailing offset from the current price for 'Stop', 'StopLimit', 'MarketIfTouched', and 'LimitIfTouched' orders; use a negative offset for stop-sell orders and buy-if-touched orders. Optional offset from the peg price for 'Pegged' orders.

text   string. Optional amend annotation. e.g. 'Adjust skew'.

Value

A data.frame with information about the amended order. See https://www.bitmex.com/api/explorer/#!/Order/Order_amend for more information.

Examples

```r
## Not run:

# place an order

tn_place_order(symbol = "XBTUSD", price = 5000, orderQty = 100, clOrdID = "myorderid")

# edit the order

tn_edit_order(origClOrID = "myorderid", orderQty = 200)

## End(Not run)
```

---

### Description

Use `tn_get_bitmex()` to send GET requests to the testnet API. For private endpoints, authentication is required.

### Usage

```r
tn_get_bitmex(path, args = NULL, use_auth = FALSE)
```

### Arguments

- **path**  string. End point for the api.
- **args**  A named list containing valid parameters for the given API endpoint.
- **use_auth**  logical. Use TRUE to access private endpoints if authentication has been set up.

### Value

Returns a data.frame containing the response from the request.
tn_map_bucket_trades

Bucket trade data over an extended period (testnet)

Description

`tn_map_bucket_trades()` uses `purrr::map_dfr` to execute multiple API calls. This is useful when the data you want to return exceeds the maximum 1000 row response limit, but do not want to have to manually call `tn_bucket_trades()` repeatedly.

Usage

```r
tn_map_bucket_trades(
  start_date = "2015-09-25 13:00:00",
  end_date = now(tzone = "UTC"),
  binSize = "1d",
  symbol = "XBTUSD",
  partial = "false",
  filter = NULL,
  use_auth = FALSE,
  verbose = FALSE
)
```

Arguments

- `start_date` character string. Starting date for results in the format "yyyy-mm-dd" or "yyyy-mm-dd hh-mm-ss".
- `end_date` character string. Ending date for results in the format "yyyy-mm-dd" or "yyyy-mm-dd hh-mm-ss".
- `binSize` character string. The time interval to bucket by, must be one of: "1m", "5m", "1h" or "1d".
tn_map_trades

| symbol     | a character string for the instrument symbol. Use available_symbols() to see available symbols. |
| partial    | character string. Either "true" or "false". If "true", will send in-progress (incomplete) bins for the current time period. |
| filter     | an optional character string for table filtering. Send JSON key/value pairs, such as "{'key': 'value'}". See examples in trades(). |
| use_auth   | logical. Use TRUE to enable authentication with API key. |
| verbose    | logical. If TRUE, will print information to the console. Useful for long running requests. |

References
https://testnet.bitmex.com/api/explor\er/#!/Trade/Trade_getBucketed

See Also
map_bucket_trades() for more information.

Examples

```r
## Not run:
# Get hourly bucketed trade data between 2020-01-01 and 2020-02-01

tn_map_bucket_trades(
  symbol = "XBTUSD",
  start_date = "2020-01-01 12:00:00",
  end_date = "2020-01-01 12:15:00",
  binSize = "1h"
)

## End(Not run)
```

---

The map variant of tn_trades() uses a repeat loop to continually request trade data between two time points. The function will stop when the start_date is greater than end_date.

Usage

```r
tn_map_trades(
  symbol = "XBTUSD",
  start_date = "2019-01-01 12:00:00",
  end_date = "2019-01-01 12:15:00",
  filter = NULL,
  use_auth = FALSE,
  verbose = FALSE
)
```
tn_place_order

Place an order (testnet)

Description

Place an order using the Bitmex testnet API. Requires testnet API key.

Usage

```r
tn_place_order(
  symbol = NULL,
  side = NULL,
  orderQty = NULL,
  price = NULL,
  displayQty = NULL,
  stopPx = NULL,
  clOrdID = NULL,
  pegOffsetValue = NULL,
)```
tn_place_order

```r
tn_place_order = function(symbol, side, orderQty, price = NULL,
                          displayQty = NULL, stopPx = NULL, clOrdID = NULL,
                          pegOffsetValue = NULL, pegPriceType = NULL,
                          ordType = NULL, timeInForce = NULL, execInst = NULL,
                          text = NULL)
```

**Arguments**

- `symbol` string. Instrument symbol. e.g. 'XBTUSD'.
- `side` string. Order side. Valid options: Buy, Sell. Defaults to 'Buy' unless `orderQty` is negative.
- `orderQty` double. Order quantity in units of the instrument (i.e. contracts).
- `price` double. Optional limit price for 'Limit', 'StopLimit', and 'LimitIfTouched' orders.
- `displayQty` double. Optional quantity to display in the book. Use 0 for a fully hidden order.
- `stopPx` double. Optional trigger price for 'Stop', 'StopLimit', 'MarketIfTouched', and 'LimitIfTouched' orders. Use a price below the current price for stop-sell orders and buy-if-touched orders. Use `execInst` of 'MarkPrice' or 'LastPrice' to define the current price used for triggering.
- `clOrdID` string. Optional Client Order ID. This `clOrdID` will come back on the order and any related executions.
- `pegOffsetValue` string. Optional trailing offset from the current price for 'Stop', 'StopLimit', 'MarketIfTouched', and 'LimitIfTouched' orders; use a negative offset for stop-sell orders and buy-if-touched orders. Optional offset from the peg price for 'Pegged' orders.
- `pegPriceType` string. Optional peg price type. Valid options: LastPeg, MidPricePeg, MarketPeg, PrimaryPeg, TrailingStopPeg.
- `ordType` string. Order type. Valid options: Market, Limit, Stop, StopLimit, MarketIfTouched, LimitIfTouched, Pegged. Defaults to 'Limit' when `price` is specified. Defaults to 'Stop' when `stopPx` is specified. Defaults to 'StopLimit' when `price` and `stopPx` are specified.
- `timeInForce` string. Time in force. Valid options: Day, GoodTillCancel, ImmediateOrCancel, FillOrKill. Defaults to 'GoodTillCancel' for 'Limit', 'StopLimit', and 'LimitIfTouched' orders.
- `execInst` string. Optional execution instructions. Valid options: ParticipateDoNotInitiate, AllOrNone, MarkPrice, IndexPrice, LastPrice, Close, ReduceOnly, Fixed. 'AllOrNone' instruction requires `displayQty` to be 0. 'MarkPrice', 'IndexPrice' or 'LastPrice' instruction valid for 'Stop', 'StopLimit', 'MarketIfTouched', and 'LimitIfTouched' orders.
- `text` string. Optional order annotation. e.g. 'Take profit'.

**Value**

Returns a tibble containing information about the trade that has been placed. See [https://testnet.bitmex.com/api/explorer/#!/Order/Order_new](https://testnet.bitmex.com/api/explorer/#!/Order/Order_new) for more details.
## tn_post_bitmex

### Description

Use `tn_post_bitmex()` to send POST requests to the testnet API. All POST requests require authentication.

### Usage

```r
tn_post_bitmex(path, args = NULL)
```

### Arguments

- **path**: string. End point for the api.
- **args**: A named list containing valid parameters for the given API endpoint.

### Value

Returns a `data.frame` containing the response from the request.

### Examples

```r
## Not run:
# edit leverage on a position

tn_post_bitmex(
    path = "/position/leverage",
    args = list("symbol" = "XBTUSD", "leverage" = 10)
)

## End(Not run)
```
tn_trades

Individual trade data (testnet)

Description

tn_trades() retrieves data regarding individual trades that have been executed on the testnet exchange.

Usage

tn_trades(
    symbol = "XBTUSD",
    count = 1000,
    reverse = "true",
    filter = NULL,
    columns = NULL,
    start = NULL,
    startTime = NULL,
    endTime = NULL,
    use_auth = FALSE
)

Arguments

symbol a character string for the instrument symbol. Use available_symbols() to see available symbols.
count an optional integer to specify the number of rows to return. Maximum of 1000 (the default) per request.
reverse an optional character string. Either "true" or "false". If "true", result will be ordered with starting with the newest (defaults to "true").
filter an optional character string for table filtering. Send JSON key/value pairs, such as 
invert key:invert value invert"). See examples.
columns an optional character vector of column names to return. If NULL, all columns will be returned.
start an optional integer. Can be used to specify the starting point for results.
startTime an optional character string. Starting date for results in the format "yyyy-mm-dd" or "yyyy-mm-dd hh-mm-ss".
endTime an optional character string. Ending date for results in the format "yyyy-mm-dd" or "yyyy-mm-dd hh-mm-ss".
use_auth logical. Use TRUE to enable authentication with API key.

References

https://testnet.bitmex.com/api/explorer/#!/Trade/Trade_get
Examples

```r
## Not run:
# Return 1000 most recent trades for symbol "XBTUSD".
tn_trades(symbol = "XBTUSD")

# Use filter for very specific values: Return trade data executed at 12:15.
tn_trades(
  symbol = "XBTUSD",
  filter = "{'timestamp.minute':'12:15'}"
)

# Also possible to combine more than one filter.
tn_trades(
  symbol = "XBTUSD",
  filter = "{'timestamp.minute':'12:15', 'size':10000}""
)

## End(Not run)
```

---

**trades**  
*Individual trade data*

**Description**

`trades()` retrieves data regarding individual trades that have been executed on the exchange.

**Usage**

```r
trades(
  symbol = "XBTUSD",
  count = 1000,
  reverse = "true",
  filter = NULL,
  columns = NULL,
  start = NULL,
  startTime = NULL,
  endTime = NULL,
  use_auth = FALSE
)
```

**Arguments**

- `symbol`  
a character string for the instrument symbol. Use `available_symbols()` to see available symbols.

- `count`  
an optional integer to specify the number of rows to return. Maximum of 1000 (the default) per request.
**trades**

`trades()` returns a `data.frame` containing:

- **timestamp**: POSIXct. Date and time of trade.
- **symbol**: character. The instrument ticker.
- **side**: character. Whether the trade was buy or sell.
- **size**: numeric. Size of the trade.
- **price**: numeric. Price the trade was executed at.
- **tickDirection**: character. Indicates if the trade price was higher, lower or the same as the previous trade price.
- **trdMatchID**: character. Unique trade ID.
- **grossValue**: numeric. How many satoshi were exchanged. 1 satoshi = 0.00000001 BTC.
- **homeNotional**: numeric. BTC value of the trade.
- **foreignNotional**: numeric. USD value of the trade.

**References**

[https://www.bitmex.com/api/explorer/#!/Trade/Trade_get](https://www.bitmex.com/api/explorer/#!/Trade/Trade_get)

**Examples**

```r
## Not run:
# Return 1000 most recent trades for symbol "XBTUSD".
trades(symbol = "XBTUSD", count = 10)

# Use filter for very specific values: Return trade data executed at 12:15.
trades(
  symbol = "XBTUSD",
  filter = "{'timestamp.minute':'12:15'}",
  count = 10
)
```
### valid_dates

Start date of data availability for available symbols

**Description**

Pass in a symbol from `available_symbols()` or no symbol to return dates for all available symbols.

**Usage**

```r
valid_dates(symbol = NULL)
```

**Arguments**

- `symbol` character string of the instrument symbol to find start date for.

**Value**

A data.frame containing the symbol and date from which data is available.

**Examples**

```r
## Not run:
valid_dates("XBTUSD")
valid_dates("XBTUSD")
## End(Not run)
```
Index

* bucket_trades
  map_bucket_trades, 9
* map_bucket_trades
  bucket_trades, 3
* map_trades
  trades, 26
* tn_map_trades
  tn_trades, 25
* tn_trades
  tn_map_trades, 21
* trades
  map_trades, 11

available_symbols, 2
available_symbols(), 3, 9, 11, 15, 21, 22, 25, 26, 28

bitmexr, 3
bucket_trades, 3
bucket_trades(), 9

cancel_all_orders, 5
cancel_order, 6

edit_order, 6

get_bitmex, 8

map_bucket_trades, 9
map_bucket_trades(), 4, 11, 21
map_trades, 11

place_order, 12
post_bitmex, 14

tn_bucket_trades, 15
tn_bucket_trades(), 20
tn_cancel_all_orders, 16
tn_cancel_order, 17
tn_edit_order, 18
tn_get_bitmex, 19

tn_map_bucket_trades, 20
tn_map_bucket_trades(), 16
tn_map_trades, 21
tn_place_order, 22
tn_post_bitmex, 24
tn_trades, 25
tn_trades(), 21
trades, 26
trades(), 9, 11, 21, 22

valid_dates, 28