

Envista ARM Setup Overview

This document is a basic description of the features and how to get started using the Envista Setup Version 8 program that is being released May 1 to replace Envista ARM Version 7. In version 8 two programs, Envista DB Builder and Setup are replacing the functions of the one Setup program in Version 7 that created, managed and populated the network configuration in the Envista database.



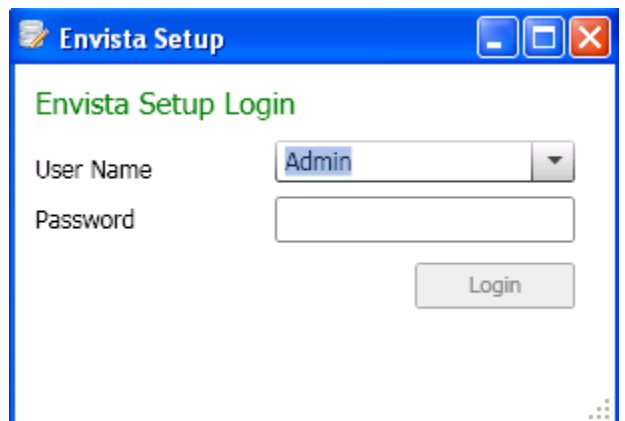
DB Builder is the DBA's interface to the Envista database that creates and manages all objects in the database. It offers a Query window, object viewer and scripts to:

- Create a database - if this is permitted by the user organizations IT policy. If not the User's DBA must separately create a database and User accounts. Accounts may be SQL or Windows accounts. There should be one user created with dbo privileges and it is this user that must be logged in to allow DB Builder to create and manage database objects.
- Create all the database objects using the create database scripts
- Load default values to the tables for Monitor Types, Instruments, Units and other constants. User organizations should edit the default values scripts to ensure the entries conform to those needed in their system.
- Modify database objects to implement the requirements of changes in the Envista programs.

The features of DB Builder are discussed in a separate document.



To use the setup program double click the desktop icon. You will be prompted for a Login. Since initially there are no users created within the Envista system use the default user of Admin and default password of Admin. This user can later be deleted or the password changed for security reasons. The User Name combo box will contain all the user names configured in the system. These are Envista Users not windows users although the user names for both could be the same. Passwords in Envista should be strong (8 characters or more with upper and lower case and at least 1 number or symbol). When creating a password the Save button will not be active until the password is acceptable.

A screenshot of the 'Envista Setup Login' dialog box. The title bar reads 'Envista Setup' with standard window controls. The dialog has a green title 'Envista Setup Login'. It contains a 'User Name' label with a dropdown menu showing 'Admin', and a 'Password' label with an empty text box. A 'Login' button is located at the bottom right.

If this is the first use of the program it will prompt for the information needed to connect to the database. This login account has to have dbo privileges if the user will add stations

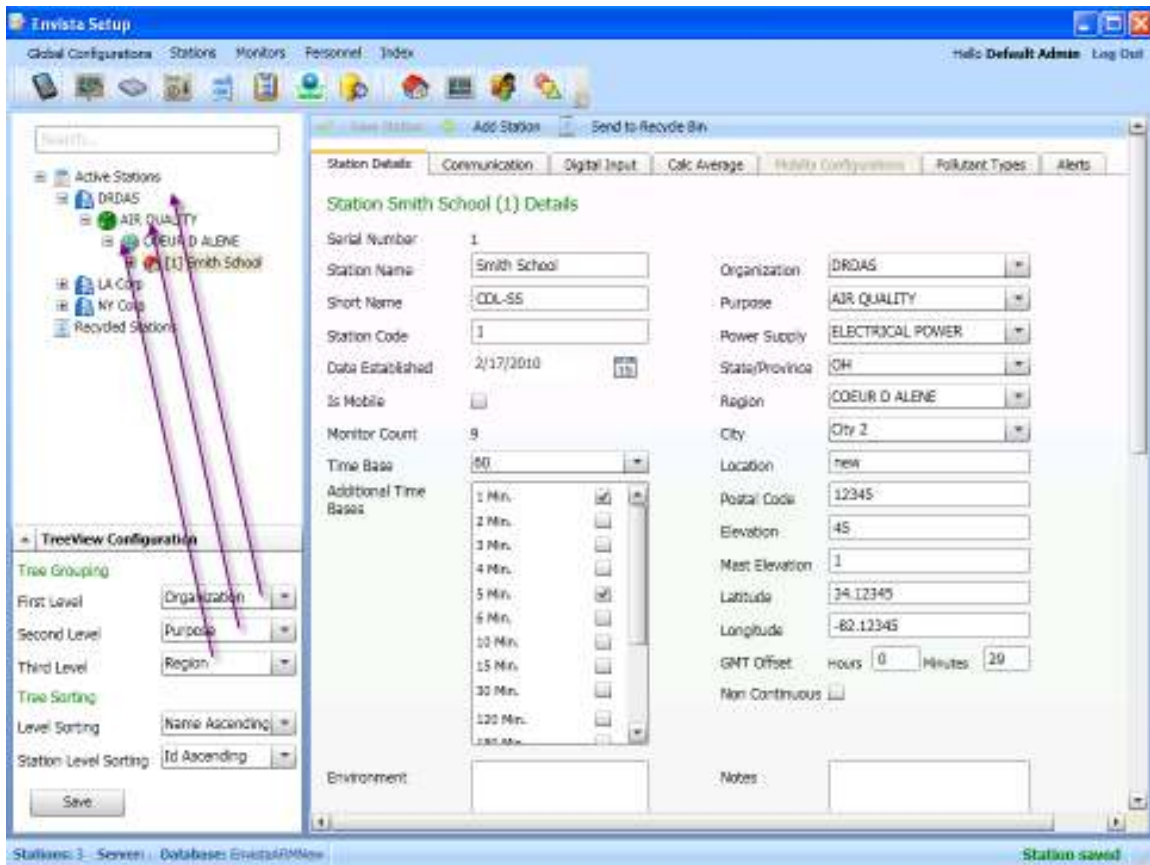
and monitors. Both action involve management of database objects. Other (most) users need only login with accounts that have db_reader and db_writer privileges.

Database Configuration

Server Type	SqlServer
Server Name	.
User Name	sa
Password
Database Name	EnvistaARMNew
Windows Authentication	<input type="checkbox"/>

Database Connection Details

After the program opens a screen like that below will appear. The navigation tree on the left shows the network stations. The tree can be organized in a three tier hierarchy using Organization, Purpose and Region designation for a station to group stations in the tree.



Setup Program with Navigation Tree and Configuration Form for Station Definition

Initially of course there will be no stations. Unless added to the initial load scripts in DB Builder there will at first use be no Organizations and only default Purposes and Regions ((North, South etc). These selections are considered Constants and these all can be added and edited via the Global Configurations/Constants menu or the Constants icon.



Getting Started

After logging in as Admin the user can start using the program. When getting started the tasks are best organized in the following order:

1. Configure the Global Configurations
2. Setup Envista Users
3. Configure Stations
4. Populate Station with Monitors
5. Assign Personnel Roles in the Station

Configure the Global Configurations

Global Configurations are the “Building Blocks” from which the properties of the stations and monitors can be selected. These include:



- Communications – the methods and default properties for Telephone (modem), Leased (Serial) and Sockets(TCP/IP) communications
- Monitor Types – names for the measured values with default settings for Units, Decimal Places, Rounding Rule, EPA Codes, etc. In addition default Alert configurations can be created for a Monitor Type.
- Instruments - Names of instruments with Digital Monitor Status flag names and validity criteria. EPA codes are included.
- Units – Unit Names and EPA Codes

- Digital Input – names of Digital Inputs
- Constants – these includes entries for

- Purposes
- Regions
- Power Supplies
- Organizations
- Cities
- Time Bases
- Countries
- State/Province

- AIRS codes – State, County, Site, Null Data and
- Change Database

Setup Envista Users



Adding personnel to the system is the next step although this can be deferred to a later time if you can continue to use the generic login of Admin. To have users log in under their own accounts you need to add them as Personnel and give them a user name and password. Access the Personnel section of Setup by clicking the Icon or the menu item Add Personnel. In the Personnel section the form has 5 tabs.

The screenshot shows the 'Personnel Management' section of a software interface. At the top, there are three buttons: 'Save Personnel', 'Add Personnel', and 'Delete Personnel'. Below these are five tabs: 'Personnel Management', 'System Users Management', 'Roles Management By User', 'Roles Management By Station', and 'Roles Creator Wizard'. The 'Personnel Management' tab is active, showing a dropdown menu for 'Select Personnel' with 'Admin Default' selected. Below this is the 'Admin Default Details' section, which contains several input fields for personal and contact information:

First Name	Default	Email	
Last Name	Admin	Private Tel	
Identity Number	0	Cell Phone	
Organization	DRDAS	Working Tel	
Working Place		Fax Number	
Profession	Scientist	Pager	
Address			
City			
State			
Postal Code			

Personnel Setup Form

- Personnel Management – enter information about the person . Name email and Organization are the critical pieces of information
- System Users Management – assign personnel a user name and password and grant them either the Admin or Guest rights. Admins can make changes in the network configuration. Guests can view only.
- Roles Management by User - Assign Technician, Editor or Supervisor role plus specify the desired alert delivery modes for a User.
- Roles management by Station - Assign Technician, Editor or Supervisor role plus specify the desired alert delivery modes for a Station.

- Roles Wizard - Assign Technician, Editor or Supervisor role for a User across multiple stations.

Initially only the first two tabs are relevant. Only after creating the stations can you go back to personnel to assign roles and alerts delivery methods for the stations.

To add a new person click Add Personnel. This display the form below when you can enter personnel information. Click the Save Personnel when done.

To give a new person a user name and password got to the System Users Management tab and add user from the top menu.

Personnel	User Name	Allow Changes	Guest
Default Admin	Admin	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Nathan Downs	Nathan	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Andrew Montz	drdas	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The bottom section of the form expands and you can then select any personnel that do not already have User Names and Passwords. Click the Change User Password Option to change an existing user.

Boxes outlined in red mean that the entry must be changed before you can save it. For example you need to enter a new user name and password. Tool tips provide more information such as the tip that the password needs to be at least 8 characters.

Personnel Management System Users Management Roles Management By User Roles Management By Station Roles Creator Wizard

System Users Management

Personnel	User Name	Allow Changes	Guest
Default Admin	Admin	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Nathan Downs	Nathan	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Andrew Montz	drdas	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Add New User

Personnel:

User Name:

Password:

Confirm Password: The new password must have at least 8 characters.

Allow Changes:


Guest:

Add User Name and Password for a Person

Configure Stations

The first step in configuring a new station is to add the station. Adding a station creates new tables in the database to store the measurements from that station. Therefore the SQL User logged in must have dbo privileges to add a station. The same requirement exist for the action of adding a monitor.



To add a station click the  icon or the word Station in the menu. A station form will appear and the Add Station menu item will be active. Click Add Station and the form will change to allow entry of station information.


Save Station Add Station Send to Recycle Bin

Station Details Communication Digital Input Calc Average Mobility Configurations Pollutant Types Alerts

Station Station 4 (4) Details

Serial Number	4	Monitor Count	0
Station Name	<input type="text" value="Station 4"/>	Organization	<input type="text" value="None"/>
Short Name	<input type="text" value="Station 4"/>	Purpose	<input type="text" value="None"/>
Station Code	<input type="text" value="4"/>	Power Supply	<input type="text" value="None"/>
Date Established	3/28/2010 <input type="text" value="15"/>	State/Province	<input type="text" value="None"/>
Non Continuous	<input type="checkbox"/> Is Mobile <input type="checkbox"/>	Region	<input type="text" value="None"/>
Time Base	<input type="text" value="5"/>	City	<input type="text" value="None"/>
Additional Time Bases	<input type="checkbox"/> 1 Min. <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 2 Min. <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 3 Min. <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 Min. <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Location	<input type="text"/>
Environment	<input type="text"/>	Postal Code	<input type="text"/>
Notes	<input type="text"/>	Elevation	<input type="text"/>
		Mast Elevation	<input type="text"/>
		Latitude	<input type="text"/>
		Longitude	<input type="text"/>
		GMT Offset	Hours <input type="text" value="0"/> Minutes <input type="text" value="0"/>
Show AIRS Configuration	<input checked="" type="checkbox"/>		
County	<input type="text"/>	State	<input type="text"/>
Site	<input type="text"/>		

Add New Station Information Form

In the example below we have identified a fixed location station collecting continuous data for 60, 5 and 1 minutes time periods from the data storage device at the station. Other meta data should be filled in. If all data is not known initial you can still create the station and add/edit the information later. If the station data will be reported to AIRS check that ant and enter the State, County and Site. You may have to first add your State Counties and Sites in the database from the AIRS Codes form  accessed from the EPA icon.

Of course you can leave the codes unset until you have added the stations, then go to the EPA Codes form and then back to the stations once the codes have been added to the system. The EPA form is illustrated below:

<p>Explanation Codes Configuration</p> <p>Explanation Codes: HIGH WINDS</p> <p>Code: A</p> <p>Text: HIGH WINDS</p> <p>Parameter: All</p> <p>Buttons: Delete, Add, Update</p>	<p>Null Data Codes Configuration</p> <p>Null Data Codes: SAMPLE PRESSURE OUT OF LIMITS</p> <p>Code: AA</p> <p>Text: SAMPLE PRESSURE OUT OF LIMITS</p> <p>Buttons: Delete, Add, Update</p>
<p>Areas Configuration</p> <p>County: County1</p> <p>County Code: 1</p> <p>County Name: County1</p> <p>Buttons: Delete, Add, Update</p>	<p>Sites Configuration</p> <p>Sites: Station1</p> <p>Site Code: 0001</p> <p>Site Name: Station1</p> <p>Buttons: Delete, Add, Update</p>
<p>States Configuration</p> <p>States: MI</p> <p>State Code: 26</p> <p>State Name: MI</p> <p>Buttons: Delete, Add, Update</p>	

Add/Edit EPA AIRS Codes

The Station Form has 5 tabs:

- Station Details – a filled in Station Details is shown in the figure below.
- Communication – specify the data collection device for the station, the communications details and schedule
- Digital Input – Define the Digital Inputs whose state is to be polled when communicating with the station. There may be no inputs defined if the station uses Digital Data Acquisition.
- Calc Avg sets additional averaging periods that are to be calculated and stored. These must be based only on the primary average period defined by the Station Details form's Time Base entry. With a Time Base of 60 minutes one could create 3 hr averages for example.
- Mobility Configurations – will be enabled only if the station is set for Is mobile on the Station Details form's Is Mobile entry.
- Pollutant Types specify which monitors in the station are to be used for the standard pollutants i.e. which monitor is O3. This cannot be set until monitors are added to the station and the Pollutant Type may be set in the Monitor Type and inherited by the Monitor.
- Alerts - Criteria for flagging, modifying data and transmitting alerts are edited added and deleted on this tab. Alerts may be defined for Monitor Types and inherited when a monitor of that type is added to the station.

Save Station Add Station Send to Recycle Bin

Station Details Communication Digital Input Calc Average Mobility Configurations Pollutant Types Alerts

Station Granville School (4) Details

Serial Number	4	Monitor Count	0
Station Name	Granville School	Organization	DRDAS
Short Name	GS	Purpose	AIR QUALITY
Station Code	1	Power Supply	ELECTRICAL POWER
Date Established	1/5/2010	State/Province	OH
Non Continuous	<input type="checkbox"/> Is Mobile <input type="checkbox"/>	Region	POCATELLO
Time Base	60	City	City 3
Additional Time Bases	<input checked="" type="checkbox"/> 1 Min. <input type="checkbox"/> 2 Min. <input type="checkbox"/> 3 Min. <input type="checkbox"/> 4 Min. <input checked="" type="checkbox"/> 5 Min.	Location	21 School Road
Environment	Small town	Postal Code	43023
Notes	Health Effects Study Site	Elevation	250
		Mast Elevation	5
		Latitude	32.123456
		Longitude	-75.567891
		GMT Offset	Hours 0 Minutes 0

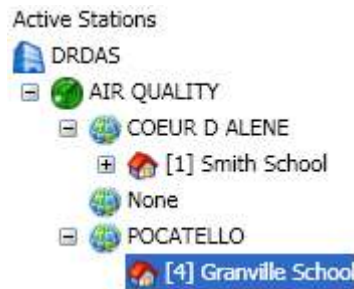
Show AIRS Configuration

County County1 State OH

Site Station1

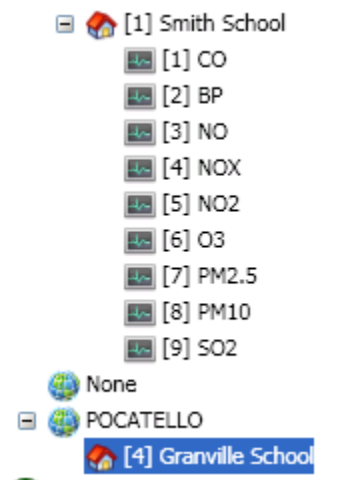
Station Details Tab

Populate Station with Monitors

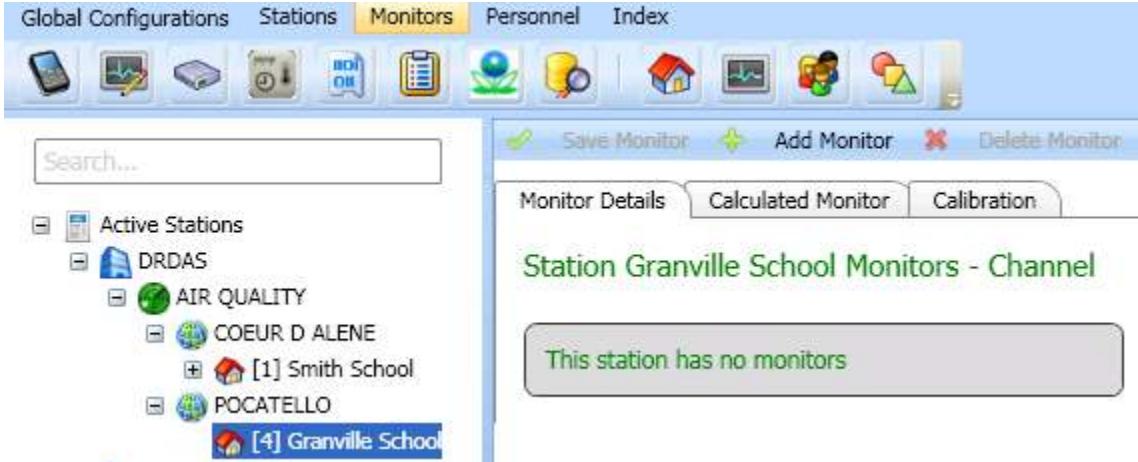


After a station is added it will appear in the configuration tree. Where and in what order it appears depends on the tree setting. Expand the station to which you wish to add monitors. Click on the + sign or double click the station name. The monitors should appear and you can click on a monitor to open the Monitor form. If no monitors exist in a station there will not be a + sign next to the name. See example of Granville Scholl to the right. To add the first monitor to a station highlight the station and click the name monitors in the top menu. A monitors form will appear indicating that there

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are not any monitors in the station. Click the Add Monitor Menu item to display an add monitor form.



Station Without Any Monitors

Bit #	Bit Name	Validate	Alarm
1	Not Used	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Add Monitors Form

In the Monitor Name Combo you can select any Monitor Type. When selected many of the monitor properties are inherited from the Monitor Type. The inherited properties can in some cases be changed for this specific instance of the Monitor type. For example Units and number of decimals are inherited but can be changed. Round Rule, Average Type and Pollutant Type cannot be modified.

Most monitors' values come from an Instrument. You can enter the serial number and Instrument type. If already defined the Digital Status Bits (Flags or Alarms) from the instrument are displayed. While normally any Alerts and Validation based on digital monitor status is done at the data logger level you will in the future be able to specify if a bit being ON should cause the value to be invalidated and if this is to generate an alert.

Whenever a new instrument is selected a record of the change is saved. The date of the change should be set with a calendar control to be when the instrument was actually changed at the station, not the time the entry was made.

A Monitor can be designated as a Calculated Monitor. Once this is checked the Calculated Monitor tab becomes active. In this tab you can use C# syntax and logic to return a value based on other measurements and conditions.

If the Monitor is to be reported to AIRS check the Enable AIRS. Three more fields will appear. Edit the AIRS codes as needed for the monitor. The Substance Units and Method Codes are inherited from the Monitor Type, The Units selected and the Instrument Selected. The Occurrence, Collection Frequency and Sample Duration should be set. If a code is missing the appropriate entry should be checked. For example a method code of 000 probably indicated the Instrument has not been selected. Move up on the form and select the Instrument to correct this problem.

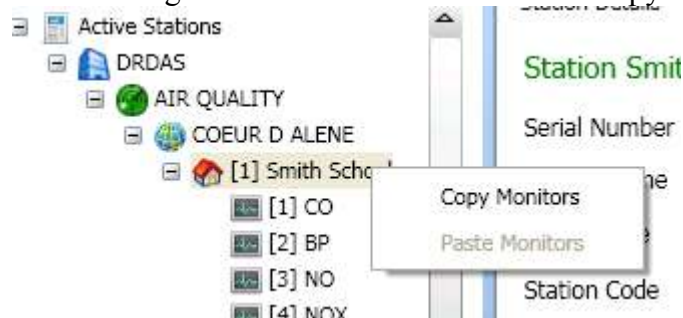
Enable AIRS for this monitor

Substance	64101	Sample Duration	1 HOUR
Occurrence	1	Units	016
Collection Frequency	EVERY DAY	Method	000

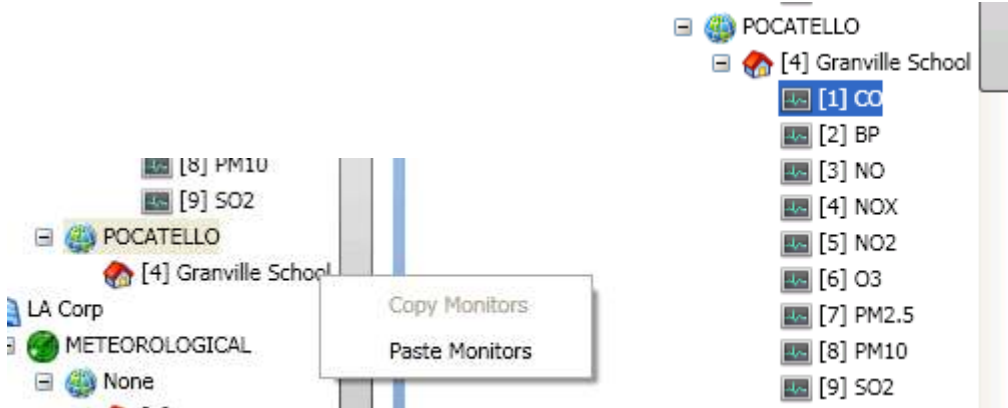
Airs Codes for Monitors

After a station has been fully populated with monitors it is possible to copy and paste that set of monitors to other stations. Many Envista users have decided to define a few standard station configurations that cover the monitors most commonly used. They then can copy and paste these standard sets into new stations. Monitors not present in the station are set to a State of Off.

To copy a station's monitors right click on the station and select copy.



Then, on the new station, right click and select paste. The copied monitors will appear in the new station.



If additional monitors are needed in a station they can be added after the paste. This process is a big time saver and establishes some standards in how stations are configured.

Assign Personnel Roles in the Station

After personnel and stations have been created the user roles can be assigned. The three Roles in Envista are View, Final Edit and Preliminary Edit. In Envista Version 7 these were names Technician, Supervisor and Editor. Roles can be assigned in the Personnel form using the tabs:

- Roles Management by User
- Roles Management by Station or
- Roles management Wizard

The wizard is the easiest and most efficient method when setting up the system. All stations and users should already have been created. In the Wizard form select the User, A roles for the User and the stations in which the users it to have the selected Role. If the user should have different roles in other stations also select that role and the associated stations. For each set of stations also indicate how the user wants their Alerts delivered. Popup is normally always selected as that causes the alert to Appear in the Envista ARM program running on the users desktop. Email is the next most common delivery. Email includes delivery to cell phones using the SMS server of the cellular service provider for the phone. The wizard form appears below:

Personnel Management System Users Management Roles Management By User Roles Management By Station Roles Creator Wizard

Roles Creator Wizard

Personnel: Downs Nathan

Role: Preliminary Edit

Notifications:

- Popup
- Email
- SMS
- Fax
- Voice

Stations:

- Smith School
- Station 2
- newer
- Granville School

Select None Select All

Roles Creator Wizard

The Roles Management by User Tab shows all roles for a User in all stations. Roles can be easily reviewed and adjusted from this tab. Clicking Add Role supports adding a new role in a new station.

Save Person's Roles Add Role Delete Role

Personnel Management System Users Management Roles Management By User Roles Management By Station

Roles Management By User

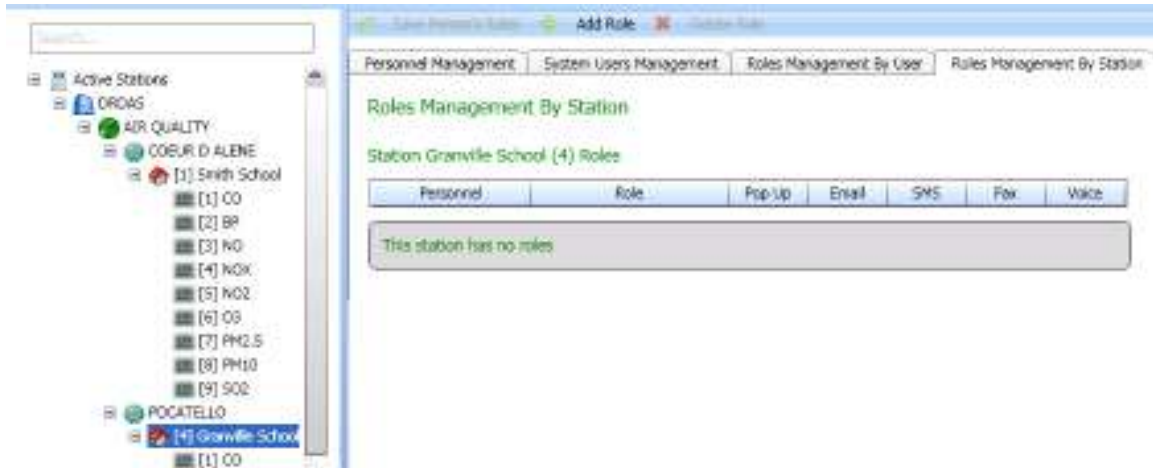
Select Personnel: Downs Nathan

Downs Nathan Roles

Station	Role	Pop Up	Email	SMS	Fax	Voice
Station 2	Preliminary Edit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Roles Management By User

The Roles Management By Station shows all User roles for one station. If you have just added a new station this could be the best tab to assign roles to your personnel. Select the By Station Tab and then click in the tree on the station. Select Add Role to add a Role for a User in the selected station.



Roles Management By Station

Product Manuals

The Envista Arm product manual is available for User reference. It explains in detail the use of all aspects of the Setup program. Please consult this manual for addition information.

The DB Builder product manual is also available for User reference. It explains in detail the use of all aspects of the DB Builder program. Please consult this manual for addition information.