

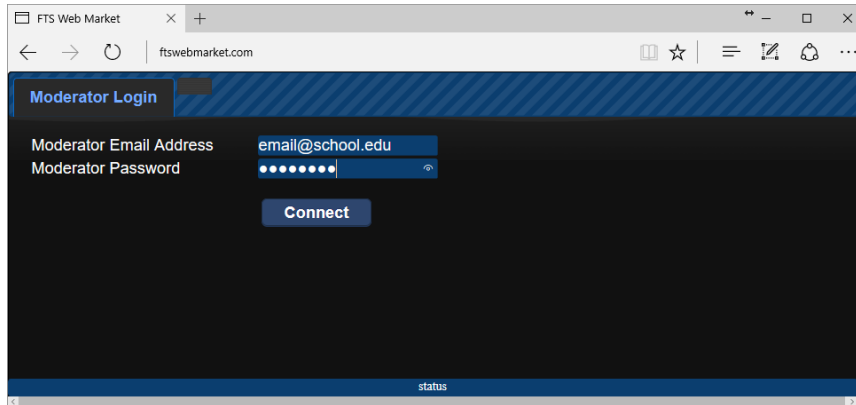


FTS Web Based Interactive Markets: Quick Start Instructions

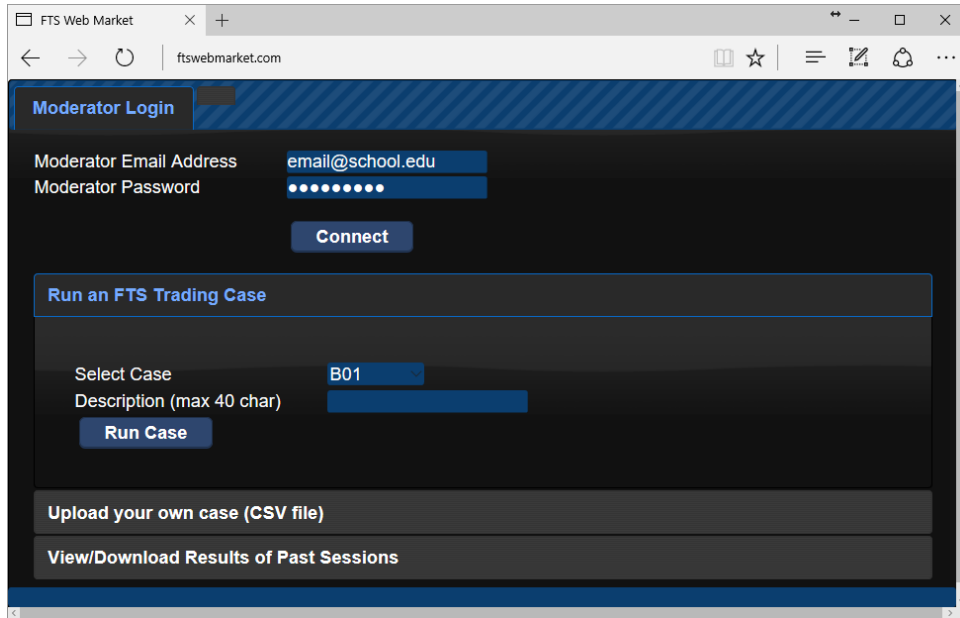
- Step 1: The Instructor/moderator initializes the market
- Step 2: Students connect
- Note: How Trading Works
- Step 3: Trading
- Step 4: Ending the session

Step 1: Moderator initializes the market

- Navigate your browser to www.ftswebmarket.com
 - The browser must be a modern browser that supports websockets
 - You can see the list of compatible browsers at <http://caniuse.com/#feat=websockets>
- Login with your university email address and your FTS-supplied moderator password and click **Connect**:

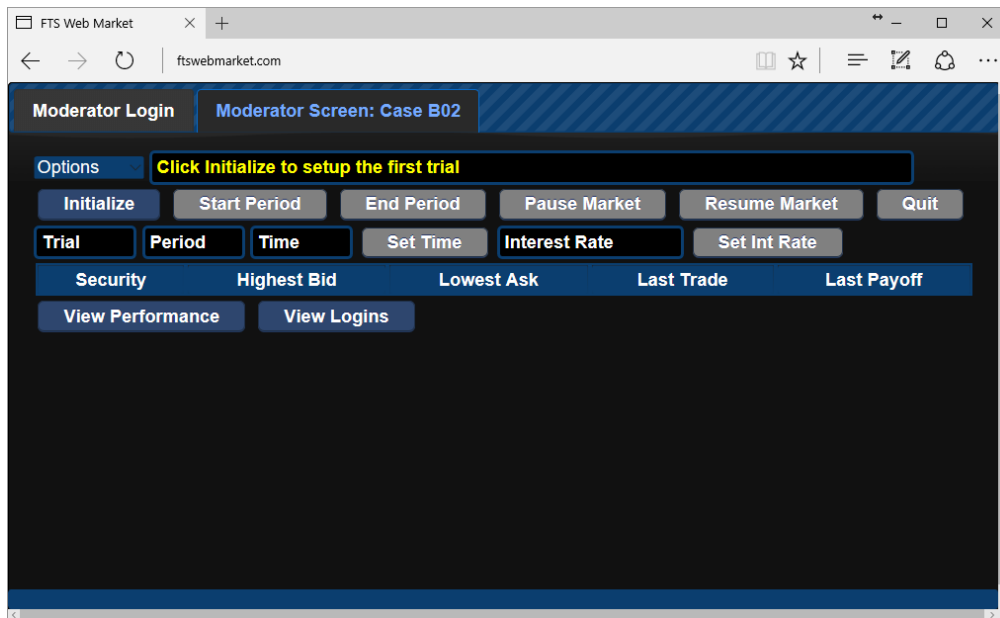


- You will see the following screen, that allow you to:
 - Select an FTS trading case from the case dropdown
 - Add a short descriptive note to identify the case
 - For example, if you have multiple sections of the same class, the note could say Section 1
 - You can also upload your own case
 - The case must be in a CSV file
 - We **strongly recommend** testing the case, or have us test it, before you run it.
 - You can also download the results of past sessions
 - These include the trading history and the results
 - All results are stored by your email address

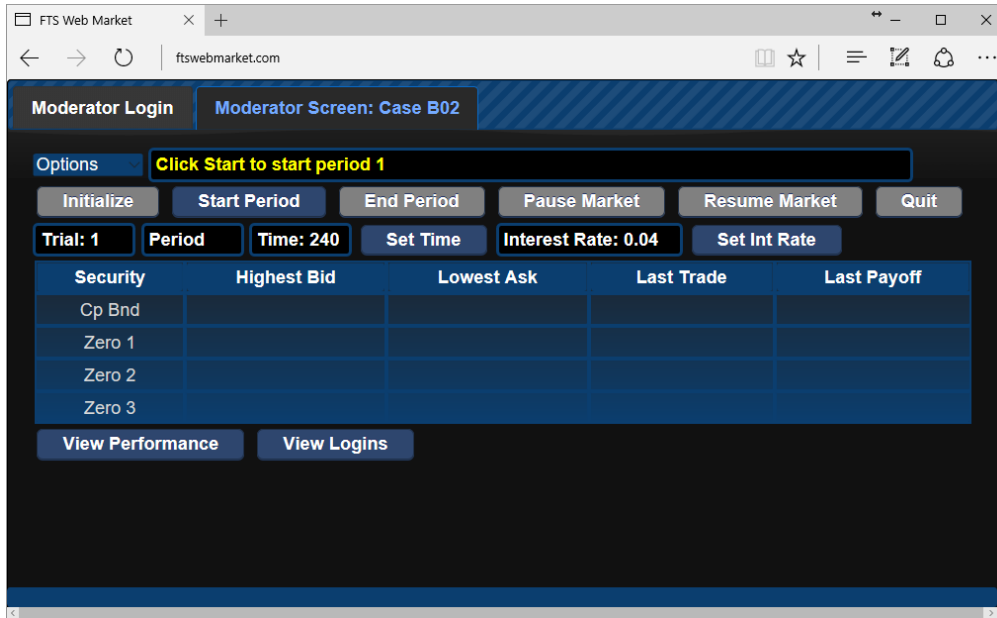


In this document, we will run the FTS trading case [B02](#).

- Select the case and click **Run Case**
- You will see the moderator screen:



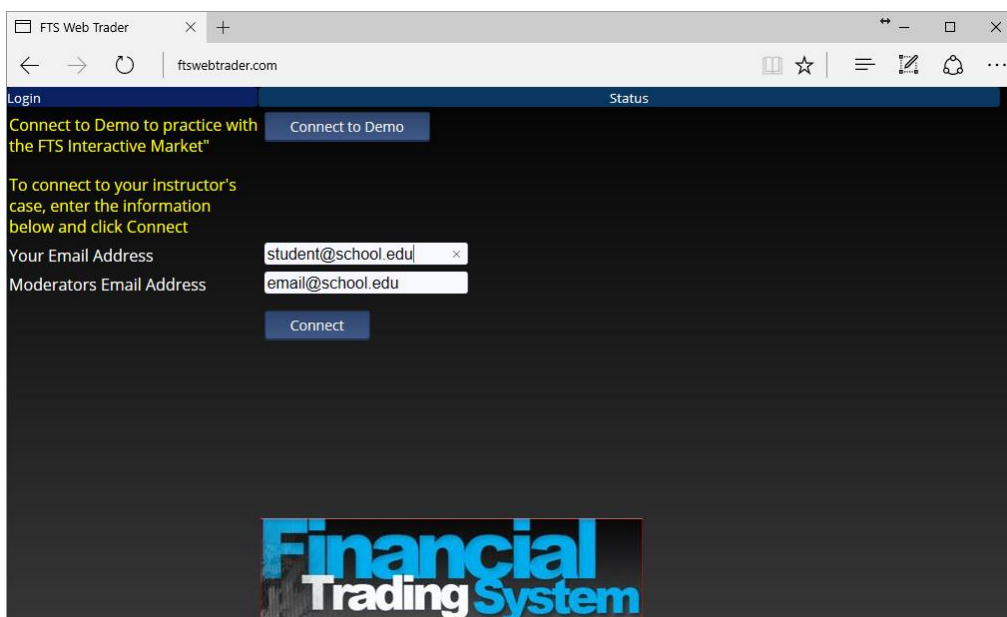
- The text in yellow tells you what response is required. As you can see, you have to click **Initialize** to start the first trial.
- At this point, students can connect to the market, these instructions are below
 - You can click **View Logins** at any time to see who has connected
 - The **View Performance** button is only relevant after a trading trial is completed, and this will show you the performance statistics of each student after every trial.
- After you click **Initialize**, you will see the following:



- The market is ready, and you can **start the period** when you are ready
 - At this point, it's probably a good idea to check that students have connected
 - Though it does not matter if they connect later, they just participate in the market from the point at which they connect

Step 2: **Students connect to the market**

- Students navigate their browser to www.ftswbtrader.com
 - The browser must be a modern browser that supports websockets
 - You can see the list of compatible browsers at <http://caniuse.com/#feat=websockets>
- They should enter their university email address (so you can identify who is who) and your moderator email address and click **Connect**:



The student trading screen will appear.

- Each security in the trading case appears in a panel
 - Trading case B02 has four securities, a coupon bond and three zero coupon bonds
- They can see the trial and period, the time remaining, and case information such as the interest rate
- They can see the trading case at the top left

The FTS Web Trader supports two “looks”:

- The Montage Interface
 - This is a traditional interface, similar to our Windows application¹
 - You click on a security name to trade it, and see information, charts, and so on, about that security.
 - While you can see the latest quotes on all securities, the chart, information, and other data is specific to that security.
- The Panel Interface
 - You can see multiple charts, information and so on at the same time. It makes it easier to monitor multiple securities at the same time, and to quickly trade in different securities.

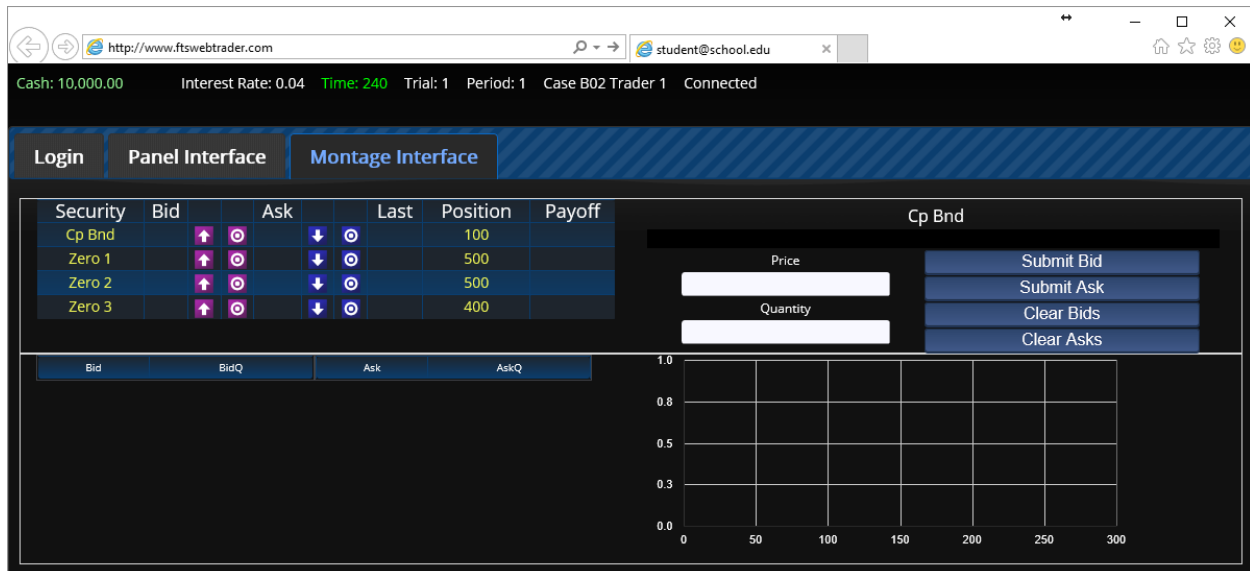
You can switch back and forth between the two interfaces any time you want. We will explain how you trade in each interface separately.

We provide instructions for each interface separately.

¹ Though Version 10 of our Windows system now also supports the panel interface

The Montage Interface

When you connect, you will see:



On the top left, you see the montage of quotes for all securities as well as your position in each security. To the right of the montage is where you trade: you can submit quotes as well as buy and sell for the “active security”, i.e. the one whose name appears at the top of this area. In the image above, you can see that the active security is “Cp Bnd” (the Coupon Bond in Case B02). You click on a security name in the montage to make it the active security.

The little icons on the montage allow you to trade quickly.

The chart shows you the history of quotes and trades for the coupon bond, and the grid to the left of the chart shows the order book for the coupon bond (the highest bids and lowest asks entered by the traders in the market; these terms are explained in more detail below).

Note: **How Trading Works**

- You trade financial securities, such as stocks, bonds, options.
- You start with an initial position in the securities and in **cash**
 - These can be positive or negative
 - A negative cash position means you have borrowed
 - A negative security position means you have short sold
 - When the market opens, you trade by:
 - Entering **bids** (offers to buy) and/or **asks** (offers to sell)
 - Or accepting bids or asks offered by others
 - Each of these takes the form of a price and a quantity
 - So a bid of 12.30/50 on your screen means someone is willing to buy 50 units of the security at the price 12.30 each

- If you “hit” this bid, you will *sell* the security, and you can choose how many to sell
 - They are offering to buy, so your accepting this means you sell
 - Similarly, if you hit an ask, you will be buying
 - If someone hits *your* bid, you will be buying and they will be selling
 - It’s the reverse of the above: they hit your offer to buy
 - If someone hits your ask, you will be selling and they will be buying
 - At the end of the period:
 - First, you are paid interest on your cash
 - Your initial cash plus any profits or losses you made from trading
 - Second, securities make payouts, such as dividends or coupon payments on bonds
 - For example, if one of the securities is a stock, you hold 10 units at the end of the period, and it pays a dividend of 5, then $10 \times 5 = 50$ is added to your cash
 - If you have a short position, you are charged the dividend,
 - If the case has more than one period, then this is repeated
 - At the end of the trial:
 - When all the trading periods are completed, your final cash balance determines your performance.
 - This is converted, based on the case, to a performance measure called “grade cash”
 - You can see how you performed by clicking the “View Performance” button that appears at the end of the trial.

Step 3: Trading

- At the very top of the trading screen are 5 items:
 - Cash: shows you how much cash you have. This can be positive or negative when you start or after you trade. If it is negative, it means you have borrowed money.
 - Interest Rate: this is the interest rate that is paid on cash balances at the end of the period and before any payouts from securities (such as dividends)
 - The time remaining, in seconds
 - The current trial and period
 - In this example, there are 4 securities: Cp Bnd, Zero 1, Zero 2, and Zero 3.

Cash: 10,000.00 Interest Rate: 0.04 Time: 240 Trial: 1 Period: 1 Case B02 Trader 1 Connected

Login Panel Interface Montage Interface

Security	Bid	Ask	Last	Position	Payoff
Cp Bnd	↑ ⊗	↓ ⊗		100	
Zero 1	↑ ⊗	↓ ⊗		500	
Zero 2	↑ ⊗	↓ ⊗		500	
Zero 3	↑ ⊗	↓ ⊗		400	

Cp Bnd

Price

Quantity

Submit Bid

Submit Ask

Clear Bids

Clear Asks

Bid BidQ Ask AskQ

1.0

0.8

0.5

0.3

0.0

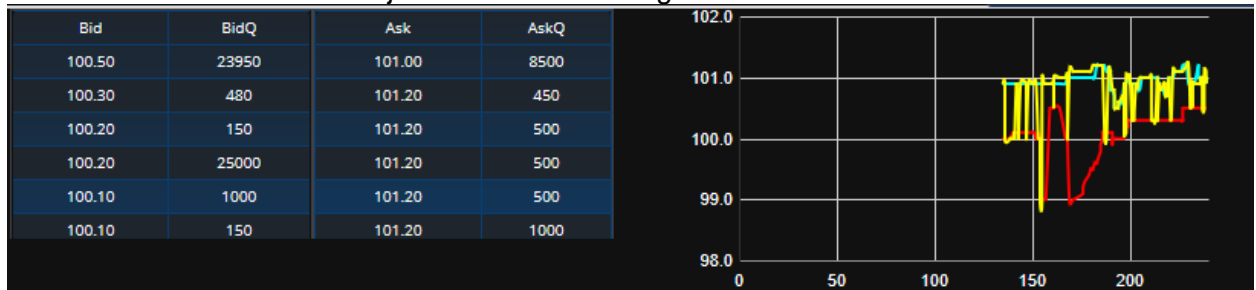
0 50 100 150 200 250 300

- In the montage:
 - The best bid and ask is shown at the top in the format price/quantity
 - There are two icons under each of these
 - Under the Bid:
 - The “up” arrow raises the current best (highest) bid
 - The “target” hits the bid
 - The amount you trade when hitting the bid is controlled by the entry under “Quantity.”
 - Under the Ask:
 - The “down” arrow lowers the current best (lowest) ask
 - The “target” hits the ask
 - The amount you trade when hitting the ask is controlled by the entry under “Quantity.”
 - Next is the last traded price, and next to that is your position in the security
- The Trade area is to the right of the montage:

Cp Bnd

Price	Submit Bid
<input type="text"/>	Submit Ask
Quantity	Clear Bids
<input type="text"/>	Clear Asks

- The name of the active security is shown. You select the active security by clicking on its name in the montage.
- Here you enter your bids and offers. These are called limit orders because you specify that you will trade at that price or better
 - Enter the price and quantity, then click either the Submit Bid or Submit Ask button
 - Note: if you enter a bid that is higher than an existing ask, then your bid will be “crossed” against that ask and you will trade at the ask price (which is not higher than your bid, so in your favor)
 - You can also clear any bids and asks you have entered
- **Order Books and Chart**
 - These are just below the montage and trade area.



- The order books to the left show you the best few bids and the best few asks that traders have submitted for the active security
- The chart shows a real time chart of bids, asks, and trades for the active security.

- Performance

- At the end of the trial, you can see your performance by clicking the “Show Performance” button (it only appears at the end of the first trial, at the top of the screen):

Show Performance

- Click it to see:



The image shows a screenshot of a 'Performance Summary' window. The window has a dark blue header with the title 'Performance Summary T...' and a close button. Below the header is a table with two columns: 'Description' and 'Value'. The table contains the following data:

Description	Value
Final Market Value	188,632.67
Value if you had not traded	188,506.40
Grade Cash this trial	18.86
Grade Cash if you had not traded	18.85
Cumulative Grade Cash	21,771.40
Cumulative Grade Cash if you had not traded	21,734.79
Rank this trial	33
Cumulative Rank	33

- The main items are what would have happened if you had not traded and your rank.

The Panel Interface

When you connect and click on the Panel Interface tab, you see:

student@school.edu × +

ftswebtrader.com

Case B02 Trader 1 Connected

Cash: -999 Interest Rate: 0.04 Time: 240 Trial: 1 Period

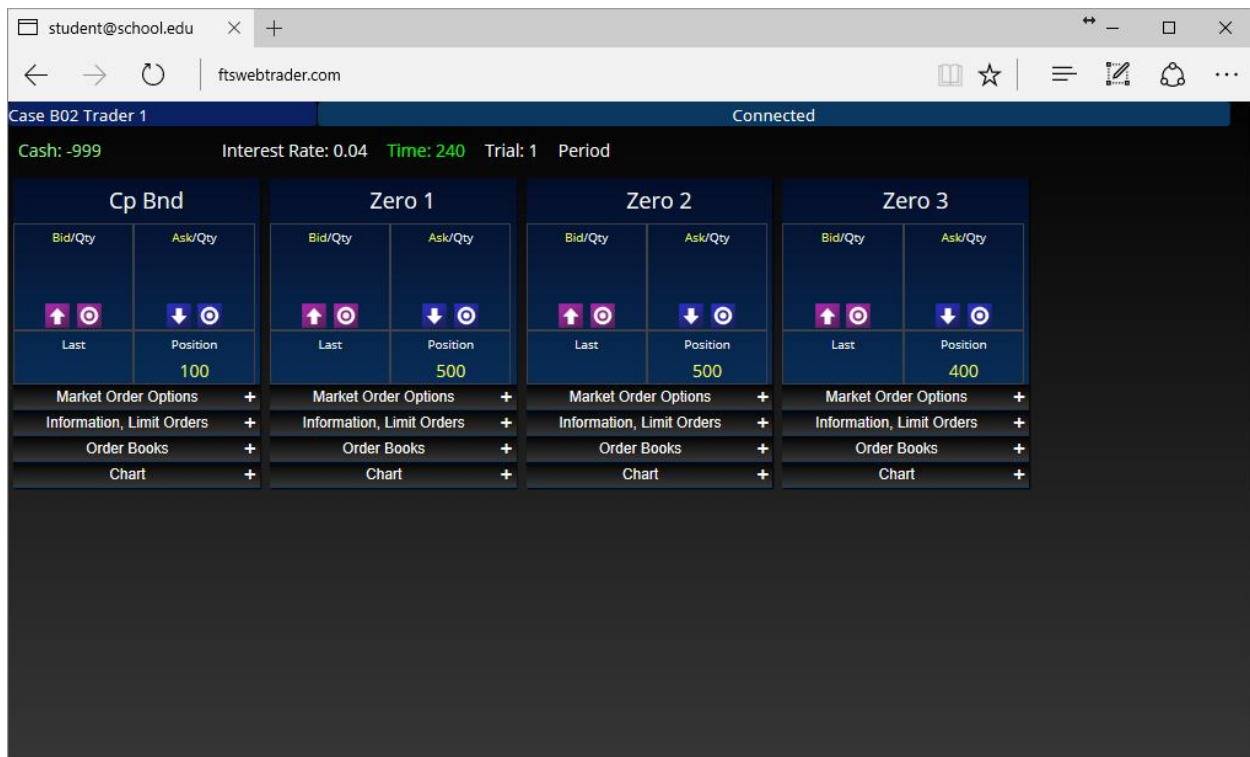
Cp Bnd		Zero 1		Zero 2		Zero 3	
Bid/Qty	Ask/Qty	Bid/Qty	Ask/Qty	Bid/Qty	Ask/Qty	Bid/Qty	Ask/Qty
↑	↓	↑	↓	↑	↓	↑	↓
Last	Position	Last	Position	Last	Position	Last	Position
	100		500		500		400
Market Order Options +		Market Order Options +		Market Order Options +		Market Order Options +	
Information, Limit Orders +		Information, Limit Orders +		Information, Limit Orders +		Information, Limit Orders +	
Order Books +		Order Books +		Order Books +		Order Books +	
Chart +		Chart +		Chart +		Chart +	

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- You trade financial securities, such as stocks, bonds, options.
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 - So a bid of 12.30/50 on your screen means someone is willing to buy 50 units of the security at the price 12.30 each
 - If you “hit” this bid, you will *sell* the security, and you can choose how many to sell
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 - It’s the reverse of the above: they hit your offer to buy
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 - First, you are paid interest on your cash
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 - For example, if one of the securities is a stock, you hold 10 units at the end of the period, and it pays a dividend of 5, then $10 \times 5 = 50$ is added to your cash
 - If you have a short position, you are charged the dividend,
 - If the case has more than one period, then this is repeated
 - At the end of the trial:
 - When all the trading periods are completed, your final cash balance determines your performance.
 - This is converted, based on the case, to a performance measure called “grade cash”
 - You can see how you performed by clicking the “View Performance” button that appears at the end of the trial.

Step 3: Trading

- At the very top of the trading screen are 5 items:
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 - Interest Rate: this is the interest rate that is paid on cash balances at the end of the period and before any payouts from securities (such as dividends)
 - The time remaining, in seconds
 - The current trial and period
- On the trading screen, each security is in a “panel”
 - In this example, there are 4 securities: Cp Bnd, Zero 1, Zero 2, and Zero 3.

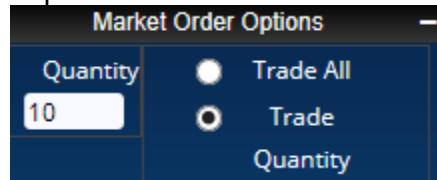


- In each panel:
 - The best bid and ask is shown at the top in the format price/quantity
 - There are two icons under each of these
 - Under the bid:
 - The “up” arrow raises the current best (highest) bid
 - The “target” hits the bid
 - The amount you trade when hitting the bid is controlled by the “Market Order Options” just below
 - Under the ask:
 - The “down” arrow lowers the current best (lowest) ask
 - The “target” hits the ask
 - The amount you trade when hitting the ask is controlled by the “Market Order Options” just below

- Below that is the last traded price, and next to that is your position in the security

- **Market Order Options**

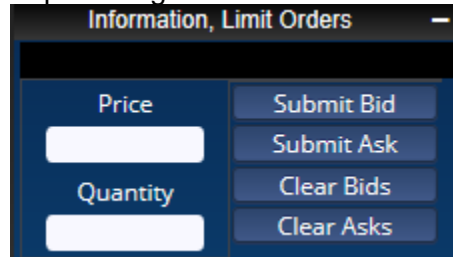
- Expand this to see:



- When you hit a bid or ask, you can either trade all that is offered or set a quantity

- **Information, Limit Orders**

- Expand to get:



- Here you enter your bids and offers. These are called limit orders because you specify that you will trade at that price or better
 - Note: if you enter a bid that is higher than an existing ask, then your bid will be “crossed” against that ask and you will trade at the ask price (which is not higher than your bid, so in your favor)
 - You can also clear any bids and asks you have entered

- **Order Books**

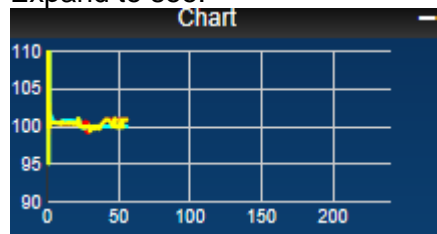
- Expand to get:

Bid	BidQ	Ask	AskQ
100.90	6770	100.00	7610
99.90	100	100.00	10000
99.90	500	101.00	9930
99.90	100	101.00	300

- This shows you the best few bids and the best few asks, so you can see what the market looks like. This information can help you see how competitive a market is

- **Charts**

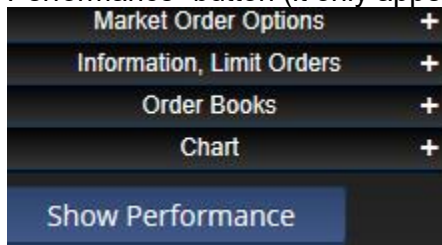
- Expand to see:



- This is a real time chart of bids, asks, and trades.

- Performance

- At the end of the trial, you can see your performance by clicking the “Show Performance” button (it only appears at the end of the first trial):



- Click it to see:

A window titled "Performance Summary T..." with a close button (X) in the top right corner. The window contains a table with two columns: "Description" and "Value".

Description	Value
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