Frontend CMD API Manual

Directory

Revision History: 2
Commands 2
- LOGIN 2
- #POS 3
- #POSEND 3
- %POS 3
- POSREFRESH 3
- #Order 3
- #OrderEnd 3
- %ORDER 3
- %OrderAct 4
- #Trade 5
- #TradeEnd 5
- %TRADE 5
- NEWORDER 5
- CANCEL 6
- GET BP 7
- BP 7
- GET SHORTINFO 7
- $SHORTINFO 7
- SB 7
- UNSB 8
- $Quote 8
- $T&S 8
- $Lv2 9
- $BAR 9
- $LDLU 10
- %IORDER 10
- %IPOS 10
- %ITRADE 10
- ECHO 10
- CLIENT 10
- Order Server/Quote Server connection/logon status 10
- SCRIPT 10
- QUIT 11

Short Locate Commands 11
- SLPRICEINQUIRE 11
- SLNEWORDER 12

SLCANCELORDER 12
SLOFFEROPERATION 12
%SLRET 12
#SLOrder........ 12
LOrderEnd 12
%SLOrder 12
Limitations: 13
Enable/Disable CMD API for an user: 14
Configure CMD API port: 14
Simple Test method: 15

Revision History:

Date	**Reviser**	**Revision Notes**
2013/7/18	Tim Bian	Add PrimExch field to lv1 quote data.
2013/9/13	Tim Bian	Add price field to peg order.
2013/10/25	Tim Bian	Return Order Server/Quote Server connection/logon status.
2015/04/15	Tim Bian	Add SCRIPT command.
2018/12/30	Tim Bian	- Remove quotes subscription per data vendor protocol. - Add TIF support for neworder.
2020/04/20	Tim Bian	Add “Realized” for %POS.
2020/11/22	Tim Bian	Update doc to add more examples and fields explanations.
2020/12/09	Tim Bian	Support stocks shortable query.
2021/07/05	Tim Bian	Add Short Locate command set and re-organize the doc.
2021/07/11	Tim Bian	For NEWORDER command, Add "Display=0/Num" parameter for iceberg/hidden order.
2021/08/09	Tim Bian	Add $LDLU for symbol limit down/up price.
2021/11/10	Tim Bian	Add explanation for current minute chart data not received in time from SB MINCHART LATEST command.

Commands

Client: The user connecting to the DAS Frontend API port
Server: DAS Frontend.

Command	**Parameters**	**Notes**
LOGIN	Format: LOGIN Trader Password Account 1/0 Example: LOGIN BIAN 12345	The client sends login to the server. Last parameter is optional, 1 means watch, 0 means normal connection.

	TRBIAN 0	After Login success, the server will send back all positions, orders and trades data to the client.
#POS	Command: #POS symb type qty avgcost initqty initprice	Mark the start when the server sends position list to the client.
#POSEND	Command: #POSEND	Mark the end when the server sends position list to the client
%POS	Format: %POS Symbol Type Quantity AvgCost InitQuantity InitPrice Realized Example: #POS symb type qty avgcost initqty initprice Realized %POS AAPL 3 100 117.34 0 0 0 %POS MSFT 2 100 210.39 0 0 0 #POSEND	Position Type: 1 – cash; 2 – margin; 3 – short. Left example shows after client login, the server will send position list to the client, start with #POS, end with #POSEND. If a position is created or updated during the trading, the server will only send this position data back, not position start and end marked. **Fields:** Symbol: Position Symbol. Type: Position Type (cash, margin, short). Quantity: Current position shares. AvgCost: Average cost for this position. InitQuantity: position Overnight shares. InitPrice: position Overnight avgcost. Realized: Realized PL for this position.
POSREFRESH		User can use this command to Query all positions.
#Order	#Order id symb b/s mkt/lmt qty lvqty price route status time	Mark the start when the server sends order list to the client.
#OrderEnd	#OrderEnd	Mark the end when the server sends order list to the client.
%ORDER	Example: #Order id token symb b/s Type qty lvqty cxlqty price route status time %ORDER 20 10 MSFT B Mkt 100 0 0 25.96 SMAT Triggered 10:47:57 %ORDER 21 12 MSFT B Lmt 100 100 0 25 SMAT Accepted 10:49:35 %ORDER 22 13 DELL SS Lmt 100 100 0 20 SMAT Accepted 10:50:10	Orders will be sent to the client when login success, client's request and order status update from the server. **Fields:** Id: order id, generated by order server. **Token**: The number set by user for the order, user can user id or token to trace placed order.

	#OrderEnd	**b/s**: B-buy; S-SELL; SS-Short. **Type**: Same like Type column on frontend order window. **Lvqty**: left quantity to execute. **Cxlqty**: Canceled quantity. **status**: This field implies an order's current status, valid value: Closed: This order is closed. Hold: This order is open, but not sent to the exchange. Sending: this order is sending to the exchange.. Accepted: this order is accepted by the exchange. Canceled: This order has been canceled. Rejected: This order is rejected. Executed: This order is partially or fully executed. Triggered: This order is an auto-route order and fully or partially executed. Time: Order update time.
%OrderAct	%OrderAct id ActionType B/S symbol qty price route time notes	%OrderAct is order's action message. **Fields:** **Id**: order id, generated by order server. **ActionType**: what action happened to this order, action type includes: Sending, Send_Rej, Accept, Canceling, Canceled, CancelRej, TimeOut, Execute, Close. **B/S**: order's side. **Symbol**: order's symbol. **Qty**: order or trade's shares. *Execute: current trade's share.* *Accept/Sending: order's open shares.* *Send_Rej: Rejected shares.* *Canceled: Canceled shares.* *Replaced: New replaced shares.* **Price**: order or trade's price, just for reference for non limit orders. *Execute: current trade's price.* **Route**: which route this order was sent to. **Time**: action happened time.

		Notes: more explanation for this order action.
#Trade	#Trade id symb b/s qty price route time	Mark the start when the server sends trade list to the client.
#TradeEnd	#TradeEnd	Mark the end when the server sends trade list to the client.
%TRADE	Example: #Trade id symb B/S qty price route time orderid %TRADE 1 MSFT B 100 28.3 SMAT 18:00:31 3 %TRADE 2 MSFT B 100 28.31 SMAT 18:01:19 4 %TRADE 3 DELL SS 100 14.75 SMAT 18:02:17 5 #TradeEnd	Trades will be sent to the client when login success, client request and new trades during trading. **Fields:** Id: trade's id, generated by order server. Trade's id is different with order id. Symb: trade's symbol. B/S: trade's side. Qty: trade's shares. Price: trade's price. Route: which route for this this trade. Time: trade's execution time. Ordered: which order this trade executed from.
NEWORDER	All kinds of orders examples: **Limit order:** Neworder token b/s symbol route share price Example: NEWORDER 1 B MSFT ARCA 100 200.5 TIF=DAY+ **Market order:** Neworder token b/s symbol route share MKT Example: NEWORDER 2 S MSFT SMAT 100 MKT TIF=DAY **Peg Order:** Neworder token b/s symbol route share PEG MID/AGG/PRIM/LAST (optional field) price (optional field) Example: NEWORDER 3 B MSFT INET 100 PEG MID 200.5 TIF=GTC **Stop Market:** Neworder token b/s symbol route share STOPMKT	**Token**: digit number set by the client. It's different from order id which is generated by order server. User can use token to identify returned order. Returned order (%ORDER) has a field "token". b/s: B-Buy; S-SELL; SS-SHORT. B/S: order's side: BUY, SELL/Short etc. B: buy order. S: sell order SS: short order. Notes: order server will correct S or SS with checking symbol's position. BO: buy to open, for options order. BC: buy to close, for options order. SO: sell to open, for options order. SC: sell to close, for options order. Symbol: order's symbol. Route: which route user wants to send this order to. Like ARCA, INET etc. SMAT is a special route maintained by DAS, broker can specify a route to be triggered from SMAT depending on time/symbol exchange etc.

	StopPrice Example: NEWORDER 4 S MSFT SMAT 100 STOPMKT 210.5 TIF=DAY **Stop Limit:** Neworder token b/s symbol route share STOPLMT StopPrice Price Example: NEWORDER 5 B MSFT SMAT 100 STOPLMT 210.5 210.8 TIF=DAY **Stop Trailing:** Neworder token b/s symbol route share STOPTRAILING TrailPrice Example: NEWORDER 6 S MSFT SMAT 100 STOPTRAILING 0.2 **Stop Range:** Neworder token b/s symbol route share STOPRANGE/ STOPRANGEMKT LowPrice HighPrice Example: NEWORDER 7 B MSFT SMAT 100 STOPRANGE 210.2 210.6 NEWORDER 7 B MSFT SMAT 100 STOPRANGEMKT 210.2 210.6 **Hidden order:** Neworder token b/s symbol route share price Display=0/num "Display" is same with "Display" field of montage. Example: NEWORDER 1 B MSFT ARCA 300 200.5 GTC=DAY+ **Display**=0	**TIF**: default time in force is DAY+. If want to specify a TIF, appending TIF to the end. Example: Neworder token b/s symbol route share price **TIF=GTC** TIF values: DAY,DAY+,IOC,GTC,AtOpen,AtClose,FOK. Notes: For stop market/limit orders, some routes may not support, but DAS maintained route "SMAT" can support all stop types. For stop order types, stop price, trail price, range prices, they are same with montage fields, please refer to related frontend documents.
CANCEL	Cancel an order: CANCEL orderid Cancel all open orders: CANCEL ALL	Cancel an order or all open orders. Orderid: orderid returned by %ORDER.

GET BP	GET BP	Get current buying power of login account.
BP	Format: BP CurrentBP CurrentOverNightBP Example: #buyingpower bp,nbp BP 94339 100000	The server sends the account's current day buying power and overnight buying power of the account.
GET SHORTINFO	Format: GET SHORTINFO Symbol Example: GET SHORTINFO MSFT	Get a symbol's short info, including shortable, short size, marginable, long/short margin rate.
$SHORTINFO	**Format:** $SHORTINFO Symbol shortable(Y/N) shortsize Marginable(Y/N) longMarginRate shortMarginRate **Example:** $SHORTINFO MSFT Y 10000 Y 0 0	This is returned symbol shortable info queried by "GET SHORTINFO". **Fields:** shortable(Y/N): Y – Shortable; N – Not shortable. Shortsize: max short size for an order. Marginable(Y/N): Y-Marginable; N-Not Marginable (full cash) longMarginRate: Margin rate for a long order/position. 0 means default margin rate. 100 means 100%, 60 means 60% cash requirement. shortMarginRate: Margin rate for a short order/position. 0 means default margin rate. 100 means 100%, 60 means 60% cash requirement.
SB	SB Symbol Lv1 SB Symbol tms SB Symbol Lv2 SB Symbol DAYCHART StartDate(YYYY/MM/DD) EndDate(YYYY/MM/DD) SB symbol MINCHART StartTime(YYYY/MM/DD-HH:MM) endTime(YYYY/MM/DD-HH:MM)/LATEST MinType	Subscribe symbol quote data: Lv1-level1 tms – time sales Lv2 – Regional level2 Lv2 INET – Total view level2 Lv2 ARCA – ARCA level2 Lv2 BATS – BATS Level2 DAYCHART: request day chart data. MINCHART: request minute chart data. If endTime is "LATEST", will return latest minute chart data automatically. MinType can be 1, 2, 5, 15, 30, 60 for different minutes, If no this field default to 1 minute chart. **NOTES**: For MINCHART data, CMDAPI internally retrieves from QS each 30 seconds since SB time. And QS builds minute data with time sale data, so QS can only build previous minute chart

		data in next minute. For current minute chart data, user can use time sales data to build (1st ts->open price; last ts-> close price; highest ts->high price; lowest ts->low price; ts shares adding up->volume). User can replace ts-built minute data after minchart data received for that minute.
UNSB	UNSB Symbol Lv1 UNSB Symbol tms UNSB Symbol Lv2 UNSB symbol DAYCHART UNSB symbol MINCHART	Un-subscribe symbol quote data: Lv1-level1 tms – time sales Lv2 – level2
$Quote	$Quote symbol A:askprice Asz:asksize B:bidprice Bsz:bidsize V:volume L:lastprice Hi:highprice Lo:lowprice op:openprice ycl:yesterdayclose tcl:todayclose PE:primExchange VWAP:vwapValue T:QuoteTime(HHMMSS) Example: $Quote MSFT A:26.33 Asz:2 B:26.32 Bsz:3 V:89765 L:26.35 Hi:0 Lo:0 op:0 ycl:25.96 tcl:0 PE:Q	Symbol's level1 quote data. Server only sends updated fields to the client. **Each field:** A:askprice Asz:asksize B:bidprice Bsz:bidsize V:volume L:lastprice Hi:highprice Lo:lowprice op:openprice ycl:yesterdayclose tcl:todayclose PE:primExchange VWAP:vwapValue tradesAllDay: trades of all day RVOL: Relative volume T:QuoteTime(HHMMSS)
$T&S	$T&S symbol price volume flag time(HH:MM:SS) Exchange B/S/I condition	Symbol's time/sale quote data. **flag**: a character for trade flag. **B/S/I**: Indicate trade is B (buy trade), S (Sell Trade) or I (Inside) **Condition**: a BYTE value. each bit, if set to 1, represents: bit 0, 1, 2, 3: the trade was filled at ask, bid, beyond ask, or beyond bid price; if none of those bits is set to 1, it indicates the trade was filled inside bid and ask.

		bit 4: this trade is valid for the calculation of high/low price of the day bit 5: this trade is valid for the last price bit 6: this trade is valid for the calculation of total volume of the day **NOTES**: User can use time sale data to build latest minute chart bar data because SB MINCHART is not real time. But if bit 5 of **condition** field is 0 (*(condition & 0x20)==0*), this time sale (could be odd lot trade, average price trades and some others) shouldn't been used as valid sale and to build chart minute bar.
$Lv2	$Lv2 symbol condition MMID price size	Symbol's level2 quote data.
$BAR	**Day chart data:** Format: $Bar symbol date High Low Open Close Volume Example: $Bar DELL 2011/12/01 15.86 15.54 15.63 15.8 18000917 $Bar DELL 2011/12/02 16 15.7 15.9 15.7 14972896 $Bar DELL 2011/12/05 16 15.815 16 15.93 16651965 $Bar DELL 2011/12/06 16.0095 15.78 15.93 15.86 17414844 $Bar DELL 2011/12/07 15.98 15.5818 15.75 15.9 14382114 **Minute chart data:** **Format:** $Bar symbol date-time High Low Open Close Volume MinType Example: $Bar C 2012/01/05-09:09 27.73 27.69 27.73 27.69 5000 1 $Bar C 2012/01/05-09:08 27.74 27.7 27.74 27.7 900 1 $Bar C 2012/01/05-09:07 27.7 27.7	Day/Minute chart data. Please be noted, chart data is not guaranteed sent in sequence from start time to end time, client should check the time to sure the sequence. For minute chart, CMDAPI requests data each 30 seconds. So for current minute data, it's not latest. Time sale data can be used to construct current minute data.

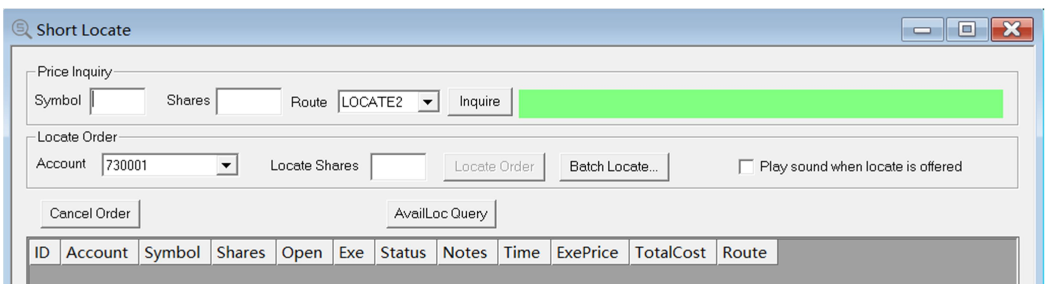
	27.7 27.7 4550 1 $Bar C 2012/01/05-09:06 27.71 27.69 27.71 27.7 13950 1 $Bar C 2012/01/05-09:05 27.74 27.71 27.72 27.74 3100 1	
$LDLU	Limit Down Price/Limit Up Price. $LDLU will be returned when Lv1 subscribed. Format: $LDLU symbol limitDown limitUp	
%IORDER		Same definition with %ORDER, but for watch connection.
%IPOS		Same definition with %POS, but for watch connection.
%ITRADE		Same definition with %TRADE, but for watch connection.
ECHO	ECHO ECHO ON ECHO OFF	ECHO: The server will return ECHO on/off status.
CLIENT	CLIENT	The server will return connected client numbers.
Order Server/Quote Server connection/logon status	#OrderServer:Logon:Successful #OrderServer:Logon:Failed #OrderServer:Connect:Successful #OrderServer:Connect:Failed #QuoteServer:Logon:Successful #QuoteServer:Logon:Failed #QuoteServer:Connect:Successful #QuoteServer:Connect:Failed	
SCRIPT	SCRIPT WindowName ScriptString… Especially, if WindowName is "**GLOBALSCRIPT**", it means global script, not for specified window. Example: SCRIPT Montage1	

	SYMBOL MSFT, this will change a montage's symbol to MSFT. SCRIPT GLOBALSCRIPT SwitchDesktop default, this will load default desktop.	
QUIT	QUIT	Disconnect from the server.

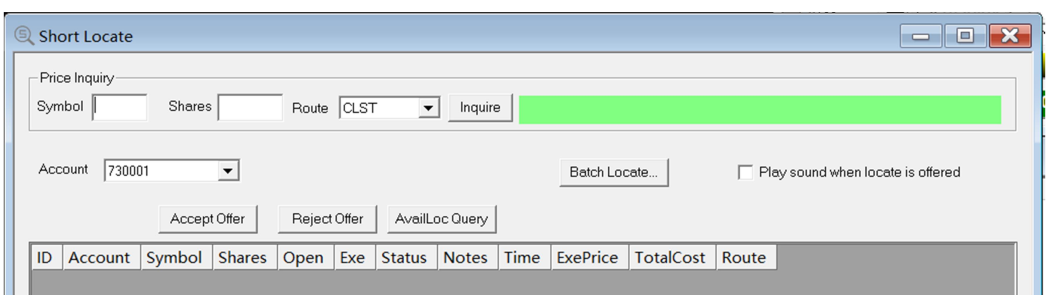
Short Locate Commands

Short locate command set is to request short locate like Trade->Short Locate through CMD interface. There're 2 kinds of short locate routes. Some commands may only work for one route type as stated in below Notes column.

- **Locate route type 0**: Support price query and place locate order. Frontend GUI like:



- **Locate route type 1**: Support locate order offer accept/reject. Frontend GUI like:



Command	**Parameters**	**Notes**
SLPRICEINQUIRE	Format: SLPRICEINQUIRE Symbol LocateShares Route/ALLROUTE Example: SLPRICEINQUIRE MSFT 100 LOCATE2	SLPRICEINQUIRE is to inquire related locate price. Locate route type 1 doesn't support this command. If Route is ALLROUTE, this is identical to "Inquire All" of short locate window.

SLNEWORDER	Format: SLNEWORDER Symbol LocateShares Route Example: SLNEWORDER MSFT 100 LOCATE2 SLNEWORDER MSFT 100 CLST	SLNEWORDER is to place a short locate order.
SLCANCELORDER	Format: SLCANCELORDER locateOrderId	SLCANCELORDER is to cancel an open locate order. This command is for locate route type 0.
SLOFFEROPERATION	Format: SLOFFEROPERATION locateOrderId Accept SLOFFEROPERATION locateOrderId Reject	SLOFFEROPERATION is to accept or reject an offered locate order. This command is for locate route type 1.
%SLRET	Format: %SLRET RetType Symbol OfferPrice OfferSize Route/Notes Example: %SLRET 1 MSFT 0.012 100 LOCATE2 %SLRET 2 MSFT 0 0 Already Shortable	This command returns the price inquire result for command SLPRICEINQUIRE and SLNEWORDER failure (already shortable etc.) RetType: - 1: normal inquire return, - 2: Failure for Price Inquire or locate new order. OfferPrice: offer price per share. OfferSize: - 0: No shares available to locate - >0: Available shares. Route/Notes: - RetType is 1: Route name for price inquire. - RetType is 2: give fail reason if SLPRICEINQUIRE or SLNEWORDER failed.
#SLOrder	#SLOrder id symb shares openshares exeshares exeprice status route time notes	Mark the start when the server sends short locate order list to the client.
# LOrderEnd	#SLOrderEnd	Mark the end when the server sends short locate order list to the client.
%SLOrder	%SLOrder locateOrderID symbol shares openshares exeshares exeprice status route time notes	Short locate order. Order server will return this message when short locate order action changed.

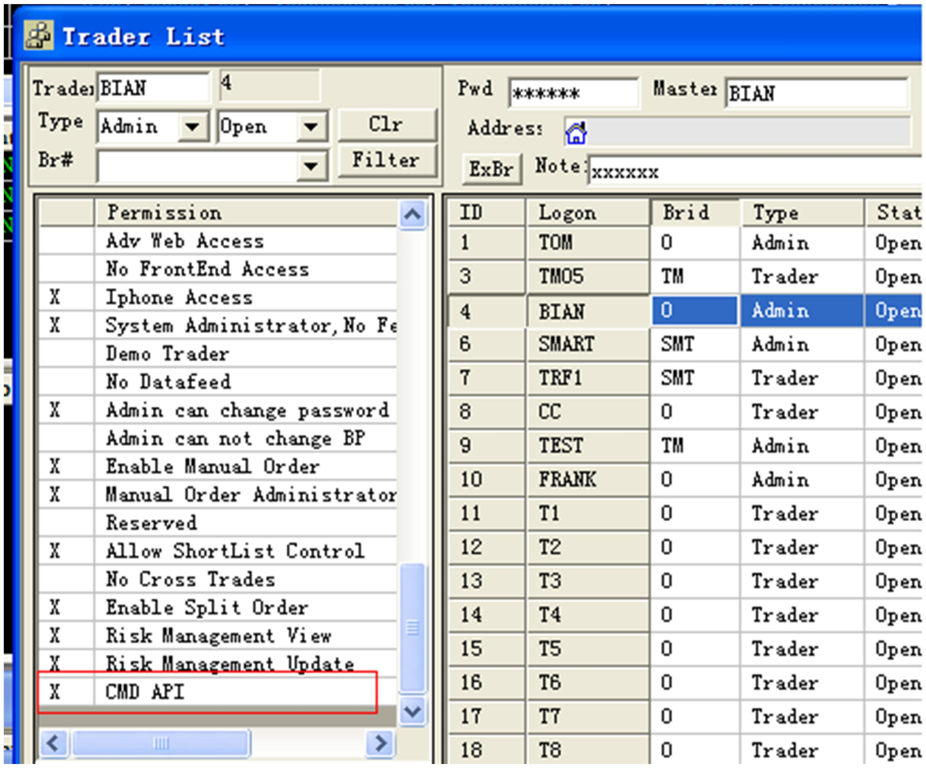
		locateOrderID: short locate order id. **Shares**: Initial requested located shares. **Openshares**: left to be located shares. **Exeshares**: located shares. **Exeprice**: locate price. **Status**: Sending: sending locate to the route. Waiting: the locate is accepted by the route, waiting to be located. Located: the locate has been located. Offered: For locate route type 1. When locate is in offered status, user can choose to accept or reject the offer. Canceled: the locate has been canceled by the user or the route. Rejected: the locate is rejected by the route. Closed: User rejected the offer, or closed by other reasons. Declined: the locate is declined by the route.
SLAvailQuery	SLAvailQuery Account Symbol	Query available locate shares to short. Same function with "Availability Query" on Short Locate Window.
$SLAvailQueryRet	$SLAvailQueryRet Account Symbol AvailableLocateShares	Query result for SLAvailQuery.

Limitations:

One connection can't subscribe more than 50 symbols for level1/Time&Sale, 10 symbols for level2, 50 symbols for day chart/minute chart. If client wants to subscribe new symbols after reach the limitation, client should un-subscribe some old symbols to free the resource.

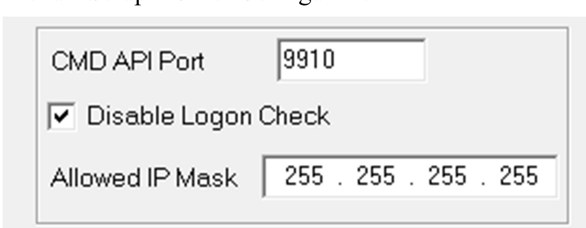
For minute chart request, can't exceed 7 days for one time subscribe.

Enable/Disable CMD API for an user:



Configure CMD API port:

Menu->Setup->Other Configuration



"Disable Logon Check": Quote related commands will not be checked for CMDAPI logon status. But for entering new order, logon is always needed for CMDAPI.

Simple Test method:

- Start CMD.exe,
- >> telnet APIServer APIPort
- >> login userid password account
- >> NEWORDER …
- << %ORDER …
- << %TRADE …
- << %POS …
- >> QUIT
- Disconnect from the server.

Notes: APIServer will be 127.0.0.1 if frontend running in the same PC when testing.