

Using the Dashboard Viewer

5.2.0

August 2014

This document applies to Apama 5.2.0 and to all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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About this documentation

This document describes how to use the Apama Dashboard Viewer.

The Dashboard Viewer is the runtime viewer for local deployments of Apama dashboards. It provides the ability to view and interact with dashboards that are receiving live data from an Apama Dashboard Server. Dashboard Servers serve dashboards for applications running in Apama correlators.

This book assumes that you have already installed Apama.

[Preface](#)

How this book is organized

The information in this book is organized as follows:

- ["Concepts" on page 8](#) introduces the concepts underlying Dashboards and their runtime usage.
- ["Using the Dashboard Viewer" on page 12](#) describes how to use the various objects included in a Dashboard Viewer.
- ["Startup Options" on page 21](#) provides advanced information on starting Dashboard Viewers.
- ["Timezone ID Values" on page 26](#) lists the timezone ID values used when manually starting the Dashboard Viewer as described in ["Startup Options" on page 21](#).

[Preface](#)

Documentation roadmap

On Windows platforms, the specific set of documentation provided with Apama depends on whether you choose the Developer, Server, or User installation option. On UNIX platforms, only the Server option is available.

Apama provides documentation in three formats:

- HTML viewable in a Web browser
- PDF
- Eclipse Help (if you select the Apama Developer installation option)

On Windows, to access the documentation, select **Start > All Programs > Software AG > Apama 5.2 > Apama Documentation** . On UNIX, display the `index.html` file, which is in the `doc` directory of your Apama installation directory.

The following table describes the PDF documents that are available when you install the Apama Developer option. A subset of these documents is provided with the Server and User options.

Title	Contents
<i>What's New in Apama</i>	Describes new features and changes since the previous release.
<i>Installing Apama</i>	Instructions for installing the Developer, Server, or User Apama installation options.
<i>Introduction to Apama</i>	Introduction to developing Apama applications, discussions of Apama architecture and concepts, and pointers to sources of information outside the documentation set.
<i>Using Apama Studio</i>	Instructions for using Apama Studio to create and test Apama projects; write, profile, and debug EPL programs; write JMon programs; develop custom blocks; and store, retrieve and playback data.
<i>Developing Apama Applications in Event Modeler</i>	Instructions for using Apama Studio's Event Modeler editor to develop scenarios. Includes information about using standard functions, standard blocks, and blocks generated from scenarios.
<i>Developing Apama Applications in EPL</i>	Introduces Apama's Event Processing Language (EPL) and provides user guide type information for how to write EPL programs. EPL is the native interface to the correlator. This document also provides information for using the standard correlator plug-ins.
<i>Apama EPL Reference</i>	Reference information for EPL: lexical elements, syntax, types, variables, event definitions, expressions, statements.
<i>Developing Apama Applications in Java</i>	Introduces the Apama in-process API for Java, referred to as JMon, and provides user guide type information for how to write Java programs that run on the correlator. Reference information in Javadoc format is also available.
<i>Building Dashboards</i>	Describes how to create dashboards, which are the end-user interfaces to running scenario instances and data view items.
<i>Dashboard Property Reference</i>	Reference information on the properties of the visualization objects that you can include in your dashboards.

Title	Contents
<i>Dashboard Function Reference</i>	Reference information on dashboard functions, which allow you to operate on correlator data before you attach it to visualization objects.
<i>Developing Adapters</i>	Describes how to create adapters, which are components that translate events from non-Apama format to Apama format.
<i>Developing Clients</i>	Describes how to develop C, C++, Java, or .NET clients that can communicate with and interact with the correlator.
<i>Writing Correlator Plug-ins</i>	Describes how to develop formatted libraries of C, C++ or Java functions that can be called from EPL.
<i>Deploying and Managing Apama Applications</i>	<p>Describes how to:</p> <ul style="list-style-type: none"> • Use the Management & Monitoring console to configure, start, stop, and monitor the correlator and adapters across multiple hosts. • Deploy dashboards over wide area networks, including the internet, and provide dashboards with effective authorization and authentication. • Improve Apama application performance by using multiple correlators, and saving and reusing a snapshot of a correlator's state. • Use the Apama ADBC adapter to store and retrieve data in JDBC, ODBC, and Apama Sim databases. • Use the Apama Web Services Client adapter to invoke Web Services. • Use correlator-integrated messaging for JMS to reliably send and receive JMS messages in Apama applications. • Use Universal Messaging to connect correlators.
<i>Using the Dashboard Viewer</i>	Describes how to view and interact with dashboards that are receiving run-time data from the correlator.

Preface

Contacting customer support

You may open Apama Support Incidents online via the eService section of Empower at <http://empower.softwareag.com>. If you are new to Empower, send an email to empower@softwareag.com with your name, company, and company email address to request an account.

If you have any questions, you can find a local or toll-free number for your country in our Global Support Directory at https://empower.softwareag.com/public_directory.asp and give us a call.

Preface

Chapter 1: Concepts

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This guide assumes that you have already installed the Dashboard Viewer. This chapter introduces the concepts underlying dashboards and their runtime use. ["Using the Dashboard Viewer" on page 12](#) describes how to use the various visualization objects that are included in dashboards. ["Startup Options" on page 21](#) provides advanced information on starting the Dashboard Viewer.

About Dashboards

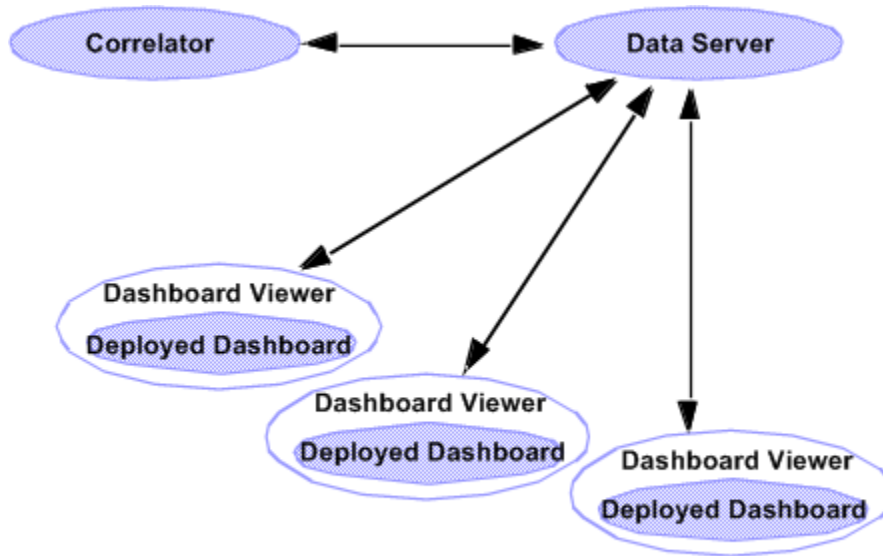
Dashboards provide the ability to view and interact with applications running in a correlator. Dashboards contain charts and other objects that allow you to visualize the status, performance, and attributes of Apama applications including any scenarios and DataViews. Dashboards can also contain control objects for creating, editing, and deleting scenario instances, as well as for sending events to a correlator.

Dashboard displays are stored in `.rtv` files. A dashboard project includes `.rtv`, image, and audio files. A dashboard project is deployed in a single directory with one or more subdirectories containing the files of the project. To use a dashboard, the Dashboard Viewer must have access to all the files in the associated dashboard-project directory.

Deployed dashboards connect to a dashboard Data Server, which in turn connects to one or more correlators. The dashboard Data Server is the middle-tier between users and the correlator. It provides for both scalability and security. As the scenarios or DataViews in a correlator run, and their variables or fields change, update events are sent to dashboard Data Servers, which in turn send the data to all connected dashboards. When a dashboard receives an update event, it updates its display in real time to show the behavior of the application. User interactions with the dashboard, such as creating an instance of a scenario, result in control events being sent via the Data Server to the correlator.

The following diagram illustrates the runtime deployment of dashboards:

Figure 1. Runtime deployment of dashboards



With the Dashboard Viewer, dashboards communicate with the Dashboard Data Server, which communicates with the correlator.

Concepts

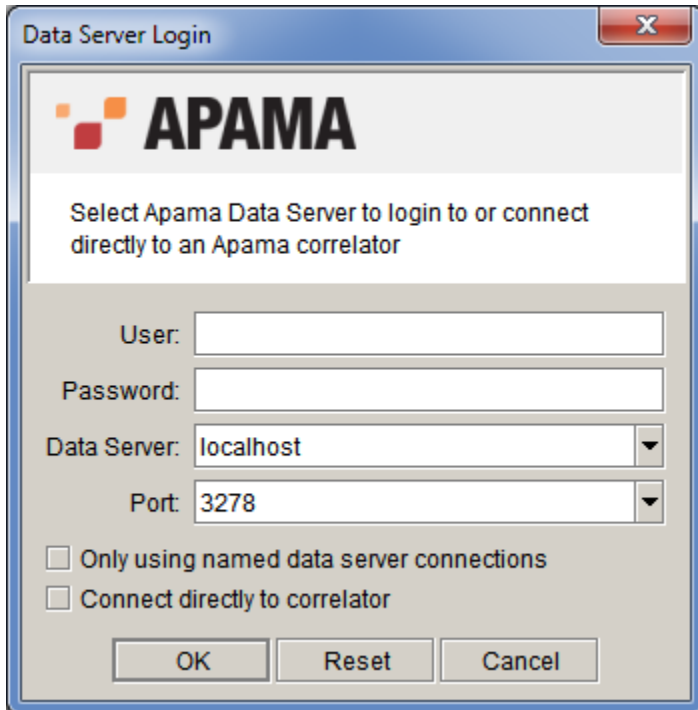
Starting the Dashboard Viewer

The simplest way to start the Dashboard Viewer is from the Windows Start menu. Select All Programs > Software AG > Apama 5.2 > Dashboard Viewer .

(This assumes that you have an Apama user installation. If you have a development installation, select All Programs > Software AG > Apama 5.2 > Development > Dashboard Viewer .)

When you start the Viewer, the Data Server login prompt is displayed:

Figure 2. Data Server Login prompt



The image shows a Windows-style dialog box titled "Data Server Login". At the top left is the APAMA logo, consisting of three colored squares (orange, red, yellow) followed by the word "APAMA" in bold. Below the logo, the text reads: "Select Apama Data Server to login to or connect directly to an Apama correlator". The dialog contains several input fields: "User:" with a text box, "Password:" with a text box, "Data Server:" with a dropdown menu showing "localhost", and "Port:" with a dropdown menu showing "3278". Below these fields are two checkboxes: "Only using named data server connections" and "Connect directly to correlator", both of which are currently unchecked. At the bottom are three buttons: "OK", "Reset", and "Cancel".

By default, you can log in with any user name and password, but your user name must match the owner of any scenario instances or DataView items that you want to view. Your dashboard administrator might have implemented a non-default authentication and authorization scheme.

The recommended deployment for the Dashboard Viewer is through a dashboard Data Server. The Connect directly to correlator checkbox allows you to connect directly to a correlator without the use of a Data Server. This is not recommended for live deployments, as it is not secure and not as scalable as connections via the Data Server.

If all attachments and commands use named Data Servers, you can check the Only using named data server connections check box and omit specification of a default server.

The Dashboard Viewer can also be started by running `dashboard_viewer.exe`, located in the Apama `bin` directory. This method of starting the Viewer is useful when passing start-up options on the command line. The start-up options supported by Dashboard Viewer are detailed in ["Startup Options" on page 21](#).

Concepts

Scenario instance and DataView item ownership

Scenario instances and DataView items in a correlator include an attribute identifying the owner of the instance. When a scenario instance is created through Dashboard Builder, it provides the current user ID as the owner of the instance.

When viewing scenario instances or DataView items in Dashboard Builder, you are by default only allowed to see and operate on those instances or items that you own; that is, by default the current

user ID must match the owner attribute of the instance or item. Your dashboard administrator might have implemented a non-default authorization scheme.

Concepts

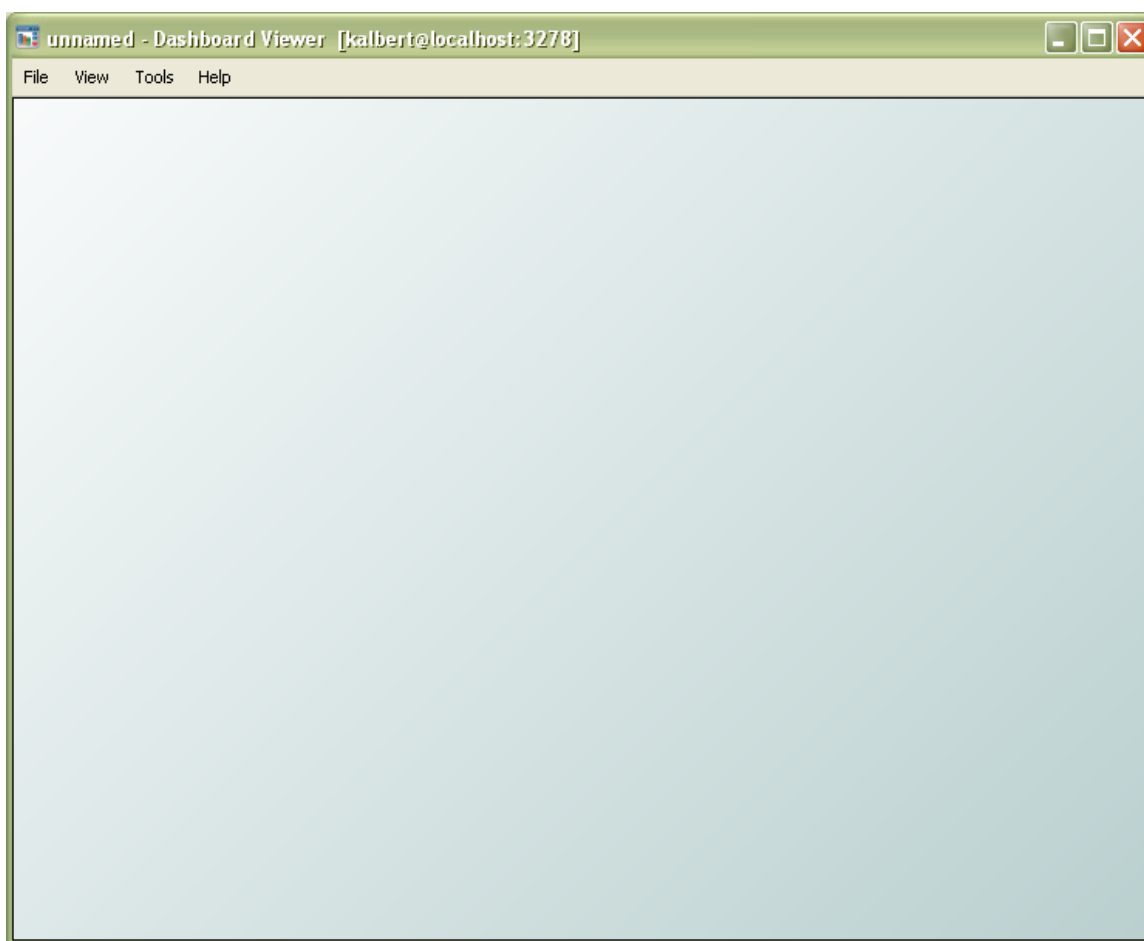
Chapter 2: Using the Dashboard Viewer

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"Concepts" on page 8 introduces the important concepts underlying the Dashboard Viewer, and describes how to start the Viewer. This chapter illustrates how to use the Dashboard Viewer.

This is the layout of the Dashboard Viewer when you first start it.

Figure 3. Dashboard Viewer when first started



By default, no dashboard is displayed. This chapter describes how to open and work with dashboards.

Opening and viewing dashboards

The Dashboard Viewer main window can open and display one dashboard at a time.

To open a dashboard, select File > Open from the Viewer menu and select the `.rtv` file you want to open.

[Using the Dashboard Viewer](#)

Running the Statistical Arbitrage demo

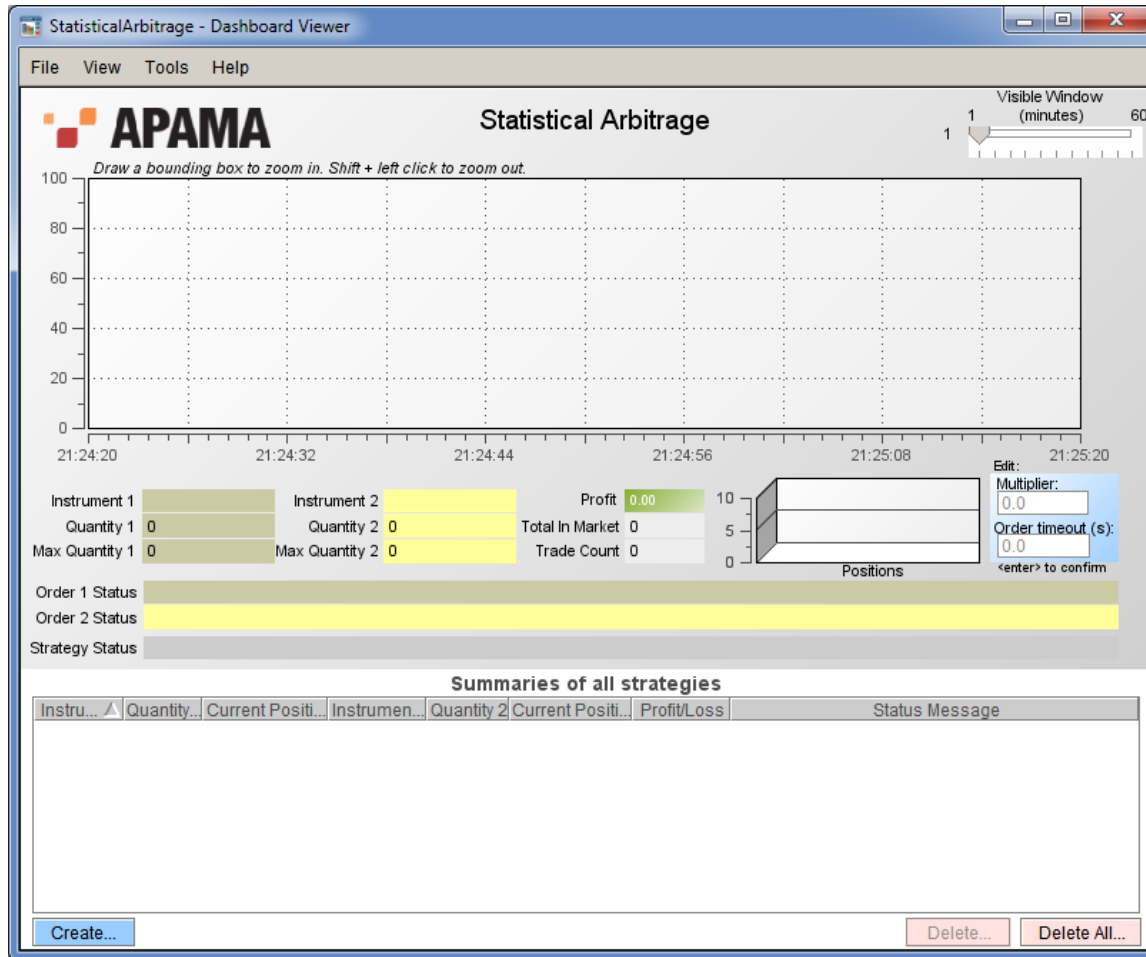
The examples in this chapter use the Statistical Arbitrage demonstration dashboard, which is included in an Apama development installation. Although it is not necessary to run the Statistical Arbitrage demonstration, you may find it useful to do so.

If you have a development installation, you can run the Statistical Arbitrage demonstration as follows:

1. From the Start menu, select All Programs > Software AG > Apama 5.2 > Apama Studio .
2. Click on Samples in the Apama Studio Welcome page.
3. Click on Apama Samples in the Apama Studio Samples page.
4. Select the Statistical Arbitrage sample.
5. Click the Open button.
6. Click the play button in the Launch Control Panel.

Once you have launched the Statistical Arbitrage demonstration, a Statistical Arbitrage dashboard appears automatically (the dashboard to display was passed by Apama Studio when the demonstration was launched):

Figure 4. Statistical Arbitrage demonstration dashboard

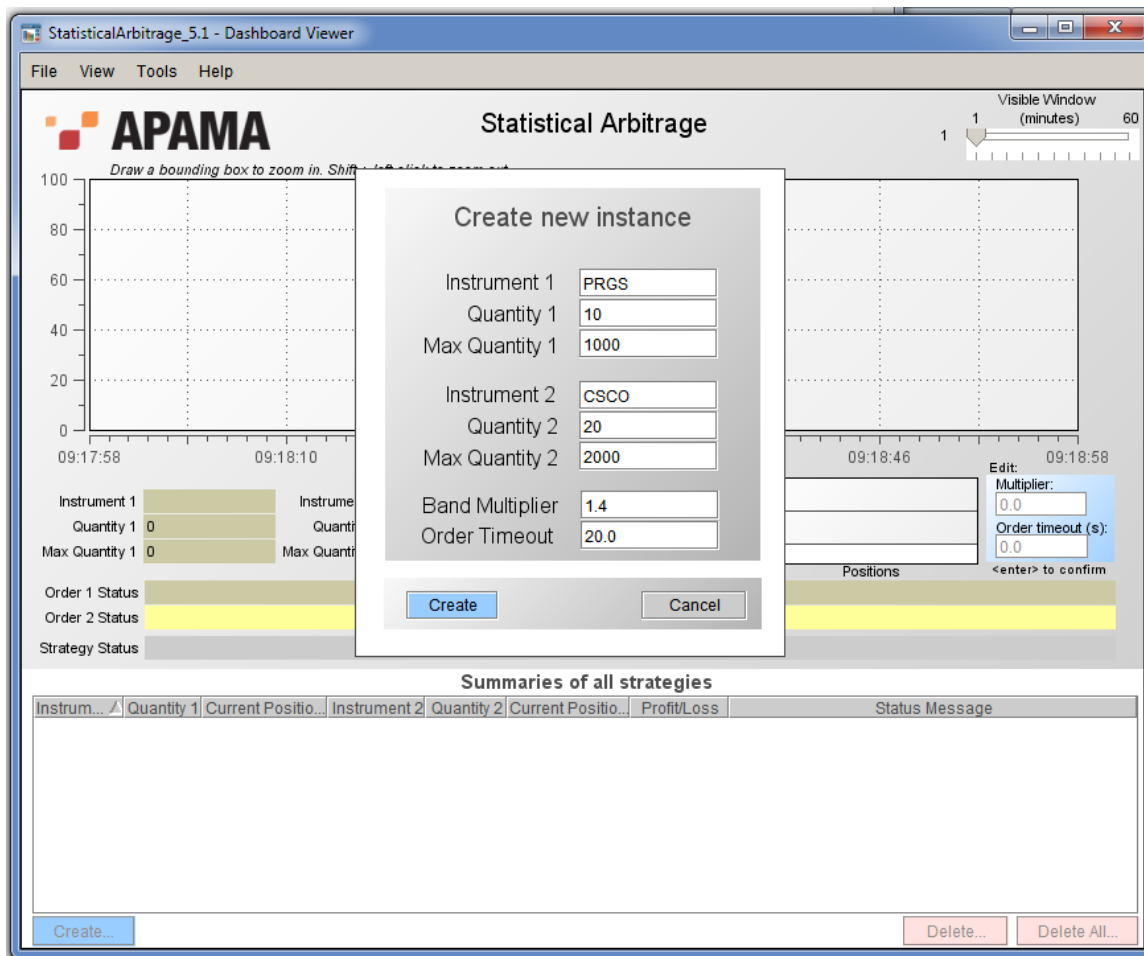


Opening and viewing dashboards

Displaying additional dashboards

A dashboard project can consist of more than one dashboard. In many cases, each dashboard is displayed one at a time, in the Dashboard Viewer main window. In other cases, separate windows are created to display additional dashboards.

Displaying dashboards in separate windows is common for dashboards that are used to create or edit scenario instances. For example, to see the separate dashboard used to create scenario instances in the Statistical Arbitrage demonstration, click the **Create** button in the Statistical Arbitrage dashboard. This displays a separate dashboard in a new window.



Any dashboard can be designed to display other dashboards in separate windows. The dashboards may even be nested; for example, the Create window in the Statistical Arbitrage sample could itself have been designed to display additional windows. Window usage is specified when the dashboard project is created in the Dashboard Builder.

Opening and viewing dashboards

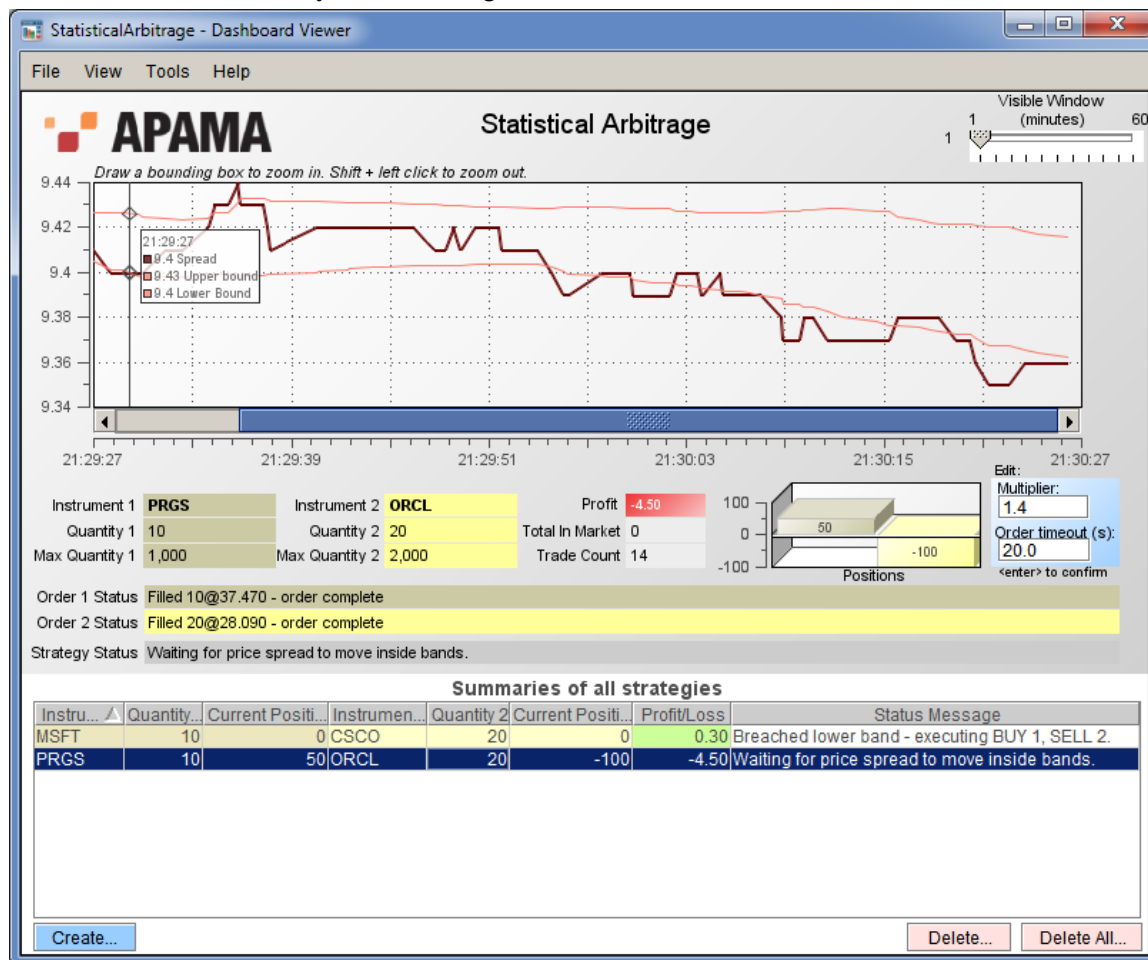
Creating scenario instances visualized by the Statistical Arbitrage main dashboard

The Create dashboard in the Statistical Arbitrage dashboard project is subordinate to the main dashboard; it is intended to be accessed only from the main dashboard. Although it is possible to open the Create dashboard directly in Dashboard Viewer main window, you should not do so. Subordinate dashboards are typically dependent on context created by the parent dashboard and should only be accessed as intended by the creator of the dashboard project.

Follow these steps to create scenario instances that are visualized by the Statistical Arbitrage main dashboard:

1. Accept the defaults and click the Create button in the Create dashboard.
2. Click the Create button in the main dashboard again.

- Enter MSFT in the Instrument1 field and ORCL in the instrument2 field.
- Click on a row of the Summary of All Strategies table in the main dashboard.



The data used for charting is stored in the Dashboard Viewer. As the Viewer runs, it accumulates historical data for display in charts. If you exit and restart the Dashboard Viewer, previously displayed historical data is not available.





Opening and viewing dashboards

The Dashboard Viewer menubar

There are four menus on the menu bar. Each has a number of nested menu options.

Table 1. Dashboard Viewer menubar

Menu > Command	Description
File	All operations related to opening, printing, and closing dashboards
File > Open	Open a dashboard.
File > Print	Print the contents of a dashboard.

Menu > Command	Description
File > Exit	Exit the Dashboard Viewer.
View	All operations that manipulate the dashboard view.
View > Zoom In	Zoom in on a location in the dashboard. This switches the pointer to zoom mode, as indicated by the pointer changing to a crosshair  . In this mode, you can click on an area of the dashboard to zoom in on it and display it in greater detail. Right click to exit zoom mode.
View > Zoom Out	Zoom out on a location in the dashboard. This switches the pointer to zoom mode, as indicated by the pointer changing to a crosshair  . In this mode you can click on an area of the dashboard to zoom out on it and display it in less detail. Right click to exit zoom mode.
View > Zoom Rect	Zoom in on an area of the dashboard. This switches the pointer to zoom mode, as indicated by the pointer changing to a crosshair  . In this mode you can click and drag to select an area of the dashboard to zoom in on. Right click to exit zoom mode.
View > Pan	Pan the dashboard to show areas not currently displayed. This switches the pointer to pan mode, as indicated by the pointer changing to the pan pointer  . In this mode you can click and drag the dashboard to reveal areas not displayed. Right click to exit pan mode. It is not possible to pan if 100% of the dashboard view is visible.
View > 100%	Make the entire dashboard visible.
Tools	Change preferences
Tools> Pause Display	Pause the automatic updating of the dashboard. When not paused the dashboard automatically updates as data changes; when paused, updating does not occur. When paused, clicking on the dashboard will cause it to update.
Help > Help Contents	Displays the Apama documentation for your installation.
Help > Command Line Options	Displays a list of the Viewer options that you can supply at the command line.
Help > About	Displays information about this version of the Dashboard Viewer.

[Using the Dashboard Viewer](#)

Resizing the Dashboard Viewer

When a dashboard is created in the Dashboard Builder, the Builder specifies a width and height for the dashboard. You can resize Dashboard Viewer windows, but the aspect ratio of width to height cannot be altered. If you resize a window to a different aspect ratio, the window size will automatically be adjusted in order to maintain the aspect ratio specified in the Builder.

When you resize a Dashboard Viewer window, the objects within it are scaled in order to maintain their size relative to the size of the window. Scaling allows dashboards to be enlarged in order to allow greater detail to be displayed, or reduced so that the dashboard occupies a smaller area of the screen.

When a dashboard Window is reduced in size, objects such as charts will scale all their visual elements in order to maintain proper appearance at the new size. Other objects, such as tables and input controls, adjust their width and height but may not scale all their visual elements, such as fonts in table column headers.

[Using the Dashboard Viewer](#)

Working with Dashboard Objects

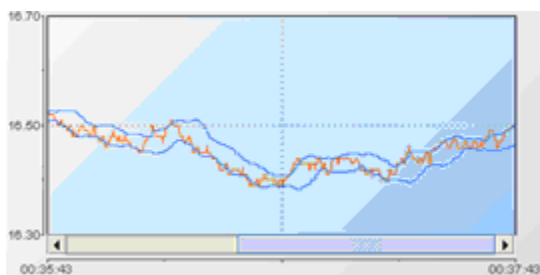
Many of the objects displayed in a dashboard are familiar user interface controls. Their operations will not be covered in this guide. The following sections briefly introduce some of the objects that may not be familiar and that are used for the visualization of complex data.

[Using the Dashboard Viewer](#)

Trend charts

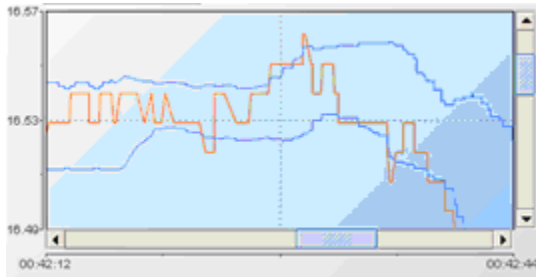
Trend charts provide the ability to view the performance of one or more scenario instances or DataViews items over time.

Figure 5. Trend chart



If enabled in the Dashboard Builder, trend charts support the ability to zoom in on an area of the chart. To zoom in on an area of a trend chart, click on the chart and drag the pointer to draw a box around the area to be zoomed.

Figure 6. Zooming in a trend chart area



To zoom out of a chart, hold down the **Shift** key while clicking on the chart.

If enabled in the Dashboard Builder, trend charts support scrolling to view historical values outside the scope of what fits in the trend chart window. Use the horizontal scroll bar to view older values.

The number of values stored in historical data is limited. The limit is defined in the `OPTIONS.ini` file and can be overridden at startup by specifying options as detailed in ["Startup Options" on page 21](#).

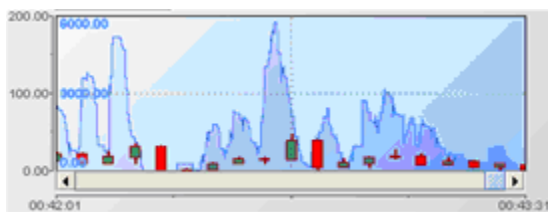
When the maximum number of values is reached, the Dashboard Viewer begins to remove the oldest values in order to make room for the newest values. When the maximum number of values is reached, you see the oldest values being removed from the end of the trend chart.

[Working with Dashboard Objects](#)

Stock charts

Stock charts provide the ability to view open, high, low, and close values, at a specified time interval, for a variable of a scenario instance or field of a DataView item. Stock charts support the same zooming, scrolling, and maximum-number-of-values behavior as trend charts.

Figure 7. Stock chart



[Working with Dashboard Objects](#)

Tables

Tables provide the ability to view variable or field values for multiple scenario instances or DataView items. They are often used for summary displays of scenario instances or DataView items.

Figure 8. Table

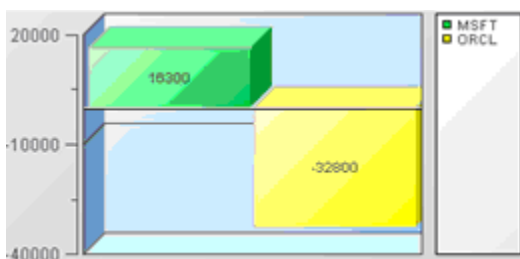
Symbol1	Symbol2	Current Position	Current Position	Trades Executed	Status Message
CBS	VIA	-150000	249500	42954	Limits Exceeded. Scenario...
MSFT	ORCL	400	-800	32880	Submitting Orders

Dashboard tables support many common table operations, such as sorting, column resizing, and column ordering. If enabled in the Builder, a table may also support drilldown to display detailed information about a scenario instance or DataView item. To drilldown on an instance or item that is displayed in a table, click on it.

[Working with Dashboard Objects](#)

Pie and Bar charts

Pie and Bar charts are typically used to display summary information about one or more scenario instances.



If enabled in the Builder, a pie or bar chart may also support drilldown to display detailed information about a scenario instance. To drill down on an instance or item that is displayed in a pie or bar chart, click on it.

[Working with Dashboard Objects](#)

Chapter 3: Startup Options

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The Dashboard Viewer supports options that can be specified on the start-up command line to override the default values used by the Viewer. This section documents these options.

Synopsis

The executable for the Dashboard Viewer is `dashboard_viewer.exe`, which can be found in the `bin` directory of your Apama installation. It has the following syntax:

```
dashboard_viewer.exe [.rtv-file-path] [options]
```

Startup Options

Command line options

Following are the command line options for this executable:

Table 2. Dashboard Viewer command line options

Command	Description
<code>-c --panelConfig file</code>	Specifies the panels-initialization file to use for displaying this dashboard. <i>file</i> is the full pathname of the <code>.ini</code> file.
<code>-c --correlator logical-name:host:port:bool</code>	Sets the correlator host and port for a specified logical correlator name. <i>bool</i> is one of <code>true</code> and <code>false</code> , and specifies whether to use the raw channel for communication. This overrides the host, port, and raw-channel setting specified by the Dashboard builder for the given correlator logical name—see Changing Correlator Definitions for Deployment in the Preparing Dashboards for Deployment chapter of the <i>Dashboard Builder</i> guide. You can specify connection details for multiple correlators by using the option multiple times in a single command. Here is an example: <code>-c default:localhost:15903:false -c work1:somehost:19999:true</code> These options set the host and port for the logical names <code>default</code> and <code>work1</code> .
<code>-D --nodirect</code>	Suppress check box in login dialog that allows direct connection to correlator.
<code>-d --direct</code>	Connect directly to correlator.

-E --purgeOnEdit <i>bool</i>	Specifies whether to purge all trend data when a scenario instance is edited. <i>bool</i> is one of <code>true</code> and <code>false</code> . If this option is not specified, all trend data is purged when an instance is edited. In most cases this is the desired mode of operation.
-f --logfile <i>file</i>	Full pathname of the file in which to record logging. If this option is not specified, the options in the log4j properties file will be used.
-G --trendConfigFile <i>file</i>	Trend configuration file for controlling trend-data caching.
-h --help	Emit usage information and then exit.
-I --xmlRedirect	Redirect XML sources through Data Server.
-J --jaasFile <i>file</i>	Full pathname of the JAAS initialization file to be used by the Data Server. If not specified, the Data Server uses the file <code>JAAS.ini</code> in the <code>lib</code> directory of your Apama installation.
-j --singleClick	Single click for drill down and actions.
-k --doubleClick	Double click for drill down and actions.
-L --xmlSource <i>file</i>	XML data source file. If <i>file</i> contains static data, append <code>:0</code> to the file name. This signals Apama to read the file only once.
-m --connectMode <i>mode</i>	<p>Correlator-connect mode. <i>mode</i> is one of <code>always</code> and <code>asNeeded</code>. If <code>always</code> is specified all correlators are connected to at startup. If <code>asNeeded</code> is specified, correlators are connected as needed. If this option is not specified, the Data Server connects to correlators as needed</p> <p>When <code>--connectMode always</code> is specified trend data starts collecting upon correlator connection. When <code>--connectMode asNeeded</code> is in effect trend data starts collecting after you select an attachment to the trend table in the dashboard viewer.</p>
-N --name <i>name</i>	Set the component name for identification in the correlator. The default name is <code>Dashboard Viewer: username</code> .
--namedServer <i>logical-name:host:port</i>	Sets the host and port for a specified logical Data Server name. This overrides the host and port specified by the dashboard builder for the given server logical name. This option can occur multiple times in a single command.
-n --noSplash	Do not display splash screen in startup.
--noMenus	Do not display menu bar.
-O --optionsFile <i>file</i>	Use the specified <code>OPTIONS.ini</code> file at startup.

<p><code>-P --maxPrecision <i>n</i></code></p>	<p>Maximum number of decimal places to use in numerical values displayed by dashboards. Specify values between 0 and 10, or -1 to disable truncation of decimal places. A typical value for <i>n</i> is 2 or 4, which eliminates long floating point values (for example, 2.2584435234). Truncation is disabled by default.</p>
<p><code>-q --sql <i>options</i></code></p>	<p>Configures SQL Data Source access. <i>options</i> has the following form:</p> <pre>[retry:ms fail:n db:name noinfo nopeererr quote]</pre> <p>retry: Specify the interval (in milliseconds) to retry connecting to a database after an attempt to connect fails. Default is -1, which disables this feature.fail: Specify the number of consecutive failed SQL queries after which to close this database connection and attempt to reconnect. Default is -1, which disables this feature.db: Name of SQL database. Only databases using ODBC drivers can be added on the command line.noinfo: Query database for available tables and columns in your database. If a Database Repository file is found, it is used to populate drop down menus in the Attach to SQL Data dialog.nopeererr: SQL errors with the word permission in them will not be printed to the console. This is helpful if you have selected the Use Client Credentials option for a database. In this case, if your login does not allow access for some data in their display, you will not see any errors.quote: Encloses all table and column names specified in the Attach to SQL Data dialog in quotes when an SQL query is run. This is useful when attaching to databases that support quoted case-sensitive table and column names. <i>Note:</i> If a case-sensitive table or column name is used in the Filter field, or you are entering an advanced query in the SQL Query field, they must be entered in quotes, even if the <code>-sqlquote</code> option is specified.</p>
<p><code>-R --purgeOnRemove <i>bool</i></code></p>	<p>Specifies whether to purge all scenario or DataView data when an instance or item is removed. <i>bool</i> is one of <code>true</code> and <code>false</code>. If this option is not specified, all scenario or DataView data is purged when an instance or item is removed.</p>
<p><code>-S --sub <i>variable:value</i></code></p>	<p>Specifies a value to substitute for a given dashboard variable. This can be used to parameterize a dashboard at startup. This option can occur multiple times in a single command. For example:</p> <pre>-S \$foo:hello -S \$bar:can't -S \$tom:"my oh my" -S \$jerry:"\"yikes\""</pre> <p>If the value contains a space, enclose the value in double quotes. If the value contains a double quote, you must escape it by using a backslash character, \.</p>
<p><code>-s --dashboardServer <i>host:port[:modifiable]</i></code></p>	<p>Specifies the Data Server host and port that will appear as the defaults in the Data Server Login dialog. The host and port fields of the dialog will be modifiable only if you specify <i>modifiable</i>. If you do not specify <i>modifiable</i>, the host and port fields will be greyed out. If you use the <code>-s</code> option, the Connect directly to correlator check</p>

	box will not appear in the Data Server Login dialog. The <code>-s</code> option overrides the <code>-d</code> option.
<code>-T --maxTrend depth</code>	Maximum depth for trend data, that is, the maximum number of events in trend tables. If this option is not specified, the maximum trend depth is 1000. Note that the higher you set this value, the more memory the Data Server requires, and the more time it requires in order to display trend and stock charts.
<code>-t --title value</code>	Text for the title bar of the Dashboard Viewer main window.
<code>-u --updateRate rate</code>	Data update rate in milliseconds. This is the rate at which the Data Server pushes new data to deployed dashboards in order to inform them of new events received from the correlator. <i>rate</i> should be no lower than 250. If the Dashboard Viewer is utilizing too much CPU you can lower the update rate by specifying a higher value. If this option is not specified, an update rate of 500 milliseconds is used.
<code>-v --version</code>	Emit program name and version number and then exit.
<code>-v --loglevel level</code>	Logging verbosity. <i>level</i> is one of <code>FATAL</code> , <code>ERROR</code> , <code>WARN</code> , <code>INFO</code> , <code>DEBUG</code> , and <code>TRACE</code> . If this option is not specified, the options in the <code>log4j</code> properties file will be used.
<code>-w --disconnectWarning bool</code>	By default, the Dashboard Viewer will display a warning dialog when the connection to a correlator is lost. Specify <code>false</code> to disable the display of this dialog.
<code>-X --extensionFile file</code>	Full pathname of the JAAS initialization file to be used by the Data Server. If not specified, the Data Server uses the file <code>EXTENSIONS.ini</code> in the <code>lib</code> directory of your Apama installation.
<code>-x --queryIndex table-name:key-list</code>	<p>Add an index for the specified SQL-based instance table with the specified compound key. <i>table-name</i> is the name of a scenario or DataView. <i>key-list</i> is a comma-separated list of variable names or field names. If the specified scenario or DataView exists in multiple correlators that are connected to the dashboard server, the index is added to each corresponding data table. Example:</p> <pre>--queryIndex CrossOver:Instrument,Price</pre> <p>You can only add one index per table, but you can specify this option multiple times in a single command line in order to index multiple tables. Use this option only when you connect Viewer directly to a correlator.</p>
<code>-Y --enhancedQuery</code>	Make SQL-based instance tables available as data tables for visualization attachments. See Attaching Dashboards to Correlator Data in <i>Building Dashboards</i> . Use this option only when you connect Viewer directly to a correlator.

<code>-z --timezone <i>zone</i></code>	Default time zone for interpreting and displaying dates. <i>zone</i> is either a Java timezone ID or a custom ID such as <code>GMT-8:00</code> . Unrecognized IDs are treated as GMT. See Appendix A of the <i>Dashboard Viewer</i> guide for the complete listing of permissible values for <i>zone</i> .
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Startup Options

Chapter 4: Timezone ID Values

The following table lists the timezone ID values used when manually starting the Dashboard Viewer as described in ["Startup Options" on page 21](#).

Table 3. Timezone ID values

December 9, 2010 9:40 amtc/GMT+12 Etc/GMT +11 MIT Pacific/Apia Pacific/Midway Pacific/ Niue Pacific/Pago_Pago Pacific/Samoa US/Samoa America/Adak America/ Atka Etc/GMT+10 HST Pacific/Fakaofu Pacific/ Honolulu Pacific/Johnston	PRT SystemV/AST4 SystemV/AST4ADT America/St_Johns CNT Canada/Newfoundland AGT America/Araguaina America/Belem America/ Buenos_Aires America/ Catamarca America/ Cayenne America/ Cordoba America/Fortaleza America/Godthab America/ Jujuy	Africa/Khartoum Africa/ Mogadishu Africa/Nairobi Antarctica/Syowa Asia/Aden Asia/Baghdad Asia/Bahrain Asia/Kuwait Asia/Qatar Asia/Riyadh EAT Etc/GMT-3 Europe/Moscow Indian/ Antananarivo Indian/Comoro Indian/Mayotte
Pacific/Rarotonga Pacific/ Tahiti SystemV/HST10 US/Aleutian US/Hawaii Pacific/Marquesas AST America/Anchorage America/Juneau America/ Nome America/Yakutat Etc/GMT+9 Pacific/ Gambier SystemV/YST9 SystemV/YST9YDT US/ Alaska America/Dawson	America/Maceio America/ Mendoza America/ Miquelon America/ Montevideo America/ Paramaribo America/ Recife America/Rosario America/Sao_Paulo Antarctica/Rothera BET Brazil/East Etc/GMT+3 America/Noronha Atlantic/ South_Georgia Brazil/ DeNoronha Etc/GMT+2 America/Scoresbysund	W-SU Asia/Riyadh87 Asia/ Riyadh88 Asia/Riyadh89 Mideast/Riyadh87 Mideast/ Riyadh88 Mideast/Riyadh89 Asia/Tehran Iran Asia/Aqtau Asia/Baku Asia/Dubai Asia/ Muscat Asia/Oral Asia/Tbilisi Asia/Yerevan Etc/GMT-4
America/Ensenada America/Los_Angeles America/Tijuana America/Vancouver America/Whitehorse Canada/Pacific Canada/ Yukon Etc/GMT+8 Mexico/BajaNorte PST PST8PDT Pacific/ Pitcairn SystemV/PST8 SystemV/PST8PDT US/ Pacific US/Pacific-New America/Boise America/ Cambridge_Bay America/ Chihuahua America/ Dawson_Creek America/	Atlantic/Azores Atlantic/ Cape_Verde Etc/GMT+1 Africa/Abidjan Africa/ Accra Africa/Bamako Africa/Banjul Africa/ Bissau Africa/Casablanca Africa/Conakry Africa/ Dakar Africa/El_Aaiun Africa/Freetown Africa/ Lome Africa/Monrovia Africa/Nouakchott Africa/ Ouagadougou Africa/ Sao_Tome Africa/Timbuktu America/Danmarkshavn Atlantic/Canary Atlantic/ Faeroe Atlantic/Madeira	Europe/Samara Indian/Mahe Indian/Mauritius Indian/ Reunion NET Asia/Kabul Asia/Aqtobe Asia/Ashgabat Asia/Ashkhabad Asia/ Bishkek Asia/Dushanbe Asia/ Karachi Asia/Samarkand Asia/ Tashkent Asia/Yekaterinburg Etc/GMT-5 Indian/Kerguelen Indian/Maldives PLT Asia/Calcutta IST Asia/ Katmandu Antarctica/Mawson Antarctica/Vostok Asia/ Almaty Asia/Colombo Asia/ Dacca Asia/Dhaka Asia/ Novosibirsk Asia/Omsk Asia/

Denver America/ Edmonton America/ Hermosillo America/ Inuvik America/Mazatlan America/Phoenix America/Shiprock America/Yellowknife Canada/Mountain Etc/ GMT+7 MST MST7MDT Mexico/BajaSur Navajo PNT SystemV/MST7 SystemV/MST7MDT US/ Arizona US/Mountain America/Belize America/ Cancun America/Chicago America/Costa_Rica America/El_Salvador America/Guatemala America/Managua America/Menominee America/Monterrey	Atlantic/Reykjavik Atlantic/ St_Helena Eire Etc/GMT Etc/GMT+0 Etc/GMT-0 Etc/GMT0 Etc/Greenwich Etc/UCT Etc/UTC Etc/ Universal Etc/Zulu Europe/ Belfast Europe/Dublin Europe/Lisbon Europe/ London GB GB-Eire GMT GMT0 Greenwich Iceland Portugal UCT UTC	Qyzylorda Asia/Thimbu Asia/ Thimphu BST Etc/GMT-6 Indian/Chagos Asia/Rangoon Indian/Cocos Antarctica/Davis Asia/Bangkok Asia/Hovd Asia/Jakarta Asia/Krasnoyarsk Asia/Phnom_Penh Asia/ Pontianak Asia/Saigon Asia/ Vientiane Etc/GMT-7
America/Merida America/Mexico_City America/North_Dakota/ Center America/ Rainy_River America/ Rankin_Inlet America/ Regina America/ Swift_Current America/ Tegucigalpa America/ Winnipeg CST CST6CDT Canada/Central Canada/ East-Saskatchewan Canada/Saskatchewan Chile/EasterIsland Etc/GMT+6 Mexico/ General Pacific/Easter Pacific/Galapagos SystemV/CST6 SystemV/ CST6CDT US/Central America/Bogota America/ Cayman America/ Detroit America/ Eirunepe America/ Fort_Wayne America/ Grand_Turk America/ Guayaquil America/ Havana America/ Indiana/Indianapolis America/Indiana/ Knox America/Indiana/	Universal WET Zulu Africa/Algiers Africa/ Bangui Africa/Brazzaville Africa/Ceuta Africa/Douala Africa/Kinshasa Africa/ Lagos Africa/Libreville Africa/Luanda Africa/ Malabo Africa/Ndjamena Africa/Niamey Africa/ Porto-Novo Africa/Tunis Africa/Windhoek Arctic/ Longyearbyen Atlantic/ Jan_Mayen CET ECT Etc/GMT-1 Europe/ Amsterdam Europe/ Andorra Europe/Belgrade Europe/Berlin Europe/ Bratislava Europe/Brussels Europe/Budapest Europe/ Copenhagen Europe/ Gibraltar Europe/Ljubljana Europe/Luxembourg Europe/Madrid Europe/ Malta Europe/Monaco Europe/Oslo Europe/Paris Europe/Prague Europe/ Rome Europe/San_Marino Europe/Sarajevo Europe/ Skopje Europe/Stockholm	Indian/Christmas VST Antarctica/Casey Asia/ Brunei Asia/Chongqing Asia/ Chungking Asia/Harbin Asia/ Hong_Kong Asia/Irkutsk Asia/ Kashgar Asia/Kuala_Lumpur Asia/Kuching Asia/Macao Asia/Macau Asia/Makassar Asia/Manila Asia/Shanghai Asia/Singapore Asia/Taipei Asia/Ujung_Pandang Asia/ Ulaanbaatar Asia/Ulan_Bator Asia/Urumqi Australia/ Perth Australia/West CTT Etc/GMT-8 Hongkong PRC Singapore Asia/Choibalsan Asia/Dili Asia/Jayapura Asia/Pyongyang Asia/ Seoul Asia/Tokyo Asia/ Yakutsk Etc/GMT-9 JST Japan Pacific/Palau ROK ACT Australia/Adelaide Australia/ Broken_Hill Australia/Darwin Australia/North

Marengo America/ Indiana/Vevay America/ Indianapolis America/ Iqaluit America/Jamaica America/Kentucky/ Louisville America/ Kentucky/Monticello America/Knox_IN America/Lima America/ Louisville America/ Montreal America/Nassau America/New_York America/Nipigon America/Panama	Europe/Tirane Europe/ Vaduz	
America/Pangnirtung America/Port-au-Prince America/Porto_Acre America/Rio_Branco America/Thunder_Bay Brazil/Acre Canada/ Eastern Cuba EST EST5EDT Etc/GMT+5 IET Jamaica SystemV/ EST5 SystemV/EST5EDT US/East-Indiana US/ Eastern US/Indiana- Starke US/Michigan America/Anguilla America/Antigua America/Aruba America/ Asuncion America/ Barbados America/ Boa_Vista America/ Caracas America/ Cuiaba America/ Curacao America/ Dominica America/ Glace_Bay America/ Goose_Bay America/ Grenada America/ Guadeloupe America/ Guyana America/ Halifax America/ La_Paz America/ Manaus America/ Martinique America/ Montserrat America/ Port_of_Spain America/ Porto_Velho America/ Puerto_Rico America/ Santiago America/	Europe/Vatican Europe/ Vienna Europe/Warsaw Europe/Zagreb Europe/ Zurich MET Poland ART Africa/Blantyre Africa/ Bujumbura Africa/Cairo Africa/Gaborone Africa/ Harare Africa/Johannesburg Africa/Kigali Africa/ Lubumbashi Africa/Lusaka Africa/Maputo Africa/ Maseru Africa/Mbabane Africa/Tripoli Asia/Amman Asia/Beirut Asia/Damascus Asia/Gaza Asia/Istanbul Asia/Jerusalem Asia/ Nicosia Asia/Tel_Aviv CAT EET Egypt Etc/ GMT-2 Europe/Athens Europe/Bucharest Europe/ Chisinau Europe/Helsinki Europe/Istanbul Europe/ Kaliningrad Europe/Kiev Europe/Minsk Europe/ Nicosia Europe/Riga Europe/Simferopol Europe/ Sofia Europe/Tallinn Europe/Tiraspol Europe/ Uzhgorod	Australia/South Australia/ Yancowinna AET Antarctica/ DumontDURville Asia/Sakhalin Asia/Vladivostok Australia/ ACT Australia/Brisbane Australia/Canberra Australia/ Hobart Australia/Lindeman Australia/Melbourne Australia/NSW Australia/ Queensland Australia/Sydney Australia/Tasmania Australia/ Victoria Etc/GMT-10 Pacific/ Guam Pacific/Port_Moresby Pacific/Saipan Pacific/Truk Pacific/Yap Australia/LHI Australia/Lord_Howe Asia/ Magadan Etc/GMT-11 Pacific/ Efate Pacific/Guadalcanal Pacific/Kosrae Pacific/Noumea Pacific/Ponape SST Pacific/ Norfolk Antarctica/McMurdo Antarctica/South_Pole Asia/ Anadyr Asia/Kamchatka Etc/ GMT-12 Kwajalein NST NZ Pacific/Auckland Pacific/ Fiji Pacific/Funafuti Pacific/ Kwajalein Pacific/Majuro Pacific/Nauru

Santo_Domingo America/ St_Kitts America/St_Lucia America/St_Thomas America/St_Vincent		
America/Thule America/ Tortola America/Virgin Antarctica/Palmer Atlantic/Bermuda Atlantic/Stanley Brazil/ West Canada/Atlantic Chile/Continental Etc/ GMT+4	Europe/Vilnius Europe/Zaporozhye Israel Libya Turkey Africa/Addis_Ababa Africa/Asmera Africa/ Dar_es_Salaam Africa/ Djibouti Africa/Kampala	Pacific/Tarawa Pacific/Wake Pacific/Wallis NZ-CHAT Pacific/Chatham Etc/GMT-13 Pacific/Enderbury Pacific/ Tongatapu Etc/GMT-14 Pacific/Kiritimati