

# eBob v5.2 Operator's Manual



**Division of Garner Industries**  
[www.binmaster.com](http://www.binmaster.com)  
[info@binmaster.com](mailto:info@binmaster.com)

7201 No. 98th Street  
Lincoln, NE 68507  
402-434-9102

P. O. Box 29709  
Lincoln, NE 68529  
Fax: 402-434-9133

**BinMaster**  
Division of Garner Industries

(this page intentionally left blank)



## Table of Contents

1.0	Introduction .....	5
1.1	Terminology .....	5
2.0	Overview of eBob.....	6
3.0	Minimum System Requirements .....	7
4.0	Installation .....	8
4.1	System Types .....	8
4.2	Installation Setup Types.....	8
4.3	Quick Installation and Setup .....	8
4.4	Network Installation and Setup .....	10
4.4.1	Step 1 – Preparation for Network Installation.....	10
4.4.2	Step 2 – Database Installation .....	11
4.4.3	Step 3 – eBob Setup .....	11
4.4.4	Step 4 – Site Installation.....	11
4.4.5	Software Installation using Advanced Setup .....	12
4.4.6	Configure SQL Server for Remote Connections .....	15
4.4.7	Windows Firewall Configuration.....	17
5.0	The Workstation .....	20
5.1	Navigating the Menu System .....	21
5.1.1	File Menu .....	21
5.1.2	Vessel Menu.....	21
5.1.3	Reports Menu .....	22
5.1.4	Specifications Menu.....	22
5.1.5	Help Menu.....	23
5.2	Vessel Control and Tabs.....	23
5.3	Vessel Details .....	25
5.4	Configuration, Setup and Features .....	27
5.4.1	System Setup.....	27
5.4.2	Site Maintenance and Setup.....	28
5.4.3	Email Setup .....	30
5.4.4	Email Contacts.....	31



5.4.5	Remote Serial Device Maintenance and Setup.....	31
5.4.6	Vessel Maintenance and Setup.....	33
5.4.7	Group Maintenance and Setup.....	48
5.4.8	Measurement Schedules .....	49
5.4.9	User Maintenance and Setup .....	51
5.4.10	User Login and Change Password .....	52
5.4.11	Temporary Group Setup .....	53
5.4.12	Print Reports and Export Data .....	54
5.4.14	System Export/Import.....	60
6.0	eBob Security Administrator.....	61
7.0	Upgrade from BinMaster IMS.....	63
8.0	Upgrade from eBob 4.....	63
9.0	Upgrade from eBob 5.0 or 5.1 .....	64
9.1	Upgrading a Single Stand-Alone System.....	64
9.2	Upgrading a Networked System .....	65



## 1.0 Introduction

eBob 5.2 is designed to intelligently manage inventory in any number of vessels working with the SmartBob, SmartBob-II and SmartBob-TS1 level sensors from BinMaster. eBob v5.2 can manage any shape and size of vessel while working with up to 32 SmartBobs per vessel.

The main screen of eBob Workstation shown in Figure 1 provides a table of vessels, each represented by a panel, providing visual and detailed level indication. The main screen can display 16 vessels (panels) at a time with tabs along the bottom for quickly switching to view more vessels. There is also a menu system along the top that provides access to configuration screens for vessel setup, site setup, scheduling, alarms, email alerts and more.

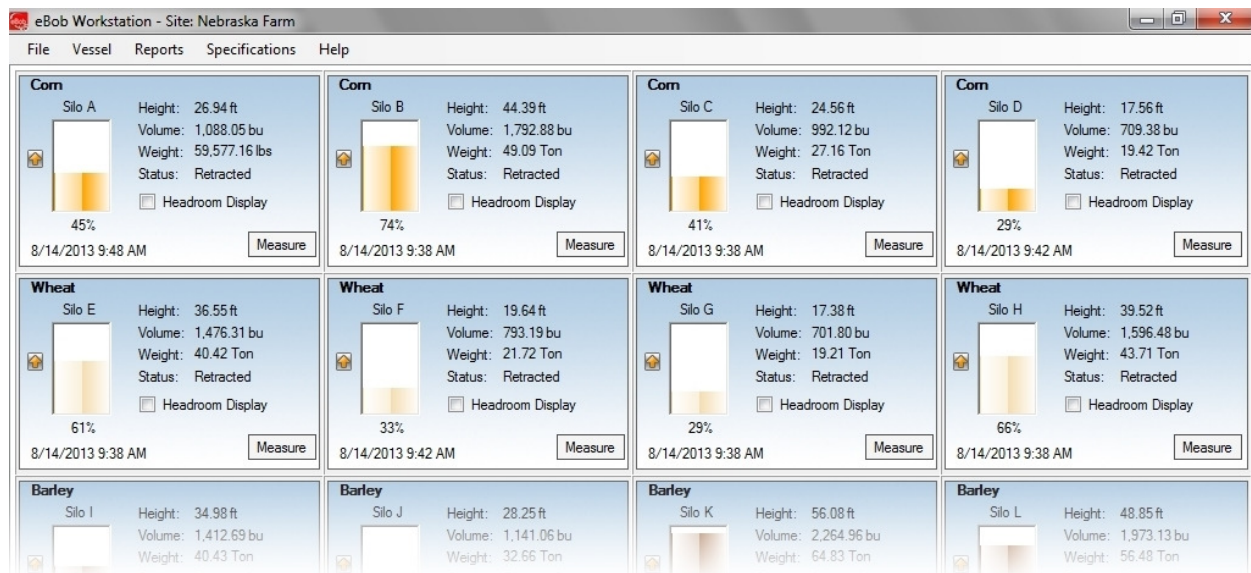


Figure 1

### 1.1 Terminology

Following is some terminology you should get familiar with before continuing with the manual:

**Site** – This refers to a location of up to 99 vessels and their SmartBobs, all being managed by a single PC running a set of eBob Engine and Scheduler services. A single farm or plant may consist of one or more sites. If a plant has 99 or less vessels and they are all located near each other, then they can be managed by a single set of eBob services (one site). If a single plant has two groups of vessels separated by a distance but there are network access points near each group, then they can be managed by two sets of eBob services (two sites). An eBob system can support any number of sites.

**SmartBob** – This may refer to a SmartBob, SmartBob-II or SmartBob-TS1 level sensor from BinMaster. In most cases, eBob works the same with each of these, so they are collectively referred to as a SmartBob.






SmartBob Serial Network – This refers to the communications channel between all of the SmartBobs at a site and the PC hosting that site. It usually consists of RS-485 cable (commonly called blue-hose), but may also consist of 900MHz radio modems or a combination of the two. The SmartBob serial network can also be transferred over an IP-based network using remote serial devices or serial device servers.

Remote Serial Devices – These devices allow you to extend the SmartBob serial network over an IP-based network, whether it's Ethernet or Wi-Fi. These may also be known as a serial device server, device server, serial server, serial-to-Ethernet adapter or serial-to-Wi-Fi adapter. eBob v5.2 is directly compatible with types that act as a TCP server.


## 2.0 Overview of eBob

A complete eBob system consists of three primary components. All three can exist on a single PC or they can be separated across a local area network (LAN) on multiple PC's.

1. Workstation – This provides the user interface for eBob, it is what you will use to view vessels,  product levels, configure the system and create reports. See Figure 1. It runs like most Windows programs, you double-click an icon on your desktop or click an icon in your Windows start menu and it opens a window for you to interface with, using a mouse and keyboard. There can be one or more Workstations in an eBob system. Refer to section **5.0 The Workstation** for details.
2. Engine and Scheduler Services – These are two separate services or programs that continuously  run in the background as long as the PC is booted, they are not visible like the Workstation. These services start to run as soon as the PC starts up and continue to run even if a user is not logged into Windows. These services handle communications with the sensors, manage measurement schedules and provide email delivery of level alerts, to name a few. Each site of vessels requires an installed and running set of Engine and Scheduler services and there can be any number of sites per eBob system.
3. SQL Server Database – The database is where all eBob configuration data and measurement  history gets stored and is hosted by a running instance of Microsoft's SQL Server 2005 Express. There is only one database needed for an eBob system and it can support virtually any number of sites, vessels and measurement records.

As a basic user of eBob you mostly need to understand the Workstation and how to use it. As an installer or administrator of an eBob system you should understand all the components and how they work together.

Another component of eBob that you may have to use at installation is the eBob Security Administrator.

 This small program is used to configure the connection to the SQL server database and setup site assignments to the Engine and Scheduler services. Refer to section **6.0 eBob Security Administrator** for details.

### 3.0 Minimum System Requirements

Following are the minimum requirements to install and run any component of eBob v5.2. eBob v5.2 cannot be guaranteed to perform or work properly if not installed on a Windows PC that meets these requirements.

- Microsoft Windows XP Professional SP2, Windows Vista Business Edition or Windows 7 Professional
- Microsoft .NET Framework 2.0<sup>1</sup>
- PC with 1 GHz Intel® Pentium® III-compatible processor<sup>2</sup>
- 512 MB of RAM for Windows XP, 1.5 GB for Windows Vista and Windows 7 (32-bit), 3 GB for Windows 7 (64-bit)
- 1 GB of available hard-disk space
- Video adapter and monitor with Super VGA (800 x 600)
- Mouse and keyboard
- CD/DVD drive (for software installation only)
- 1 RS-232 serial communications port
- RS-485 interface module and serial cable (BinMaster PN 730-0202)
- A network of one or more SmartBobs

Additional requirements that may be needed:

- If installing a networked eBob system, each PC must have an Ethernet or Wi-Fi connection to the same IP-based local area network (LAN).
- If needing to send email alerts, an Internet connection is required. Additionally, your internet service provider must provide an SMTP server.
- If a physical RS-232 port is not available on the PC but does have USB, then a USB-to-Serial adapter is required. This USB adapter may provide either an RS-232 or RS-485 interface.

<sup>1</sup> The eBob installation CD will detect the absence of Microsoft .NET Framework 2.0 and install it if needed.

<sup>2</sup> The processor must also meet the minimum requirements of your Windows operating system.

## 4.0 Installation

Before installing the software, it is important to understand the different types of eBob systems and the installations used to set them up.

### 4.1 System Types

There are two types of eBob systems that can be installed and setup: single stand-alone and networked.

A single stand-alone system is where all eBob components are installed on a single PC. It is the easiest type to install and configure, but can only support one site of up to 99 vessels.

A networked system is where the eBob components are installed on multiple PC's which reside on a private local area network (LAN). It is more complicated to install and configure, but can support virtually any number of sites and vessels. The network might all be contained within a single office building or it might be extended between office buildings through a virtual private network (VPN). The database could be installed on a server at a corporate office with one set of eBob services installed at one plant (site 1) and another set of eBob services installed at a second plant (site 2). Then, Workstations can be installed at numerous locations for workers and managers to monitor inventory at both sites 1 and 2.

### 4.2 Installation Setup Types

There are two installation or setup types available on the setup CD: Easy and Advanced. Easy installs all components and Advanced will prompt you to select which components to install.

If either of the following two statements is true, you can use the Easy setup. If not, you must use the Advanced setup.

- You are installing for a single stand-alone system
- You are installing for a networked system and the current installation or setup is going to host both the SQL database and a set of eBob services. Note that for all other installations in this networked system you will have to use Advanced setup.

### 4.3 Quick Installation and Setup

This section is for installing the eBob software and configuring vessels for a single stand-alone system using the Easy setup. If you need to install a networked eBob system, then go to section **4.4 Network Installation and Setup**.

1. Verify that the target PC meets the minimum system requirements listed earlier in this manual.
2. Login into Windows as an administrator. Installation of eBob will fail if you are not logged in as an administrator.



3. Insert the eBob v5.2 setup CD into the CD/DVD drive. If Windows AutoRun is disabled or eBob setup does not automatically start after inserting the setup CD, then use Windows Explorer and navigate to the CD/DVD drive. Locate and run setup.exe.
4. Follow the on-screen instructions and select the Easy option when prompted for the setup type. See Figure 2.

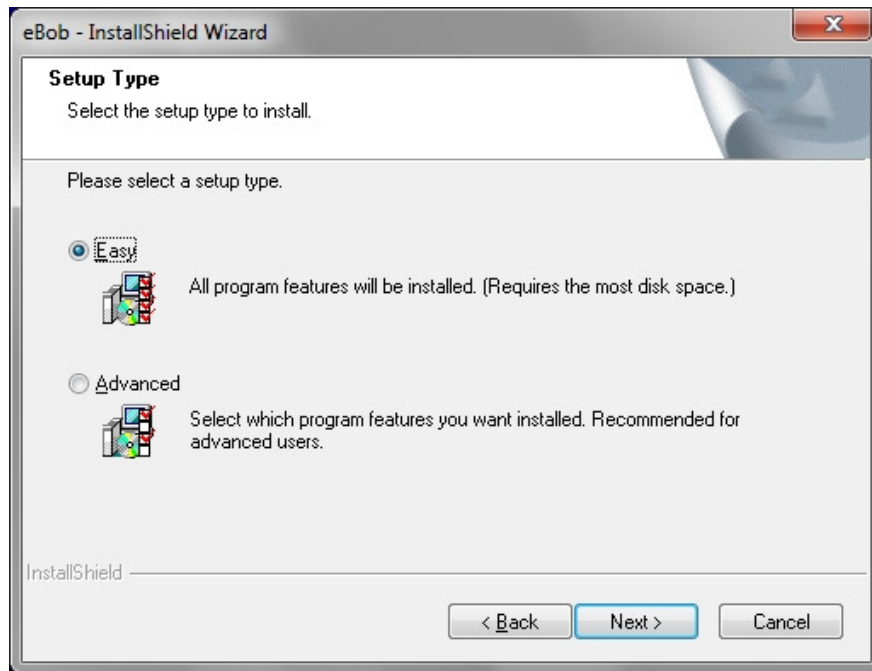


Figure 2

5. Once the installation is finished, double-click the eBob Workstation icon found on the desktop.
6. Verify the serial communications port is correctly set.
  - a. Click on Site Maintenance under the Specifications menu.
  - b. Double-click the default site named Current Location.
  - c. From within Site Setup, select the communications port that is going to be used for connection to the SmartBobs.
  - d. Click on Save to save the change and close Site Setup.
  - e. Click on Close in Site Maintenance.
7. Click on Vessel Maintenance in the Vessel menu.
8. From within Vessel Maintenance, click on Add New.
9. From within Vessel Setup, enter the parameters for your first vessel:
  - a. Under the Configuration tab, enter a name for the vessel.

- b. Select the vessel type: Circular, Rectangular or Custom. If using Custom, see section **5.4.6.2 Custom Tables** then advance to step e.
  - c. Enter the dimensions of the vessel body in the specified units. The default units are feet.
  - d. If the vessel has a hopper, enter its dimensions as well.
  - e. Enter the product name or contents of the vessel.
  - f. Select the units to use for product density and enter the density of the product.
  - g. Under the Sensor tab, check Enable and enter the SmartBob address in the Addr field.
  - h. Click Save to create the new vessel.
10. From within Vessel Maintenance, create additional vessels. If the next vessel is similar to the last one created, highlight it and click the Add New Using button. This will open up Vessel Setup with a copy of the selected vessel. You will need to change, at minimum, the vessel name and the address of the SmartBobs.
  11. When all vessels are created, close the Vessel Maintenance window. The Workstation will now update and display the vessels created, each in its own panel or control window.
  12. If your SmartBobs are installed, powered and connected to the PC's serial port, click the Measure button on a vessel to confirm.
  13. For more setup and configuration, such as level alerts or measurement schedules, go to section **5.4 Configuration, Setup and Features**.

## **4.4 Network Installation and Setup**

This section is a guide for installing the eBob software on a network and configuring for multiple sites of vessels.

### **4.4.1 Step 1 – Preparation for Network Installation**

The first step with a network installation is planning and preparation. Determine which PC's are going to be used in the system. Each PC used will need to have network access and each PC hosting a site will need to have an available serial port and be located relatively close to the vessels. Make a list of the PC's and include with each, the computer name or its static IP address, the type of installation (see list below), the COM port (if hosting a site of vessels) and the administrator's username and password.

There are four types of installations that you may have to perform to setup a networked system:

1. Database – This is when you will install the SQL database and the Workstation to a single PC or server. Typically, this type of installation is on a server. There can only be one database per eBob system.

2. Database with Site – This is when you will install everything (SQL database, Engine/Scheduler services and Workstation) to a single PC. There can only be one database per eBob system.
3. Site – This will install the Engine/Scheduler services and the Workstation. There should only be one of these installed for each site of vessels, but you can have any number of sites per networked eBob system.
4. Remote Workstation – This will install only the Workstation and there can be any number of these installed across the network.

#### **4.4.2 Step 2 – Database Installation**

The first software installation should be on the PC or server that is hosting the SQL database.

1. Follow the steps in section **4.4.5 Software Installation using Advanced Setup** to perform either a Database installation or a Database with Site installation.
2. Follow the steps in section **4.4.6 Configuring SQL Server for Remote Connections**.
3. If this installation is a Database with Site and Windows Firewall is enabled, then follow the steps in either section **4.4.7.1 Windows XP Firewall Exceptions** or **4.4.7.3 Windows 7 Firewall Rules**.

#### **4.4.3 Step 3 – eBob Setup**

1. Using eBob Workstation on the PC hosting the database, setup all required sites for your system. Refer to section **5.4.2 Site Maintenance and Setup** for details.
2. Optionally, at this time, you can switch between each site and setup all required vessels for each site. Refer to section **5.4.6 Vessel Maintenance and Setup** for details. If not done now, you can do this in Step 4 – Site Installation.

#### **4.4.4 Step 4 – Site Installation**

Perform the following on each PC that is going to host a site:

1. Follow the steps in section **4.4.5 Software Installation using Advanced Setup** to perform a Site installation.
2. Follow the steps in section **6.0 eBob Security Administrator** to create a connection to the database and properly set the site assignments.
3. If Windows Firewall is enabled, then follow the steps in either section **4.4.7.1 Windows XP Firewall Exceptions** or **4.4.7.3 Windows 7 Firewall Rules**.

4. If vessels were not previously setup in Step 3 – eBob Setup, then open up eBob Workstation and setup the required vessels for this site. Refer to section **5.4.6 Vessel Maintenance and Setup** for details.

#### 4.4.5 Software Installation using Advanced Setup

Follow these steps for installing the eBob software using the Advanced Setup:

1. Verify that the target PC meets the minimum system requirements listed earlier in this manual.
2. Login into Windows as an administrator. Installation of eBob 5 will fail if you are not logged in as an administrator.
3. Insert the eBob v5.2 setup CD into the CD/DVD drive. If Windows AutoRun is disabled or eBob setup does not automatically start after inserting the setup CD, then use Windows Explorer and navigate to the CD/DVD drive. Locate and run setup.exe.
4. Follow the on-screen instructions and select the Advanced option when prompted for the setup type, as shown in Figure 3.

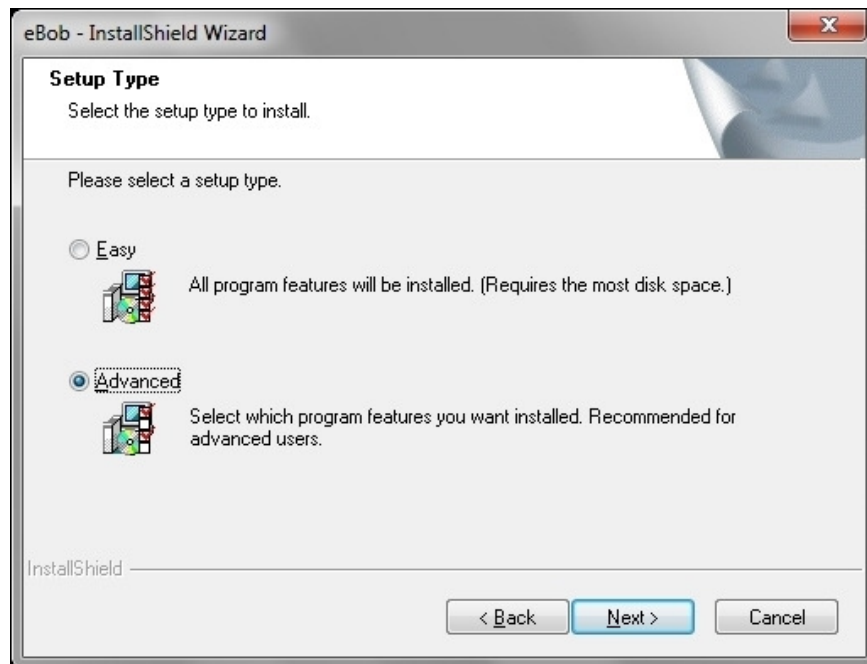


Figure 3

5. When prompted to choose the destination location, it is recommended to leave it set at the default.
6. The next screen will prompt you to select the features or eBob components to install. Be sure that the Application is always checked.
  - a. If this installation is for a Database, check Application and SQL Database as shown in Figure 4.

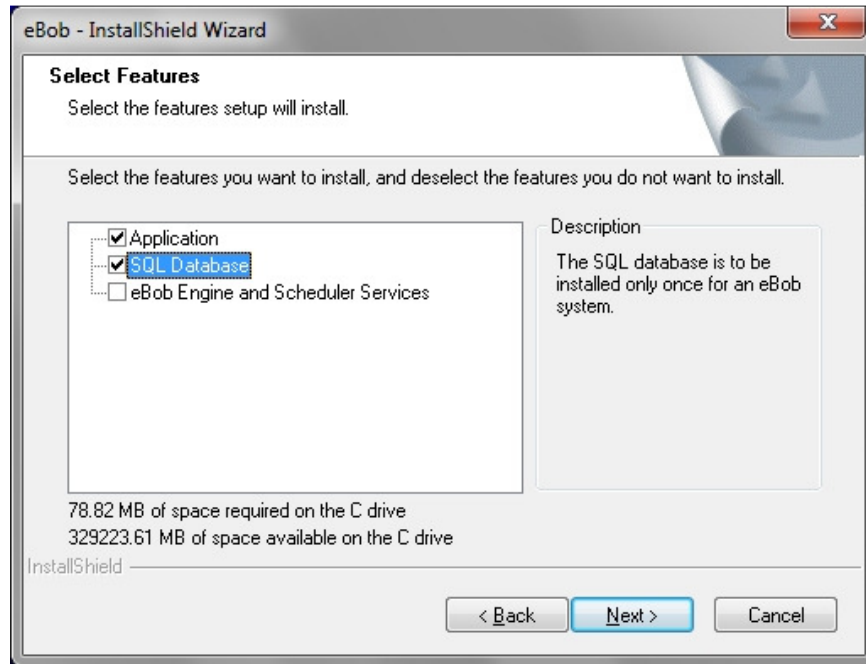


Figure 4

- b. If this installation is for a Database with Site, check all features as shown in Figure 5.

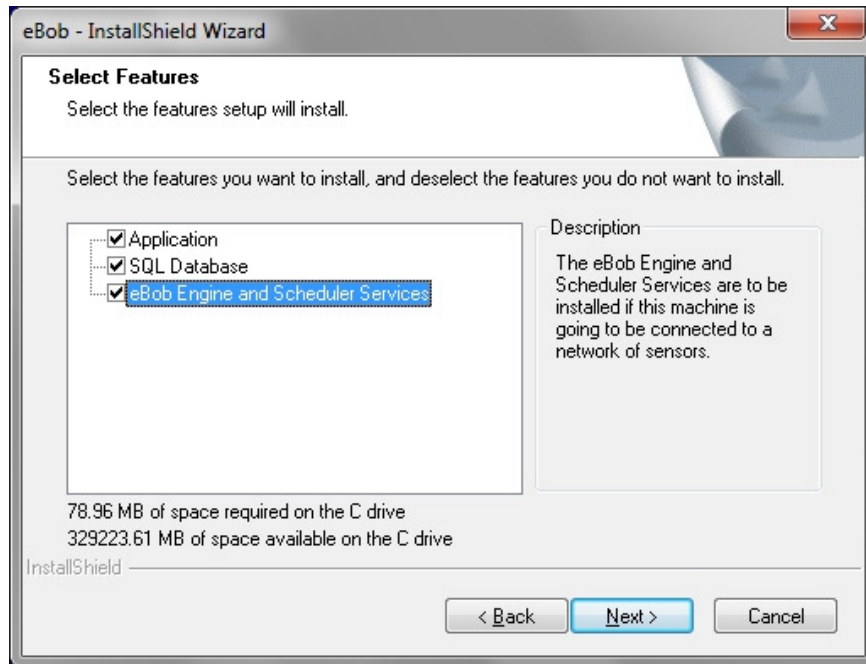


Figure 5

- c. If this installation is for a Site, check Application and also eBob Engine and Scheduler Services as shown in Figure 6.

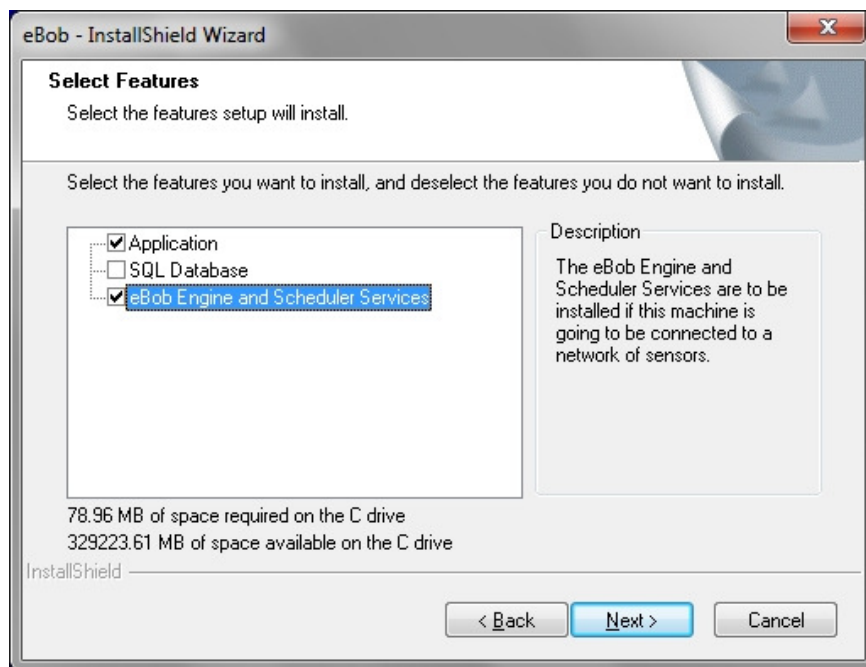


Figure 6

- d. If this installation is for a Remote Workstation, check only the Application as shown in Figure 7.

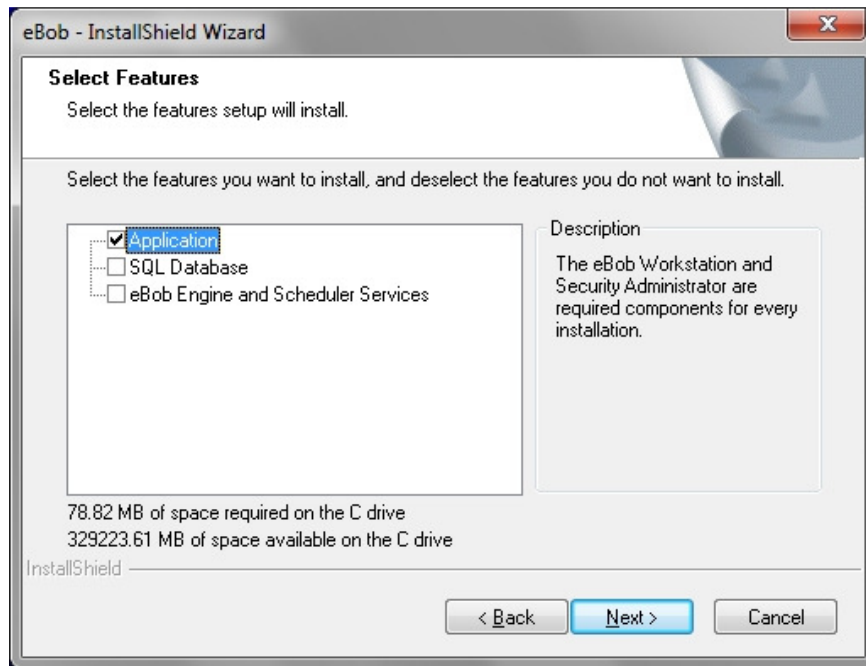


Figure 7

7. Wait for the software installation to complete and click Finish when prompted.

#### 4.4.6 Configure SQL Server for Remote Connections

When installing eBob on a network, you will have to configure SQL server to allow for remote connections. When instructed in section **4.4 Network Installation and Setup**, follow these steps to configure SQL server to allow for remote connections:

1. Log on, as an administrator, to the Windows PC that is hosting the SQL database.
2. Go to the Windows start menu, under Programs click on Microsoft SQL Server 2005, then Configuration Tools and finally SQL Server Surface Area Configuration.

3. From within SQL Server Surface Area Configuration, click on Surface Area Configuration for Services and Connections. Refer to Figure 8.

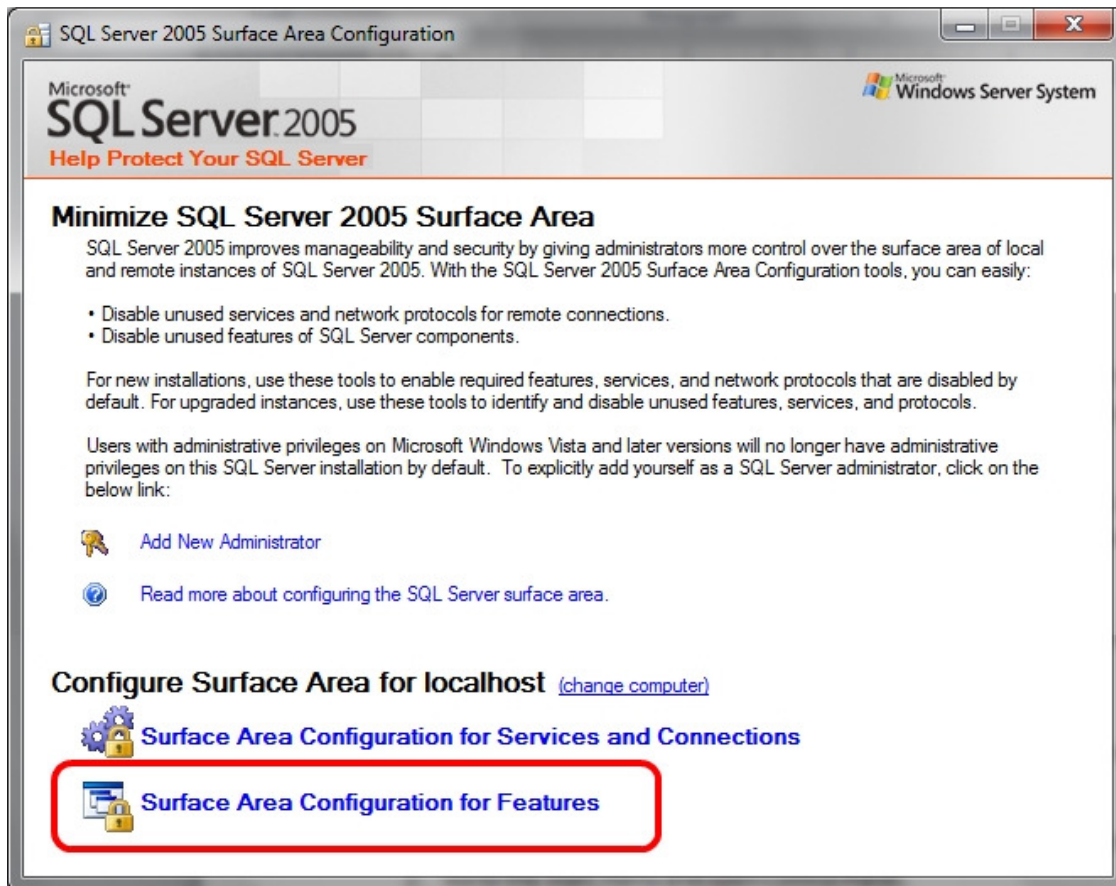


Figure 8

4. In the left pane, click on Remote Connections under the EBOB server instance. Refer to Figure 9.
5. Select “Remote and local connections” and then “Using both TCP/IP and named pipes”
6. Click the OK button to save.
7. Close the SQL Server Surface Area Configuration.



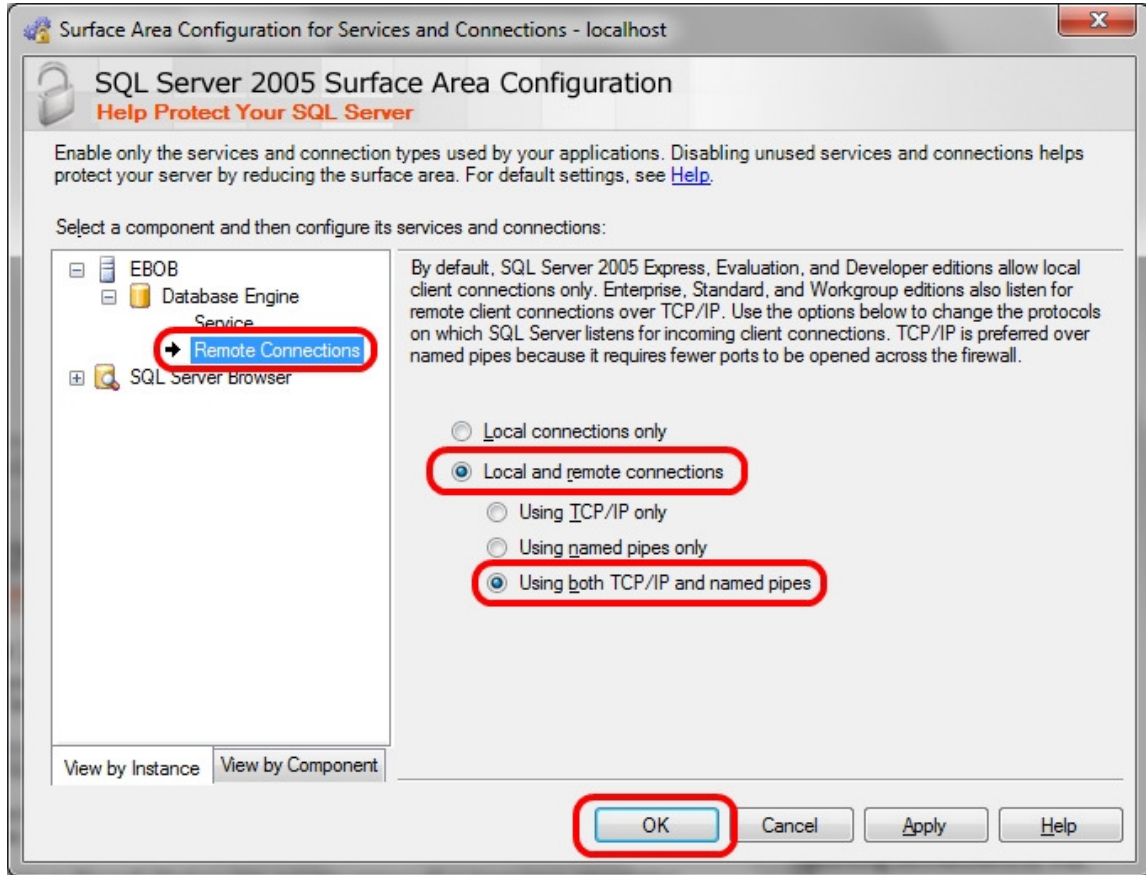


Figure 9

#### 4.4.7 Windows Firewall Configuration

When installing eBob on a network, you may have to configure Windows Firewall on the PC's hosting the SQL server and eBob services. When instructed in section **4.4 Network Installation and Setup**, follow one of the four following sections to create a Windows firewall exception or rule.

##### 4.4.7.1 Windows XP Firewall Exceptions for SQL Server

Follow these steps to create firewall exceptions on Windows XP to allow incoming connections to SQL Server (EBOB) and SQL Server Browser:

1. Log on, as an administrator, to the Windows XP PC that is hosting the eBob SQL database.
2. Go to the Start menu and open Control Panel.
3. Click on Windows Firewall and select the Exceptions tab.
4. Click the Add Program button.
5. Click the Browse button, locate "sqlservr.exe" that corresponds with the EBOB server instance and click Open. The path may be as follows:  
 "C:\Program Files\Microsoft SQL Server\MSSQL.x\MSSQL\Binn\sqlservr.exe".

6. Optionally, click on the Change Scope button and adjust as needed. Normally, eBob systems are limited to a single network; so, selecting “My Network (subnet) Only” would be preferred.
7. Click Ok to accept and add the exception to the list.

...continue by creating an exception to allow incoming connections to SQL Server Browser:

8. On the Exceptions tab, click the Add Port button.
9. Set the name to “SQL Server Browser”.
10. Enter 1434 for the port number and select UDP.
11. Optionally, click on the Change Scope button and adjust as needed. Normally, eBob systems are limited to a single network; so, selecting My Network (subnet) Only would be preferred.
12. Click Ok to accept and add the exception to the list.
13. Click Ok to accept changes and close Windows Firewall.

#### **4.4.7.2 Windows XP Firewall Exception for eBob Engine Service**

Follow these steps to create a firewall exception on Windows XP to allow incoming connections to the eBob Engine service:

1. Log on, as an administrator, to the Windows XP PC that is hosting the eBob Engine service.
2. Go to the Start menu and open the Control Panel.
3. Click on Windows Firewall and select the Exceptions tab.
4. Click on the Add Port button.
5. Set the name to “eBob Engine Service”.
6. Enter 8093 for the port number and select TCP.
7. Optionally, click on the Change Scope button and adjust as needed. Normally, eBob systems are limited to a single network; so, selecting “My Network (subnet) Only” would be preferred.
8. Click Ok to accept and add the exception to the list.
9. Click Ok to accept changes and close Windows Firewall.

#### **4.4.7.3 Windows 7 Firewall Rules for SQL Server**

Follow these steps to create firewall rules on Windows 7 to allow incoming connections to SQL Server (EBOB) and SQL Server Browser:

1. Log on, as an administrator, to the Windows 7 PC that is hosting the eBob SQL database.
2. Go to the Start menu and open Control Panel.
3. Click on Windows Firewall.
4. In the pane on the left, click on Advanced settings.
5. In the pane on the left, click on Inbound Rules.
6. In the pane on the right, under Actions, click on New Rule...
7. Select Program and click Next.

8. Select "This program path", browse to "sqlservr.exe" that corresponds with the EBOB server instance and click Next. The path *may* be as follows:  
"C:\Program Files (x86)\Microsoft SQL Server\MSSQL.x\MSSQL\Binn\sqlservr.exe".
9. Select "Allow the connection" and click Next.
10. Select Domain, Private and/or Public as needed and click Next. Normally, eBob systems are limited to a single network; so, selecting Domain or Private would be preferred.
11. Set the name to "SQL Server (EBOB)" and click Finish.

...continue by creating a firewall rule to allow incoming connections to SQL Server Browser:

12. In the right pane (under Actions), click on New Rule...
13. Select Port and click Next.
14. Select UDP, set Specific local ports to 1434 and click Next.
15. Select "Allow the connection" and click Next.
16. Select Domain, Private and/or Public as needed and click Next.
17. Set the name to "SQL Server Browser" and click Finish.

#### **4.4.7.4 Windows 7 Firewall Rule for eBob Engine Service**


Follow these steps to create a firewall rule on Windows 7 to allow incoming connections to the eBob Engine service:

1. Log on, as an administrator, to the Windows 7 PC that is hosting the eBob Engine service.
2. Go to the Start menu and open the Control Panel.
3. Click on Windows Firewall.
4. In the pane on the left, click on Advanced settings.
5. In the pane on the left, click on Inbound Rules.
6. In the pane on the right, under Actions, click on New Rule...
7. Select Port and click Next.
8. Select TCP, set Specific local ports to 8093 and click Next.
9. Select "Allow the connection" and click Next.
10. Select Domain, Private and/or Public as needed and click Next.
11. Set the name to "eBob Engine Service" and click Finish.



## 5.0 The Workstation

This section is intended to help you get familiar with the eBob Workstation and where to go to configure or access something.

You open the Workstation by clicking on eBob Workstation under eBob in the Windows start menu or by  double-clicking the eBob Workstation icon found on your desktop. When you first open the Workstation, it will mostly be blank because no vessels have been configured, but if you look at Figure 10 below, you will see all the components of the main screen. At the top of the application is the title bar and it will indicate the site currently assigned to the Workstation. In this case, the assigned site is Nebraska Farm. Below the title bar is a menu bar, which is detailed later in this section. Below the title bar and consuming the majority of the screen is a table of vessels, all located at site Nebraska Farm and managed by its set of eBob services. On the left and below the table of vessels is a row of tabs for viewing additional pages of vessels.

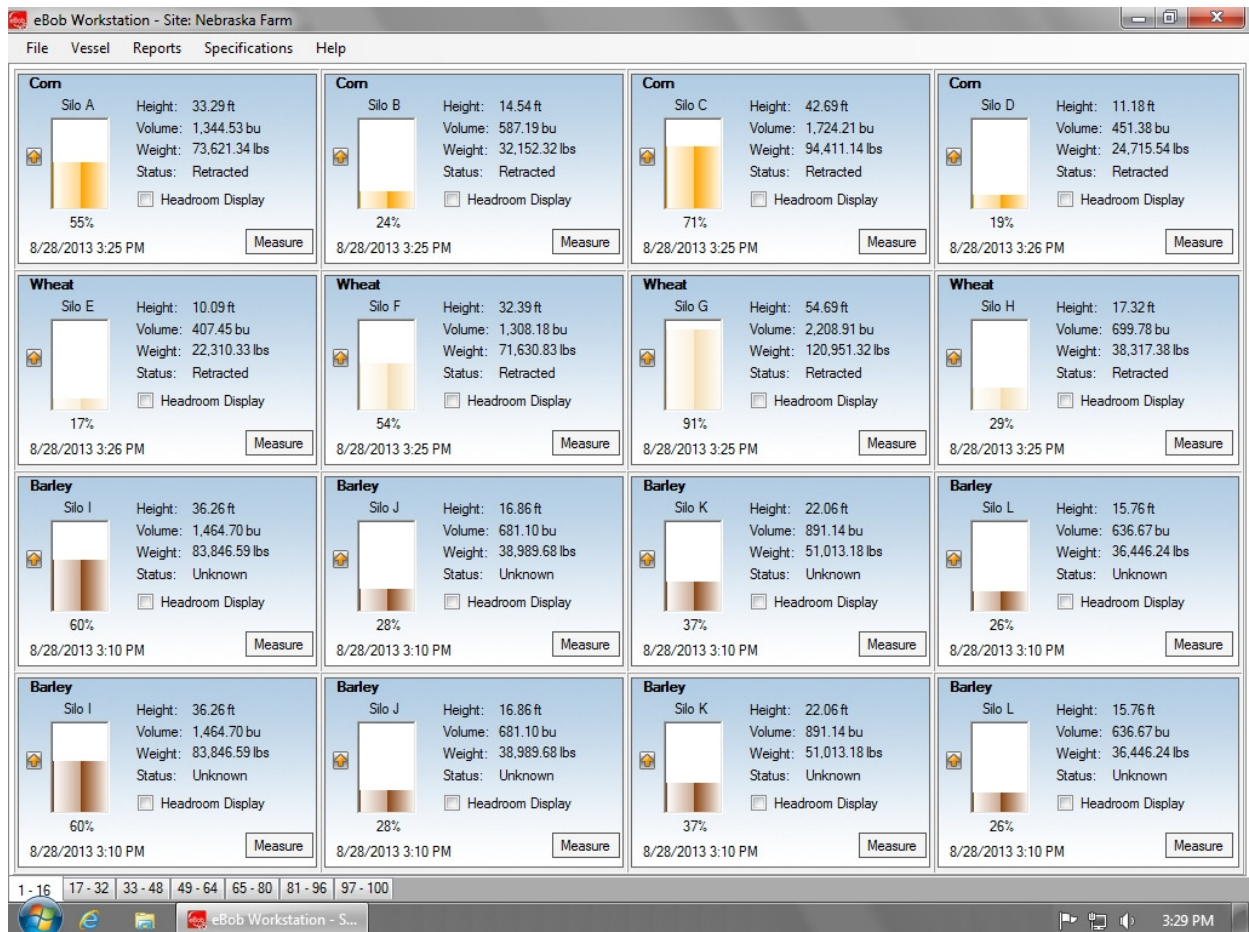


Figure 10

The Workstation supports connection to one site at a time, so you can have up to 99 vessels available for viewing or for control at any time. To switch to a different site, select Workstation Site Assignment under Specifications. A window with a menu will appear and list the available sites, select a different

site and click Assign. The Workstation will restart and you will be connected to and viewing vessels at that site.

## **5.1 Navigating the Menu System**

This section is only to help you get familiar with the menu system, for details on how to use the features found in the menu system go to **5.4 Configuration, Setup and Features**.

The menu bar consists of five menus: File, Vessel, Reports, Specifications and Help. They are available to all eBob users, except the Specifications menu. This menu and a few items under the File menu are only available if you are logged into eBob as an Administrator User.

### **5.1.1 File Menu**

**Login** – Select this to login to the Workstation if it is configured to require logging in. This menu item will only be available if you are logged out.

**Logoff** – Select this to logoff or out of the Workstation. This menu item will only be available if you are logged in.

**Change Password** – Select this to change your Workstation login password. This menu item will only be available if the Workstation is configured to require login and you are currently logged in.

**User Maintenance** – Select this to access the user maintenance window where you can add, delete or edit users for access to the Workstation. This menu item will only be available if you are logged in as an Administrator User.

**System Export** – Select this to export the system from the database to a compressed data file. This menu item will only be available if you are logged in as an Administrator User.

**System Import** – Select this to import an eBob system from a compressed data file. This menu item will only be available if you are logged in as an Administrator User.

**Exit** – Select this to logoff and exit the Workstation.

### **5.1.2 Vessel Menu**

**Vessel Maintenance** – Select this to access the vessel maintenance window where you can add, delete, edit or review vessels and their configuration. This menu item will be available to all users, but you must be logged in as a System User or Administrator User to add, delete or edit vessels.

**Vessel Group Maintenance** – Select this to access the vessel group maintenance window where you can add, delete, edit or review vessels and their configuration. This menu item will be available to all users, but you must be logged in as a System User or Administrator User to add, delete or edit groups.

**Schedule Maintenance** – Select this to access the scheduler maintenance window where you can add, delete, edit or review measurement schedules. This menu item will be available to all users, but you

must be logged in as a System User or Administrator User to add, delete or edit measurement schedules.

Temporary Group Setup – Select this to access a window where you can temporarily show or hide vessels from the main screen and re-order them. This menu item is available to all users.

Measure All Vessels – Select this to initiate a measurement with all vessels that are currently available on the main screen. If you have a temporary group set up that hides some vessels, these hidden vessels will NOT be included. This menu item is available to all users.

### **5.1.3 Reports Menu**

Print Reports – Select this to view and print reports or export data.

Email Reports – Select this to access a menu of reports that can be scheduled to be sent via email. There is one option available, called Site Status report.

### **5.1.4 Specifications Menu**

The entire Specifications menu is only available if you are logged in as an Administrator User.

Workstation Site Assignment – Select this to access a menu of previously configured sites for re-assigning the Workstation to a different site.

Contact Maintenance – Select this to access the contact maintenance window where you can add, delete or edit contacts for receiving emails.

Site Maintenance – Select this to access the site maintenance window where you can add, delete or edit vessel sites.

Remote Serial Device Maintenance – Select this to access a maintenance window where you can add, delete or edit remote serial devices.

Email Setup – Select this to setup an SMTP email server and provide support for sending emails.

System Setup – Select this for a few system-wide settings and to setup information about the organization that owns and manages the eBob system.



### 5.1.5 Help Menu

eBob Help – Select this to access the eBob operator’s manual in Acrobat PDF format. This requires that you have Adobe Reader or Acrobat installed on the PC.

About eBob – Select this to access eBob version and copyright information.

### 5.2 Vessel Control and Tabs

Each vessel that is setup in the system is represented by a vessel control or panel found on the main screen of the Workstation. This vessel panel provides a multitude of information and control for each vessel and its sensors. See Figure 11 for everything that is available. Some of the key things to note are the name of the vessel, name or description of the vessel contents, product and headroom levels as height, volume and weight, visual indication of the vessel level and a button to take a new measurement.

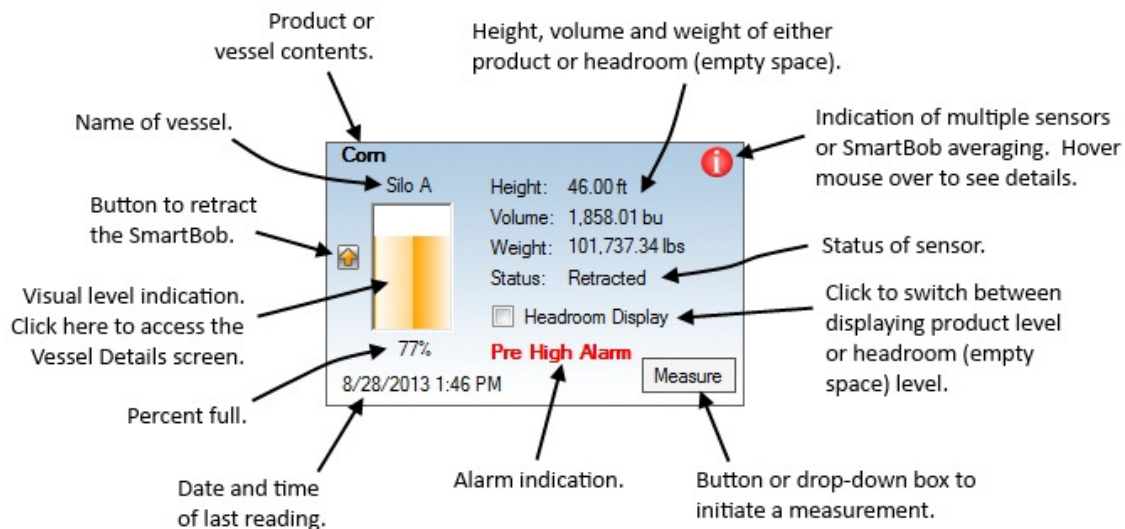


Figure 11

By default, the Headroom Display checkbox is un-checked and the product level for Height, Volume and Weight are being displayed. When the Headroom Display checkbox is checked, the empty space or available storage space is being displayed for Height, Volume and Weight.

The status field in the vessel control generally refers to the sensor mounted on the vessel, but can also indicate something else. Following is a list of the more common results for this field and their meaning:

1. Unknown – The status of the sensor is not known. The SmartBob has not taken a measurement since the last time the PC was rebooted or the eBob Engine was restarted.
2. Pending – A measurement has been requested and status of the measurement request has not yet been determined.

3. Descending – The SmartBob is performing a measurement and is currently dropping its bob.
4. Retracting – The SmartBob is performing a measurement and is currently raising its bob.
5. Retracted – The SmartBobs last measurement attempt was successful, it is currently idle and ready to take another measurement.
6. Bob In Override – The SmartBobs last measurement attempt was ignored due to its override input being active or open circuit. Refer to the SmartBob operator’s manual for more details.
7. Communications Error – The last measurement attempt has failed due to eBob not receiving the proper communications response from the SmartBob. This is usually due to RS-485 wiring, but can be related to software setup or hardware configuration.
8. Bob Stuck Top – The last measurement attempt has failed due to the SmartBob failing to drop its bob. This may be due to a very full vessel, but can also be due to a mechanical failure in the SmartBob.
9. Bob Stuck Bottom – The last measurement attempt has failed due to the SmartBob failing to completely retract its bob. This could be due to the bob getting buried in product, but can also be due to a mechanical failure in the SmartBob.
10. Database Read Only – The Workstation is connected to the database and showing existing data, but it cannot be used to initiate measurements. This may mean that the eBob Engine service for the currently assigned site is not running or, if this is a remote Workstation, then the IP address to the Engine service host is not properly set in Site Setup.
11. Error – One or more errors has occurred. More details are provided by hovering your mouse pointer over the Error message or by looking in Vessel Details.





### 5.3 Vessel Details

When you click on the visual level indication in a vessel control (panel), you gain access to the Vessel Details screen. This screen provides additional information not available in the vessel control on the main screen. There are two tabs of information available, the Vessel tab and the Sensor tab. The Vessel tab, as shown in Figure 12, provides additional information about the vessel, the vessel contents, product level, alarm settings and time of next measurement.

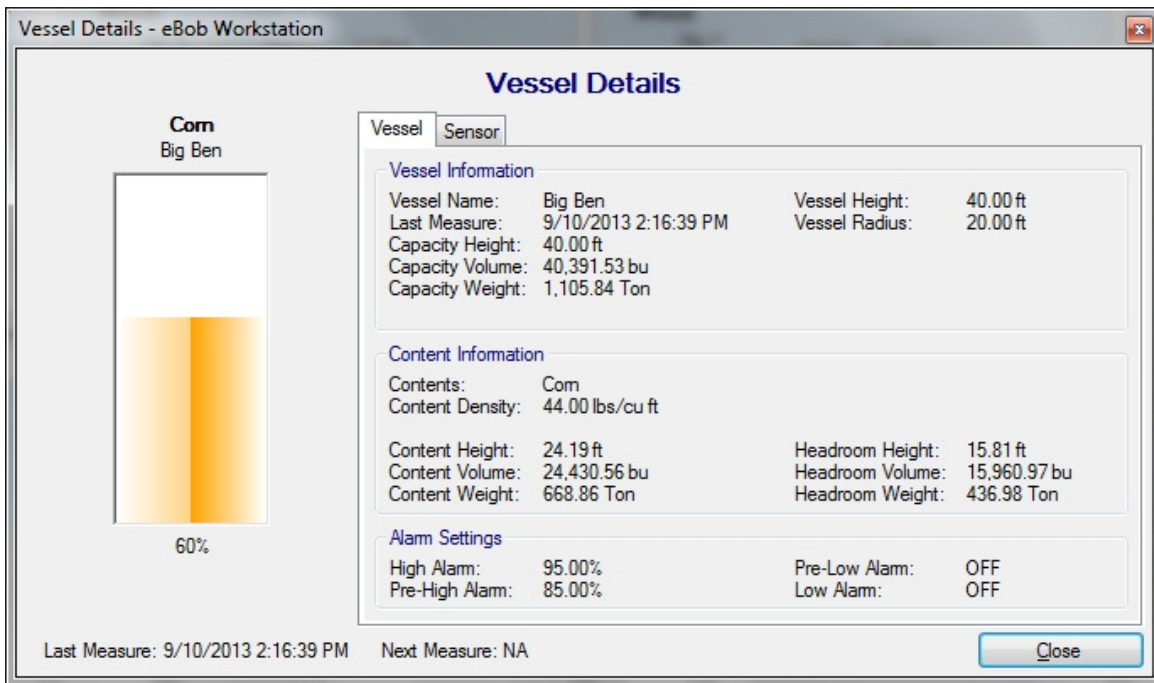


Figure 12

The sensor tab, as shown in Figure 13, provides additional information about the sensors mounted on the vessel. This information is presented in a table with each column being identified and each row representing a sensor or SmartBob. The following is provided for each sensor or SmartBob: its address, its label or name, its status, the headroom or product level at its measuring point and its relative weight used in the averaging function. Although most vessels will only have one SmartBob, the example shown in Figure 13 is using SmartBob averaging with five SmartBobs mounted on the vessel. Four of the SmartBobs are positioned and weighted for an accurate level measurement. The fifth, labeled Center, is not used in the averaging (0% relative weight) and is only to help identify if the surface of the product is cone-up or cone-down. As seen here, with the product level at Center being higher than the other sensors, the surface of the product is cone-up.

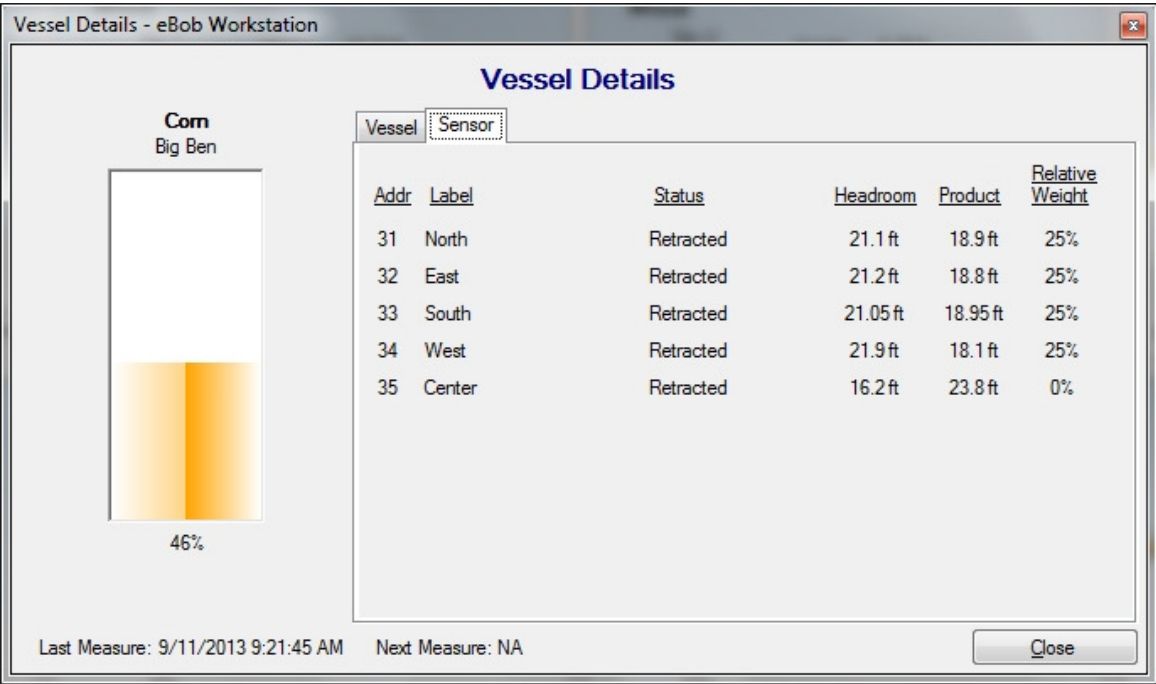
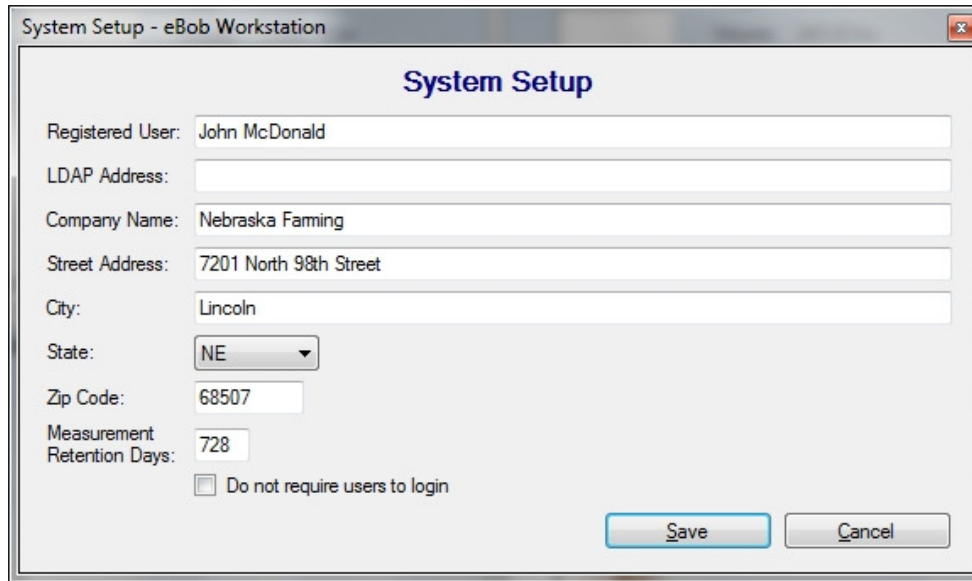


Figure 13

## 5.4 Configuration, Setup and Features

### 5.4.1 System Setup

System Setup under the Specifications menu offers two important system-wide settings and fields for entering optional information about the registered user of eBob. Refer to Figure 14. After making any changes to this screen, click the Save button.



The screenshot shows a window titled "System Setup - eBob Workstation". Inside the window, the title "System Setup" is centered at the top. Below the title, there are several input fields and a checkbox. The fields are: "Registered User" with the value "John McDonald", "LDAP Address" (empty), "Company Name" with "Nebraska Farming", "Street Address" with "7201 North 98th Street", "City" with "Lincoln", "State" with a dropdown menu showing "NE", "Zip Code" with "68507", and "Measurement Retention Days" with "728". Below these fields is a checkbox labeled "Do not require users to login" which is currently unchecked. At the bottom right of the window, there are two buttons: "Save" and "Cancel".

Figure 14

**Measurement Retention Days** – This defines how long measurement data is maintained in the database. Once measurement records reach this age (in days) they will be permanently deleted. The default value is 60 days or about 2 months.

**Do not require users to login** – This setting controls whether users must login to use eBob Workstation or if anyone with access to the Windows PC can use eBob Workstation. The default is checked. It is recommended that after a new system is installed and setup that this setting get un-checked and users get setup with the appropriate login and privileges. Be aware that with this checked, anyone with access to this PC has administrative privileges to the eBob system.

## 5.4.2 Site Maintenance and Setup

Site Maintenance under the Specifications menu is where you add, edit and delete sites. If you are setting up a networked eBob system, adding new sites to the system is one of the first things you will need to do. A default site, named Current Location, is included in the system for you at installation. This site can be modified to be one of your sites or you can delete it after setting up the sites you need.

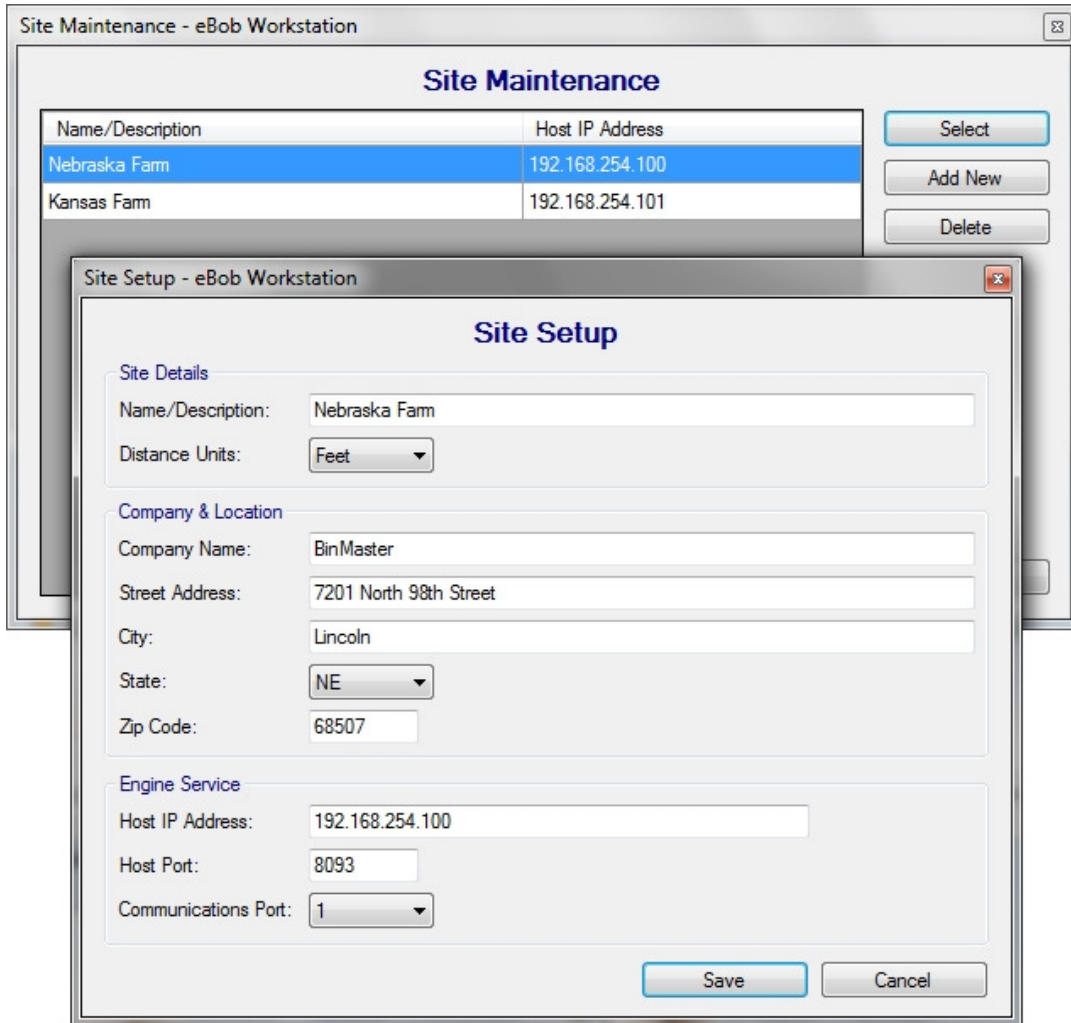


Figure 15

To define and add a new site to the system, click the Add New button from within the Site Maintenance screen. This will open the Site Setup screen with blank/default fields for you to define a new site. After entering information for this site, click the Save button. Refer to Figure 15 for an example.

Name/Description – This is required and should be unique and descriptive.

Distance Units – The default is feet and can be changed to meters. These units are used for vessel dimensions and sensor settings in Vessel Setup.

Company & Location – These fields are optional, but recommended if you have multiple sites.

Host IP Address – This identifies the host PC serving the Engine and Scheduler services for this site. The default value of 127.0.0.1 is only valid for a single stand-alone system; this must be properly set for a networked installation.

Host Port – The default value is 8093 and generally should not be changed.

Communications Port – This identifies the local serial port on the PC hosting the Engine service, for connecting to the SmartBob serial network.

To edit or modify an existing site, highlight it from within the Site Maintenance screen and click the Select button. This will open the Site Setup screen populated with this sites information. Make any necessary changes and click the Save button. Refer to Figure 15 for an example. If you modify the Communications Port for a remote site (different PC), the PC hosting that site must be rebooted. If you modify the Communications Port for the local site, the Workstation will automatically reconnect for you.

To delete an existing site, highlight it from within the Site Maintenance screen and then click the Delete button. You will be prompted to confirm the deletion of the site. You cannot delete a site that has vessels configured for it. You also cannot delete a site if currently connected to it (assigned to the Workstation).



### 5.4.3 Email Setup

Email Setup under the Specifications menu is where you setup eBob to support the sending of emails. At minimum, you will need to provide the domain or server name to your networks SMTP server. Talk to your IT department or Internet service provider for this information. See Figure 16 for a typical setup.

The screenshot shows a dialog box titled "Email Setup - eBob Workstation". The main heading is "Email Setup". It is divided into three sections:

- SMTP Server Authentication Parameters:** Includes a checkbox for "Use SMTP Authentication" (unchecked), a "Server Name" field with "smtp.serviceprovider.net", "User ID", "Password", "Verify Password" fields, and an "SMTP Port #" field with "25".
- Email Addresses:** Includes an "Administrator" field with "admin@ebob.com" and a "Default From" field with "messenger@ebob.com".
- Message Subject Line:** Includes "Administrative" (Administrative Alert), "Measurement" (Measurement Alert), and "Alarm" (Vessel Alarm) fields.

At the bottom, there is an "Email Append" text area and "Save" and "Cancel" buttons.

Figure 16

Some SMTP servers require authentication, if this is the case, you will need to check Use SMTP Authentication and enter credentials into the fields for User ID, Password and Verify Password. Again, your IT department or Internet service provider should be able to provide you with this information.

It is recommended to use the default return email addresses and to change the message subject lines to those shown in Figure 16. If needed, you can add a trailer or message to be appended to the end of every email.

#### 5.4.4 Email Contacts

Contact Maintenance under the Specifications menu is where you add, edit or delete contacts for receiving emails. These contacts will only receive emails after they have been assigned to an Email Notification under Vessel Setup or to a Site Status Report. Refer to section **5.4.6.8 Email Notifications** for more information on vessel email notifications and section **5.4.13 Site Status Report** for more information on receiving site status reports.

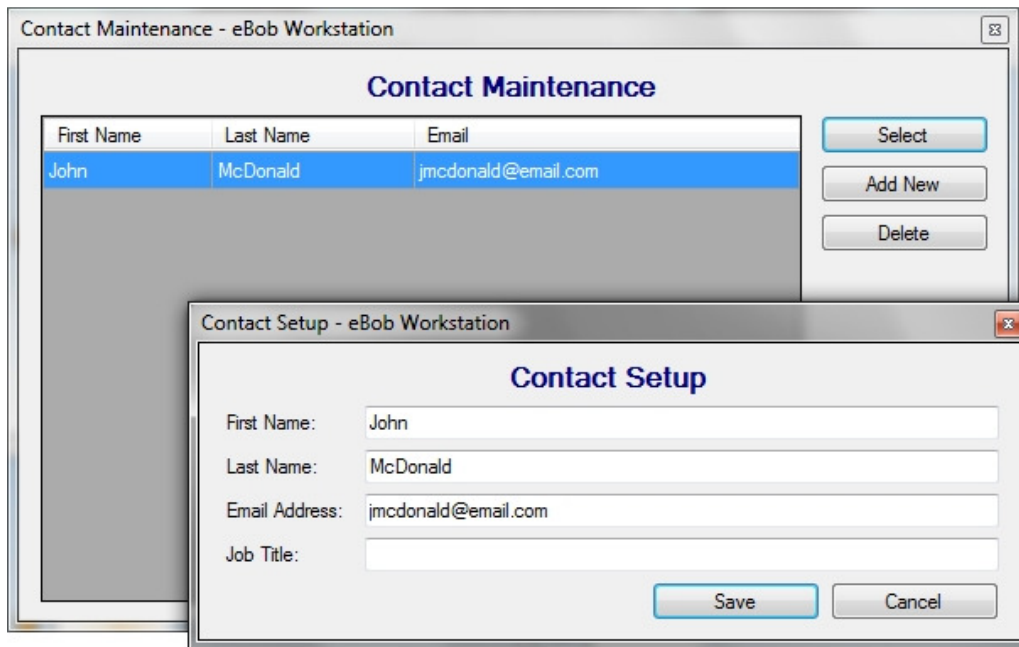


Figure 17

To create a new contact, click the Add New button from within the Contact Maintenance screen. This will open the Contact Setup screen with blank/default fields for you to define a new contact. The email address is required and the first and last names are recommended. After entering the contacts information, click the Save button. Refer to Figure 17 for an example.

To edit or modify an existing contact, highlight it from within the Contact Maintenance screen and click the Select button. This will open the Contact Setup screen populated with this contacts information. Make any necessary changes and click the Save button. Refer to Figure 17 for an example.

To delete an existing contact, highlight it from within the Contact Maintenance screen and then click the Delete button. You will be prompted to confirm the deletion of the contact.

#### 5.4.5 Remote Serial Device Maintenance and Setup

Remote Serial Device Maintenance under the Specifications menu is where you add, edit, delete and verify access to remote serial devices in the currently assigned site. These devices are used to extend the range of the SmartBob serial network over an IP-based local area network. eBob v5.2 is directly compatible with devices that act as a TCP server.

To define and add a new remote serial device, click the Add New button. This will open the New Serial Device Type screen. From here, select a serial device from the drop down list and click Create. See Figure 18. If the device you want to use is NOT available in the drop down list, select (custom).

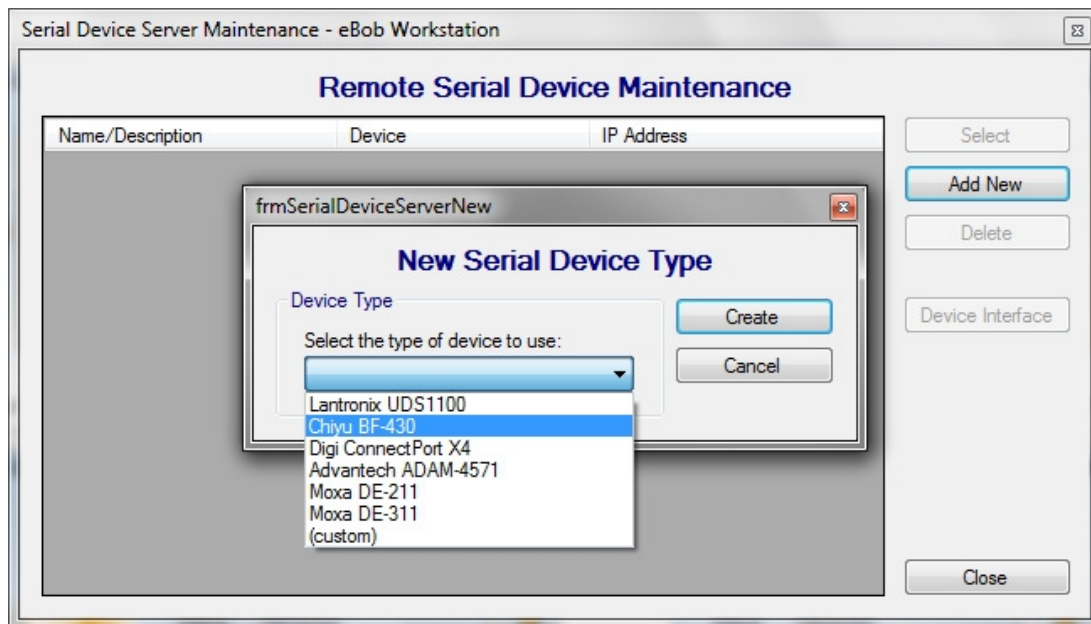


Figure 18

After clicking Create, the Remote Serial Device Setup screen will appear where you will need to enter a name or description for this device, the static IP address and confirm the port number used by the device. See Figure 19. After entering the information for this remote serial device, click the Save button.

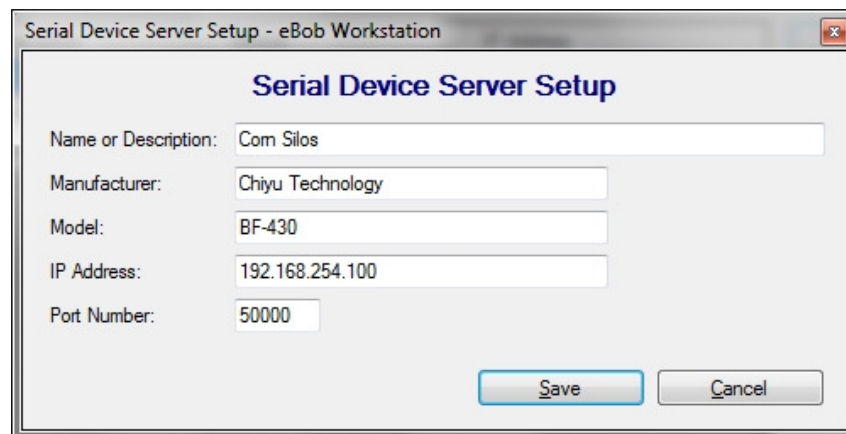


Figure 19

To edit or modify an existing serial device, highlight it from within the Remote Serial Device Maintenance screen and click the Select button. This will open the Remote Serial Device Setup screen populated with this serial devices information. Make any necessary changes and click the Save button.



To delete an existing serial device, highlight it from within the Remote Serial Device Maintenance screen and then click the Delete button. You will be prompted to confirm the deletion of the serial device. If this serial device is assigned to a vessel, you will not be able to delete it. You must first un-assign the serial device from the vessel then delete it.

To verify and/or test the connection to a remote serial device, highlight it from within the Remote Serial Device Maintenance screen and then click the Device Interface button. If the device has an embedded web interface, then your default web browser should open up and display the home page to the devices embedded web interface.

#### **5.4.6 Vessel Maintenance and Setup**

Vessel Maintenance under the Vessel menu is where you add, copy, edit or delete vessels in the currently assigned site.

To create a new vessel, click the Add New button from within the Vessel Maintenance screen. This will open a blank Vessel Setup screen for you to define a new vessel. There are five tabs or pages of settings in Vessel Setup: Configuration, Sensor, Serial Device, Display, Alarms and Email Notifications.

Follow these steps to define a new vessel:

1. On the Configuration tab, enter a unique name for the vessel.
2. On the Configuration tab, select a vessel type. Refer to section **5.4.6.1 Vessel Types** for help in choosing between Circular, Rectangular and Custom.
3. If you chose Circular or Rectangular, you need to enter the vessel's dimensions on the Configuration tab. Refer to section **5.4.6.2 Vessel Dimensions** for help in entering vessel dimensions. If you chose Custom, you need to enter a custom table, also known as a lookup or strapping table. Click the Edit Table link on the Configuration tab to access the Custom Table Entry screen. Refer to section **5.4.6.3 Custom Tables** for help on custom tables.
4. On the Configuration tab, enter a name or description for the vessel contents.
5. If you chose Circular or Rectangular for a vessel type and want to obtain accurate weight readings, you need to enter an accurate density value and set the appropriate density units on the Configuration tab.
6. On the Sensor tab, select the type of sensor that is being used to measure product level in this vessel. Refer to section **5.4.6.4 Sensor Setup** for details.
7. On the Sensor tab, check Enable and enter the sensor address. This sensor address should match the DIP-switch setting located on the vessel's SmartBob.

8. If your sensor type is using Protocol A, then you can set a max drop value. Click the checkbox under Enable Max Drop to enable it and then enter a maximum drop distance for this sensor.
9. If your sensor type is using SmartBob-II Averaging (Protocol A), then you need to enter a weight percent value for each sensor. This is used to set how much weight or impact each sensor's measurement has in the averaging of the final results. The sum of these values from each sensor must be equal to 100%. If you want all sensors to be balanced, then click the Distribute Weight button. Refer to section **5.4.6.5 SmartBob Averaging** for details.
10. Optionally, if your sensor type is SmartBob-II Averaging (Protocol A), then you can specify a label or name for each sensor to aid in identifying it.
11. On the Serial Device tab, you need to specify the device used to connect to the SmartBob serial network. If you are using the local serial port then select Use Local Serial Port (COMx). Note that the currently assigned serial port will be shown and is set under Site Maintenance. If you are using a remote serial device server then select Use Remote Serial Device and select which device from the dropdown box.
12. On the Display tab, select a fill color to represent the product in the vessel graphic on the main screen and in the Vessel Details.
13. On the Display tab, select the units of measure for volume readings with this vessel.
14. On the Display tab, select the units of measure for weight readings with this vessel.
15. On the Alarms tab, enable and set any desired level alarms for this vessel. When the product level goes above a High or Pre-High and below a Low or Pre-Low an alarm condition is met. When this condition is met, a message is visible in the main screen on that vessel's control and, if enabled, emails notifications will be sent.
16. On the Email Notifications tab, set any desired email notifications for this vessel. Refer to section **5.4.6.8 Email Notifications** for additional information.
  - a. To enable email notifications for this vessel check Enable Email Notifications.
  - b. Click the Select Contacts button to open the Assign Vessel Contacts screen. Add any contacts to the Assigned Contacts list and then click the Close button.
  - c. Each contact added to this vessel can have a different notification sent to him. In the Vessel Setup screen on the Email Notifications tab, select a contact and then check the desired notifications to send to this contact. Repeat this step for each contact.
17. Click the Save button to save this vessel and return to the Vessel Maintenance screen.

To copy a vessel or create a vessel from an existing one, highlight the vessel you want to copy and click the Add New Using button. This will open the Vessel Setup screen populated with that vessel's parameters. At minimum, you will have to change the vessel name on the Configuration tab and the sensor address on the Sensor tab. Make any other necessary changes and click the Save button.

To edit or modify an existing vessel, highlight it from within the Vessel Maintenance screen and click the Select button. This will open the Vessel Setup screen populated with that vessel's parameters. Make any necessary changes and click the Save button.

To delete an existing vessel, highlight it from within the Vessel Maintenance screen and click the Delete button. You will be prompted to confirm the deletion of the vessel. Note that deleting a vessel also deletes all associated measurement data.

#### **5.4.6.1 Vessel Types**

eBob 5.2 supports any shape/type and size of vessel through the use of a Custom vessel type. With a custom vessel, you define a lookup or strapping table that converts sensor measurements (drop distance in feet) to product level readings as a volume or weight. Refer to section **5.4.6.2 Custom Tables** for details.

Alternatively, if you don't want to create a lookup table and your vessel meets the requirements, you can choose a Circular or Rectangular type. With these two types, eBob will calculate height, volume and weight product levels based on the sensor measurement and your provided dimensions. Circular will support an upright cylinder, with or without a cone-shaped hopper. Rectangular will support a cube or four-sided vessel, with or without a pyramid-shaped hopper. If you choose either of these two types, you have to provide accurate dimensions of the product as formed in the vessel. Refer to section **5.4.6.3 Vessel Dimensions** for details.

#### **5.4.6.2 Custom Tables**

A custom table, also known as a lookup table, strapping table or gauging table, can account for vessel shapes that are non-linear to the measuring sensor. Two good examples would be a horizontal cylinder or a bin with a hopper bottom. It's important to have good data regarding the height vs. volume or weight when choosing a custom table. Some manufacturers provide this information with their bins and silos or you can calculate the points for a strapping table if you have a detailed drawing of the vessel. You must have a minimum of two points or rows in the table.

Referring to Figure 20, follow these steps for setting up a custom vessel:

1. Select Custom for the vessel type.
2. Click the Edit Table link on the Configuration tab. This should open up the Custom Table Entry screen.
3. At the bottom of the screen, select the type of output you want from this table. Choose between Height, Volume or Weight. Note that the distance units are set under Site

Maintenance and Setup and the Volume and Weight units are set in Vessel Setup on the Display tab. You can confirm and/or change these after entering your table.

4. Enter a new row or point in the table by clicking the Add Row button.
5. Click on the cell under Distance to Product for the row just added and enter a drop distance in the specified units (feet or meters).
6. Click on the cell under Output for the same row and enter the output value for the corresponding drop distance.
7. Repeat the last three steps until all critical points are entered.
8. Click the Save button to save the table and return to the Vessel Setup screen.

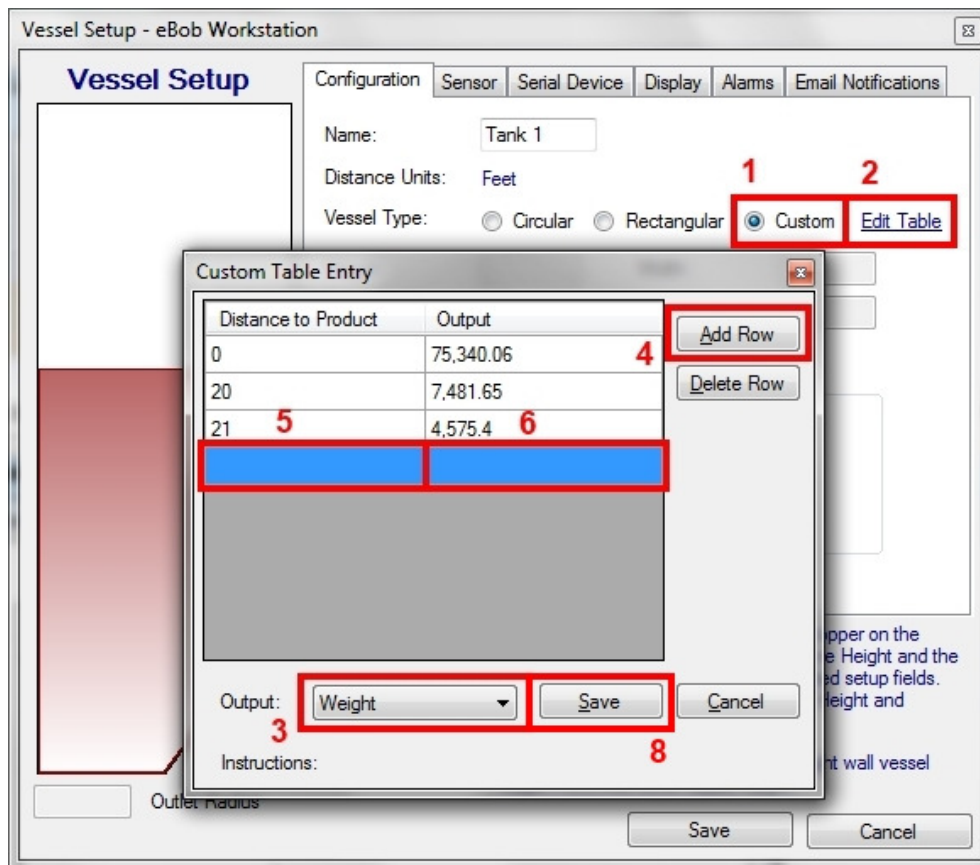


Figure 20

### 5.4.6.3 Vessel Dimensions

If you selected Circular or Rectangular for the vessel type, then you must enter the dimensions of the vessel in order for eBob to calculate the product levels based upon the sensor measurement. The distance units that must be used for dimensions are identified on the Configuration tab. The distance units are set per site and can be changed under Site Maintenance and Setup.

Referring to Figure 21, select or enter the following for an upright cylinder with flat bottom:

1. On the Configuration tab, select Circular for vessel type.
2. For the Height field, enter the vertical distance between the bottom of the vessel and the bottom of the sensor.
3. For the Radius field, enter half the width of the product.

Vessel Setup - eBob Workstation

**Vessel Setup**

Configuration | Sensor | Serial Device | Display | Alarms | Email Notifications

Name: Tank 1

Distance Units: Feet

Vessel Type: **1**  Circular  Rectangular  Custom

Height: **2** 40.0 Width:

Radius: **3** 5.0 Length:

Vessel Content/Product Information

Contents:

Density Units: lbs/cubic feet

Density Weight:

Cone Height  Length  Width

Outlet Radius

To ADD the volume of a cone shaped hopper on the bottom of a circular vessel, enter the Cone Height and the Outlet Radius dimensions in the associated setup fields. For rectangular vessels, enter the Cone Height and Length and Width of the hopper outlet.

NOTE: Capacity Height will be the straight wall vessel height PLUS the cone hopper height.

Save Cancel

Figure 21

Referring to Figure 22, select or enter the following for an upright cylinder with cone-shaped hopper:

1. On the Configuration tab, select Circular for vessel type.
2. For the Height field, enter the vertical distance between the bottom of the straight-wall and the bottom of the sensor.
3. For the Radius field, enter half the width of the product at the straight-wall.
4. For the Cone Height field, enter the vertical distance between the outlet and the top of the hopper.
5. For the Outlet Radius field, enter half the width of the outlet opening.

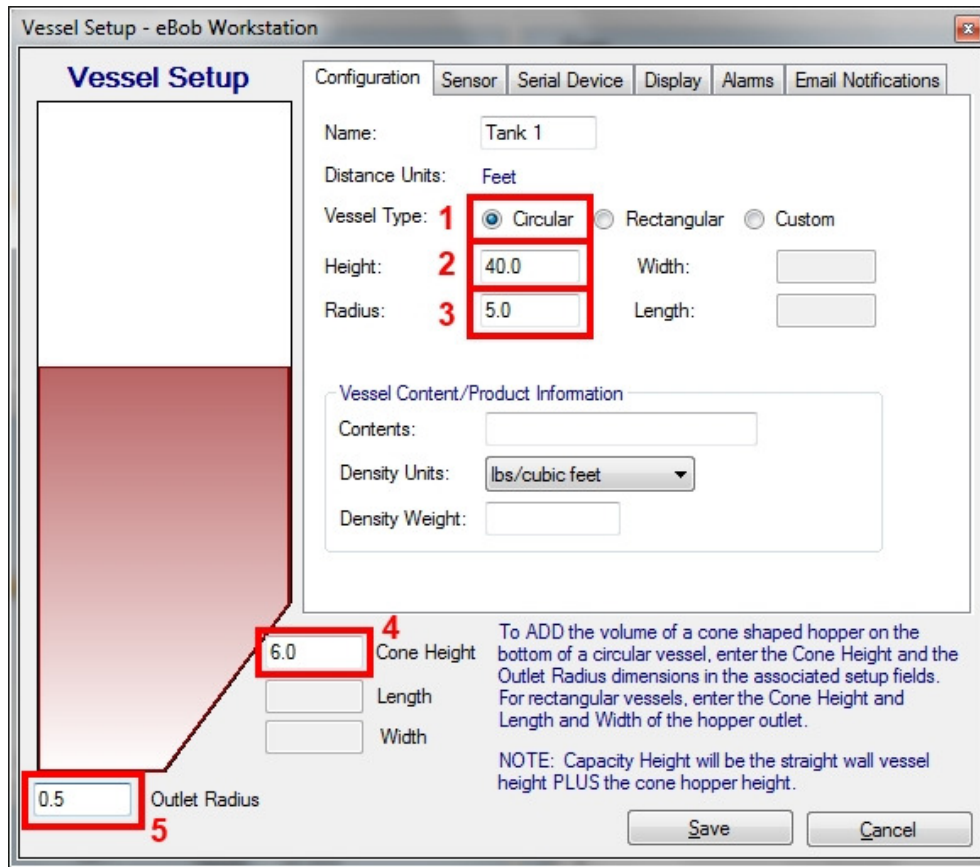


Figure 22

Referring to Figure 23, select or enter the following for a four-sided vessel with flat bottom:

1. On the Configuration tab, select Rectangular for vessel type.
2. For the Height field, enter the vertical distance between the bottom of the vessel and the bottom of the sensor.
3. For the Width field, enter the horizontal width of the front or back side.
4. For the Length field, enter the horizontal width of the left or right side.

Vessel Setup - eBob Workstation

**Vessel Setup**

Configuration | Sensor | Serial Device | Display | Alarms | Email Notifications

Name: Tank 1

Distance Units: Feet

Vessel Type:  Circular  Rectangular  Custom

Height: 40.0 Width: 5.0

Radius: Length: 5.0

Vessel Content/Product Information

Contents:

Density Units: lbs/cubic feet

Density Weight:

Cone Height

Length

Width

Outlet Radius

To ADD the volume of a cone shaped hopper on the bottom of a circular vessel, enter the Cone Height and the Outlet Radius dimensions in the associated setup fields. For rectangular vessels, enter the Cone Height and Length and Width of the hopper outlet.

NOTE: Capacity Height will be the straight wall vessel height PLUS the cone hopper height.

Save Cancel

Figure 23

Referring to Figure 24, select or enter the following for a four-sided vessel with pyramid-shaped hopper:

1. On the Configuration tab, select Rectangular for vessel type.
2. For the Height field, enter the vertical distance between the bottom of the straight-wall and the bottom of the sensor.
3. For the Width field on the Configuration tab, enter the horizontal width of the front or back side.
4. For the Length field on the Configuration tab, enter the horizontal width of the left or right side at the straight-wall.
5. For the Cone Height field, enter the vertical distance between the outlet and the top of the hopper.
6. For the Length field (below Cone Height), enter the horizontal width of the left/right side of the outlet.
7. For the Width field (below Cone Height), enter the horizontal width of the front/back side of the outlet.

Vessel Setup - eBob Workstation

**Vessel Setup**

Configuration | Sensor | Serial Device | Display | Alarms | Email Notifications

Name: Tank 1

Distance Units: Feet

Vessel Type:  Circular  Rectangular  Custom

Height: 40.0 Width: 5.0

Radius: Length: 5.0

Vessel Content/Product Information

Contents:

Density Units: lbs/cubic feet

Density Weight:

Outlet Radius

Cone Height: 6.0

Length: 0.75

Width: 0.75

To ADD the volume of a cone shaped hopper on the bottom of a circular vessel, enter the Cone Height and the Outlet Radius dimensions in the associated setup fields. For rectangular vessels, enter the Cone Height and Length and Width of the hopper outlet.

NOTE: Capacity Height will be the straight wall vessel height PLUS the cone hopper height.

Save Cancel

Figure 24



#### 5.4.6.4 Sensor Setup

On the Sensor tab in Vessel Setup is where you setup sensors for this vessel. eBob v5.2 supports the BinMaster SmartBob, SmartBob-II and the SmartBob-TS1 through three different sensor type selections.

- SmartBob (Protocol B) – supports the SmartBob, SmartBob-II or SmartBob-TS1 with one sensor per vessel.
- SmartBob-II (Protocol A) – supports the SmartBob-II or SmartBob-TS1 with one sensor per vessel.
- SmartBob-II Average (Protocol A) – supports the SmartBob-II or SmartBob-TS1 with multiple sensors per vessel.

All SmartBobs on a SmartBob network, or at a site, must use the same protocol (A or B). If you change the sensor type to a different protocol, eBob Workstation will automatically change all vessels at this site to that protocol. Protocol B is older and supported by all three SmartBobs; however, protocol A is newer, more reliable, provides features unavailable with protocol B and is recommended. If you have an older SmartBob on the SmartBob network, then all SmartBob-II's or SmartBob-TS1's must be changed to protocol B and you must select SmartBob (Protocol B) for the sensor type. If all the SmartBobs on the SmartBob network are a SmartBob-II or SmartBob-TS1, then you should use Protocol A. SmartBob-II Average (Protocol A) should be selected if you have multiple SmartBob-II's or SmartBob-TS1's mounted on a single vessel and you want to average the readings together.

If you select SmartBob (Protocol B) for the sensor type, then you simply need to provide the sensor address and check the Enabled box. Refer to Figure 25. The address for each sensor and/or vessel must be different and agree with the DIP-switch setting found on the SmartBob.

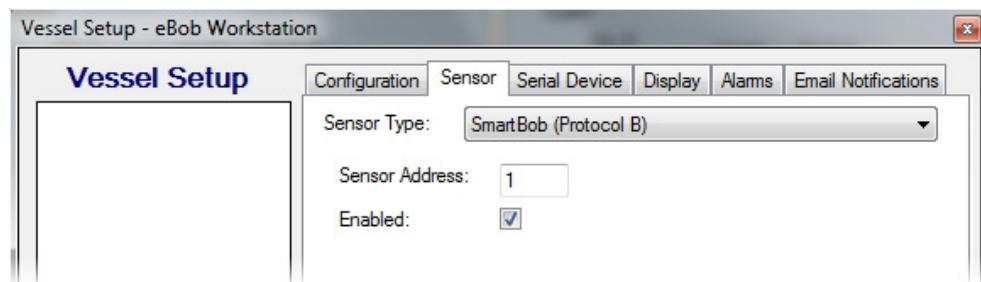


Figure 25

If you select SmartBob-II (Protocol A) for the sensor type, then at minimum you need to check the Enable box and provide the sensor address. Refer to Figure 26. The address for each sensor and/or vessel must be different and agree with the DIP-switch setting found on the SmartBob.

Optionally, when using SmartBob-II (Protocol A), you can enable and set the maximum drop feature. This is a maximum distance you want the SmartBob-II or SmartBob-TS1 to drop its bob. The units for max drop are as per the distance units displayed on the Configuration tab. Note that the SmartBob-II or SmartBob-TS1 must have firmware v2.8 or newer in order to support the max drop feature.

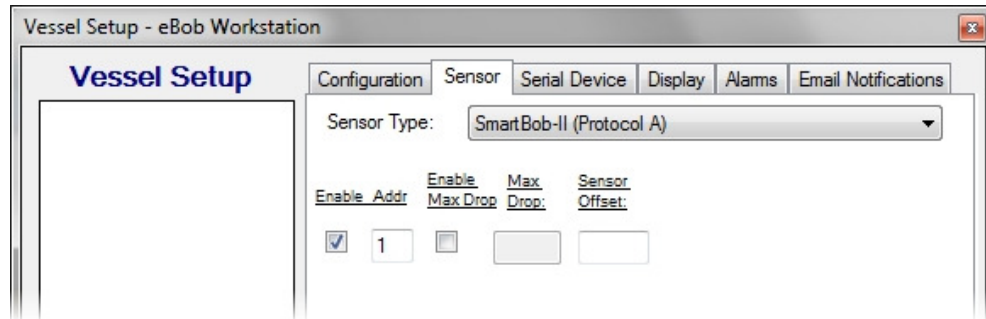


Figure 26

### 5.4.6.5 SmartBob Averaging

If you have multiple SmartBob-II's or SmartBob-TS1's mounted on a vessel and want to average the readings together, you can select SmartBob-II Average (Protocol A) for the sensor type. When you select this, you are presented with 32 rows available for defining up to 32 sensors per vessel. Refer to Figure 27.

The average function is performed as a weighted average; you specify a weight as a percent for each sensor which defines how much impact or weight its reading will have in the average calculation. If you want the arithmetic mean or un-weighted average then click the Distribute Weight button to balance or weight all enabled sensors the same. The Weight % value for all enabled sensors must add up to 100%.

Optionally, with this sensor type, you can define a name or label for each sensor. This helps identify each sensor when viewing them in the Vessel Details screen.

In the example presented in Figure 27, four sensors, labeled North, East, South and West are going to be used in the average calculation due to their weight value each being set equally at 25%. The fifth sensor, labeled Center and a weight of 0%, is only going to be used in the Vessel Details screen to see if the surface of the product is cone-up or cone-down.

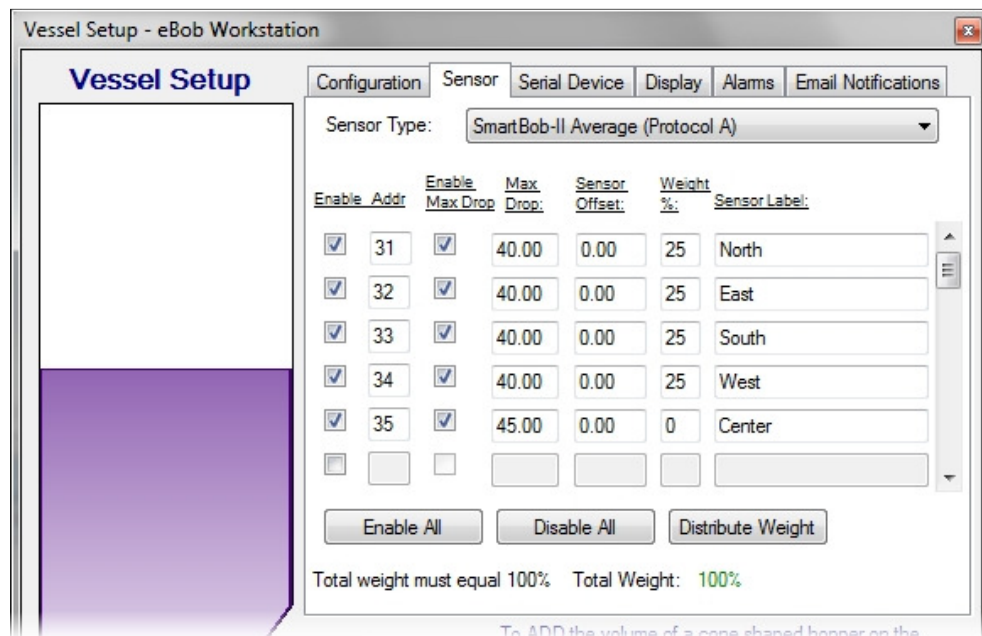


Figure 27

### 5.4.6.6 Local or Remote Serial Device

A serial device is what connects the eBob system to the SmartBob serial network. Normally, this is an RS-232 port using a DB9-M connector on the back of your PC. However, with eBob v5.2 you also have the option of using multiple remote serial devices located elsewhere on your IP network. On the Serial Device tab of Vessel Setup (Figure 28), you assign a serial device to the sensors mounted on this vessel. The default setting is Use Local Serial Port (COMx). Note that although you can select to use the local serial port here, it is set or defined in Site Maintenance and Setup, see section **5.4.2 Site Maintenance and Setup**.

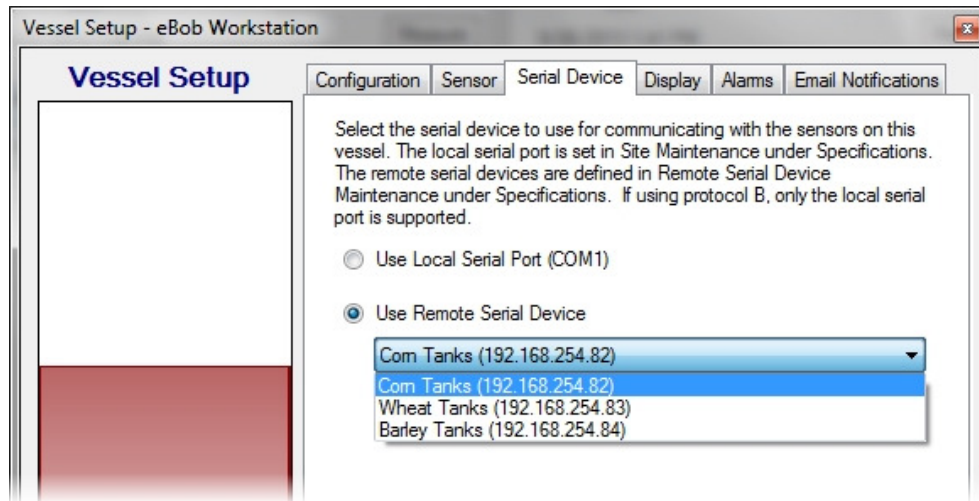


Figure 28

Local Serial Port – A local serial port may be an RS-232 port with a DB9-M connector on the PC or it may be a USB-to-Serial (RS-232 or RS-485) adapter. It can even be a COM port redirector locally installed and configured to use a remote serial device. In any of these cases, these are considered local serial ports and they will be presented to you in your Windows operating system under the Device Manager, see Figure 29. Note that even though eBob v5.2 directly supports remote serial devices, in the instance mentioned here, this remote serial device is considered a local serial port because it is available through a COM port redirector.

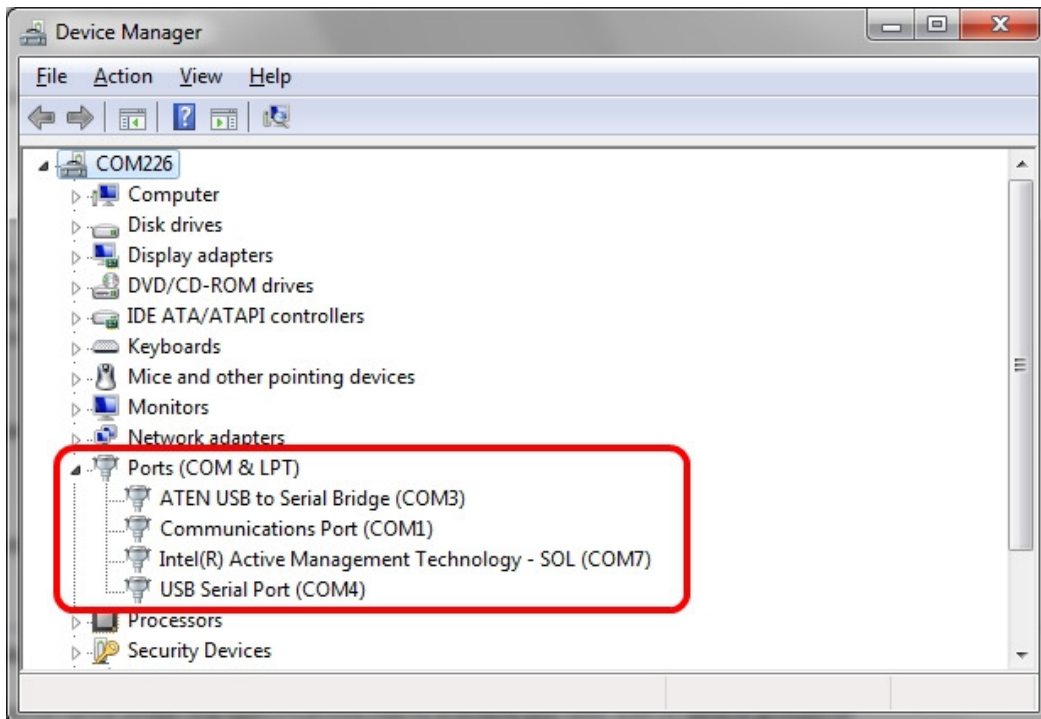


Figure 29

Remote Serial Device – A remote serial device is a device that is available on the IP network but is not represented by the Windows operating system under Device Manager. eBob v5.2 can support any number of remote serial devices over an IP network without the use of COM port redirectors. These devices should be installed and verified operational, as per the manufacturer’s instructions, and then setup under Remote Serial Device Maintenance. Refer to section **5.4.5 Remote Serial Device Maintenance and Setup** for details. Once these devices are setup they can be assigned to a vessel’s sensors on the Serial Device tab in Vessel Setup.

### 5.4.6.7 Level Alarms

On the Alarms tab in Vessel Setup is where you define high or low level alarms. After these are enabled and set and a measurement produces a level that exceeds these settings, a blinking red alarm indication will be visible with the corresponding vessel on the main screen.

There are four level alarms that can be enabled and set with a percent full:

- High Alarm – this can be considered a critical high level and will override a Pre-High Alarm.
- Pre-High Alarm – this can be considered a warning for high level.
- Pre-Low Alarm – this can be considered a warning for a low level.
- Low Alarm – this can be considered a critical low level and will override a Pre-Low Alarm.

Once these alarms are enabled and set, you can also setup Email Notifications for receiving emails when a level-alarm condition occurs. Refer to Figure 30 for an example of how these may be set.

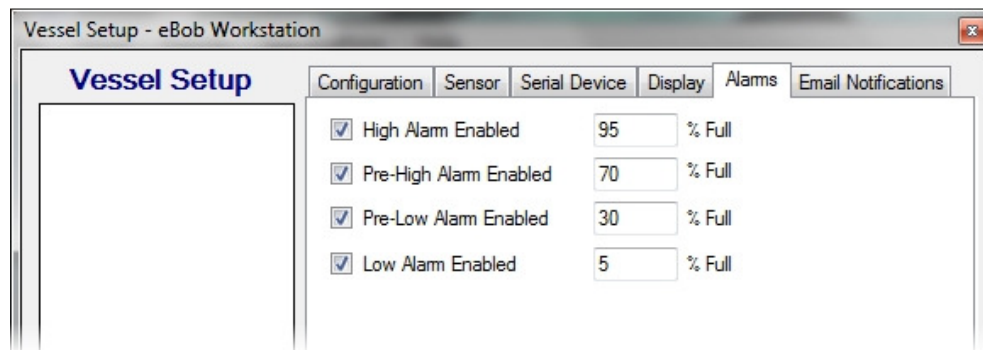


Figure 30

### 5.4.6.8 Email Notifications

Email notifications can be configured for each vessel providing three basic types of notices:

1. Level Alarm – This will send an email whenever a high, pre-high, pre-low or low alarm level is reached and will provide the current product level.
2. Vessel Status – This will send an email every time a new reading is taken and will provide details about the vessel and the product level.
3. Error Alarm – This will send an email every time a measurement fails.

While referring to Figure 31, follow these steps to setup email notifications:

1. On the Email Notifications tab, check Enable Email Notifications.
2. Click the Select Contacts button. From within the Assign Vessel Contacts screen, add any contacts you wish to receive email notifications and click the Close button to return.
3. In the contact list, highlight a contact to enable notifications for.
4. Check any email notifications you want sent to the highlighted contact.
5. Repeat steps 3 and 4 for other contacts. Each contact can be setup to receive different email notifications.
6. If you are done setting up this vessel, click the Save button.

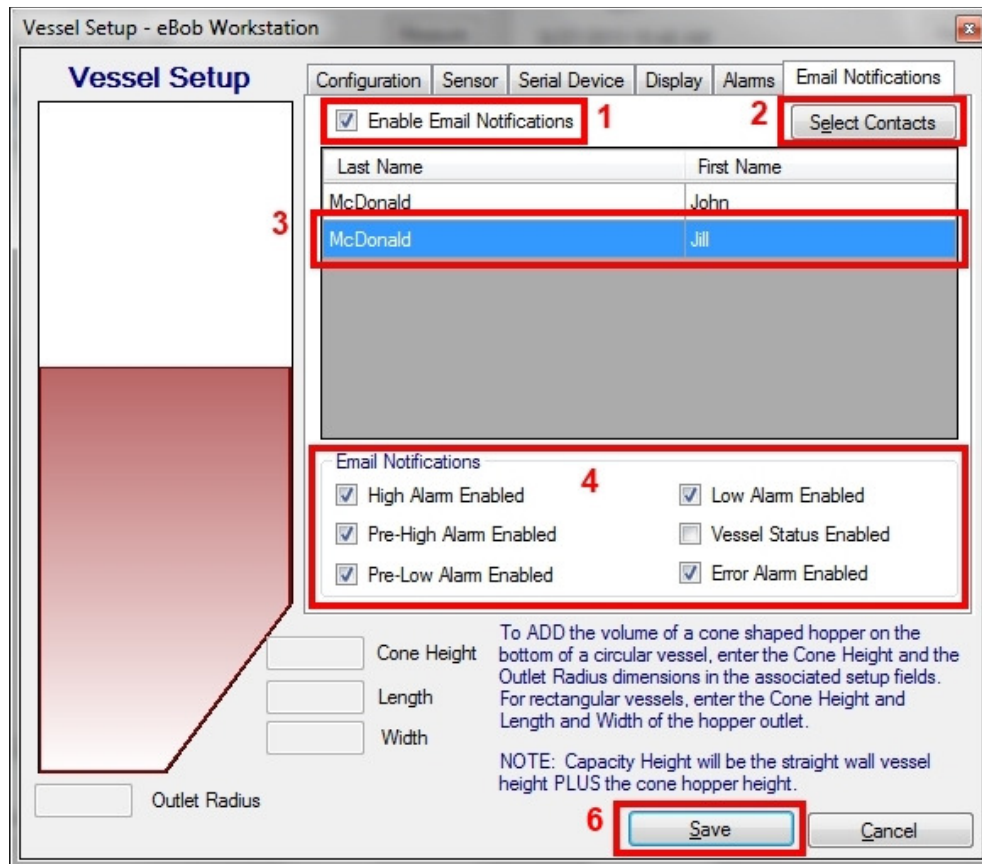


Figure 31

## 5.4.7 Group Maintenance and Setup

Vessel Group Maintenance under the Specifications menu is where you add, edit or delete groups of vessels in the currently assigned site. Vessel groups have one purpose and that is to organize vessels for measurement schedules. If you are not going to setup any measurement schedules then you do not need to setup any vessel groups. Refer to Figure 32 for the Vessel Group Maintenance and Setup screens.

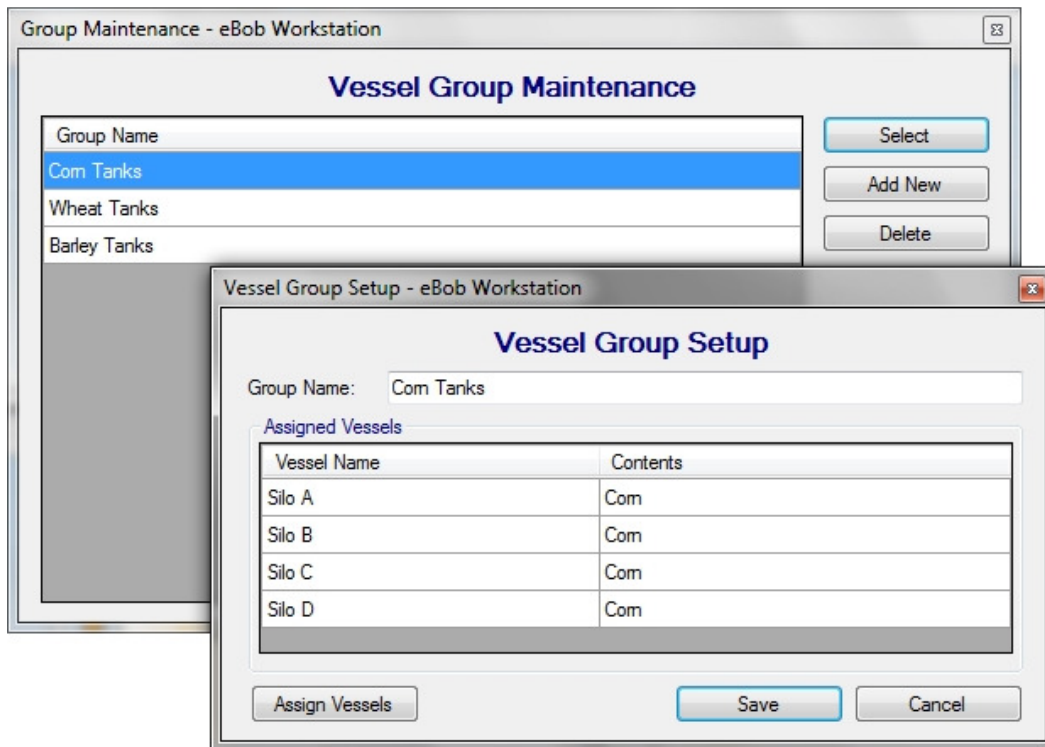


Figure 32

To create a new group, click the Add New button from within the Vessel Group Maintenance screen. This will open a blank Vessel Group Setup screen for you to define a new group. Give the group a unique and descriptive name, then click Assign Vessels to assign vessels to the group. When done configuring this group, click the Save button.

To edit or modify an existing group, highlight it from within the Vessel Group Maintenance screen and click the Select button. This will open the Vessel Group Setup screen populated with this groups name and assigned vessels. Make any necessary changes and click the Save button.

To delete an existing group, highlight it from within the Vessel Group Maintenance screen and click the Delete button. You will be prompted to confirm the deletion of the group.



### 5.4.8 Measurement Schedules

Schedule Maintenance under the Vessel menu is where you add, edit or delete measurement schedules in the currently assigned site. Measurement schedules first require that vessels be organized into groups.

To create a new measurement schedule, click the Add New button from within the Schedule Maintenance screen. This will open a blank Schedule Setup screen for you to define a new schedule. Provide a unique and descriptive name, configure the schedule and assign vessel groups to the schedule. When done configuring the schedule, click the Save button.

Note that when creating a new schedule the Schedule Active control will, by default, be checked and cannot be unchecked, thus any new schedule will immediately be active. Once created, you can select it for editing and then de-activate it, if needed.

Example 1 – Refer to Figure 33 for a schedule that will start on 9/16/2013 and take a reading every hour, on the hour, but only from 8 AM to 5 PM every weekday.

The screenshot shows a 'Schedule Setup' dialog box with the following fields and options:

- Schedule Information:**
  - Schedule Name: Com Silos Every Hour
  - Start Date: 9/16/2013
  - Start Time: 10:32 AM
  - Schedule Active
- Schedule Type:**
  - At regular intervals
  - Daily
  - Weekly
  - Monthly
  - Run only once
- Run only on:**
  - Sun
  - Mon
  - Tue
  - Wed
  - Thu
  - Fri
  - Sat
- Run in intervals:**
  - Intervals: 60 minutes
  - Start Time: 8:00 AM
  - End Time: 5:00 PM
- Buttons: Assign Groups, Save, Cancel

Figure 33

Example 2 – Refer to Figure 34 for a schedule that will start on 9/16/2013 and take a reading every weekday at 7 AM.

**Schedule Setup**

### Measurement Schedule Setup

**Schedule Information**

Schedule Name: Com Silos Every 2 Hours

Start Date: 9/16/2013 Start Time: 7:00 AM

Schedule Active

**Schedule Type**

At regular intervals  Daily  Weekly  Monthly  Run only once

**Run only on**

Sun  Mon  Tue  Wed  Thu  Fri  Sat

**Run in intervals**

Intervals: [ ] minutes Start Time: 8:00 AM End Time: 5:00 PM

Assign Groups Save Cancel

Figure 34

Example 3 – Refer to Figure 35 for a schedule that will start on 9/16/2013 and take a reading continuously every hour.

**Schedule Setup**

### Measurement Schedule Setup

**Schedule Information**

Schedule Name: Com Silos Every 2 Hours

Start Date: 9/16/2013 Start Time: 7:00 AM

Schedule Active

**Schedule Type**

At regular intervals  Daily  Weekly  Monthly  Run only once

**Run only on**

Sun  Mon  Tue  Wed  Thu  Fri  Sat

**Run in intervals**

Intervals: 60 minutes Start Time: 12:00 PM End Time: 11:00 PM

Assign Groups Save Cancel

Figure 35

To edit or modify an existing schedule, highlight it from within the Schedule Maintenance screen and click the Select button. Make any necessary changes and click the Save button. Note that measurement schedules can also be temporarily disabled by un-checking the Schedule Active checkbox.

To delete an existing schedule, highlight it from within the Schedule Maintenance screen and click the Delete button. You will be prompted to confirm the deletion of the schedule.

#### 5.4.9 User Maintenance and Setup

User Maintenance under the File menu is where you add, edit or delete users. Users must be setup if you are going to require them to login to eBob Workstation. Refer to **5.4.1 System Setup** on how to change the Workstation to require users to login. Refer to **5.4.10 User Login and Change Password** on how to login and logout of eBob Workstation.

By default a system administrator user is setup at installation. The User ID is *admin* and the default password is *1234*. You can change the password to this user, but you cannot delete this user or change its user ID.

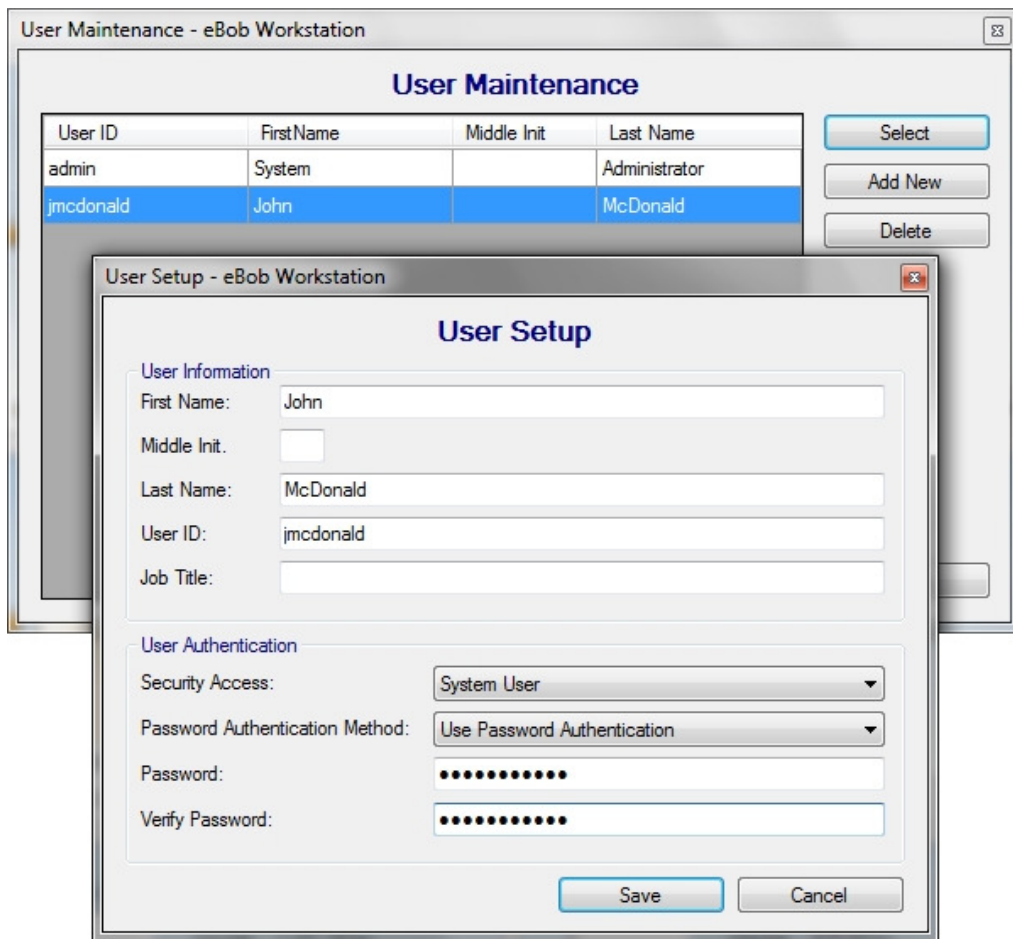


Figure 36

To create a new user, click the Add New button from within the User Maintenance screen. This will open a blank User Setup screen for you to define a new user. Referring to Figure 36, enter the user's name, a unique user ID and a password. Also, select the appropriate security access level for this user. When done creating this user, click the Save button.

There are three users or security access types available:

1. System User (Read-Only) – This type of user can view current vessel levels, initiate new measurements and create reports. They can NOT access the Specifications menu nor can they access System Import/Export and User Maintenance under the File menu. And, although they can access the Vessel menu, they cannot make any configuration changes under the Vessel menu.
2. System User – This type of user is similar to a System User (Read-Only), except that they can make configuration changes under the Vessel menu.
3. System Administrator – This type of user has all access.

To edit or modify an existing user, highlight the user from within the User Maintenance screen and click the Select button. This will open the User Setup screen populated with this user's information. Make any necessary changes and click the Save button.

To delete an existing user, highlight the user from within the User Maintenance screen and click the Delete button. You will be prompted to confirm the deletion of the user.

#### 5.4.10 User Login and Change Password

If eBob Workstation is configured to require users to login, then it will prompt you for a user ID and password after opening the application. You must be setup as a user with a valid user ID and password in order to log in to the eBob Workstation. Referring to Figure 37, enter your user ID, your password and then click the Login button to gain access to the Workstation.

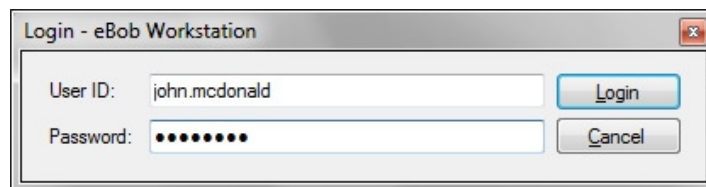


Figure 37

To log off or out of the Workstation, select Logoff under the File menu. You will no longer have access to eBob and your vessels. You may now exit or login as a different user.

If eBob Workstation is configured to require users to login and you are currently logged in, then you can select Change Password under the File menu to change your password. Referring to Figure 38, enter your current password, your new password twice and then click the Save button. A System Administrator may also change your password under User Maintenance.

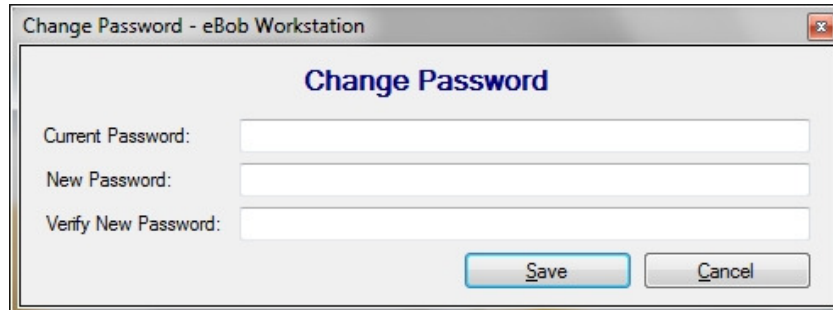


Figure 38

#### 5.4.11 Temporary Group Setup

The Temporary Group Setup screen is available under the Vessel menu and allows the user to show or hide vessels from the main screen and re-order them. This is only temporary and is maintained as long as you are logged into eBob, once you log out or exit the Workstation this setting is lost.

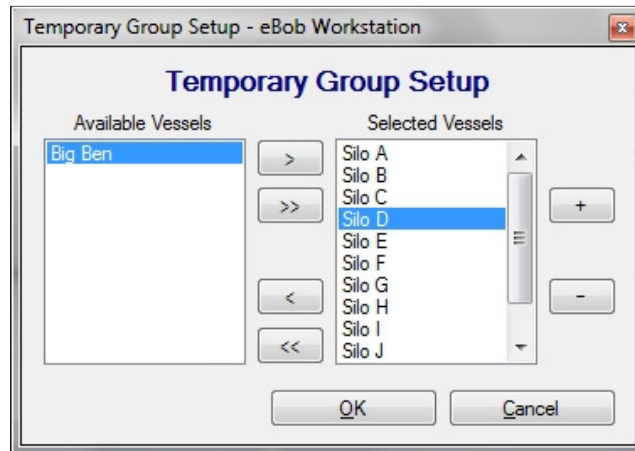


Figure 39

Referring to Figure 39, the list on the left (Available Vessels) are vessels that are available but will not be visible. The list on the right (Selected Vessels) is of vessels that are currently visible and can be re-ordered. By default, all vessels are visible and sorted by the vessel name.

- To show a hidden vessel, select it in the list on the left (Available Vessels) and click the > button to move it to the list on the right (Selected Vessels).
- To show all hidden vessels, click the >> button to move all to the list on the right (Selected Vessels).

- To hide a visible vessel, select it in the list on the right (Selected Vessels) and click the < button to move it to the list on the left (Available Vessels).
- To hide all visible vessels, click the << button to move all to the list on the left (Available Vessels).
- To re-order or change a visible vessels location, select it in the list on the right (Selected Vessels) and click the + or – buttons to move it up or down in the list.
- Click the OK button to accept any changes.

#### 5.4.12 Print Reports and Export Data

To create reports or export data, click on Print Reports under the Reports menu. The Print Reports screen will appear with a list of reporting options. The majority of these reports are generated using Crystal Reports and can be printed or converted to a PDF. There are three report options available as seen in Figure 40.

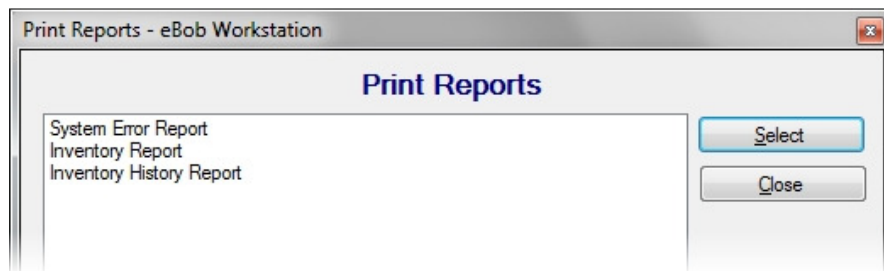


Figure 40

##### 5.4.12.1 System Error Report

Select System Error Report to create a report with any errors that may have occurred and captured by eBob. This report may be useful in sending to BinMaster for troubleshooting purposes.

To create a System Error Report:

1. Highlight System Error Report in the Print Reports screen and click the Select button. You should be prompted to enter a date range.
2. Enter a date range to limit the errors to be included and click the OK button. The default range is seven days.
3. Once viewing the Crystal Report go to section **5.4.12.4 Working with Crystal Reports** for details on how to print or convert the report to another file format.

##### 5.4.12.2 Inventory Report

Inventory Report is primarily to generate a vessel inventory report in either a table or bar graph format, but can also be used to export the vessel history to a comma-separated values (CSV) file. The vessel inventory report and bar graph are generated in Crystal Reports and thus can be printed or converted to other file formats, such as Acrobat PDF or Word DOC. Figure 41 provides a partial view of an example of

a vessel inventory report. Figure 42 provides a full view of an example of a vessel inventory bar graph. Figure 43 provides a partial view of an example of vessel history exported to a CSV file.

From Date: 9/11/2013		eBob Workstation							9/18/2013	
Thru Date: 9/18/2013		Inventory Report (Nebraska Farm (PC1 and DB))							9:34:00AM	
Vessel Name	Vessel Contents	Measurement Date	Product Volume	Product Weight	Product Height	Headroom Volume	Headroom Weight	Headroom Height	% Full	
Silo A	Corn	9/18/2013 9:30:19 AM	2,075.62 bu	113,652.77 lbs	51.39 ft	347.87 bu	19,048.10 lbs	8.61 ft	86%	
Silo B	Corn	9/18/2013 9:30:22 AM	2,238.20 bu	122,554.79 lbs	55.41 ft	185.30 bu	10,146.09 lbs	4.59 ft	92%	
Silo C	Corn	9/18/2013 9:30:35 AM	1,545.99 bu	84,652.10 lbs	38.28 ft	877.51 bu	48,048.77 lbs	21.72 ft	64%	
Silo D	Corn	9/18/2013 9:31:00 AM	620.01 bu	33,949.31 lbs	15.35 ft	1,803.48 bu	98,751.57 lbs	44.65 ft	26%	
Silo E	Wheat	9/18/2013 9:30:50 AM	935.06 bu	51,200.42 lbs	23.15 ft	1,488.43 bu	81,500.45 lbs	36.85 ft	39%	
Silo F	Wheat	9/18/2013 9:31:03 AM	477.12 bu	26,125.48 lbs	11.81 ft	1,946.37 bu	106,575.39 lbs	48.19 ft	20%	
Silo G	Wheat	9/18/2013 9:31:00 AM	639.20 bu	34,999.86 lbs	15.82 ft	1,784.30 bu	97,701.02 lbs	44.18 ft	26%	
Silo H	Wheat	9/18/2013 9:30:30 AM	1,736.84 bu	95,102.29 lbs	43.00 ft	686.66 bu	37,398.58 lbs	17.00 ft	72%	
Silo I	Barley	9/18/2013 9:31:07 AM	297.38 bu	17,023.66 lbs	7.36 ft	2,126.11 bu	121,709.07 lbs	52.64 ft	12%	
Silo J	Barley	9/18/2013 9:30:45 AM	1,095.62 bu	62,718.76 lbs	27.12 ft	1,327.87 bu	76,013.98 lbs	32.88 ft	45%	
Silo K	Barley	9/18/2013 9:31:10 AM	185.30 bu	10,607.27 lbs	4.59 ft	2,238.20 bu	128,125.46 lbs	55.41 ft	8%	

Figure 41

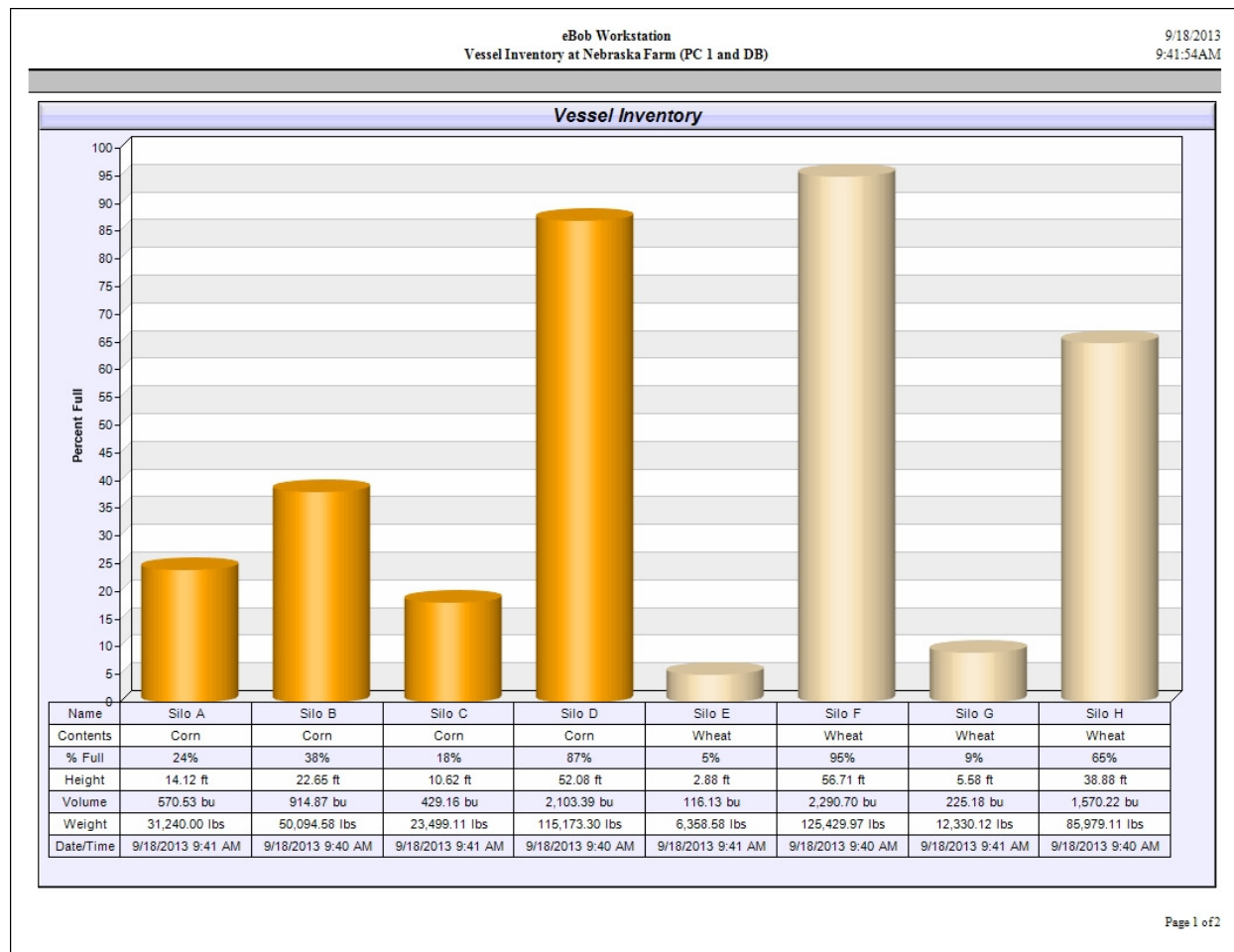


Figure 42



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	
1	Measurement Time	Site	Vessel Name	Contents	Vessel Type	Distance Units	Volume Units	Weight Units	Vessel Height	Vessel Radius	Vessel Length	Vessel Width	Hopper Height	Outlet Radius	Outlet Length	Outlet Width	Capacity Volume	
2	9/18/2013 9:45	Nebraksa Farm	'Silo A'	'Corn'	'CYLINDER'	'ft'	'bu'	'lbs'	60	4	0	0	0	0	0	0	2423.49	'Smart'
3	9/18/2013 9:41	Nebraksa Farm	'Silo A'	'Corn'	'CYLINDER'	'ft'	'bu'	'lbs'	60	4	0	0	0	0	0	0	2423.49	'Smart'
4	9/18/2013 9:36	Nebraksa Farm	'Silo A'	'Corn'	'CYLINDER'	'ft'	'bu'	'lbs'	60	4	0	0	0	0	0	0	2423.49	'Smart'
5	9/18/2013 9:30	Nebraksa Farm	'Silo A'	'Corn'	'CYLINDER'	'ft'	'bu'	'lbs'	60	4	0	0	0	0	0	0	2423.49	'Smart'
6	9/18/2013 9:25	Nebraksa Farm	'Silo A'	'Corn'	'CYLINDER'	'ft'	'bu'	'lbs'	60	4	0	0	0	0	0	0	2423.49	'Smart'
7	9/18/2013 9:20	Nebraksa Farm	'Silo A'	'Corn'	'CYLINDER'	'ft'	'bu'	'lbs'	60	4	0	0	0	0	0	0	2423.49	'Smart'
8	9/18/2013 9:15	Nebraksa Farm	'Silo A'	'Corn'	'CYLINDER'	'ft'	'bu'	'lbs'	60	4	0	0	0	0	0	0	2423.49	'Smart'
9	9/18/2013 9:10	Nebraksa Farm	'Silo A'	'Corn'	'CYLINDER'	'ft'	'bu'	'lbs'	60	4	0	0	0	0	0	0	2423.49	'Smart'

Figure 43

To create a vessel inventory report or bar graph:

1. Highlight Inventory Report in the Print Reports screen and click the Select button.
2. Choose your output type by clicking on Report or Bar Graph.
3. Choose which vessels you want to include in the report. Vessels in the list on the right (Selected Vessels) will be included. Vessels in the list on the left (Available Vessels) will NOT be included. Use the > button to include a single vessel or the >> button to include all vessels. Use the < button to exclude a single vessel or the << button to exclude all vessels.
4. Choose to sort the report by either vessel name or contents.
5. Click the OK button to view the report.
6. Once viewing the Crystal Report, go to section **5.4.12.4 Working with Crystal Reports** for details on how to print or convert the report to another file format.



### 5.4.12.3 Inventory History Report

Select this to create a chart or graph of a single vessel's level history. This vessel history chart is generated in Crystal Reports and thus can be printed or converted to other file formats, such as Acrobat PDF or Word DOC. Refer to Figure 44 for an example of a vessel history chart.

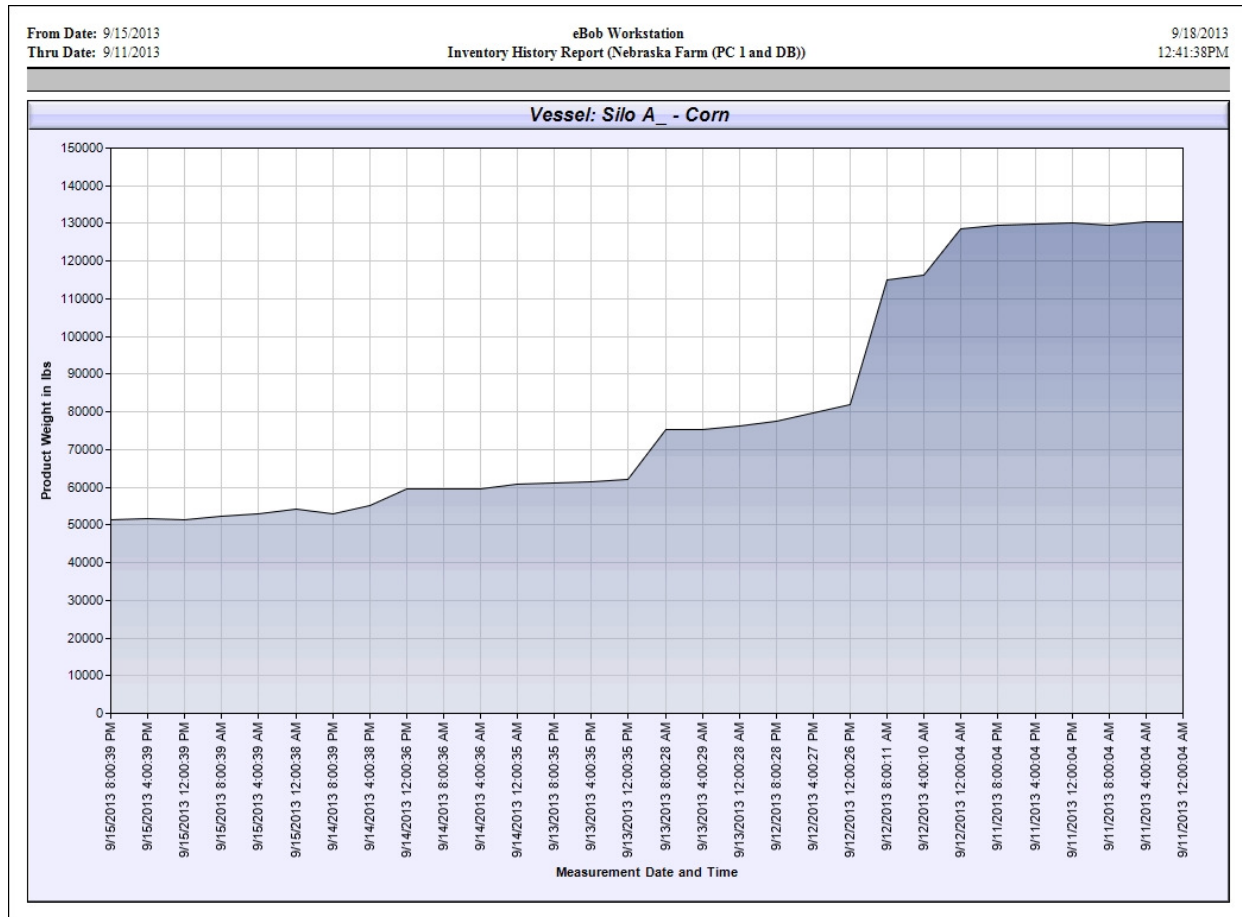


Figure 44

To create a chart on a single vessel's history:

1. Highlight Inventory History Report in the Print Reports screen and click the Select button.
2. Choose the range of data for the chart by clicking on Last 30 Measurements, Last 60 Measurements or Use Date Range.
3. If you chose Use Date Range, then specify the From and Thru dates.
4. Select a vessel for the report.
5. Choose the vertical scale for the chart. Pick height, volume or weight for either the product level or the headroom (empty space).
6. Click the OK button to view the report.
7. Once viewing the Crystal Report, go to section **5.4.12.4 Working with Crystal Reports** for details on how to print or convert the report to another file format.

#### 5.4.12.4 Working with Crystal Reports

When viewing a Crystal Report you will have a set of icons or controls along the top left to allow you to print, export and page through a multiple page report. Some of the file formats available for export are Acrobat PDF, Word DOC and Rich Text Format (RTF). Referring to Figure 45 and going left to right, the controls available are as follows:

1. Export Report – click this to export to Acrobat PDF, Word DOC or another format.
2. Print Report – click this to print a hardcopy of the report.
3. Refresh
4. Go to First Page
5. Go to Previous Page
6. Go to Next Page
7. Go to Last Page
8. Go to Page (for specifying page number)
9. Close Current View
10. Find Text
11. Zoom



Figure 45

### 5.4.13 Site Status Report

A site status report is a report that is automatically emailed as per a schedule and contains the latest readings on each vessel at a site. It includes a small attachment in comma separated values (CSV) file format which contains further details about each vessel.

To create a site status report schedule, click on Email Reports under the Reports menu, then highlight Site Status Report and click the Select button. From within the Site Status Reports screen, click the Add New button. This will open the Site Status Schedule Setup screen where you define a schedule for delivery and assign contacts to receive the report. This scheduler works very much like the measurement scheduler, only you assign contacts to be emailed rather than vessels to be measured.

Example – Refer to Figure 46 for a schedule that will start on 8/14/2013 to email a site status report every weekday morning at 8 AM.

The screenshot shows a software window titled "Site Status Schedule Setup - eBob Workstation". The main title is "Site Status Schedule Setup". Under "Schedule Information", the "Schedule Name" is "Moming Status", "Start Date" is "8/14/2013", and "Start Time" is "8:00 AM". The "Schedule Active" checkbox is checked. Under "Schedule Type", the "Daily" radio button is selected. Under "Run only on", checkboxes for Mon, Tue, Wed, Thu, and Fri are checked. Under "Run in intervals", the "Start Time" is "8:00 AM" and "End Time" is "5:00 PM". At the bottom, there are buttons for "Assign Contacts", "Save", and "Cancel".

Figure 46

To edit or modify an existing site status schedule, highlight it from within the Site Status Reports screen and click the Select button. Make any necessary changes and click the Save button. Note that site status schedules can be temporarily disabled by un-checking the Schedule Active checkbox.

To delete an existing schedule, highlight it from within the Site Status Reports screen and click the Delete button. You will be prompted to confirm the deletion of the schedule.

#### 5.4.14 System Export/Import

System Export under the File menu provides a simple means to export or store your eBob system to a compressed file with the DAT extension. It will include all configuration data, but only the last ten readings from each vessel. This file can be considered a backup of your eBob configuration and should be created by performing an export following any configuration changes to the system, such as adding a new vessel.

To export or create a backup of your eBob system, select System Export under the File menu. The System Export screen will appear with a default filename using today's date and the DAT extension, simply click the Export button to save to file. If a different location or filename is desired, then click the Browse button to navigate to a different location.

System Import under the File menu provides a simple means to load a previously exported system into your eBob system. Importing a system will overwrite the current system, so you may want to consider performing an export prior to attempting an import.

To import a system from a previous export, select System Import under the File menu. Click the Browse button, navigate to the DAT file to import and click the Open button. Within the System Import screen, confirm the filename shown is the file to import and click the Import button. After a couple of seconds, it will inform you that it is going to restart the services and Workstation. If this is a networked system, you will have to reboot all other PC's hosting a site.

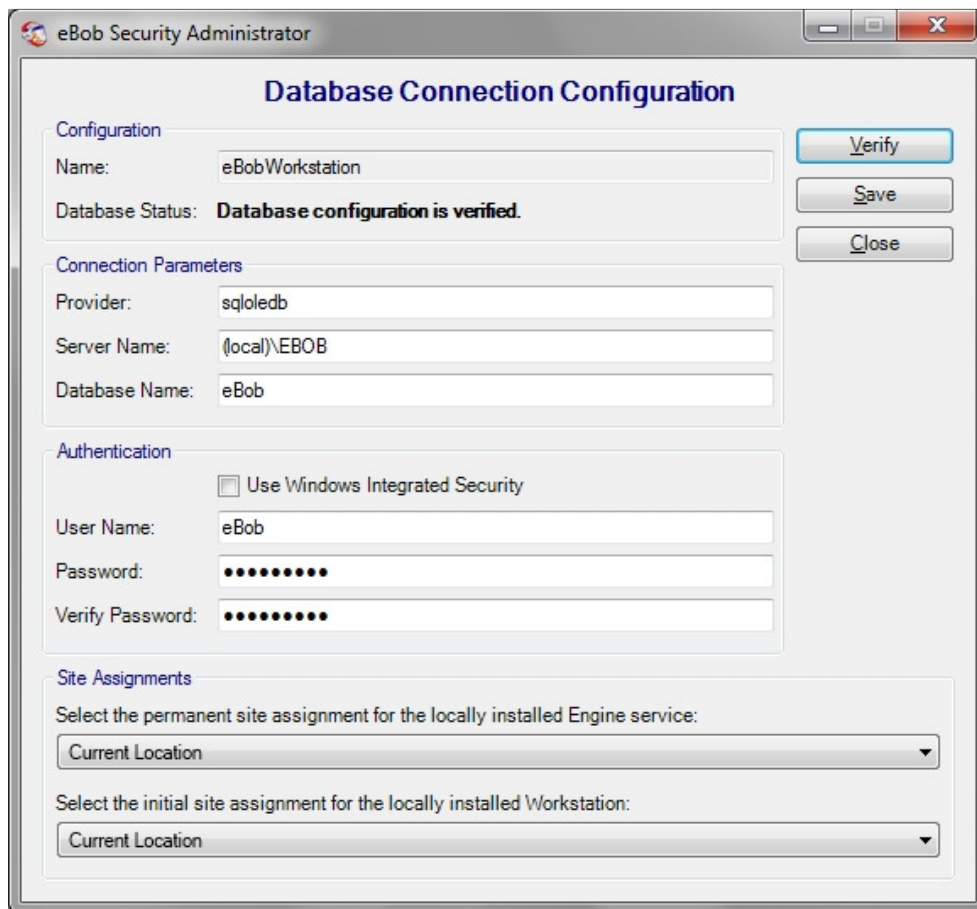
System Export and Import are only available if you are logged in as an Administrator User.

## 6.0 eBob Security Administrator

This section is intended to help you get familiar with the eBob Security Administrator, what it is for and how to use it.

The eBob Security Administrator is a small program included with all installations and is for defining the database connection parameters for the local eBob installation. This information must be set correctly in order for eBob Workstation and services to connect to the database. The Security Administrator is also for setting the permanent site assignment for the Engine and Scheduler services and, optionally, the initial site assignment for the Workstation.

For a single stand-alone system you should not need to use the Security Administrator, as the default values are defined for a single stand-alone system. However, for each installation of a networked eBob system you will need to use the Security Administrator to configure a connection to the database and set the permanent site assignment for the Engine service.



The screenshot shows the 'eBob Security Administrator' window with the 'Database Connection Configuration' tab selected. The window is divided into several sections:

- Configuration:** Includes a 'Name' field with 'eBobWorkstation', a 'Database Status' field showing 'Database configuration is verified.', and buttons for 'Verify', 'Save', and 'Close'.
- Connection Parameters:** Includes fields for 'Provider' (sqloledb), 'Server Name' ((local)\EBOB), and 'Database Name' (eBob).
- Authentication:** Includes a checkbox for 'Use Windows Integrated Security' (unchecked), 'User Name' (eBob), 'Password' (masked with dots), and 'Verify Password' (masked with dots).
- Site Assignments:** Includes two dropdown menus. The first is labeled 'Select the permanent site assignment for the locally installed Engine service:' and the second is labeled 'Select the initial site assignment for the locally installed Workstation:'. Both dropdowns are currently set to 'Current Location'.

Figure 47

Follow these steps to setup the local eBob installation with the required database connection parameters and site assignments.

1. Click on eBob Security Administrator under eBob in the Windows start menu.
2. Change the default path for Server Name to the static IP address or computer name of the PC hosting the SQL database. Referring to Figure 47, the default Server Name is *(local)\EBOB* and can be left this way only if the database is installed on this PC. Example using an IP address: *192.168.254.100\EBOB*.
3. Enter the default password for user eBob in the Verify Password field. The default password is *B1nM@ster*.
4. Click the Verify button. You should get a confirmation indicating success within a couple of seconds. If incorrect information or authentication is entered, then there may be a long pause before receiving indication of a failure.
5. Once connection to the database is verified, then you can set the permanent site assignment for the Engine service and the initial site assignment for the Workstation. If this PC is NOT hosting a site, then set the permanent site assignment for the Engine service to "Unassigned or engine service not installed." Note that the sites you intend to set these too had to have been previously setup.
6. Click on Save to save the site assignments and then reboot the PC. The permanent site assignment for the Engine service will not take effect until the PC is rebooted.



## 7.0 Upgrade from BinMaster IMS

eBob 5 does not install over or upgrade an existing IMS v2.2.3 system. If you are migrating to eBob 5, you can safely leave IMS v2.2.3 installed on the PC until eBob 5 is installed and completely setup.

The minimum system requirements for eBob 5 are different than that of IMS v2.2.3, so please verify that your PC meets these requirements as listed earlier in this manual.

IMS v2.2.3 supports only protocol B; however, eBob 5 supports both protocol B and the newer protocol A. If your system consists of only SmartBob-II's or SmartBob-TS1's, then it is recommended that you switch them to protocol A. Protocol A is more reliable, allows for simultaneous measurements and supports the new Max Drop feature (available with newer SmartBob-II firmware revisions). Please refer to the SmartBob operator's manual for proper protocol jumper setting.

The firmware in the SmartBob-II's must be version 2.3 or newer to be compatible with eBob 5. If you are intending to use the new Max Drop feature with eBob 5.1 or 5.2, then the SmartBob's must contain firmware version 2.8 or newer. Contact BinMaster Technical Support about firmware updates.

## 8.0 Upgrade from eBob 4

eBob 5 does not install over or upgrade an existing eBob 4 system. If you are migrating to eBob 5, you can safely leave eBob 4 installed on the PC until eBob 5 is installed and completely setup.

The minimum system requirements for eBob 5 are different than that of eBob 4, so please verify that your PC meets these requirements as listed earlier in this manual.

Since eBob 4 supports only protocol A, your SmartBob-II's should already be configured for the recommended protocol with eBob 5.

## 9.0 Upgrade from eBob 5.0 or 5.1

eBob 5.2 will install directly over and upgrade a 5.0 or 5.1 system. However, if you are upgrading a networked system, there are a few important steps to do prior to the upgrade. Determine the type of system you have, single stand-alone or networked, then follow the appropriate steps below to upgrade a version 5.0 or 5.1 system.

### 9.1 Upgrading a Single Stand-Alone System

Follow these steps if you are upgrading a single stand-alone installation of eBob 5.0 or 5.1:

1. Log into the Windows PC as an administrator.
2. For backup purposes, perform a System Export of the current eBob 5.0 or 5.1 system. From within the Workstation, select System Export under the File menu and then click Export to save the system using the default filename. Close the eBob Workstation when done.
3. Insert the eBob v5.2 setup CD into the CD/DVD drive. If Windows AutoRun is disabled or eBob setup does not automatically start after inserting the setup CD, then use Windows Explorer and navigate to the CD/DVD drive. Locate and run setup.exe.
4. Follow the onscreen instructions to complete the software update process.
5. Open up eBob Security Administrator, confirm the database connection parameters, enter the database password and click Verify. Depending on the version of eBob you are upgrading from, the default password will either be *eBob* or *B1nM@ster*.
6. Set both site assignments to the existing site in your system and click Save.
7. Reboot the PC.





## 9.2 Upgrading a Networked System

Follow these steps if you are upgrading a networked installation of eBob 5.0 or 5.1:

1. For backup purposes, perform a System Export of the current installation using any of the existing Workstations. From within the Workstation, select System Export under the File menu and then click Export to save the system using the default filename. Close the eBob Workstation when done.
2. Open up eBob Security Administrator on a PC that is NOT hosting the database and note the contents of the Data Source field. See Figure 48. This may be needed to re-enter into eBob after the upgrade.

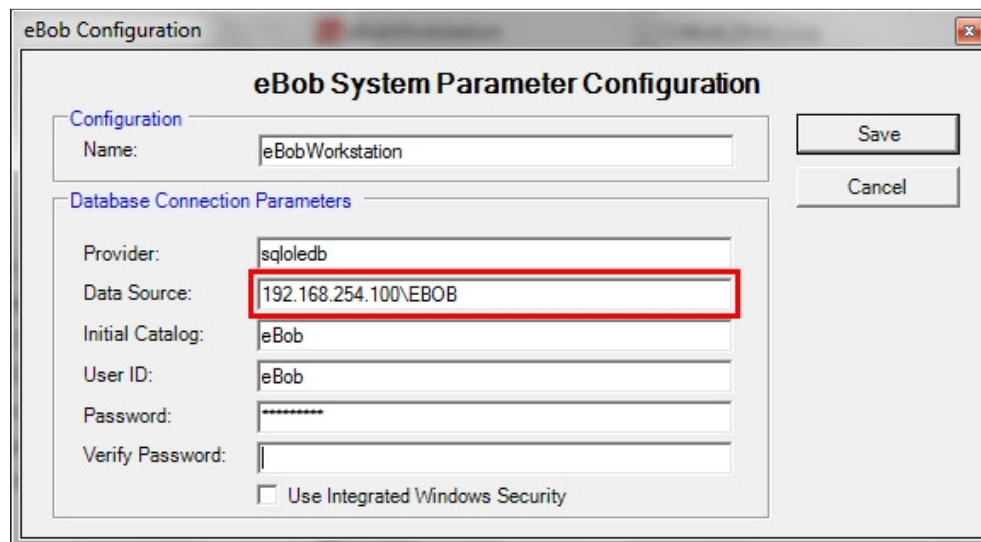


Figure 48

3. Collect the static IP addresses or computer names of each PC hosting a set of eBob services (a site). For each PC, if it has a static IP address assigned, retrieve it by typing *ipconfig* at a command prompt on the PC. If it is using DHCP, then retrieve the computer name used to identify this PC on the network.
4. Close eBob Workstation on all PC's.
5. Perform the software update first on the PC hosting the SQL server database.
  - a. Log into the Windows PC as an administrator.
  - b. Insert the eBob setup CD and run setup.exe.
  - c. Follow the onscreen instructions to complete the update process.
  - d. When the setup process is complete, open up eBob Security Administrator, confirm the database connection parameters, enter the database password and click Verify.

- e. Set the permanent site assignment for the local Engine service. If the Engine and Scheduler services are not installed on this PC, set it to “Uninstalled or engine service not installed.”
  - f. Click the Save button to save the configuration.
  - g. Reboot the PC.
6. Follow these steps to enter the static IP address or computer name to each PC hosting a site:
- a. Open up the Workstation on the PC hosting the SQL server database. This is the PC just updated to v5.2 in step 5.
  - b. Click on Site Maintenance under the Specifications menu.
  - c. Double-click on a site to open it.
  - d. Within Site Setup, replace the default value for Host IP Address (127.0.0.1) with the static IP address or computer name for the PC hosting this site. See Figure 49.
  - e. Click the Save button to save the change and return to Site Maintenance.
  - f. Repeat steps c, d and e for each site listed in Site Maintenance.

The screenshot shows a 'Site Setup' dialog box with the following fields and values:

- Site Details:** Name/Description: Nebraska Farm; Distance Units: Feet
- Company & Location:** Company Name: BinMaster; Street Address: 7201 North 98th Street; City: Lincoln; State: NE; Zip Code: 68507
- Engine Service:** Host IP Address: 127.0.0.1 (highlighted); Host Port: 8093; Communications Port: 1

Buttons: Save, Cancel

Figure 49

7. For each of the other PC’s with only eBob Workstation installed, perform the software update as follows:
- a. Log into the Windows PC as an administrator.
  - b. Insert the eBob setup CD and run setup.exe.
  - c. Follow the onscreen instructions to complete the update process.

- d. When the setup process is complete, open up eBob Security Administrator, confirm the database connection parameters, enter the database password and click Verify.
- e. Set the permanent site assignment for the local Engine service. If the Engine and Scheduler services are not installed, set it to “Uninstalled or engine service not installed.”
- f. Click the Save button to save the configuration.
- g. Reboot the PC.

