# **TIBCO Statistica**<sup>™</sup> Data Entry Admin Guide

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Two-Second Advantage®

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# **TIBCO Documentation and Support Services**

#### How to Access TIBCO Documentation

Documentation for TIBCO products is available on the TIBCO Product Documentation website, mainly in HTML and PDF formats.

The TIBCO Product Documentation website is updated frequently and is more current than any other documentation included with the product. To access the latest documentation, visit https://docs.tibco.com.

#### **Product-Specific Documentation**

Documentation for TIBCO Statistica<sup>™</sup> is available on the TIBCO Statistica<sup>™</sup> Product Documentation page.

The following documents for this product can be found on the TIBCO Documentation site:

- TIBCO Statistica<sup>™</sup> Installation
- TIBCO Statistica<sup>™</sup> Quick Reference
- TIBCO Statistica<sup>™</sup> Release Notes
- TIBCO Statistica<sup>™</sup> Admin Guide
- TIBCO Statistica<sup>™</sup> Product Traceability
- TIBCO Statistica<sup>™</sup> Configuration for Windows Server 2012
- TIBCO Statistica<sup>TM</sup> Data Entry Admin Guide
- TIBCO Statistica<sup>™</sup> Server Administrator's Guide
- TIBCO Statistica<sup>™</sup> Options Configuration

#### How to Contact TIBCO Support

You can contact TIBCO Support in the following ways:

- For an overview of TIBCO Support, visit http://www.tibco.com/services/support.
- For accessing the Support Knowledge Base and getting personalized content about products you are interested in, visit the TIBCO Support portal at https://support.tibco.com.
- For creating a Support case, you must have a valid maintenance or support contract with TIBCO. You also need a user name and password to log in to https://support.tibco.com. If you do not have a user name, you can request one by clicking Register on the website.

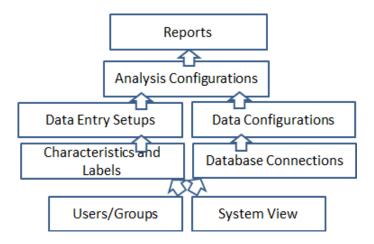
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# **Overview**

Use Statistica Data Entry to configure data entry scenarios and to administer data entry via web browsers. It can also be used to analyze data using all the graphical data analysis, statistical analysis, and data mining capabilities of the Statistica Enterprise software platform.

Like all objects in Statistica Enterprise, the Web Data Entry objects are created and administered via the Statistica Enterprise Manager application. The image below shows the relationships between the objects.



## Statistica Data Entry objects:

- Characteristics: Numeric fields for a web form
- EXAMPLE: pH
- Labels: Text or date data for a web form
- EXAMPLE: Lot Number

**Data Entry Setups:** Groups of Characteristics and Labels configured with specific User/Group permissions to collect the appropriate data via a web form

**Data Entry Setup Sequences:** Grouping and ordering of Data Entry Setups

Data entry administrators create the web forms (Data Entry Setups) with the Statistica Enterprise Manager application and save them in the System View folder. These Data Entry Setups grant users access to enter data and approve entered data.

Optionally, multiple Data Entry Setups can be grouped together and ordered within the Data Entry Setup Sequence. Once set up, the sequence guides you from one form to the next during data entry.

To use the data entry forms, open a browser in Internet Explorer (IE), Chrome or Firefox and visit a URL such as <a href="http://[servername]/dataentry">http://[servername]/dataentry</a>. Turn on the compatibility mode if using IE10 or IE11.

# **Installation**

The three parts of Statistica Enterprise with Data Entry:

- 1. Statistica Enterprise, applications
- 2. License Manager service
- 3. Data Entry, web service

The applications and services are usually installed on the same server.

Prerequisites to installing the Statistica software:

- 1. IE, Chrome, or Firefox installed on client computers
- 2. IIS with ASP.NET configured for ISAPI and CGI
- 3. Net 3.5 SP1, and .Net 4.6.1
- 4. Administrator login account/password for the database server.

#### NOTE:

- Choose to create a new database during installation or to use an existing Enterprise database.
- Typically Statistica Enterprise Server and Statistica Data Entry use the same database.
- Access database is not supported for Statistica Data Entry.
- The server will run a flexLM license service after the software installation is completed.

### Definitions

Term	Definition
Analysis Configuration	Settings within Statistica Enterprise Manager that control the analysis of data, including IQC, SVB, Ad hoc, and R configurations.
	<ul><li>Typical work flow:</li><li>1. An analyst creates the configuration.</li><li>2. A group of people execute the configuration when the information is needed.</li></ul>
	<ul> <li>NOTE:</li> <li>These configurations can also be executed to generate reports.</li> <li>The Database Connection and Data Configuration must be created before the Analysis Configuration can be created.</li> <li>Analysis Admin (AADM) permission must be granted to users who will create Analysis Configurations.</li> </ul>
Data Sample	Data that has been entered into a web form is known as a

	sample or record, or can be referred to as data sample or data record.
Data Verification and Approval	Three methods for reviewing, approving, and electronically signing data that has been entered:
	1. Approval of sample:
	a) One person enters data.
	b) Second person manually reviews entered data and approves or rejects data.
	2. Blind data entry, manual approval:
	a) Two people enter the same data.
	b) The system compares the two samples.
	<ul> <li>c) Third person logs into system and reads report about the differences between the two samples.</li> </ul>
	d) Third person approves or rejects the data.
	3. Blind data entry, automatic approval:
	a) Two people enter the same data.
	b) The system compares the data.
	c) The system approves or rejects the data.
Double Blind Data Entry	(Also known as blind data entry)
	1. Two people enter the same data.
	<ol><li>The accuracy of the data entry is verified by comparing the two different records.</li></ol>
Characteristic	Numeric data to be collected for analysis, such as pH
	<b>NOTE</b> : To verify the numeric data and improve the accuracy of data entry, set up reasonable low and high numbers on a Data Entry Setup (web form).
Concurrent License Manager	Statistica Enterprise application used by administrators to identify who is using the analytical or data entry components, and the number of licenses currently in use
Configuration or Object	Objects managed with Statistica Enterprise Manager, such as Data Configuration
Database Connections	Settings (OLEDB or ODBC provider, login name, password) that control the connection to the database.

	<b>NOTE</b> : Users who create these connections must have Database Admin companies limit this ability to information technology employees.
Data Configuration	<ul> <li>Settings (SQL and filtering criteria) that control querying data.</li> <li>Grant Data Admin (DADM) permission to users who will create data configurations.</li> <li>Create the Database Connection prior to creating the Data Configuration.</li> <li>Create this Data Configuration prior to creating an Analysis Configuration.</li> <li>Grant users who need access to raw data access to run this configuration.</li> </ul>
Data Entry Setup	Groups of Characteristics and Labels configured with specific User/Group permissions to collect the appropriate data for particular scenarios. It creates and controls the web forms that data entry staff will use.
Data Entry Setup Sequence	A configuration used by administrators to sequence the order of web forms
	<b>EXAMPLE:</b> Data must be entered on the <b>Monday</b> form before data is entered on the <b>Tuesday</b> form. <b>NOTE:</b> It can also be referred to as a Sequence.
Data Entry (DE)	Data entry user permission         EXAMPLE: A user with this permission can open         http://[servername]/dataentry with Internet Explorer and start         entering data.
Data Entry Approver (DEAPPRV)	Data entry approver user permission that allows opening http://[servername]/dataentry with Internet Explorer and approving data or requesting data revisions
Data Entry Admin (EDE)	Data entry administrator user permission that allows creating characteristics, labels, and data entry setups.
Historical Edit (HEDIT)	Historical edit user permission that allows editing data after it has been marked Complete.
IQC (Interactive Quality Control)	A type of Analysis Configuration.
Label	Text or date data elements on a Data Entry Setup (web form) that allow traceability. <b>EXAMPLE:</b> Lot Number
Metadata	<ul> <li>Data that describes other data, managed by the Statistica</li> <li>Enterprise Manager</li> <li>Two types of metadata.</li> <li>Metadata used to describe or classify data. This type of</li> </ul>
3	metadata could be captured with a Label on a web form, o TIBCO Statistica™ Data Entry Admin Guide

Override (OVR)	<ul> <li>could be a Data Entry Setup's name or a System View Folder's name.</li> <li>EXAMPLE: A process can be upstream or downstream.</li> <li>Metadata used to describe information saved within the configurations.</li> <li>EXAMPLE: A Database Connection contains metadata on how to connect to database type (Oracle, SQL Server, Access, and flat file), login account, and password.</li> <li>Override user permission, typically provided to expert users only lets you override the reasonable values that are defined on a</li> </ul>
Piece	Characteristic. A type of characteristic or label that can have multiple entries per sample (batch).
QC	Quality Control
Statistica	Part of the Statistica Enterprise suite of products produced by Statistica. This application can be installed on a server or client computer. It contains the statistical analysis and data visualization functionality.
Statistica Enterprise Manager	Part of the Statistica Enterprise suite of products produced by StatSoft. This application provides the means for controlled creating, editing, and sharing of labels, characteristics, data entry setups, database connections, data configurations, analysis configuration, and reports. This application manages metadata about analyses.
Statistica Query	A Statistica product produced by Statistica. It can be installed on a server or client computer. This utility application is used to easily access data from a wide variety of databases (including many large system databases such as Oracle, MS SQL Server, Sybase, etc.) using Microsoft's OLE DB or ODBC conventions
Statistica Data Entry	The web-based system that is part of the Statistica Enterprise suite of products produced by Statistica. Administrators can build web forms with Statistica Enterprise Manager and publish them to specific users for data entry.
SVB	Statistica Visual Basic (programming language). SVB is a super-se of the industry standard Visual Basic language.
System View	Folder structure defined in the Statistica Enterprise Manager application to organize the storage of configurable objects. A Data Entry Setup object would be saved in a folder in the System View
URL	Uniform Resource Locator. The address of a web page on the World Wide Web.

## **Unique Values for a Label**

A label that contains a unique value must be a sample label.

## **EXAMPLES OF UNIQUE VALUES:**

- Batch ID
- Lot ID
- Locator record
- Transaction number

Configuring a label object to contain a unique value prevents duplicate data entry.

#### **EXAMPLE:**

- 1. You manufacture a drug in three batches; A, B, C.
- 2. Data has been entered for all three batches.
- 3. Someone tries to enter data for batch A again.
- 4. The system displays an error.

A unique value is also needed for double-blind data entry. Blind data entry requires two people to enter the same data record. The system needs to know that two specific records should be compared.

Three methods for identifying a label as unique:

Method One	Method Two	Method Three
Select Require	Select <b>Blind data entry</b> as	Configure a label for
approval of	the approval type on the	Statistica Product
samples as the	<b>Data Entry Setup</b> . While	Traceability and add it to a
approval type	creating the object, the user	Data Entry Setup. Ensure
on the Data	will be prompted to declare	that Product traceability
Entry Setup.	a <b>Blind ID</b> .	options is selected on the
For configuration details, read		Label and the Data Entry Setup.
<b>Data Entry</b>	<b>Data Entry Setup</b> will	All data entered into
<b>Setup</b> will now	now require a unique	the system will now
require a	value.	require unique values.

## Users and Groups

Use the Statistica Enterprise Manager application to maintaining users and groups.

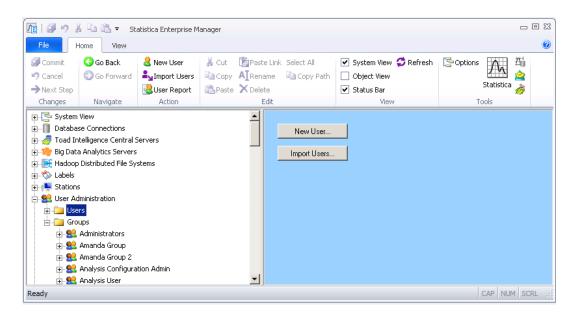
Two types of users:

- Native Statistica Enterprise users
- Imported Windows domain users

Native Statistica Enterprise users exist only within Statistica Enterprise and Web Data Entry.

To create a new user, click the **New User** button.

Integrated login is possible when you import existing Windows domain users



## Permissions

We recommend structuring groups for two levels:

- **System level groups** define what applications or areas of the system their users can access. Typical names for **System level groups**:
  - o Data Entry Admin
  - o Data Entry Approver
  - o Data Entry User
- **Object level groups** grant users edit and read permission to configurations. These groups typically do not contain any system permissions.

EXAMPLE: Team North can more easily share configurations with the entire team.

A list of system permissions that can be applied to users or groups:

 $\ensuremath{\textbf{NOTE:}}$  System Admin (SADM) has all of the permissions listed below.

• Analysis Admin (AADM) can create Analysis Configurations through the Enterprise Manager system view. Data entry administrators might need this permission to create a New Analysis Configuration off this Data Entry Setup.

ota 🔯	Entry S	etup
		Go to Next Step
		Launch Data Entry
		New Analysis Configuration off this Data Entry Setup New Analysis Configuration off Specific Version of this Data Entry Setup
		New Data Configuration off this Data Entry Setup
		New Data Configuration off Specific Version of this Data Entry Setup

- Data Admin (DADM) can create Data Configurations. Data entry administrators might need this permission to create a New Data Configuration off this Data Entry Setup.
- Data Entry (DE) can enter data.
- **Data Entry Admin (EDE)** can create **Characteristics**, **Labels**, and **Data Entry Setups**, which are the permissions required to set up the data entry form.
- Data Entry Approver (DEAPPRV) can approve or request revisions to the entered data.
- Historical Edit (HEDIT) can edit complete data.
- **Override (OVR)** can enter data that is outside of the low and high range for numeric values.
- User (USR) can run Statistica Enterprise Manager. This base permission is needed for anyone who creates any configuration.
- **The SYSTEM user** in Statistica Enterprise Manager supports the blind data entry process. The system records that the SYSTEM user last modified a web form to either approve or require revision. This user cannot be deleted or modified.

## **Work Flow**

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The different levels of data entry user permissions ensure that users follow a specific workflow, which protects against missing or incorrect data. The workflow requires that data be complete and approved.

### EXAMPLE 1:

Example work flow from data entry to data analysis with the **Require approval of samples** option. The work flow assumes that characteristics and labels were already created.

- An administrator creates a Data Entry Setup in Statistica Enterprise Manager and selects the Require approval of samples approval option.
   NOTE: This workflow does not require using a unique value in a sample label field; however, optionally it could be used with UniqueLabels. See the System Options, IIS section.
- 2. A user with **Data Entry (DE)** permissions enters the data. The data can be saved and the form can be completed at another time.
- 3. Later, the user with Data Entry (DE) permissions logs into the website again to enter more data and select the Complete option. The data must be complete before it can be approved. Once a sample is complete, it cannot be edited by a user with Data Entry (DE) permissions unless it is marked as Requires Revisions. Only a user with Historical Edit (HEDIT) permission can edit a complete data record.
- A user with Data Entry Approver (DEAPPRV) permissions reviews the data, and marks it 11 TIBCO Statistica<sup>™</sup> Installation Instructions

as either **Approved** or **Requires Revisions**. This user must be different from the user who entered the data, except when otherwise allowed in Statistica Enterprise Manager, **System Options**, **Data Entry**.

- 5. Data that requires revisions must be modified and marked as complete again before it is eligible for approval.
- 6. Email notification can be sent to designated users whenever a sample is marked as **Complete**, **Approved**, and/or **Requiring Revision**.
- 7. Data entry activities can be recorded in an audit log.
- 8. An administrator sets up the data source for analysis by creating a **Data Configu**ration from the **Data Entry Setup**. The administrator can also create an **Ad hoc Analysis Configuration** with filtering turned on.

**NOTE:** Data Configurations and Analysis Configurations are created for Data Entry Setups for analysis. They can be configured to only include completed data and/or approved data.

- 9. Analyst permissions:
  - a) Can create a **Workspace** that uses the **Data Configuration** as a data source.
  - b) Can add nodes to merge in additional metadata or limits/specifications for a quality control chart.
  - c) Can add a node to generate the quality control chart.
- 10. An analyst saves the **Workspace** into Enterprise Manager as an **Analysis Configuration**.
- A business user runs the Analysis Configuration to look at charts based on the current data. This user may also run the Ad hoc Analysis Configuration to perform other analyses on the data.

#### EXAMPLE 2:

Example workflow for Blind Data Entry, which is used only for data entry. The work flow assumes that Characteristics and Labels were already created.

- 1. The administrator creates a Data Entry Setup in Statistica Enterprise Manager and selects the Blind Data Entry approval option. The company decided to use the Manual approval option because it wants to collect an electronic signature for approval from a human. The system electronically signs the approval by selecting Automatic approval.
- 2. The administrator reviews the Inputs properties page on the Data Entry Setup and performs the following tasks:
  - a) Selects Blind ID (the sample label that will contain a unique value: LOT123.).
  - b) Decides what other fields (Characteristics and Labels) should be compared by the system. Two people will enter data, but they don't have to enter exactly the same data.
     EXAMPLE: A comment field might need to be different for the two data entry employees.
  - c) Decides if a specific field will be allowed to not match and the data record still be approved. This may be needed in a complex manufacturing environment.
  - d) Reviews the email notification options on the Data Entry Setup and adds the email

address for the data approver. This user will receive an email when the data is complete, requires revision, or needs approved.

- e) Grants permission to use the Data Entry Setup to data entry staff and data approvers.
- 3. A user with Data Entry (DE) permissions enters the primary data sample.
- 4. A second user with Data Entry (DE) permissions enters the matching data sample.
- 5. The system then detects if the data matches or not and performs these processes:
  - a) If matching values are detected in the Blind ID label, starts comparing the other fields. Sends an email to the Data approver (DEAPPRV permission) that the data is complete.
  - b) If matching values are not detected in the Blind ID label, sends an email to the data approver (DEAPPRV permission) that the data requires revision. Sends an email toboth data entry users if the data records do not match. The system does not provide any details on what didn't match. Both users should review all the fields that they entered to confirm they were correctly entered.
  - c) After this review, the users who received the required revision notification will complete the data again.

**NOTE:** If the two users are have difficulty matching their data records, they can log into http://[server name]/dataentry and review a report on the differences. A third user with permission on the **Data Entry Setup** can communicate which field is different.

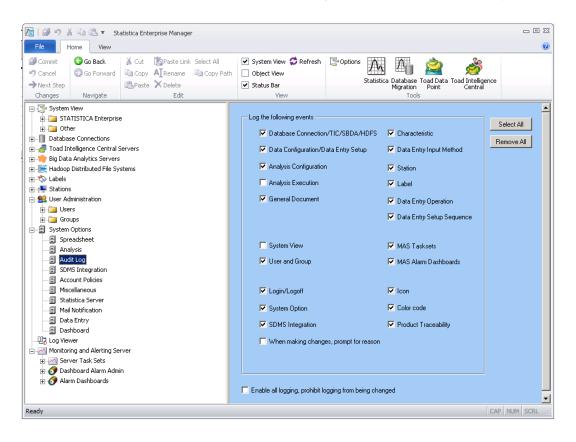
6. When both data records are complete, the approver logs into http://[server name]/dataentry, reviews the difference report on the data, clicks the approve button, and electronically signs approval.

# **System Options**

## Audit Log

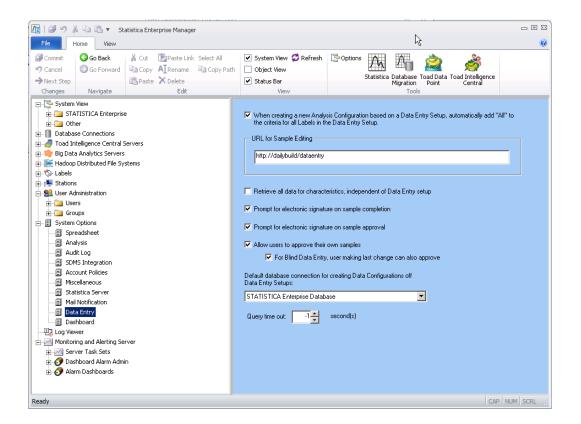
All data entry activities can be recorded in the **Audit log**, which is controlled in Statistica Enterprise Manager.

- 1. Under System Options, select Audit Log.
- 2. In the properties page, select Data Entry Operation to log data entry activities.
- 3. If you need to track the create/edit/delete activities for Data Entry Setups, select **Data Configuration/Data Entry Setup**.
- 4. Select Data Entry Setup Sequence to log activities related to this object.



## **Data Entry**

Under System Options, select Data Entry. These settings apply to all Data Entry Setups.



- Select the first check box to automatically add **All** to the criteria for all Labels in the **Data Entry Setup** when creating a new **Analysis Configuration** based on a **Data Entry Setup**.
- The system uses the URL you enter in the **URL for Sample Editing** box for outbound email notifications on data entry tasks. You can typically set it <a href="http://[servername]/dataentry">http://[servername]/dataentry</a>. The example email in the next image uses this URL.

Eile		TISTICA Data Entry Ap E-mail Scan Adob		Notification - I	Message (HT	- 0	22 E
Delete	Reply Reply All Forward Respond	Carl Save Carl To Manager Carl Team E-mail Quick Steps	* * * *	Move Move	Mark Unread Categorize * Follow Up * Tags	Editing	Q Zoom Zoom
From: To: Cc: Subject:	Data-entry@xyz.com B Jones STATISTICA Data Entr	m ny Approval Notificatio	n		Sent: Tue	5/14/2013	3:38 PM
The samp Sample D		has been updated	to Req	uires Revisio	ns		
• La	ata Entry Setup: Pr ist modified on: 05 ist modified by: B J	/15/2013 1:30:35 PI	м				
		th at 05/15/2013 10 t. It should be ABC					
View Curr	ent Sample						-
<ol> <li>See m</li> </ol>	nore about: Susan Bar	nks.				2	2 .

• Retrieve all data for characteristics, independent of Data Entry setup is not a common use case. Since, you will usually create one Characteristic and use it across many Data Entry Setups, and you will analysis the Characteristic data based on the Data Entry Setup form, this option is not selected by default. Only select this check box if you are interested in analyzing **Characteristics** across all the **Data Entry Setups**.

- Regulated customers typically select **Prompt for electronic signature on sample completion** and **Prompt for electronic signature on sample approval**. These options prompt for an electronic signature when the following occurs:
  - Data entry person clicks the **Complete** button
  - Approver clicks the **Approve** button

The **Allow users to approve their own samples** option is typically turned off in validated environments if the **Require approval of samples** option on **Data Entry Setups** is being used. Regulated industries typically do not allow the same person to both enter data and approve the data. However, this option can be useful for testing new Data Entry Setups in development or non-validated environments.

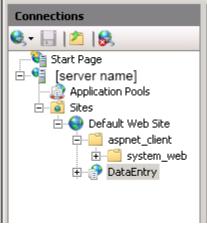
The Allow users to approve their own samples option and Blind Data Entry, user making last change can also approve options may be turned on when using Blind Data Manual Approval on Data Entry Setups. In this case, two people will enter the data. The second person will also approve the data. If these two options are turned off, you will need three people to do data entry and approval.

NOTE: After installation this database connection must be created and then used on this property page.

## **IIS, Application Settings**

Other options are configured via IIS.

- 1. On Windows Server 2008 R2, Select the Start menu > Administrative Tools, Internet Information Services (IIS) Manager.
- 2. On Windows Server 2012, start the Server Manager application >Tools menu > Internet Information Services (IIS) Manager.
- 3. In the Connections section, open your [server name] and then Sites. Select and open Default Web Site. Select **Data Entry**.



4. Double-click the **Application Settings** icon to display the list of application settings as listed.

• Aspnet:MaxHttpCollectionKeys. Define the maximum number of form elements that can exist on an ASP.NET page. Add this IIS option if you are using forms with more than 1000 fields, otherwise your save will fail.

**NOTE:** Some versions of ASP.NET default to 1000 form elements, which can cause problems saving large data entry forms.

- AutoLoadQueryLabelValues. Possible values are true and false. By default the value is set to true. Automatically loads a query label's values if the query label has no dependencies or its dependencies have values defined.
- BlindDataEntryHideMatchingValue. Possible values are true and false. By default the value is set to false. Set to true to avoid displaying the Matching Value column on the Recent Samples list. This list is displayed after login into http://[server name]/dataentry. The Matching Value column displays the unique value (sample label) such as LOT123.
   Blind data entry requires that two people enter the same data. Set this option to false to enable the second person can locate data entered by the first person on the Recent Samples list. If this option is set to true, the second data entry user has to type LOT123 into the label field.

Process if option set to true:

- The second person sees a blue icon next to LOT123.
- The user clicks on the icon to automatically create a new form and populates the label with LOT123.
- **BlindDataEntryMakePrimaryOnSave.** Do not change without discussing with support@statsoft.com. It should be false for most customers.
- BlindDataEntyrPrepopulateMatchingSample. Specific to when Blind Data Entry is enabled for a Data Entry Setup. Possible values are true and false. By default the value is set to false. If the value is set to true, when a matching sample is created, the values from the primary sample will be automatically prefilled for inputs that are not part of the Blind Data Entry comparison.
- BlindDataEntryShowUnmatchedValues. Specific to when Blind Data Entry is enabled for a Data Entry Setup. Possible values are true and false. If the value is set to true, when differences occur during while the primary or matching sample are saved, the different values from the other sample will be displayed to the user. When set to false, only the input name and piece numbers of the differences are identified to the user, and the actual different value from the other sample is not visible to the user.
- BlindDataEntrySyncFields. Specific to when Blind Data Entry is enabled for a Data Entry Setup and there is a field that will not match between two samples. In other words the checkbox *Use this field matching the two Blind Data Entry samples* is not selected.

Required/Type	Name	Sample Size/Label Type	Default Value	Formula	Match for Blind DE	Required for Blind DE	Add label
Separator	Bake A Cake	2000 B			200	1.1 m	-
☑ Label	Unit Operation Identifier	Sample			Yes	Yes	Add characteristic
Label	Previous Unit Operation Identifier	Sample			Yes	Yes	
☑ Label	Unit Operation Description	Sample			Yes	Yes	Add separator/Ini
✓ Label	Oven Identifier	Sample			Yes	Yes	Deserves
Label	Bake Start Date	Sample			Yes	Yes	Remove
Label	Bake End Date	Sample			Yes	Yes	
Separator	Measurement Data Entry Instruct	iona					Edt
🗹 Label	Measurement Time	Piece			Yes	Yes	
Characteristic	Oven Temp in Fahrenheit	2			Yea	Yea	Bind data entry
Characteristic	Oven Temp in Celsius	2			Yea	Yes	
Separator	Comment						
Label	Comment	lind Data Entry options				2	×
		Use this field matching the two I Required for Bind Data Ent overridden by a manual app Use this label as Bind Data Ent	ry (this field must r rrover)			es and cannot be	1

The most common use case for this option is a Sample Label that is named Notes or Comments. This field is used to hold comments to communicate between the two people entering the data. Possible values are **true** and **false**. By default the value is set to **false**.

If the value is set to **true**, then the two people doing manual data entry will be sharing this field. The following is an example workflow:

- 1. Data Entry Person 1: Enters data on form. This is the Primary Sample. They type "XYZ" in the Sample Label field. They save the form but don't mark it complete. This value will not be compared (matched) between the two samples. This field can be used to communicate with the second person who is doing data entry.
- Data Entry Person 2: Enters the Matching Sample. They see "XYZ" in the Sample Label field. They can now append additional text to this comment or replace all the text with "ABC". They save the form and mark it complete.
- 3. Data Entry Person 1: Views the Primary Sample. They see "ABC" in the Sample Label field. They append text so the Sample Label field now contains "ABC XYZ". They save the form and mark it complete.
- 4. Data Entry Person 2: Views the Matching Sample and sees "ABC XYZ".
- **ByColumnsFirstColumnWidth.** Use to set the width of the first column displayed when a data entry form is configured to display the inputs by columns.
- **ByColumnsWidth.** Use to set the column width for fields on the Data Entry pages.
- **ByRowsFirstColumnWidth.** Use to set the width of the first column displayed when a data entry form is configured to display the inputs **by rows**.
- **ByRowsWidth**. Use to set the width of the rows for the Data Entry pages.
- **CommentNotRequired**. This is false by default. If this is set to true, then modifications (save, delete, approve) do not require text in the Comments field. This Comments field is part of every form and is not part of the data. Therefore if a customer wants a comment with the data, they must create a Sample Label to contain this information and set this to true.

- **CommentNotRequiredOnApprove.** When **Sample approval** is enabled and the sample is being reviewed by the approver, if this option is set to **true**, the approver is only required to enter a comment when the sample is marked as **Requires Revision**. If the sample is marked as **Approved**, a comment is not required.
- **CompareSampleCaseSensitive.** If this option is set to **true**, when comparing sample label data the system will compare, using case sensitive compare (so **a** is different than **A**). If false, then case insensitive compare is applied (**a** and **A** are considered the same).
- **DateFormat.** This option controls the format of the date/times that are retrieved from the database.

**EXAMPLE:** Dates could be entered as 10/1/2010 but displayed as ddMMMyy.

- **DateFormatLocale.** If this option is defined, it will force clients to use a specific locale just for Date/Time controls. The expected syntax of the option is a **CultureInfo** name such as **en-US** or **es-ES**. Note that this value is blank by default and not a commonly used setting.
- **DefaultDomainName.** This option sets the domain name most frequently used for integrated login.
- **DisableDatePicker.** If set to **false**, the date labels on the data entry from can be entered using a date picker control. If set to **true**, the dates must be entered as strings.
- **DisableCharacteristicDescription.** Specifies whether the **Characteristic description** defined in Enterprise Manager is displayed as part of the **Data Entry Form** visible in the header for that field. If this option is set to **false**, the description is still available as a header tooltip.
- **DisableLabelDescription.** Specifies whether the **Label description** defined in Enterprise Manager is displayed as part of the **Data Entry Form** visible in the header for that field. If this option is set to **false**, the description is still available as a header tooltip.
- EditMaskChar. This option sets the value displayed by Masked edit when nothing has been entered for a character.
- EmailFromAddress. Set the From email address used when sending validation status.
- **FixedHeaders**. The default value is **true**. If set to **false**, the left column headers will not be displayed in a fixed position where they are always visible.
- **GlobalRecentSamplesMaxNumber.** This setting limits samples.
- **GlobalRecentSamplesNumberOfDays.** This setting applies to the global listing of samples across all **Data Entry Setups**. Leaving it blank causes the number of samples to t be unlimited and could cause performance issues.
- **GlobalRecentSamplesNumberOfDays.** After signing into Statistica Data Entry, the first page will display the recent samples. This variable controls the number of days of data that is retrieved, regardless of the **Data Entry Setup**. Leaving it blank causes the samples to be unfiltered, and could cause a performance issue.

- LingerTimeout. When Serialized session state is used, which would be required in a multiple Web Data Entry Server (NLB) environment, this setting defines the time in seconds to linger the WBDE feature checkout. The default value is 75, which means if you did not explicitly log out of the Web Data Entry Server and instead closed your browser window, it would take up to 75 seconds for the WBDE feature being consumed to be released. The smaller the value, the more often the client will need to communicate with the Web Data Entry Server to keep the license from being released. The setting cannot be less than 30 or greater than 900.
- LogAllSampleChanges. The default value is false. If set to true, every time a sample is saved, any changes from the previous version of the sample will be added to the audit log. When set to false, the changed values are only added to the Audit log when a Completed sample is resaved.
- LoginMessage. This HTML message is displayed prior to logging onto Data Entry.
- Copy your HTML code into the variable. Ensure that the HTML is all on one line. New lines are not acceptable.
- **LogUserActivity.** The default value is **false**. If set to **true**, event log entries will be entered into the Statistica application event log for the following events:
- User login
- Sample approval Sample saving
- User logout (This event only fires if serialized session state is not enabled)
- MainMenuMessage. This HTML message is only displayed on the recent samples page. It is located on the left side. A green square surrounds around this area. Copy your HTML code into the variable. Make sure the HTML is all on one line. New lines are not acceptable.
- **MasterPageLogo.** This option displays the file name of the image that is displayed in the upper-right corner.
- MaxParentSamples. Specific to Data Entry Setups that are included in a Data Entry Sequence. Default is 1 level of samples. This is the maximum level of parent samples used when evaluating constraints and calculated formulas. Formulas can use variables (fields) from other forms to calculate values. Change this to 0 and all parents within a sequence are used. This can cause the calculations to perform slower. For example, a sequence session has 2 parents (data entered into 2 top-level forms) and 20 children samples (data entered into 20 forms) and the last sample will load all 22 forms into memory everytime a calculated formula is evaluated.
- **PromptForSampleSave.** The default value is **false**. If set to **true**, when the **Save** button is clicked, you will be prompted for an electronic signature. By default, you are only prompted for an electronic signature when you click the **Save and Complete** button.
- **QueryLabelMaxEntries**. The default value is **1000**. This setting limits the maximum entries populated in the **Query label** combo box.

- **QueryTimeout**. Timeout value for query operations. By default the value is "" which means the database's default setting is used.
- **RecentSamplesLabels.** After signing into Statistica Data Entry, the first page will display the recent samples. You can modify what labels are displayed for the recent samples. The label names are pipe delimited.

**EXAMPLE**: Batch Number | ID | Product Name.

- **RecentSamplesMaxNumber.** If left blank, this variable causes the number of samples not to be limited (could cause performance issues).
- **RecentSamplesNumberofDays.** This variable controls the number of days of data that is retrieved after selecting a specific **Data Entry Setup**. If left blank, it causes the samples to be unfiltered and could cause a performance issue.
- **RecentSamplesPageSize.** After signing into Statistica Data Entry, the first page will display the recent samples. This variable controls how many rows are displayed before paging is enabled.
- **RequireApprovalOnDelete**. This will be **false** by default. Set this to **true** and a second user with HEDIT permission must login to approve the deletion of the sample.
- **SampleUpdateTimeout.** The default value is **45**. This variable defines the timeout value in seconds for sample save operations. Sample save operations are serialized, so on very busy Web Data Entry servers this value might need to be increased.
- **SendEmailOnSampleApproval.** Set this to **true** if email notifications should be sent when the **Approve** button is clicked by the approver.
- **SendEmailOnSampleCompletion.** Set this option to **true** if email notifications should be sent when the **Complete** button is clicked by the data entry user.
- **SortSystemView**. When selecting a web form (**Data Entry Setup**) to use in a browser, the folder structure and **Data Entry Setups** are in alphabetical order. Set this option to **false** to see objects sorted by their modification date.
- UniqueLabels. These labels must be unique across samples in a Data Entry Setup. You can have multiple unique labels on a Data Entry Setup. The label names are pipe delimited.
   EXAMPLE: Batch Number | Batch ID | ID is mainly used when the Require approval of samples option is turned on in Data Entry Setups. See section Label, Unique Values.
- **UseDatabaseLock**. By default the value is **false**. Set to **true** to enable database synchronization across servers/processes with Web Data Entry.
- **UseDateTimeLabelDisplayFormat**. By default the value is **true** and the date/time labels use the DateFormat configuration option. Set to **false** to use the display format configured in StatisticaEnterprise Manager.
- UseEditMaskForDate. The default value is true. This variable determines whether an edit mask is displayed for date/time labels. If enabled, the mask value is defined by the DateFormat setting. If this value is set to false, dates will still be validated based on the DateFormat setting, but a mask control will not be displayed to control input.

- UserEditMaskToEnforcePrecision: The two types of precision enforcement:
  - The default (**false**) option displays ToolTips about the precision, and only enforces it once data entry is completed on the **Characteristic**. This option offers flexibility.
  - If you only choose to allow users to type the precise amount of numbers, set this option to **true**.
- **UseMTAObjects**. The default value is **false**. Do not change without discussing with support. It should be false for most customers.
- WebSTATHost. Name of server where Statistica Server is installed.

### LoginMessage and MainMenuMessage

We recommend that you edit and view your HTML in another tool before copying it into these variables. Both of these variables are installed with sample text.

The LoginMessage is only seen prior to logging into the website on http://[server name]/dataentry.

The **MainMenuMessage** is displayed after logging into the system, and displays under the buttons like **Create New Sample**. See example below:

#### LoginMessage example HTML:

<u>This is example text that should be replaced. </u>This message uses HTML format. An administrator will need to modify this text. It is configured via IIS. Select the <em>Start </em>menu,

<em>Administrative Tools</em>,<em> Internet Information Services (IIS) Manager</em>. In the

<em>Connections</em> section, open your <em>[server name] </em>and then <em>Sites</em>. Select and open <em>Default
Web Site</em>. Now you can select <em>Data Entry</em>. Edit the ASP.NET Application Setting <em>LoginMessage</em>.
Make sure the HTML is all on one line. New lines are not acceptable in the HTML.&#160;Visit:Visit:style="text-align:
center;"><a href=" https://www.tibco.com"> Statistica Website</a><br/><a href=" https://www.tibco.com ">Statistica Website</a><br/><a href=" https://www.tibco.com ">Statistica Website</a><br/><a href=" https://www.tibco.com ">Statistica Vebsite</a><br/><a href=" https://www.tibco.com ">Com</a><br/>Statistica Vebsite</a><br/><a href=" https://www.tibco.com ">Com</a><br/>Statistica Vebsite</a><br/><a href=" https://www.tibco.com ">Com</a><br/>Statistica Vebsite</a><br/><a href=" https://www.tibco.com ">Com</a><br/>Statistica </em>

href="http://www.statsoft.com/textbook/">ElectronicStatisticsTextbook</a><i>Statistica Data Entry </i> enables companies to configure data entry scenarios to allow data entry via Web browsers and the analysis of these data using all of the graphical data analysis, statistical analysis, and data mining capabilities of the <i>Statistica Enterprise</i> software platform <br/>br /><br /><i>Statistica Data Entry</i> builds on the configuration objects in <i>Statistica Enterprise</i>

Labels: Text or date data for traceability (e.g., Lot Number)Data Entry Setups: Groups of Characteristics and Labels configured with specific User/Group permissions to collect the appropriate data for particular scenarios

### MainMenuMessage example HTML:

<b>Updated 4/15/2016 10:49AM</b>This is example text that should be replaced. <br

/>This message uses HTML formatting.An administrator will need to modify IIS. <br />Edit the ASP.NET Application
Setting <em>MainMenuMessage</em>.Visit:<a href="https://www.tibco.com">Statistica</a><a href="https://www.tibco.com">Statistica</a><a href="https://support.tibco.com">Knowledge
Base</a><a href="https://support.tibco.com">Knowledge
Base</a><a href="https://support.tibco.com">Knowledge
Base</a><a href="https://support.tibco.com">Knowledge
Base</a><a href="https://support.tibco.com">Knowledge
Base</a></a></a></a>

## **IIS, Session State**

By default, cookie-based sessions are enabled. This option prevents using multiple browser tabs (sessions) within one browser.

To turn off cookies:

- 1. Start IIS.
- 2. Double-click the **Session State** icon.
- 3. Select Use URI from Cookie Settings.

Cookie Settings	
Mode:	
Auto Detect	×
Auto Detect	
Use Cookies Use Device Profile	
Use URI	

### **Comment Box**

Data entered into the **Sample Comments** box is only visible via http://[server name]/dataentry. This box communicates important information about data entry or approval. These comments are not retrieved with other form data by a **Data Configuration** or **Analysis Configuration**.

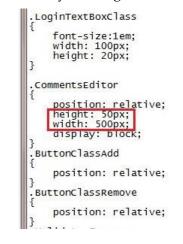
If you need to include comments with the data that will be analyzed, create a **Label** to contain this information.

#### Sample Comments



To increase the size of the comment box, edit the following file on the server:

- File path/name: C\WebSTATISTICAPub\DataEntry\StyleSheet1.css
- Modify the height and width fields in the **CommentsEditor** section.



## **Electronic Signature on Save**

You can configure the software to prompt for an electronic signature whenever the **Save** or **Save and Complete** buttons are clicked by two methods:

• Modify a configuration file on the server.

Here is the option to be added to the file

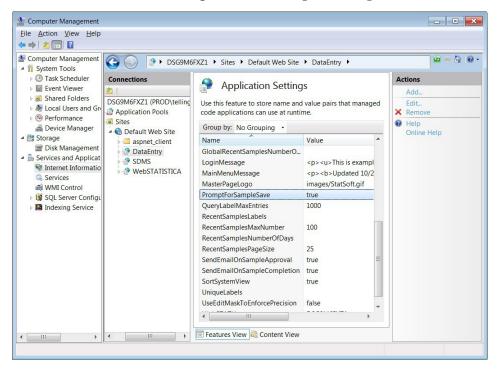
\WebSTATISTICAPub\DataEntry\web.config:

<!-- If true then when the Save button is clicked prompt for an electronic signature -->

<add key="PromptForSampleSave" value="false"/>

• Adjust an **IIS ASP.NET** setting.

The **IIS ASP.Net** setting is called **PromptForSampleSave** as shown below:



## Web DE Scalability

### Overview

By default Web Data Entry is configured to run inside a single ASP.NET worker process.

You now have options that allow the Web Data Entry Server to handle an increased number of users.

- 1. Create a **Web Garden** by configuring the application to use multiple **ASP.NET** worker processes on a single server.
- 2. Configure a **Web Farm** with multiple web servers configured to accept requests on a single virtual IP address (while still maintaining the **Web Garden** configuration on each server).
- 3. Optionally, integrate **Web Data Entry** into a **Network load balanced (NLB**) environment where multiple **Web Data Entry Servers** are available to service requests

Both configurations require the **Session State** configuration. The **Web Farm** configuration requires the **Machine Key** configuration. The steps for both of these procedures plus integrating a network load balanced environment are outlined below.

## **Session State**

Whenever you configure **Web Data Entry** for use in a **Web Garden** or **Web Farm**, you must configure an alternate session state mode. It can be one of the following:

- An ASP.NET State Server running on one of the computers in the cluster
- A SQL Server based Session State

The Session State setting is configured in the web.config settings located in the

**WebSTATISTICAPub\dataentry** folder on each **Web Data Entry Server.** You will find an existing <sessionState/> node in the <System.Web/> section of the **Web.Config**. The following XML is an example of using an **ASP.NET State Service** that has been started in the first node in the **NLB** cluster.

<sessionStatemode="StateServer" stateConnectionString="tcpip=WebDE1.tulsa.statsoft.com:42424" cookieless="AutoDetect" timeout="5" />

**CAUTION:** Keep in mind that using an **ASP.NET State Server** is a single point of failure. If that service is not available, then active Web Data Entry sessions will be lost and new sessions will not be possible until that service is restored or Web Data Entry is configured to use a different **ASP.NET State Server**.

MORE INFORMATION: Additional information on configuring an ASP.NET State Server or using SQL Server to store session state is available here:

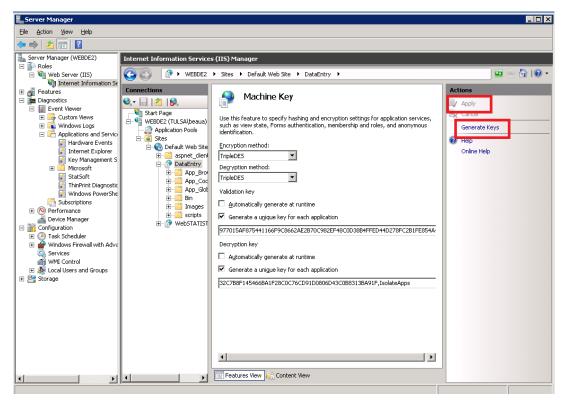
https://msdn.microsoft.com/en-us/library/ms178586.aspx.

### **Machine Key**

A static **Machine Key** setting should be configured if multiple servers (a **Web Farm**) will be configured for Web Data Entry. This setting is not necessary if only a **Web Gar**den has been configured and Web Data Entry will not scale out to multiple servers.

To configure,

- 1. On one of the servers to be used in the cluster, open **IIS Manager**.
- 2. Select the **DataEntry** application, then the **Machine Key** option in the ASP.NET section for that application.
- 3. Click **Generate Keys** and then **Apply**, which will update the web.config in the **DataEntry** folder with the unique keys.



Update the existing <machineKey/> section in the <System.Web> portion of the **web.config** on the other servers in the **NLB cluster**, using the same text.

<machineKey decryption="3DES"

```
decryptionKey="32C7B8F145466BA1F28C0C76CD91D0806D43C0B8313BA91F,IsolateApps"
validation="3DES" validationKey="977015AF875441166F9C8662AE2B70C982EF48C0D38B4FFED44D278FC2B1FE854A44BC
E52F53F8304831DB65477F261A03C2123FA61CE6B5C05A763088CF5A56,IsolateApps" />
```

## Configuring Web Data Entry to use multiple processes (Web Garden) in IIS

- 1. Select the **DataEntry** application pool in **IIS Manager** and display the **Advanced Settings** dialog box.
- 2. The Maximum Worker Processes defaults to 1. You can increase it to allow multiple

w3wp.exe worker processes to service requests.

**NOTE:** As mentioned previously, an Out of process session state mode must be configured to use a Session State Server or a SQL Server based session state.

Wa	anced Settings		? ×
	Start Automatically	True	
Ξ	CPU		
	Limit	0	
	Limit Action	NoAction	
	Limit Interval (minutes)	5	
	Processor Affinity Enabled	False	
	Processor Affinity Mask	4294967295	
Ξ	Process Model		
	Identity	LocalSystem	
	Idle Time-out (minutes)	20	
	Load Liser Profile	False	
	Maximum Worker Processes	10	
	Ping Maximum Response Time (second	90	
	Ping Period (seconds)	30	
	Shutdown Time Limit (seconds)	90	
	Startup Time Limit (seconds)	90	
Ξ	Process Orphaning		
	Enabled	False	
	Executable		
	Executable Parameters		
Ξ	Rapid-Fail Protection		
	"Service Unavailable" Response Type	Httpl.evel	_
⊡ Mi [m rei	Rapid-Fail Protection "Service Linavailable" Response Type aximum Worker Processes haxProcesses] Maximum number of wo		ſ

## **Microsoft Network Load Balancing**

The following section contains instructions on how to configure **Microsoft Network Load Balancing** for use with Web Data Entry to create a **Web Farm**. If you have an existing **NLB** technology in place, it can be used instead of **Microsoft NLB**. In general, the load balancer should be configured to use round robin scheduling, and **TCP** port 80 traffic needs to be load balanced.

### **Installing Network Load Balancing**

Microsoft documentation: http://technet.microsoft.com/en-us/library/cc731695.aspx

Add **Network Load Balancing** as a feature to all servers that will participate in the load balancing cluster.

Add Features Wizard	×
Select Features	
Features Confirmation Progress Results	Select one or more features to install on this server.   Seatures: <ul> <li>NET Framework 3.5.1 Features (Installed)</li> <li>Background Intelligent Transfer Service (BITS)</li> <li>BitLocker Drive Encryption</li> <li>BranchCache</li> <li>Connection Manager Administration Kit</li> <li>Desktop Experience (Installed)</li> <li>DirectAccess Management Console</li> <li>Failover Clustering</li> <li>Group Policy Management</li> <li>Internet Printing Client</li> <li>Internet Printing Client</li> <li>Internet Storage Name Server</li> <li>PRP Pot Monitor</li> <li>Multipath 1/0</li> <li>Multipath 1/0</li> <li>Message Queuing</li> <li>Multipath 1/0</li> </ul> More about features More about features Senter Storage Name Server Remote Differential Compression More about features Senter Storage Name Server Senter Storage Name Server Description: Multipath 1/0 Multipath 1/0 Multipath 1/0 Multipath 1/0 Multipath 1/0 More about features More about features More about features More about features Senter Storage Name Server More about features More about features More about features Senter Storage Name Server <p< th=""></p<>

### Creating a new network load balancing cluster

http://technet.microsoft.com/en-us/library/cc771008.aspx

All servers to participate in the cluster will need a network adapter with a static IP address. An additional static IP will be needed for the **Cluster IP**.

#### **EXAMPLE:**

In this example 2 servers with Web Data Entry installed are using the following host names and IP addresses:

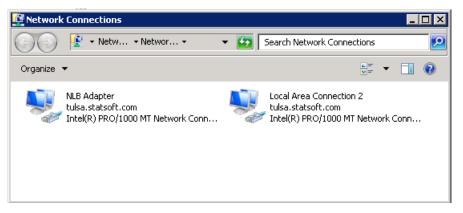
WebDE1 - 192.168.0.115

WebDE2 - 192.168.0.116

The **Cluster IP** used is 192.168.0.117.

A **DNS** entry can be created (decluster.tulsa.statsoft.com) that points to that IP address, although it is not required. Alternatively, the Web Data Entry server could be accessed using the cluster IP directly.

We recommend that you have two network adapters on the NLB computers participating in the cluster.



1. Define a static IP address for the network adapter. It will be used to service **NLB** requests.

**NOTE:** It also makes sense to disable Client for Microsoft Networks and File and Printer Sharing for Microsoft Networks.

NLB Adapter Properties	×	
Networking Sharing	Internet Protocol Version 4 (TCP/IP	v4) Properties 🛛 🤶 🗙
Connect using:	General	
1000 MT Network Conne Intel(R) PR0/1000 MT Network Conne	You can get IP settings assigned autor this capability. Otherwise, you need to for the appropriate IP settings.	
This connection uses the following items:	O Obtain an IP address automatica	lly
🔲 🏪 Client for Microsoft Networks	Use the following IP address:	
<ul> <li>Network Load Balancing (NLB)</li> <li>Op Bocket Scheduler</li> </ul>	IP address:	192.168.0.116
File and Printer Scheduler	Sybnet mask:	255.255.224.0
<ul> <li>Internet Protocol Version 6 (TCP/IPv</li> <li>✓ Internet Protocol Version 4 (TCP/IPv</li> </ul>	Default gateway:	192 . 168 . 0 . 222
<ul> <li>Link-Layer Topology Discovery Map</li> <li>Link-Layer Topology Discovery Resp</li> </ul>	C Obtain DNS server address auto	matically
	└ ─ O Use the following DNS server add	dresses:
Install Uninstall	Preferred DNS server:	10 . 9 . 99 . 71
Description Transmission Control Protocol/Internet Prot	<u>A</u> lternate DNS server:	10 . 9 . 99 . 72
wide area network protocol that provides c across diverse interconnected networks.	Validate settings upon exit	Ad <u>v</u> anced
		OK Cancel

2. Open the Network Load Balancing Manager (located in Administrator Tools).

Services Share and Storage Management
Server Manager
<ul> <li>Performance Monitor</li> <li>Security Configuration Wizard</li> </ul>
🧶 Network Load Balancing Manager
🚡 Local Security Policy
Internet Information Services (IIS) Manager
Event Viewer     Internet Information Services (IIS) Manager
Data Sources (ODBC)
Computer Management
Component Services

3. Right-click Network Load Balancing Cluster and click New Cluster.



4. Enter a host name or IP address of one of the servers in the **Load balancing clu**ster. In this example the IPs on the NIC used by the first server was 192.168.0.115.

5. After you have connected to the server, select the **Network adapter** that will participate in the cluster. In this example the VM only has one network adapter.

New Cluster : Connect				
Connect to one host that is		new cluster and	select the clus	
Host: webde1.tulsa.s	tatsoft.com			C <u>o</u> nnect
Connection status				
Connected				
Interfaces available for conf	iguring a new clu	ster		
Interface name		Interface IP		
Local Area Connection 2		10.9.102.194		
NLB Adapter		192.168.0.11	5	
1				
	< <u>B</u> ack	<u>N</u> ext>	Cancel	Help
		<u> </u>	2011001	

## 6. In the next dialog box, the defaults should be sufficient.

<u>A</u> dd	<u>E</u> dit	Remove
	_	
<u>-</u>	1	
	<u>A</u> dd	<u>A</u> dd <u>E</u> dit

7. Add the **Cluster IP address** (192.168.0.117 in this example). Manually configure the **Full Internet name** on your DNS servers for it to resolve to the cluster **IP address**.

	Add IP Address X
P add	Add IPv4 address:
	IPv4 address: 192 . 168 . 0 . 117
	Subnet mask: 255 . 255 . 224 . 0
	C Add IPv6 address:
	IPv6 address;
	C Generate IPv6 addresses: ☐ Link-local  ☐ Site-local  ☐ Global

8. Next configure the **Cluster parameters**.

New Cluster : Cluster Param	neters	×
Cluster IP configuration		
IP <u>a</u> ddress:	192.168.0.117	
<u>S</u> ubnet mask:	255 . 255 . 224 . 0	
Eull Internet name:	livescore.tulsa.statsoft.c	
N <u>e</u> twork address:	02-bf-c0-a8-00-75	
Cluster operation mode		
○ <u>M</u> ulticast		
C IGMP multicast		
	< <u>B</u> ack <u>N</u> ext > Cancel Help	

The **Cluster Operation Mode** option defaults to **Unicast**. This changes the network adapter MAC address so it is the same for all hosts in the cluster.

#### If only one network adapter is available on the server

The hosts participating in the cluster will not be able to communicate with each other. In a Web Data Entry cluster, the hosts should not be required to communicate with each other unless one of the hosts is also a **Session State Server**, **Statistica License Server**. However, using **Unicast** mode with only one network adapter means you may need to manage the NLB cluster using a server that is not part of the cluster.

If only a single adapter is available on the NLB nodes, select **Multicast** and **IGMP Multicast**. This choice adds a layer two multicast address to the network adapter instead of changing the primary MAC address. The hosts within the cluster will be able to communicate with each other even if only one network adapter is present.

To prevent port flooding, if your switch hardware supports **IGMP** snooping, select the **IGMP multicast** option. Otherwise, we recommend standard **Multicast** with manual configuration of the switch hardware for the cluster IP so that only those ports receive the multicast traffic.

#### If you have 2 network adapters

Leave option set to **Unicast**. As stated before, It is preferable to setup the NLB cluster with 2 network adapters on each server that is a member of the cluster.

• One adapter is dedicated to the NLB cluster and can have **Client for Microsoft Networks** disabled. This adapter will have the static cluster IPs assigned toit.

• The other adapter will be used for general network communication and standard (non-NLB) communication between the NLB nodes.

More information is available on the following pages:

http://technet.microsoft.com/en-us/library/bb742455.aspx

http://www.isaserver.org/articles/basicnlbpart2.html

http://technet.microsoft.com/en-us/library/cc782694(WS.10).aspx

http://kb.vmware.com/selfservice/microsites/search.do?language=en\_US&cmd=displayKC&ext ernalId=1006580

1. By default the port rules will load balance all TCP and UDP traffic to the computers participating in the cluster. Web Data Entry is only concerned with TCP traffic on the IIS web site port (usually 80), so edit the port rule as shown in the following image:

Add/Edit Port Rule
Cluster IP address
or 🔽 All
Port range <u>F</u> rom: 80 <u>*</u> T <u>o</u> : 80 <u>*</u>
Protocols • ICP O UDP O Both
Filtering mode <u>M</u> ultiple host Affinity: <u>N</u> one O Single O Net <u>w</u> ork
Timeout(in minutes): 0
C Single host
O Disable this port range
OK Cancel

NOTE: We recommended setting the Affinity option to None.

2. Click the **Finish** button on the **Port Rules** dialog box to create the new cluster.

luster.tulsa.stats	oft.com	(192.16	8.0.117	) Properti	es			X
luster IP Addresses	Cluster	Paramete	rs Port	Rules				
Defined port rules:								
Cluster IP address	Start	End	Prot	Mode	Priority	Load	Affinity	
All	80	80	TCP	Multiple			None	
•								
				<u>A</u> dd	<u>E</u> dit	t	<u>R</u> emove	1
– Port rulo description								1
		cluster IP	address (	hat arrives	on oort 8(	) is balar	nced across	
multiple members o	f the clu	ster acco	rding to th	ne load weig	ght of eac	h memb	er.Client IP	
addresses and por	is are us	ed to ass	ign client	connection	s to a spe	CINC CIUS	ster nost.	
								1
				OK	Car	ncel	Help	1
	luster IP Addresses Defined port rules: Cluster IP address All ■ Port rule description TCP traffic directed multiple members of	Iuster IP Addresses Cluster Defined port rules: Cluster IP address Start All 80  Port rule description TCP traffic directed to any multiple members of the clu	Iuster IP Addresses Cluster Paramete Defined port rules: Cluster IP address Start End All 80 80  Port rule description TCP traffic directed to any cluster IP multiple members of the cluster acco	Iuster IP Addresses Cluster Parameters Port Defined port rules: Cluster IP address Start End Prot All 80 80 TCP Port rule description TCP traffic directed to any cluster IP address I multiple members of the cluster according to th	Iuster IP Addresses       Cluster Parameters       Port Rules         Defined port rules:       Cluster IP address       Start       End       Prot       Mode         All       80       80       TCP       Multiple         Image: All for the description       Add         Port rule description       TCP traffic directed to any cluster IP address that arrives multiple members of the cluster according to the load weig addresses and ports are used to assign client connection	Defined port rules:         Cluster IP address       Start       End       Prot       Mode       Priority         All       80       80       TCP       Multiple          Image: Add       Edd       Edd       Edd       Edd         Image: Add       Edd       Edd       Edd         Image: Add       Edd       Edd       Edd	Iluster IP Addresses       Cluster Parameters       Port Rules         Defined port rules:       Cluster IP address       Start       End       Prot       Mode       Priority       Load         All       80       80       TCP       Multiple	Iluster IP Addresses       Cluster Parameters       Port Rules         Defined port rules:       Cluster IP address       Start       End       Prot       Mode       Priority       Load       Affinity         All       80       80       TCP       Multiple       More       None         Image: Add       Edit       Edit       Bemove         Port rule description       TCP traffic directed to any cluster IP address that arrives on port 80 is balanced across multiple members of the cluster according to the load weight of each member. Client IP addresses and ports are used to assign client connections to a specific cluster host.

After a short delay you should see the first host listed as a child of the new cluster.

	er H <u>o</u> st Op										
⊡ 💑 Ne	twork Load Bal	lancing Clusters		Port rules configure	d on WEBDE1 (NLB A	(dapter)					
	decluster.tuis	a.statsoft.com NLB Adapter)	(192.168.0.11	Cluster IP address	Status	Start	End	Protocol	Mode	Priority	L
1	WEBDEI(	NLB Adapter)		All	Enabled	80	80	TCP	Multiple		E
٩ [				(							
✓ Log Entry	Date	Time	Cluster	<ul> <li>Host</li> </ul>	Description						Þ
-	Date 4/11/2016	Time 2:41:58 PM			Description End configuration ct	ange					
Log Entry			Cluster	Host							
Log Entry 0012	4/11/2016	2:41:58 PM	Cluster 192.168.0 192.168.0	Host WEBDE2	End configuration ch	change					
Log Entry 0012 0013	4/11/2016 4/11/2016	2:41:58 PM 2:49:36 PM	Cluster 192.168.0 192.168.0	Host WEBDE2 WEBDE1	End configuration ch Begin configuration Waiting for pending Update 3 succeeded	change operation 3 [double click]	for details]				
Log Entry 0012 0013 0014	4/11/2016 4/11/2016 4/11/2016	2:41:58 PM 2:49:36 PM 2:49:38 PM	Cluster 192.168.0 192.168.0 192.168.0	Host WEBDE2 WEBDE1 WEBDE1	End configuration ch Begin configuration Waiting for pending	change operation 3 [double click]	for details]				

### Adding additional hosts to the cluster

1. Select the decluster cluster and select Add Host to Cluster.

	ptions Help					
E 👷 Network Load Ba	alancing Clusters	Host d	onfiguration information for h	osts in cluster dec	cluster.tulsa.statsoft.com (192	.168.0.117)
🖻 💼 decluster.	Add Host To Clus	ter ost (	Interface)	Status	Dedicated IP address	Dedicated IP subnet m
	Delete Cluster	2w	EBDE2(Local Area Connec	. Converged	192.168.0.116	255.255.224.0
	Cluster Properties	s 🖁 🛛	EBDE1(Local Area Connec	. Converged	192.168.0.115	255.255.224.0
_	Refresh					
_	Remove From Vie	w				
	Control Hosts	•				
	Control Ports					
_						
•						
Log Entry Date	Time	Cluster	Host Desci	ription		-
0001 3/31/2016	3:00:41 PM		NLB M	lanager session s	started	
0000 010110017	3:00:42 PM		Loadi	ng locally bound i	nstances	
0002 3/31/2016				c	information from host "WebD	

- 2. Type the name of IP of the host you want to add to the cluster and click **Connect**.
- 3. In the **Connect** dialog box, select the appropriate network adapter for the cluster.

Add Host to	Cluster : Co	nnect					×
Connect t <u>H</u> ost:	o the host that webde2	is to be added	to the existin	g cluster		C <u>o</u> nnect	
Connec	tion status						1
Connec		onfiguring the	cluster				
Interfaces		oninguning the t	Interfa	e IP			ſ
	ea Connectior	)		68.0.116			
		< <u>B</u> ack	<u>N</u> ext >		Cancel	Help	

4. Leave the defaults in the **Host Parameter** dialog.

Add Host to Cluster : Host	Parameter <del>s</del>		×
Priority (unique host identifie	er): 2		
IP address		Subnet mask	
192.168.0.116		255.255.224.0	
,	<u>A</u> dd	<u>E</u> dit	<u>R</u> emove
Initial host state			
Default state:	Started	<b>-</b>	
Retain suspended sta	ate after computer restarts		
	< <u>B</u> ack <u>N</u> ext >	Cancel	Help

5. Also leave the defaults in the final dialog, and click the **Finish** button.

Add	dd Host to Cluster : Port Rules 🛛 🗙								
Ī	Defined port rules:								
	Cluster IP address	Start	End	Prot	Mode	Priority	Load	Affinity	
	All	8081	8081	TCP	Multiple		Equal	None	
	•							•	
					<u>A</u> dd	<u>E</u> dit		<u>R</u> emove	1
	– Destaule desexieties								
	Port rule description TCP traffic directed to any cluster IP address that arrives on port 8081 is balanced								
	equally across all members of the cluster. Client IP addresses and ports are used to								
	assign client connections to a specific cluster host.								
L									1
									_
			< <u>B</u> ack	Fi	nish	Cano	el	Help	

After a short delay, the new host should display as part of the cluster.

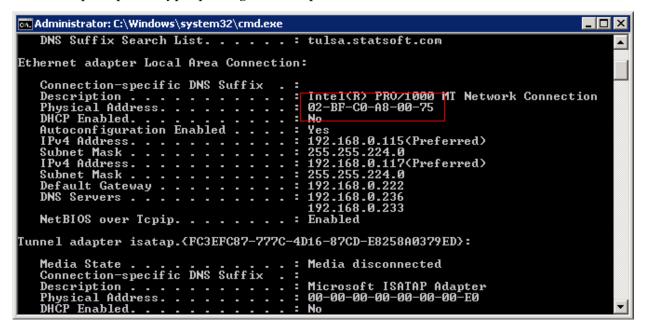
		alancing Clusters		Host c	Host configuration information for hosts in cluster livescore.tulsa.statsoft.com (192.168.0.217)							
Elivescore.tulsa.statsoft.com (192.168.0.217)     WEBDE1(Local Area Connection)     WEBDE2(Local Area Connection)					nterface)	Status	Dedicated IP address	Dedicated IP subnet mask	Host priority	Initial host state		
					BDE1(Local Area Connec		192.168.0.115	255.255.224.0	1	started		
				🔜 WB	BDE2(Local Area Connec	Converged	192.168.0.116	255.255.224.0	2	started		
og Eptry	Date	Time	Cluster	Host	Description							
og Entry 0005	Date 5/2/2014	Time 4:24:36 PM	Cluster 192.168.0	Host WEBDE1	Description Undate 2 succeeded [d	louble click for det						
				Host			ails]					
0005	5/2/2014	4:24:36 PM	192.168.0	Host WEBDE1	Update 2 succeeded [d	ge	ails]					
0005 0006	5/2/2014 5/2/2014	4:24:36 PM 4:24:36 PM	192.168.0 192.168.0	Host WEBDE1 WEBDE1	Update 2 succeeded [d End configuration chan	ge ange	ais]					
0005 0006 0007	5/2/2014 5/2/2014 5/2/2014	4:24:36 PM 4:24:36 PM 4:27:28 PM	192.168.0 192.168.0 192.168.0	Host WEBDE1 WEBDE1 WEBDE2	Update 2 succeeded [d End configuration chan Begin configuration cha	ge ange eration 2 louble click for det	-					

If you look at the TCP/IP properties of the network adapter used for the cluster you will see that the cluster IP has been added as an additional IP address.

Advanced TCP/IP Settings									
IP Settings DNS WINS									
	IP addresses								
	IP address		Subnet mask						
	192.168.0.115		255.255.224.0						
	192.168.0.117		255.255.224.0						
	,	<u>A</u> dd	<u>E</u> dit	Remo <u>v</u> e	1				
	Default gateways:				_				
	Gateway		Metric						
	192.168.0.222		Automatic						
		A <u>d</u> d	Edi <u>t</u>	Re <u>m</u> ove	]   [				
	Automatic metric	- <u> </u>	_						
	I <u>n</u> terface metric:								
			ОК	Cano	:el				

#### Post installation steps

If you selected unicast mode when setting up the cluster, and each node in the cluster has only one network adapter, you may need to provide Statistica with certain license files to be resigned (if the License Service is installed to one of the nodes in the NLB cluster). You will also need the new cluster MAC address. Open a command prompt and type ipconfig /all to acquire the new MAC address:



In this example, the licensing file needed would be:

C:\Program Files (x86)\Statistica\FlexLM\stat.lic

# **Troubleshooting**

## **User Interface Slow to Load**

If the **Web Data Entry User Interface** is slow to load after logging in, the list of recent samples might be too long. When that happens, populating a list is time-consuming. Try shortening the list of recent samples by changing the following **Application Settings**:

- GlobalRecentSamplesMaxNumber
- GlobalRecentSamplesNumberOfDays
- RecentSamplesMaxNumber
- RecentSamplesNumberOfDays

See the System Options, IIS section above.