

## **QuantSports Operations Guide**

QuantSports is in no way directly or indirectly associated with Ninjatrade. QuantSports acts a plugin that enables the user to access the analytics available with Ninjatrade for the Betfair markets. QuantSports has been fully approved by Betfair. No parts of this manual are to be reproduced or shared without explicit consent from the creator.

QuantSports provides access to graphing only.

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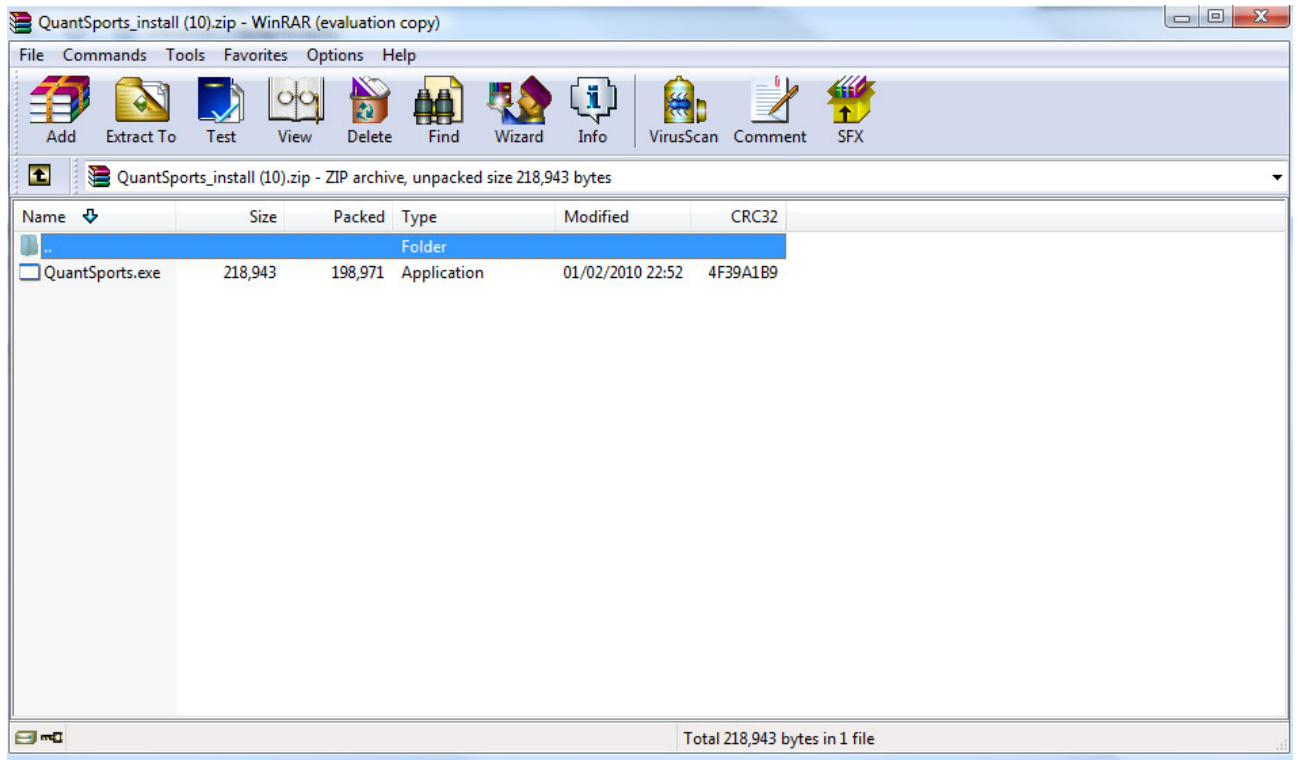
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## **Downloading Ninjatrade**

Visit [http://www.ninjatrade.com/webnew/download\\_trading\\_software.htm](http://www.ninjatrade.com/webnew/download_trading_software.htm), fill in the form and download the software. It is quick and easy to unsubscribe from their mailing list. Once the software is downloaded follow the steps to install it. I would recommend reading the User guide as it may prove helpful should you choose to use the full potential of the package. The software is completely free and you will never be billed.

## Installing QuantSports

To start we need to install the product. This is very simply done. After initially downloading, the product will be presented in a .zip file.



Double click on the 'QuantSports.exe' file.

You will then be approached by a screen as below:



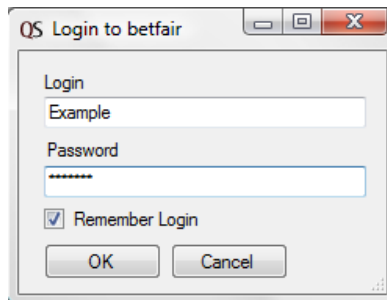
To install the program click 'Next' and then follow the appropriate steps until you reach the page with the 'Finish' button. After clicking this, the software will be installed!

## **Starting QuantSports**

To start, open up the 'QuantSports' application by double clicking on "QuantSports".

Please understand that on first starting the software there may be a delay of a few seconds while the software starts. After you have started the software once it should load quickly on all following start ups. Ninjatrader may also require some time to start up

You will at first be confronted by a screen asking you to enter your registration code. The registration code will be sent in an email to your PayPal email address. In the worst case scenario please allow a few hours for your version of the software to be activated, we do this manually for security reasons. After entering the correct code you will be confronted with a screen such as that below:



Enter your Betfair Username and Password and click "OK". If you want the software to remember your login tick the box "Remember Login". Upon successfully logging in you will reach the QuantSports control centre. If it is your first time using the software then you will have to permission your account for Betfair API access. If this is the case click the "Help" button at the prompt and fill in the Betfair API access form.

If you cannot gain access to the software please make note of the error code and email it to support. If it says INVALID\_USERNAME or INVALID\_PASSWORD, then you have incorrectly entered your login details.

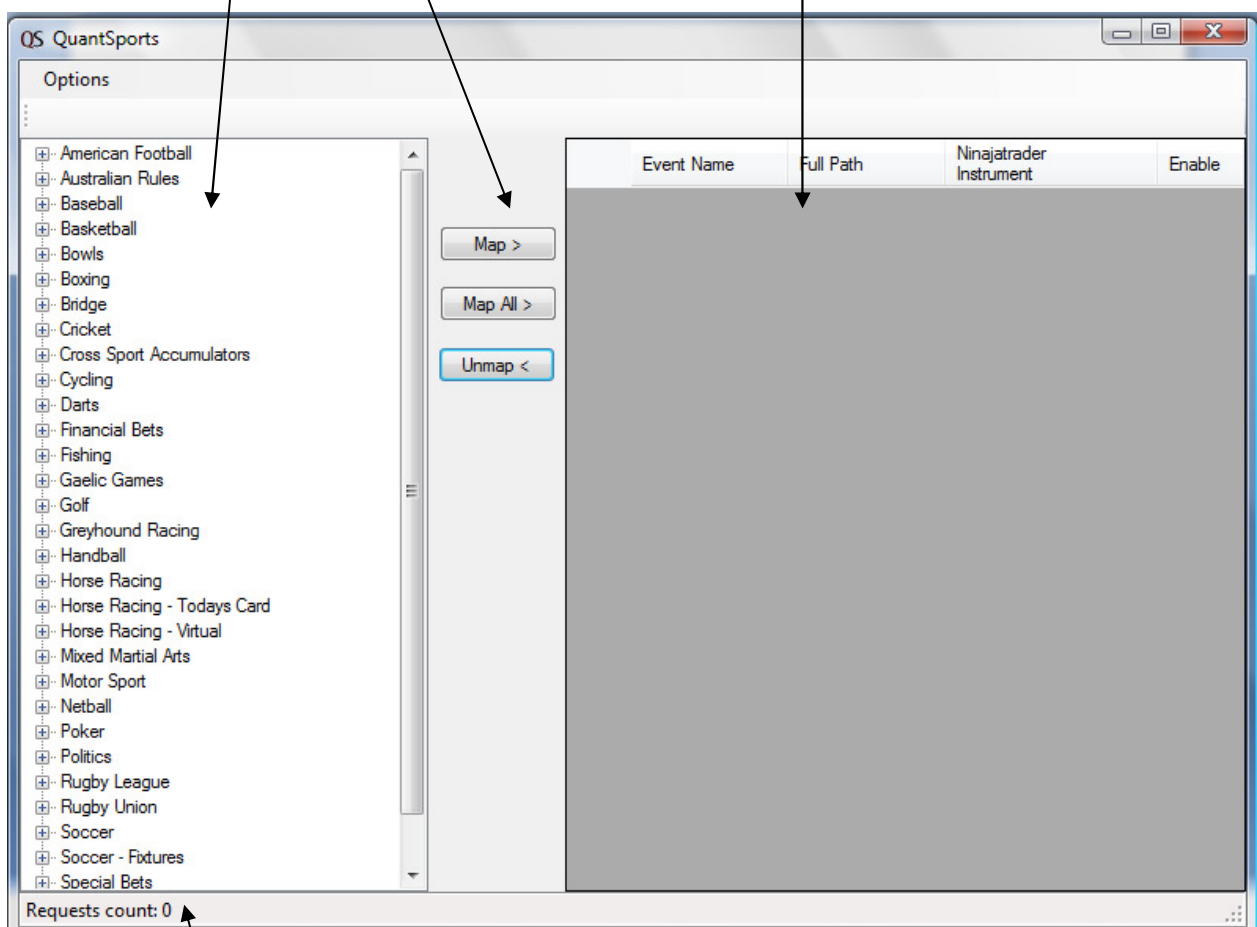
## Using QuantSports

In the QuantSports control centre you will be greeted by two main parts to the software. The first is the event select column; this is the column on the right hand side. Here you will be able to see a list of the currently Active Events on Betfair. Navigating through these is just like that on the Betfair website. On the left hand side, you will see the event select column. When you have mapped an event it will automatically be transferred to the right hand-side column. In the Centre of the console you will see the 'Map' and 'Unmap' buttons. These buttons are used to select which events you want to map, and to unmap events when you have finished mapping them.

Event Select Column

Map Buttons

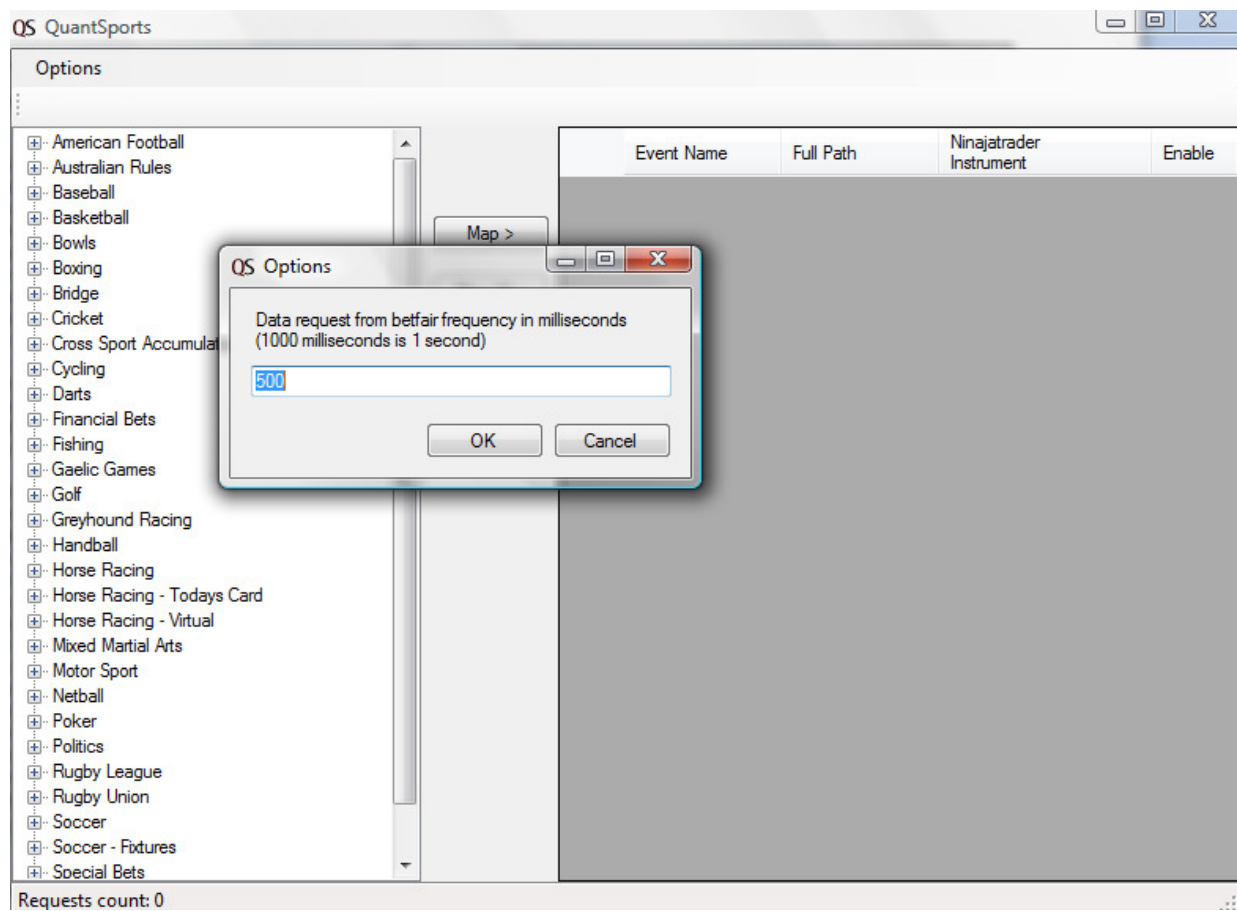
Mapped Events Column



Request Counter

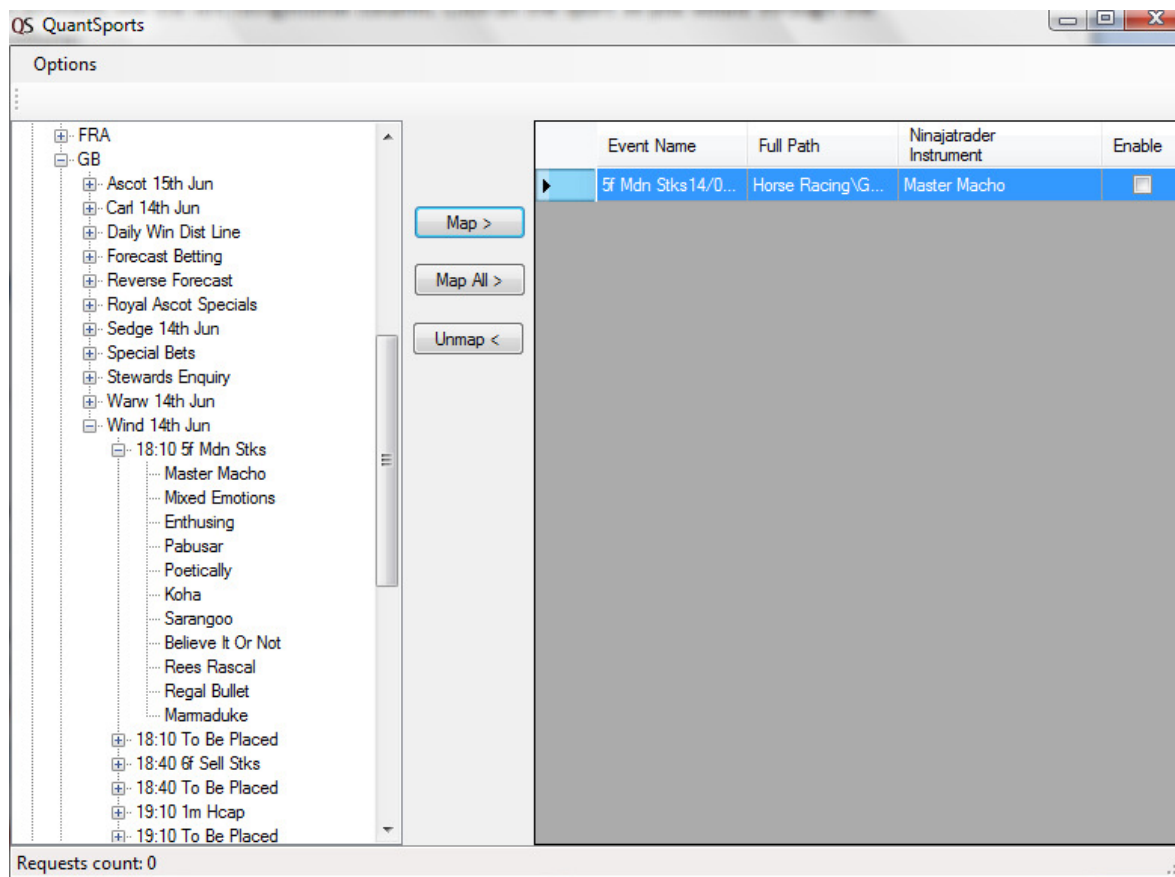
The other features of the QuantSports console include the Refresh settings and request counter.

If you select the Options button a pop-up will allow you to set the refresh time in milliseconds that you want the software to call the Betfair API.

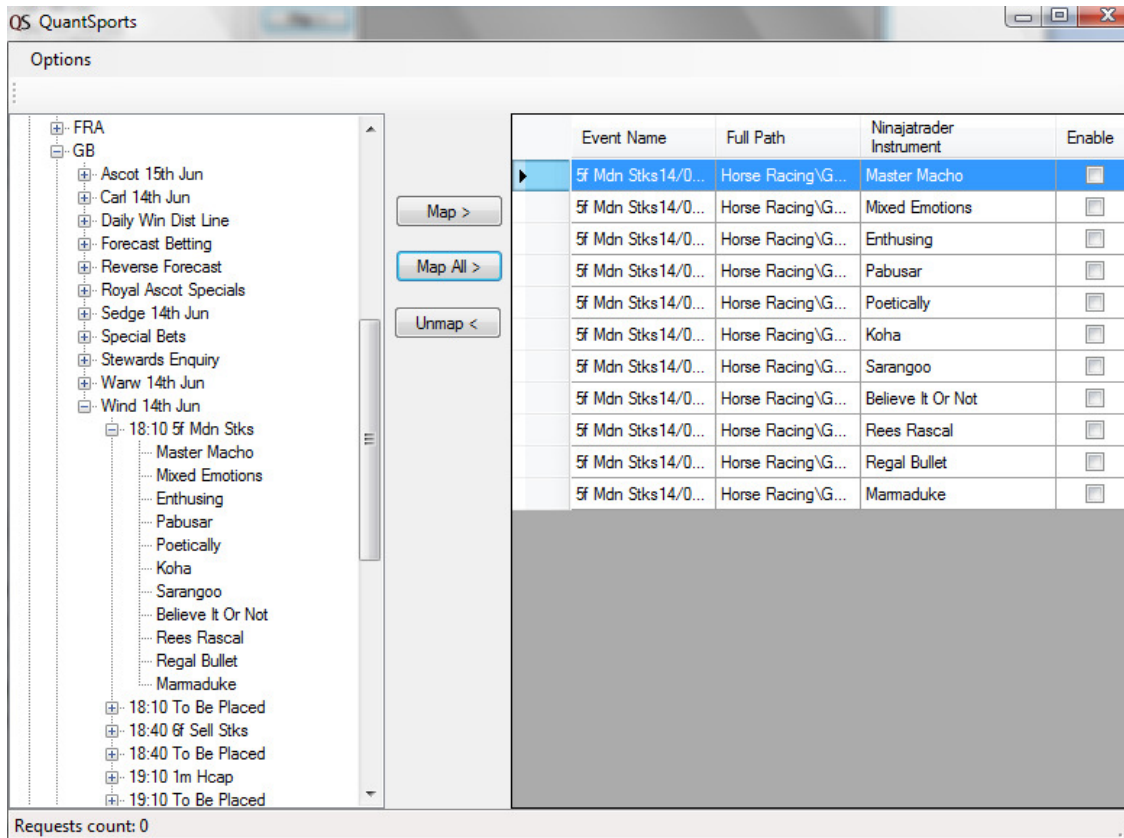


Please be aware that a user is only allowed 20 free calls per second before they are charged Data Request Fees from Betfair.

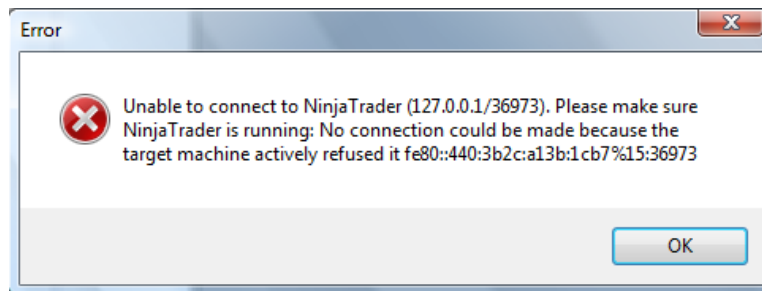
To select an event use the left navigational column. Click on the sport as you would through the Betfair website:



As an example, in the above picture I have selected the 18:10 (GMT) race at Ascot. In order to create the instrument select the name of the event that you want to chart, which in this case is a horse, and click the "Map >" button. Alternatively, if you want to map every instrument in a race click the "Map All >" button. This would be a better approach for those traders who want to load up an entire day's race card, as you will be able to assess which horse is favourite at a time closer to the off.



When the event is mapped it will appear in the right hand column. At this stage the software has set up an "External Data Feed" with Ninjatrade. This means that we are in a position to open Ninjatrade and because Ninjatrade is not currently open, an error message might appear:

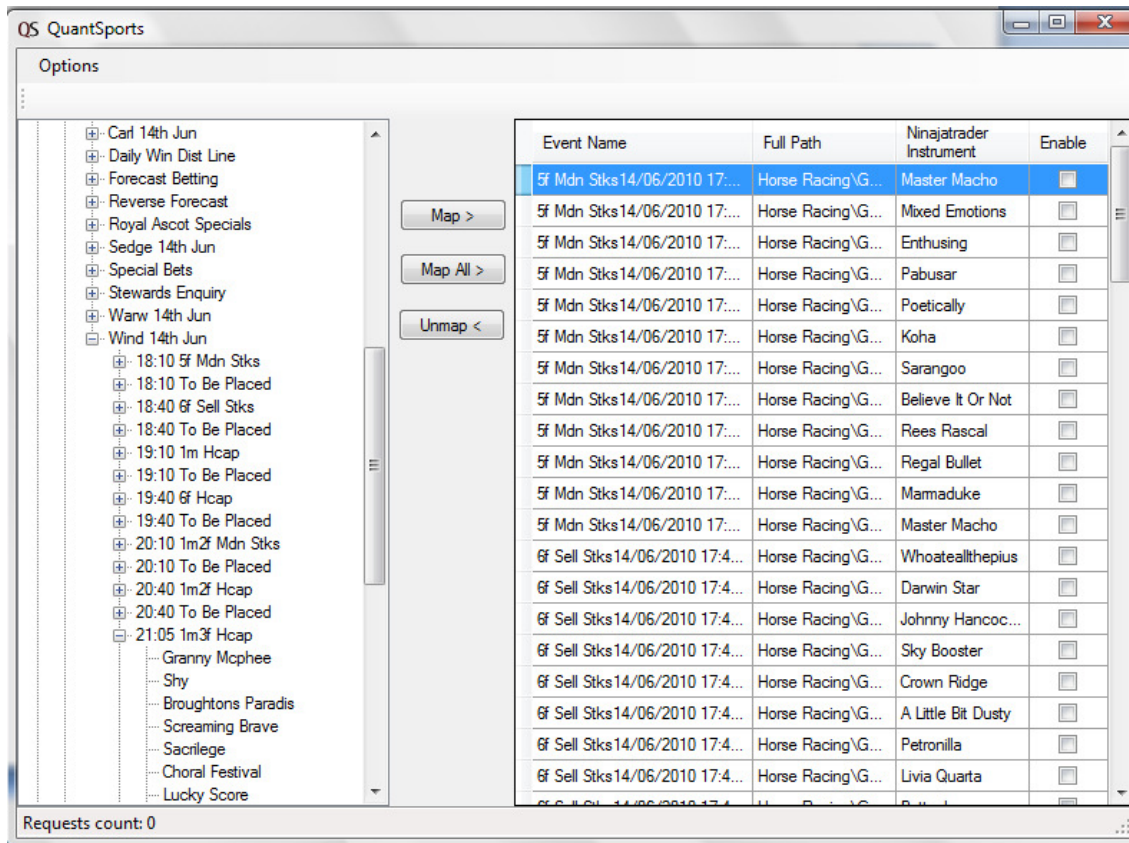


This is saying is that Ninjatrade is not open (as expected). This error should only appear if you are trying to call data ('Enable' is ticked) and Ninjatrade is not open.

To avoid having to restart Ninjatrade between each new event being mapped, we have introduced an 'Enable' button. This is primarily for traders that will know which events they are likely to be

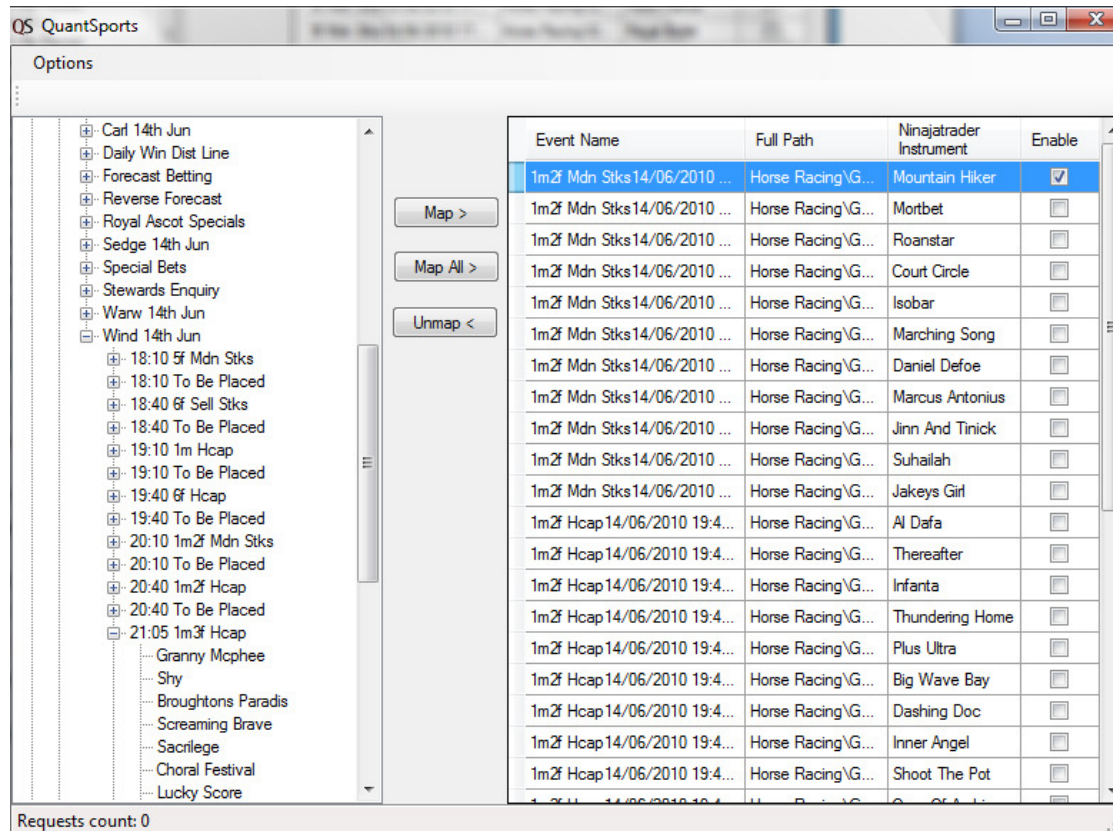
trading and helps avoid Data Request Charges. In order to start calling a horse, you must click the 'Enable' Button.

In the example below I have mapped every race from the meeting at Ascot:



You can see that although there are nearly one hundred horses mapped, the application is not actually calling any data yet. Because of this, feel free to add as many events as possible.

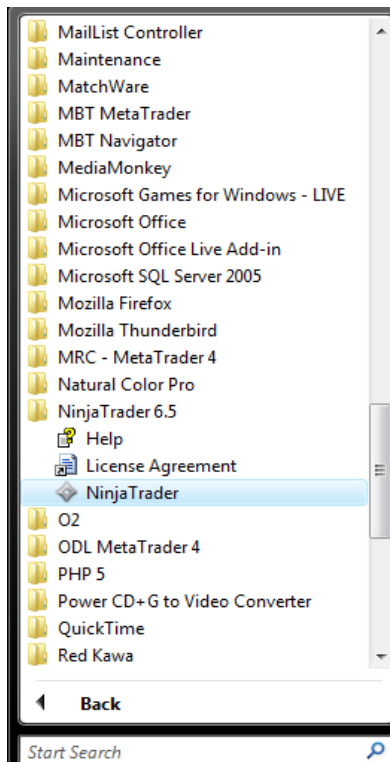
**In order to start calling Data you must tick the 'Enable' button next to a horse. Once this is ticked, data for all horses in the race will start being fed into Ninjatrade.**



Each call, for all horses in the race, is counted as 1. If you are charting 3 horses in the same race, at a 500ms refresh, it will only be weighted at 2 calls per second. Alternatively, for the same frequency, if you are charting 3 horses in different races then it would be counted as 6 calls per second. Remember to keep checking the request counter to see how much you are using.

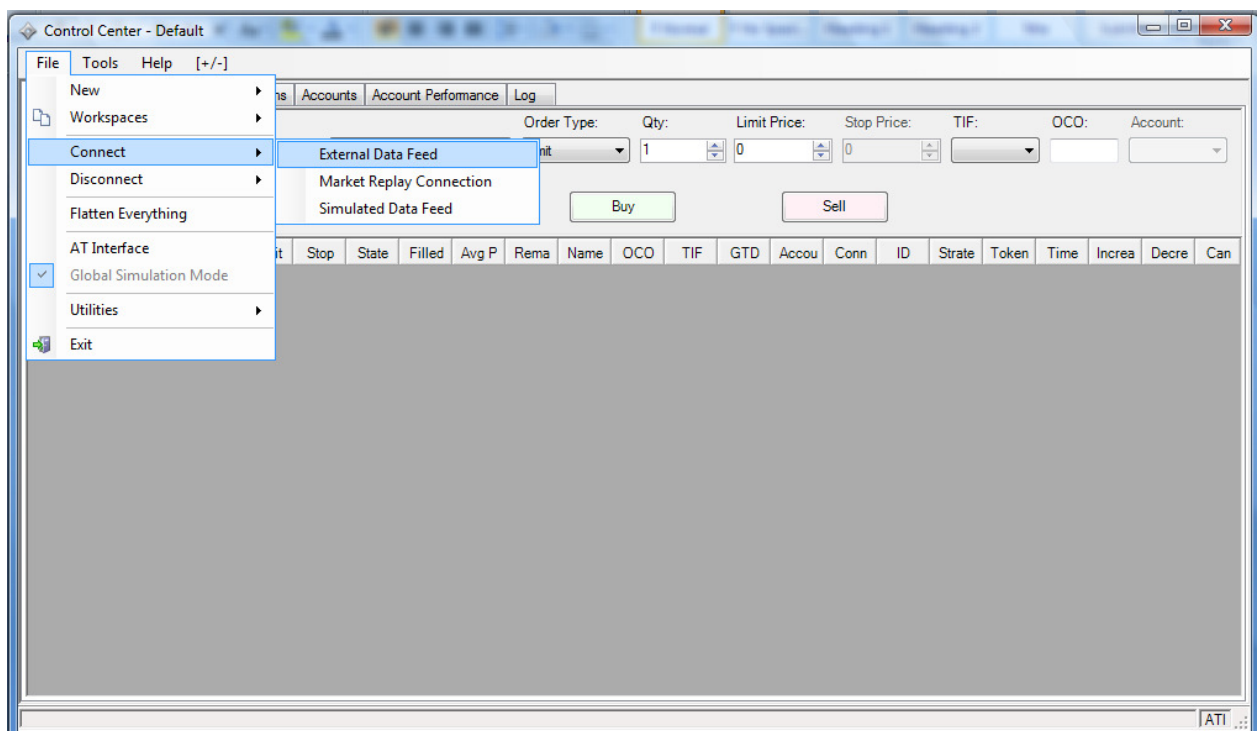
To improve performance, only map the events you are likely to be trading.

The next step is to open Ninjatrader:

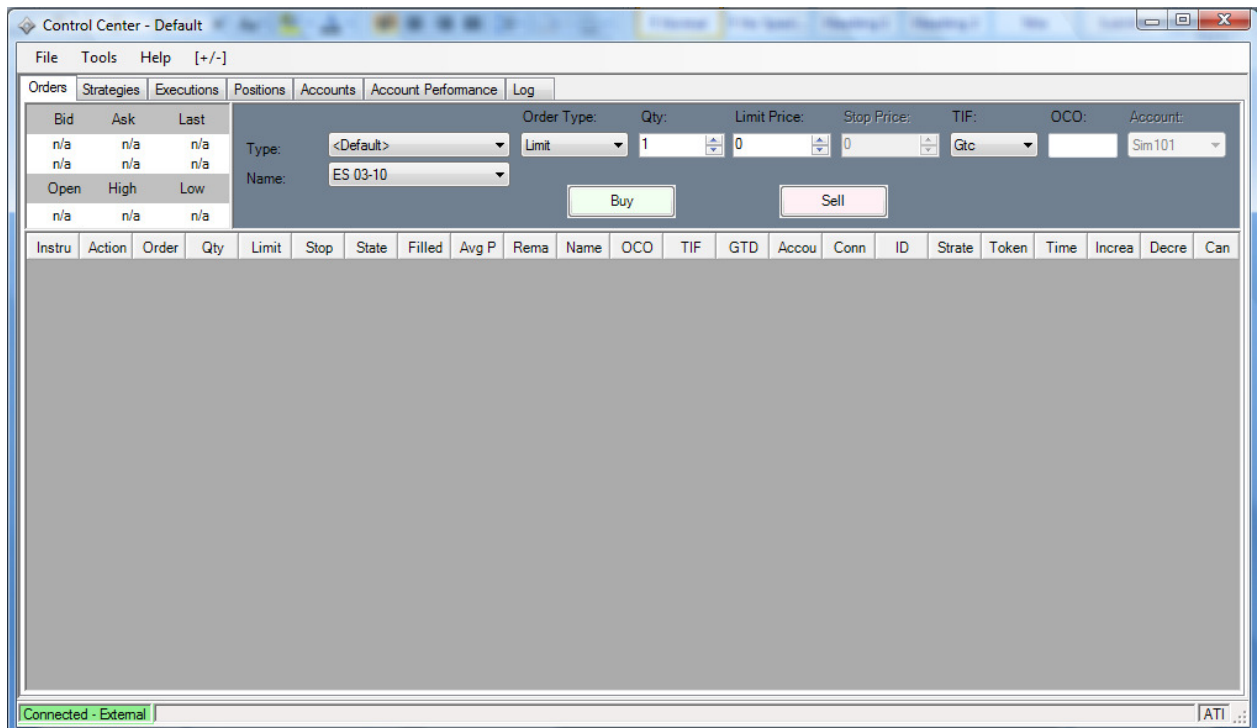


Please be aware that Ninjatrader is a very comprehensive piece of software and as such it may take a while for the software to fully load, especially upon first opening it after start up.

After loading the 'Control Center' will open. From here you need to select File->Connect->External Data Feed as shown in the picture below.

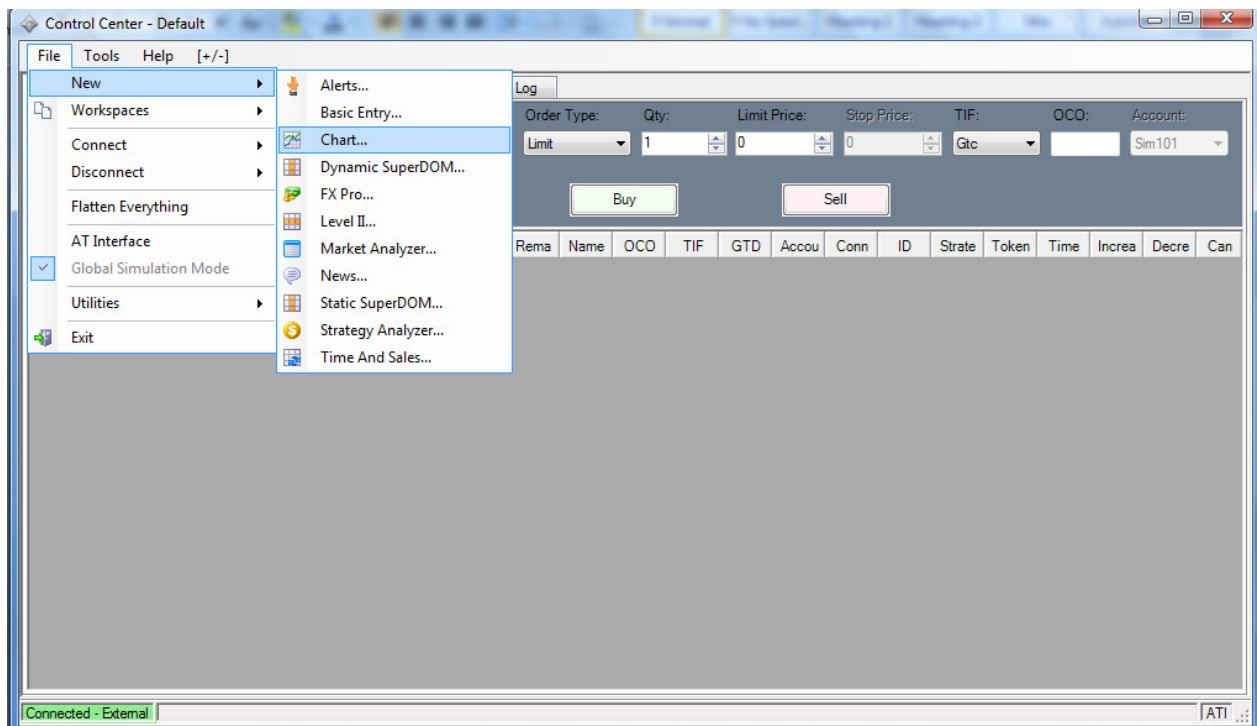


The screen should change colour slightly and it will say “Connected-External” in the bottom left:

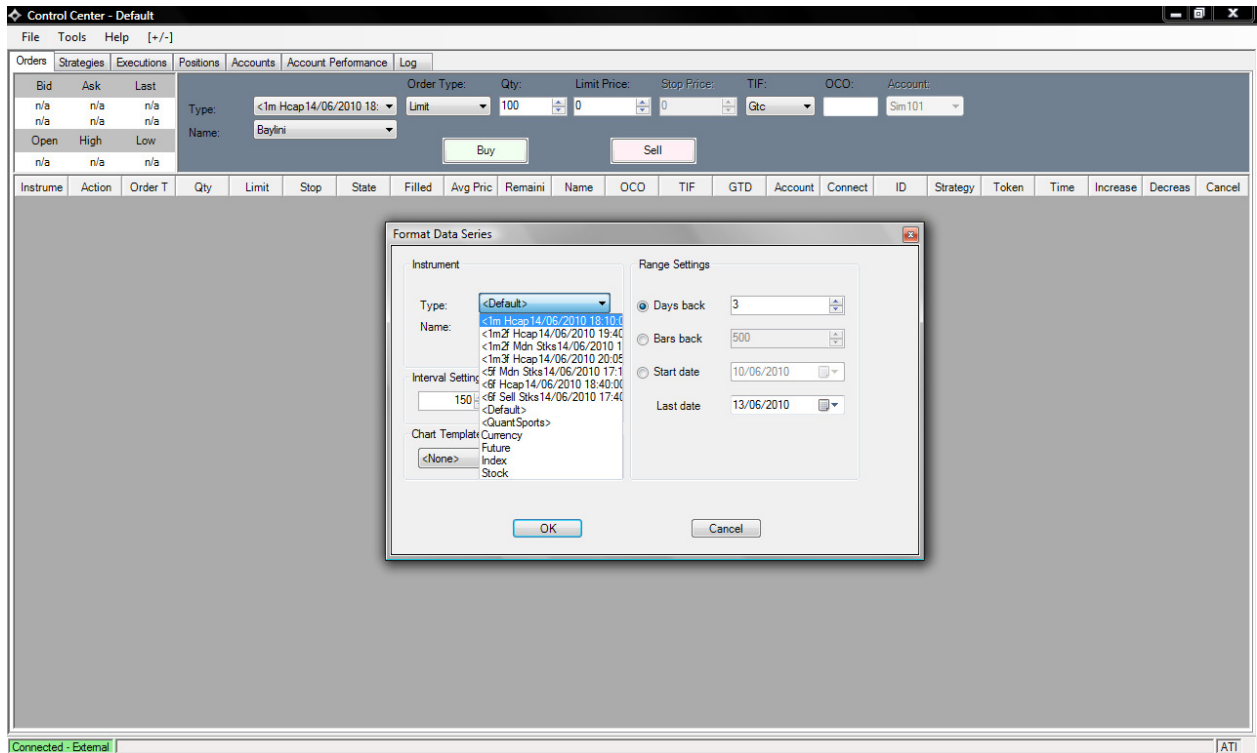


Now we find the instrument and create the chart for it. To create a chart visit

File -> New -> Chart

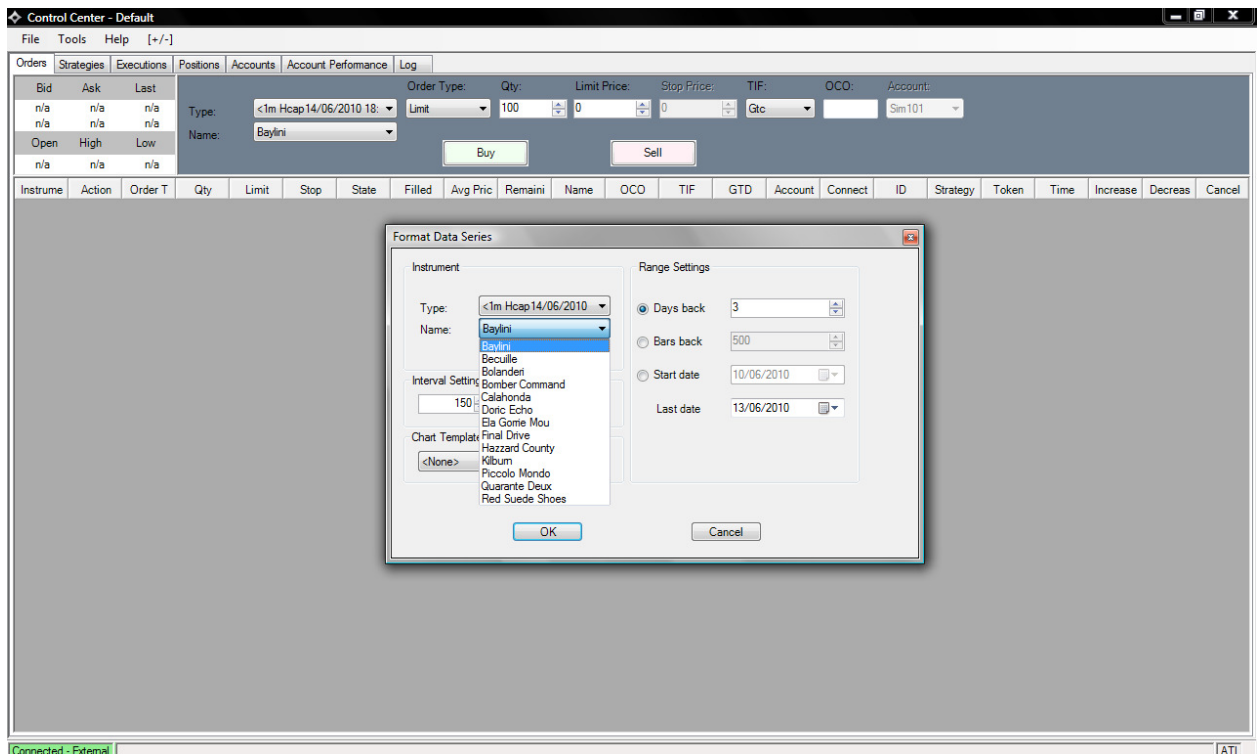


After doing this you should be greeted by a box as visible in the screenshot below:



Under the “Type: <Default>” box you will see the name of the events which you have mapped.

From here, select the individual outcome(s) you would like to chart:



You can also select the intervals and whether or not you want to apply a template to the chart. However, it is not immediately important that you set these criteria as it is very easy to change these features when the chart is open.



## Using the Charts

All of the below examples and screenshots have been taken off charts from events mapped through QuantSports which in this case are pre-race horse racing charts (not stocks or currencies). The giveaway here is the prices on the right hand side as well as the volumes and the horses' name and date as the chart title.

It is very easy to quickly and easily switch between various instruments, timeframes and chart types when trading using Ninjatrade. Without having the need to close the chart and lose the data you can easily change the time frame:



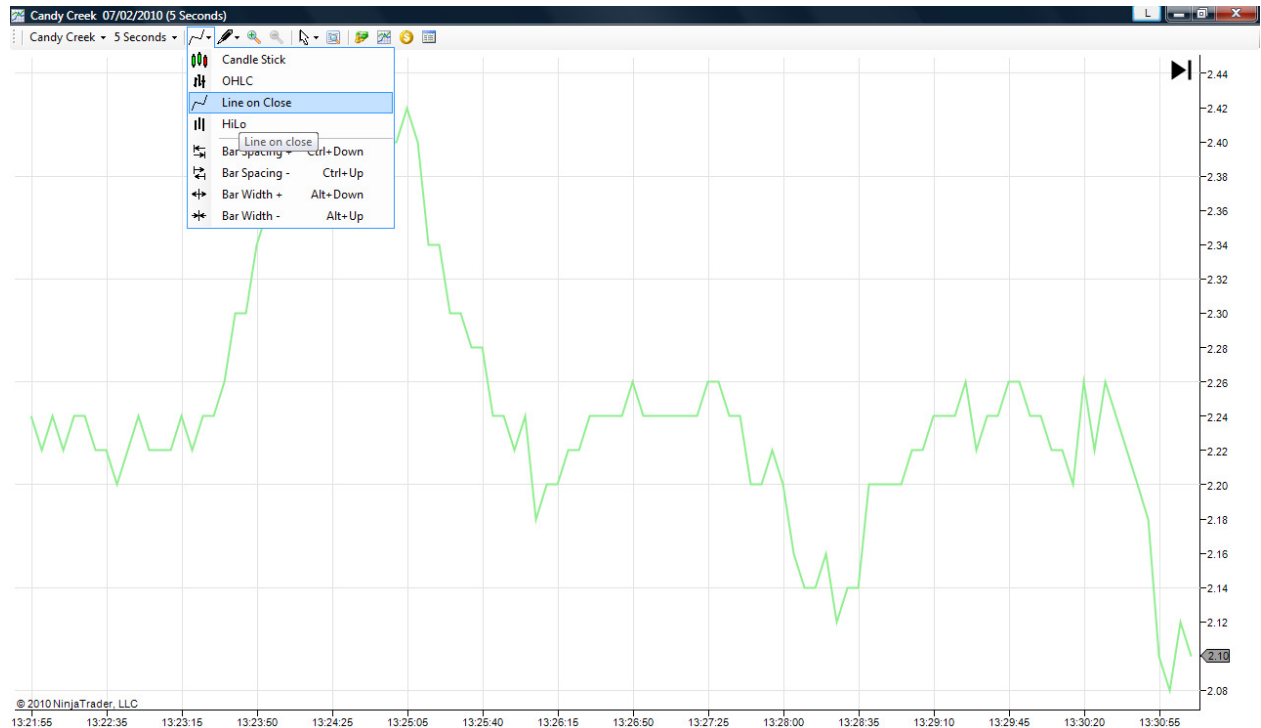
Here I have changed to a 10 second chart (Note this race went off at 13:30 and the horse won which is why the price gets very erratic after 13:30).

It is also possible to chart Volumes. In this case, instead of charting price against time, you will be have a chart with volumes against time. To get this, simply select "Volume" and enter the interval which you want the volumes to be mapped over. As an example, you might select '1000' for an average favourite. You can see an example what the chart will look like below (along with some indicators that I use):



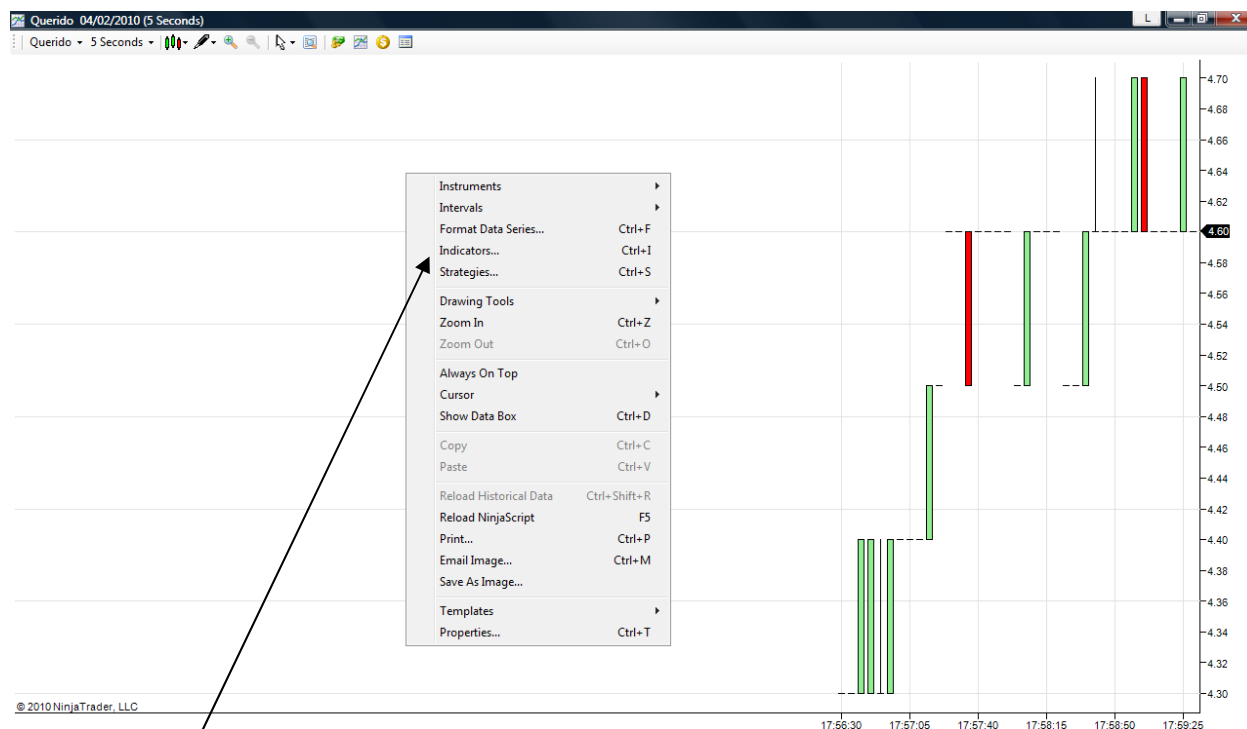
Here I have changed the chart type from a Candle Stick to a Line on Close (Line on Closing Price):





The first thing I should make very clear is that in the below descriptions I refer to “buy” and “sell” signals. In a “Buy” signal we anticipate the price increasing and on the exchanges this would be the equivalent of a horse drifting in price (i.e going from 2.5 out to 3.5), so we would be looking to place a ‘Lay Bet’. A “Sell” signal is the opposite of this. When we “Sell” we anticipate the price falling (i.e going from 2.5 to 2.0), so we would be looking to place a ‘Back Bet’. A “Buy” signal is typified with a “Green” signal and a “Sell” with a “Red” signal.

The indicators are more effective when they have more data (i.e the time close to the race off). For example, if you are trading a horse that is 10/1 8 hours before the race starts it is unlikely that there will be much volatility. If at first the chart is not displaying the indicators or volumes please understand that this is just because it has not gathered enough data on the allocated time-frame to work with.

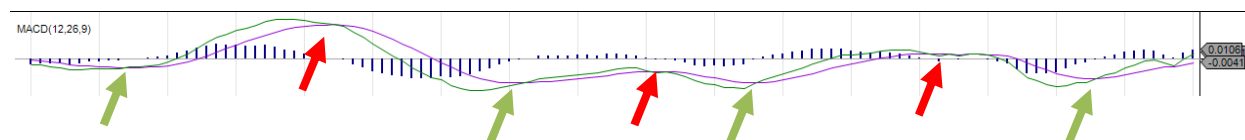


To add indicators to the chart; right-click on the chart and you will be presented with a menu like that above. Here you can load indicators, strategies and drawing tools (such as Fibonacci lines for retracements and channels for analysing break-outs). Below I have written a short piece on what each option does:

**Indicators** -> These are the foundation of Technical Analysis. There are many hundreds of indicators, some are fairly similar and others are based around completely separate principles. Basically they take the data on the chart and create future predictions in the form of buy and sell signals. The way in which they operate can vary. With some you will need to identify cross-overs and with others it will be as simple as green and red signals symbolizing buy and sell or lay and back respectively.

**Here are three examples of what to look out for:**

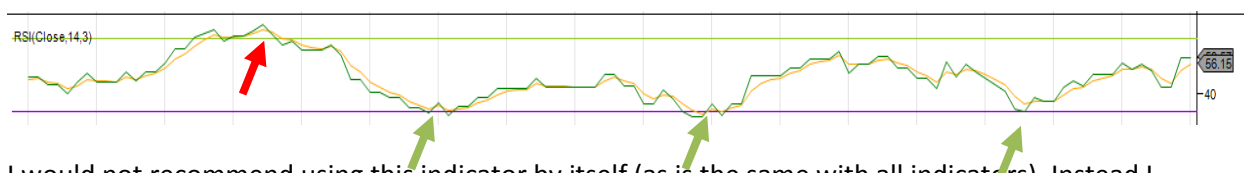
**Cross-over** – In this example I have used 'MACD'. We look for cross-overs in the two Moving Average lines. The indicator actually stands for "Moving Average Convergence Divergence". In short it measures the difference between two moving averages; one fast and one slow.



When the green line crosses up over the purple line it symbolizes a buy signal and when the green line crosses back down under the purple line it symbolizes a sell signal. I have shown these above with the help of red and green arrows. To help filter these signals further I would recommend only buying when the buy signal has been formed and both lines are under the 0 line (which is the line from which you see the price histogram originate). The same goes for a sell signal which I would only recommend following when both lines are above 0.

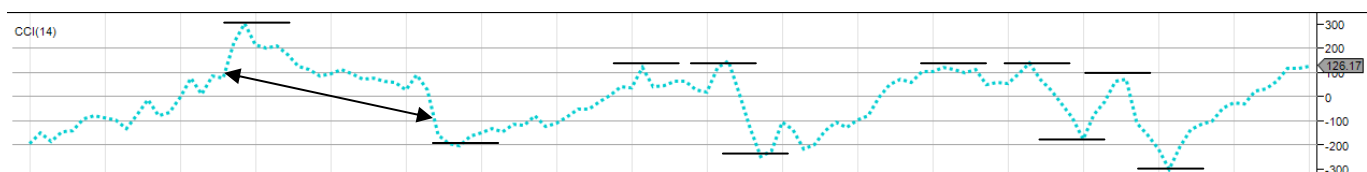
Levels– The resistance indicators can combine cross-over, coloured signals and levels. In this example I have used 'RSI' which stands for 'Relative Strength Index'. In the most basic version of RSI there are two levels, typically at 30 and 70, though they are customizable. What we look for here is a retracement over these levels. Most, if not all markets, are based around the simple principle of Supply & Demand. If the supply is high and the demand is low, the price will fall because there is too much of something. In the opposite scenario, if there is a high demand and a low supply the price should rise because there is not enough of something.

RSI is a momentum indicator that tries to identify comparisons between changes in the magnitude of recent gains/losses and from these predicts when the market may be overbought or oversold; when a trend might end or start. The two levels, at 30 and 70, are represented by green and purple lines respectively. If the resistance line reaches a level and retraces over it, a signal is created. In this case, if the lines retrace over 70 then a sell signal is created. If the resistance retraces over 30 a buy signal is created. I've indicated these with red and green arrows:



I would not recommend using this indicator by itself (as is the same with all indicators). Instead I would look at closing or opening current positions when the retracement is clear, for example if the price Relative Strength Index clearly retraces over a certain level. The sell signal in the picture above is a good example of this because there is clear daylight between the level at 70 and the index level before the retracement.

The CCI (Commodities Channel Index) is another indicator that is displayed with levels. This indicator makes the assumption that the prices of a various instrument are cyclical with periodic intervals between highs and lows. We can identify differences between peaks and troughs and combining this information with the levels of +/- 100, pick out strong up and down trends. I have marked on some of the reversals in the CCI we would try and identify above and below certain levels.



Coloured Signals - There are many different variations of each indicator. Some indicators combine more than one principle and others stick to the basics (such as a simple moving average). Coloured signals are the easiest to identify. In most, if not all cases, a Buy signal is represented by a Green colour and a Sell signal by a red colour.

In its most simple case the Greens and Reds below show if the average price of the market in the most recent candlestick was higher or lower than the preceding candlestick. See an example below:



Even at a more advanced level, various indicators use the same colours to show buy or sell signals:



In this case I have a template which primarily consists of coloured signals. In descending order of height on the chart above these are:

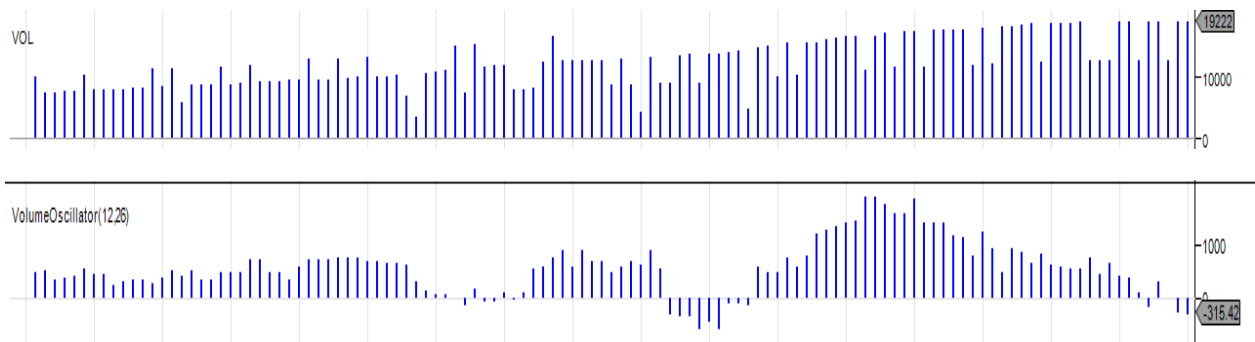
Smoothed Heiken-Ashi, Ergodic, MACD BB, Acceleration/Deceleration Oscillator and Woodies CCI.

There are also several other lines on the price section of the chart that includes channels, moving averages and Bollinger Bands. You can see from the above that the chart is very visual and if we match up several signals from various indicators, very accurate buy and sell signals are produced. Some react quicker than others to help prevent indicating signals on false trends but at the same time can miss out on some of the action as the price begins to change.

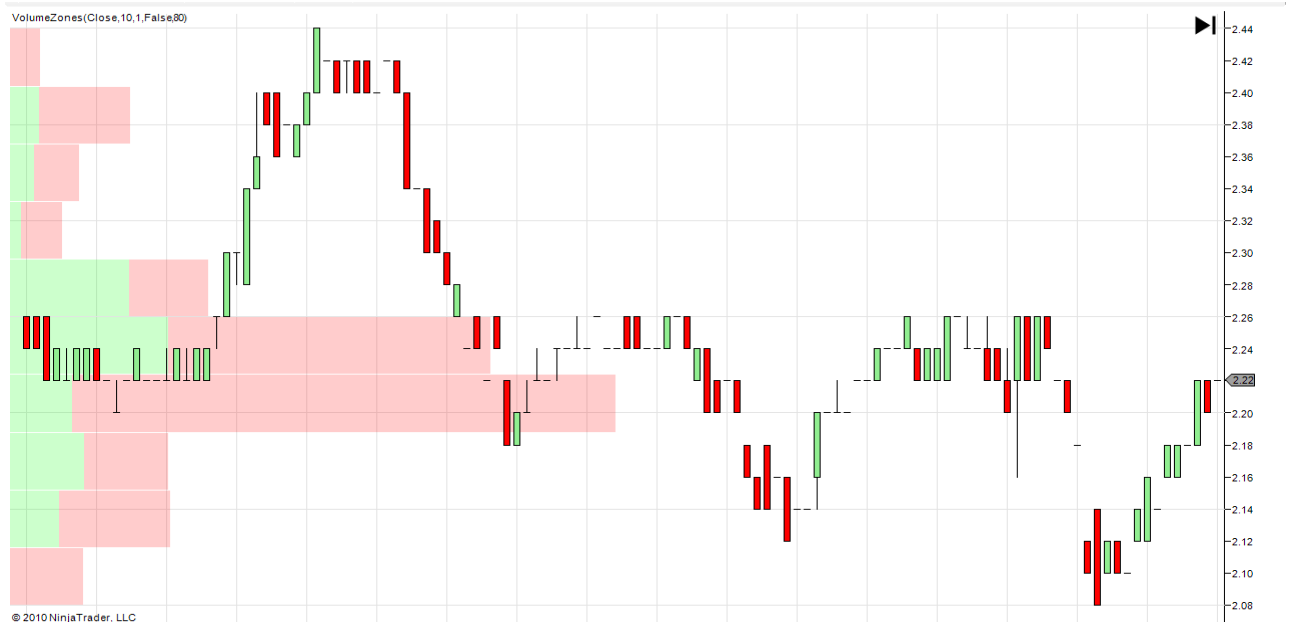
Volume Indicators – A pivotal part of the Betfair markets are the volumes and weight of money. This can be for numerous reasons; whether it is teams of traders manipulating prices together, insider news or just the smart money going down. Directly because of the above it is very important to indentify the first hint of any indication of the market movement based on the weight of money. I do think to some extent the ‘inside news’ and teams of traders on Betfair are over exaggerated, however this does not take away the importance of volumes.

A key strength of the charting is it’s volume capabilities. Below I have identified various volumes indicators. At their most simple we have the VOL (which measures the volumes matched over the time frame you select) and the volume oscillator which records the change in the volumes matched.

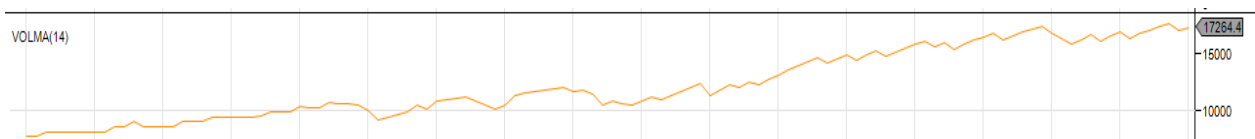
Please be aware that if no money is matched in a certain period then the indicator will display the amount matched in a previous period.



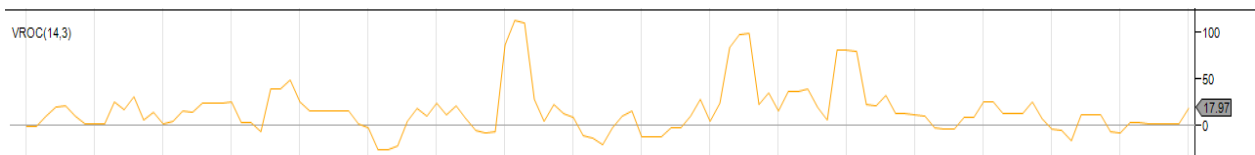
We also have Volume Zones:



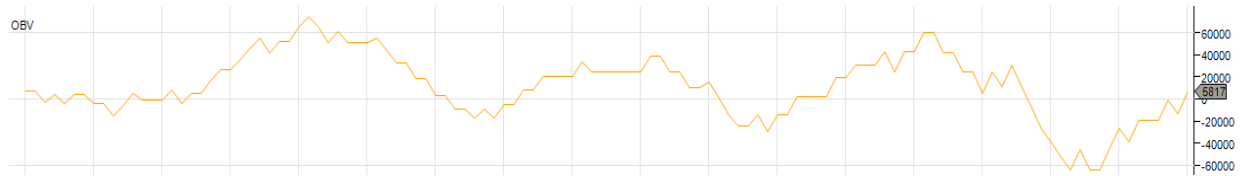
Volume Moving Averages:



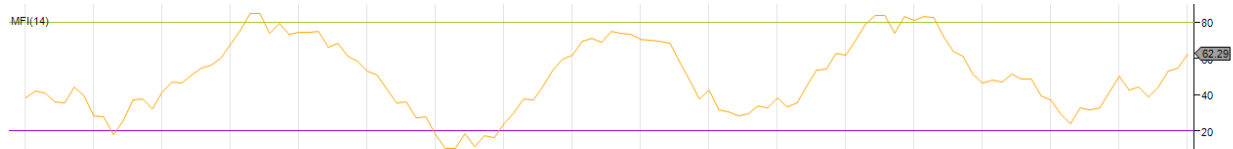
Volume Rate of Change Indicators (the speed at which the volume is shifting):



On Balance Volume Indicators (OBV – A Smart Money indicator that calculates the Volume:Price Change):



And many more indicators related to volumes such as the Money Flow Index (Similar to the RSI indicator but compares “positive money flow” to “negative money flow” in the sense that it is volume-weighted):



When I say I have only just literally scratched the surface of what QuantSports allows the Betfair user to access through Ninjatrade, I do truly mean it. You can see the list of the excellent indicators Ninjatrade provides plus get more help on how to operate it here:

<http://www.ninjatrade-support.com/HelpGuideV6/helpguide.html?>

There are also many more available on the developer’s forums including very advanced level ones such as Swing trend, Elliot Wave and trade suitability indicators.

For more information on how to trade various indicators and a more mathematical explanation behind their workings please visit the sources below. As I have mentioned before, the Ninjatrade package is designed for trading financial so there won’t be any mentions of sports or Betfair in the explanations:

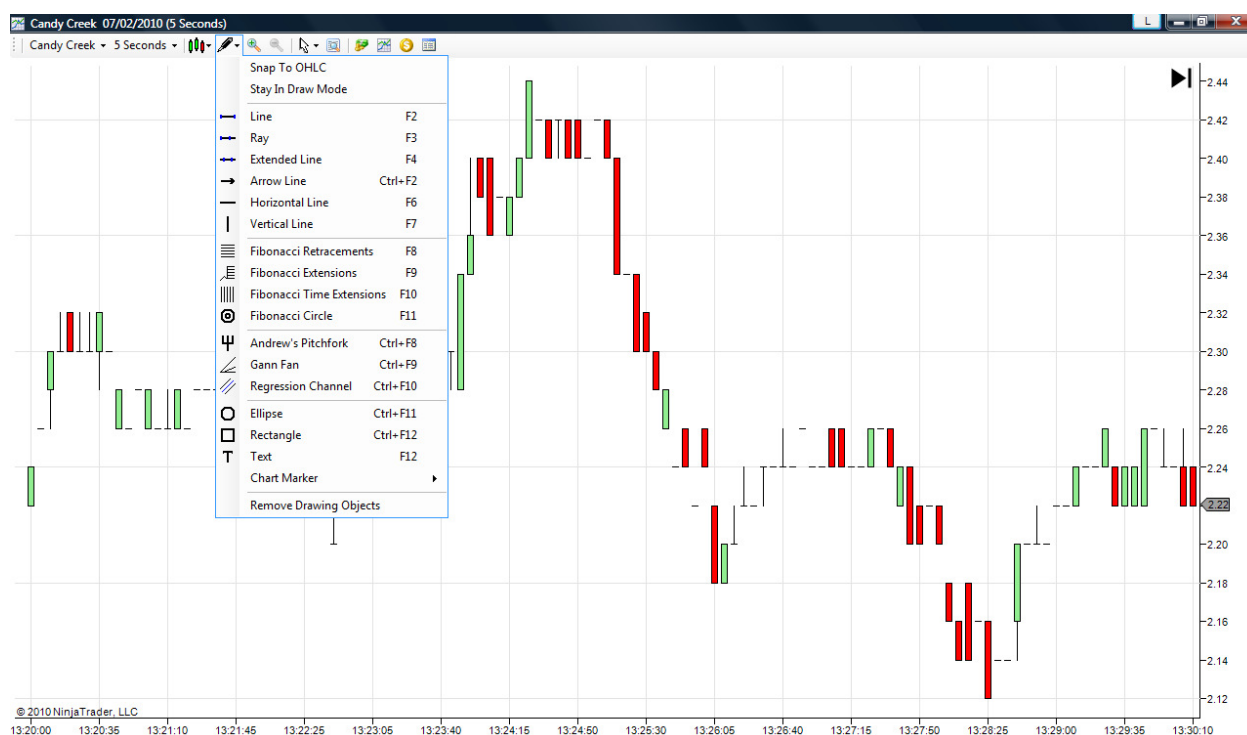
[http://stockcharts.com/school/doku.php?id=chart\\_school:technical\\_indicators](http://stockcharts.com/school/doku.php?id=chart_school:technical_indicators)

<http://www.investopedia.com/categories/technicalanalysis.asp>

## Other Tools

Another great addition to the charting capabilities is the drawing options. There are numerous different features of these drawing tools to help with analysis. These tools would be primarily aimed at longer term trends.

At the top of the chart there is a tool bar with the different chart features. Along with being able to quickly and easily swap between instruments (mapped events), the user can easily change the time-frame of the chart and select from the variety of the interactive drawing tools available.



I will leave you to experiment with these features.

Another excellent feature of Ninjatrade is the ability to design your own indicators and strategies. In some cases these do require a prior knowledge of 'C'. For example, say you wanted to be alerted should certain events occur in the market, you will be able to do this. View the Ninjatrade help guide or visit the support forums here for more information:

<http://www.ninjatrade-support2.com/vb/index.php>

On a final note, please don't be hesitant of looking outside the box. There may be some quite abstract looking technical indicators and strategies, but don't be hesitant about at least giving them a try. To get started, try searching for "Ninjatrade indicators" online.

## **Resources**

Technical Analysis Help:

[http://www.stockcharts.com/help/doku.php?id=chart\\_school](http://www.stockcharts.com/help/doku.php?id=chart_school)

<http://www.investopedia.com/university/technical/>

QuantSports Help:

<http://www.quantsports.co.uk>

Ninjatrader:

<http://www.ninjatrader.com>

Ninjatrader Support (for errors involving Ninjatrader) and support:

<http://www.ninjatrader-support2.com/vb/index.php>