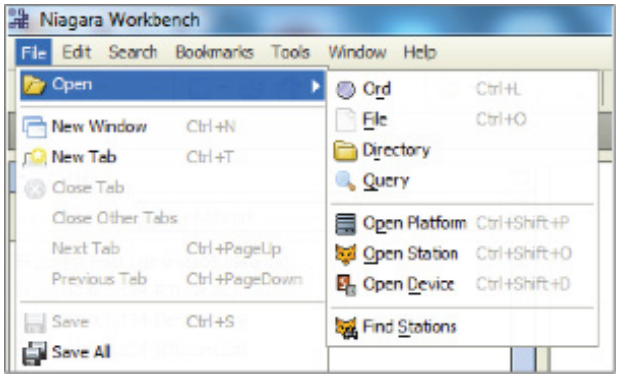
Using Workbench Version 3.7 or 3.8 as a Sedona Tool

For those who have access to Niagara Workbench, this programming tool for Niagara Framework works well as a Sedona Tool when programming devices built on the Sedona Framework. Niagara Workbench is available from Tridium or from a Tridium OEM. It can be called by several different names such as Workplace or ProBuilder but we will use the generic term Workbench to mean Niagara Workbench with Sedona installed. Workbench does not come from the factory with Sedona installed but it can be easily updated for Sedona on Workbench versions 3.7.x or 3.8.x. The discussion that follows assumes a basic understanding of Niagara Workbench by the user. Keep in mind that Niagara Workbench is a complex tool because it was originally developed for Niagara Framework use. There are many features in the program that are not applicable to Sedona Framework so they will not be discussed.

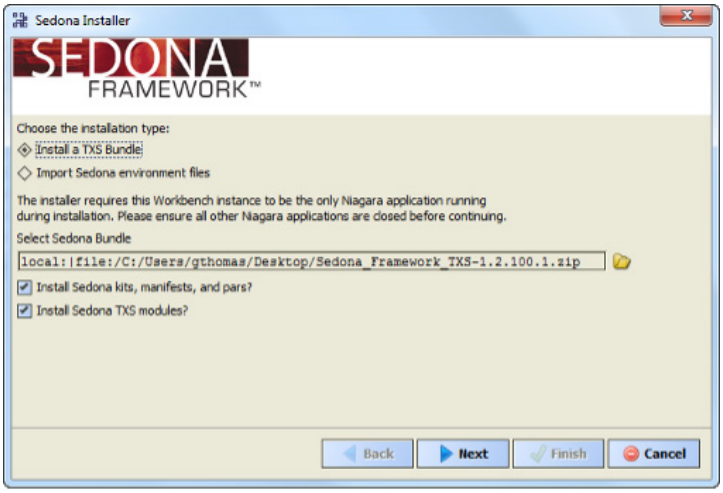
1 Installing Sedona into Workbench



After starting Workbench, click on **File > Open** and see if you have an option called Open Device. If it is there, Sedona is installed and you can skip this section and go to the section on installing component bundles. If you do not see Open Device you need to install Sedona Framework into Workbench.

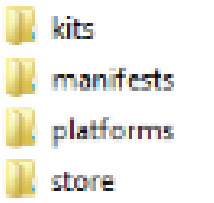
Go to the Contemporary Controls' web site and click on **Support > Product Support Materials > Sedona** and download the Sedona Framework TXS Bundle for either Workbench 3.7 or 3.8 to match the Workbench version you have. The Workbench version is clearly marked on its welcome screen.

Download the bundle and put it on your desktop for convenience but leave it zipped. Go back to Workbench and click **Tools > Sedona Installer** and you will see the following screen. Accept the default settings. Click the file icon to browse for your file. Click **Next**.



After you click **Next** you might receive a message about Module Downgrade. Just ignore the message by clicking **Yes**. Click **Finish** and Sedona will be installed.

When you install Sedona in Workbench you will gain a sub folder called sedona within the Niagara directory. It can typically be found in the Windows' root directory at **Niagara > Niagara 3.8**. If you click on Sedona you will see four folders – kits, manifests, platforms and store. The first three folders store information about the personality of Sedona devices while the fourth folder is where Sedona applications and Sedona device information is backed up. When Sedona is installed on the Workbench tool, there is a set of Sedona release 1.2 components that will populate the first three folders. Components are organized in meaningful module groups and deployed as kits. These component kits come from Tridium and are hardware independent in that they will run on any Sedona 1.2 device. For example, *And2* and *Or2* are Boolean logic components which can be found in the Logic Kit from Tridium.



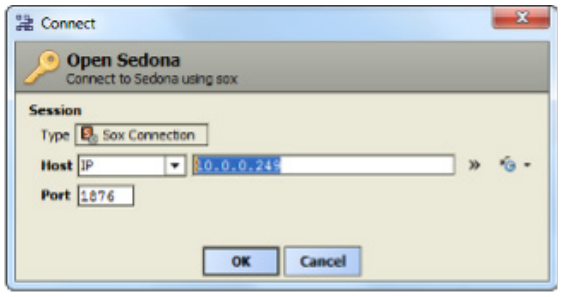
However, Contemporary Controls has developed component kits specific to the Sedona platforms it developed and these must also be installed. These kits are designated by vendor, product name and module type such as *CControls_BASC20_IO*.

In addition, Contemporary Controls has developed hardware-independent component kits that would be beneficial to the Sedona community and these should also be installed. These types of kits are identified by vendor and module type such as *CControls_Function*.

Collectively, these kits are provided in a component bundle and labelled with a product identifier and a bundle number. As more components and kits are developed, they are added to the bundle and the revision number of the bundle is incriminated. No components or kits are ever removed so that installing the latest bundle does not cause harm. For the BAScontrol series, the bundle would have a name such as *Component_Bundle_BASC_1.0.19*. The latest bundle can be found on the same web page were the TXS bundles were found. Like the TXS bundles, the Component bundles are zip files that should be left unzipped for installation.

Use the same method for installing the component bundles as was done with the TXS bundles. The Sedona Installer in Workbench will then add those kits, manifests and platforms in the appropriate folders if they do not exist already.

2 Accessing a Sedona Device

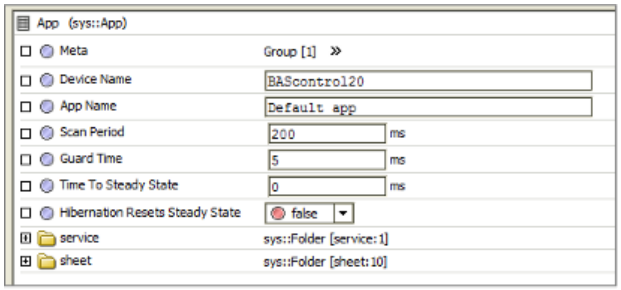


For the Sedona device we will use a controller in the BAScontrol series (BASC). Like other Sedona devices, the BASC is IP-based so we need Workbench to be on the same sub-net as the BASC. In this example we have the BASC addressed at 10.0.0.249. Using a web browser, we can try to access this IP address. If we obtain an Authentication Request from this controller, we are assured we are on the right sub-net. We can enter credentials for this controller to view the main web page or we could just close our web browser and bring up Workbench.

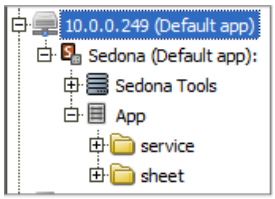
At the Workbench home screen, click **File > Open > Open Device** and while accepting the default settings enter the IP address of the controller and then click **OK**. If you cannot find Open Device, Sedona is not installed.

Next you will be prompted for credentials. The default credentials are *admin/admin*. You can click on **Remember these credentials** if you which. Click **Ok**.

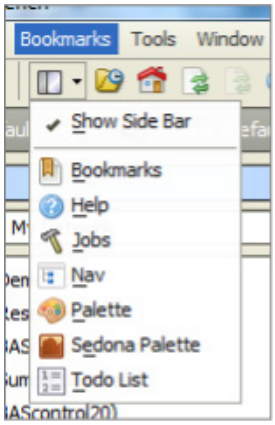
If you are successful, you will see a reference in the main window for Sedona Tools and **App**.



The application property sheet should appear. The default **Device Name** would be the product name. This can be changed. The default **App Name** is simply Default app and this can be changed as well. The **Scan Period** indicates how often Sedona logic is solved. Although Sedona can execute wire sheets in less than 100 ms, time must be left for the controller to do other background tasks including updating web pages. It is best to leave this setting at 200 ms. Leave the other settings at their default value.



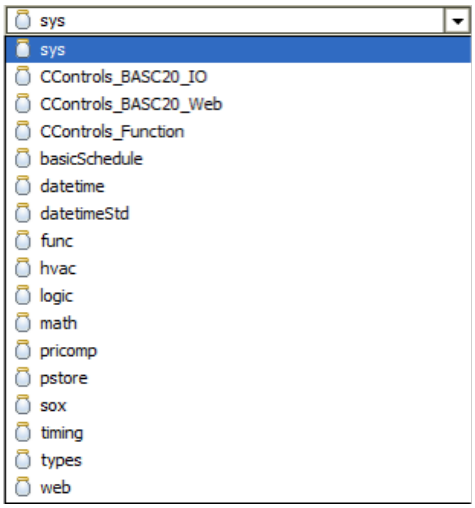
There are two ways to reach the wire sheet. The first is just to click on the sheet folder in the App property sheet. The second is to go to the Navigation pane and expand the navigation tree for the controller being accessed. By clicking on sheet, you should be able to see the main wire sheet although the default wire sheet is blank.



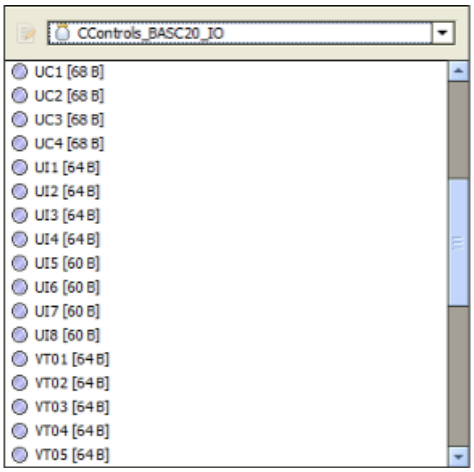
Now that you have opened up the wire sheet you should see the Sedona Palette just below the Navigation pane. If it is not there, go to the Side Bars icon just below the word Bookmarks and click on the drop-down menu. Select **Sedona Palette** and it will appear.

3 Accessing the Sedona Palette

Once the Sedona Palette is viewable you can see all the component kits that reside on the connected Sedona device. Each kit is represented by the jar icon. Click on the drop-down menu to see all the kits. The Tridium 1.2 release kits carry no vendor name while custom kits do such as the Contemporary Controls' IO, Web and Function kits. If they also carry a product designation, these kits are hardware dependent and not portable to another Sedona device.

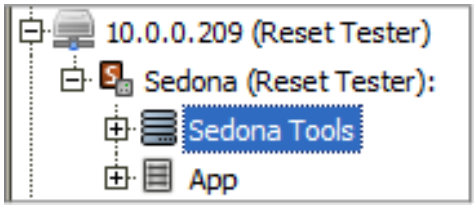


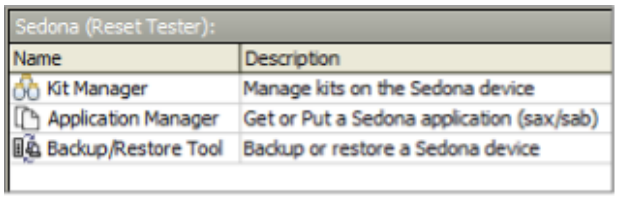
Using the drop-down, select the *CControls_ BASC20_IO kit*. In the case of the BAScontrol20 there are 49 components to choose from – 20 real points, 24 virtual points, a scan timer and 4 retentive universal counters. All are intended for one time use and only those dragged onto the wire sheet will become part of the logic of the controller.



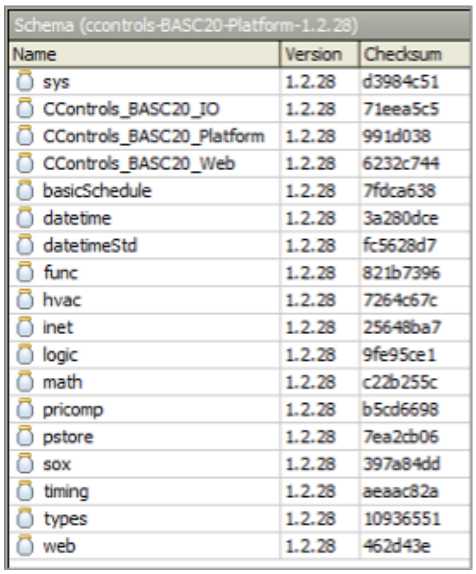
4 Using the Sedona Tools within Workbench

If you go into the navigation pane and expand the IP address of the Sedona device, you can access the three Sedona Tools. The three Sedona tools along with what service they can provide are listed on the right. You will notice that at the header is the name of the Sedona application running on the attached controller. This way you can confirm that the controller is executing the application that is of interest.



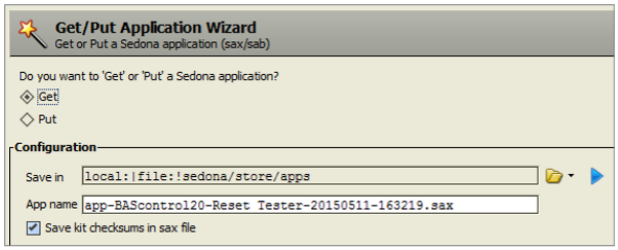


Directly below the list of tools is a list of kits that are installed on the controller. This information comes from the Schema read from the installed *app.sab* file on the controller. Notice that at the top of the list is platform information that comes from the controller. A checksum accompanies each kit. Having a kit does not necessarily mean that components in the kit are being used. It just means that the controller can support all of the components from that kit.

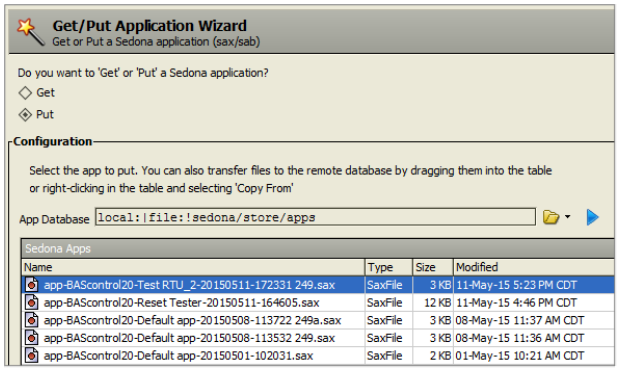


5 Using the Application Manager

By clicking on **Application Manager** you can either save or restore the application which includes all the wire sheet information. A Get captures the *app.sab* from the controller, converts it to an *app.sax*, and stores it where you want it while offering you a suggested file name and location. If you want, you can append the last quad of the IP address of the controller to the file name if you have several controllers running the same application. This way you can easily locate the controller you just backed up. Accept the default check box for saving the kit checksums, click **Next**, then **Finish** and then **Close** and you will have a copy of your application on your computer that is running Workbench. Saving the *app.sab* file is quick and easy but it only saves the *app.sab* and nothing about web page configurations and BACnet information.

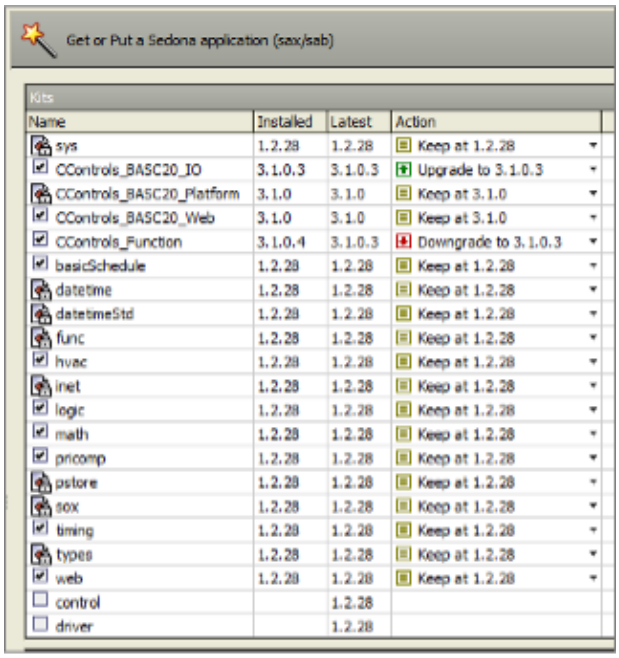


To restore an *app.sab* file onto the controller you will need to do a *Put*.



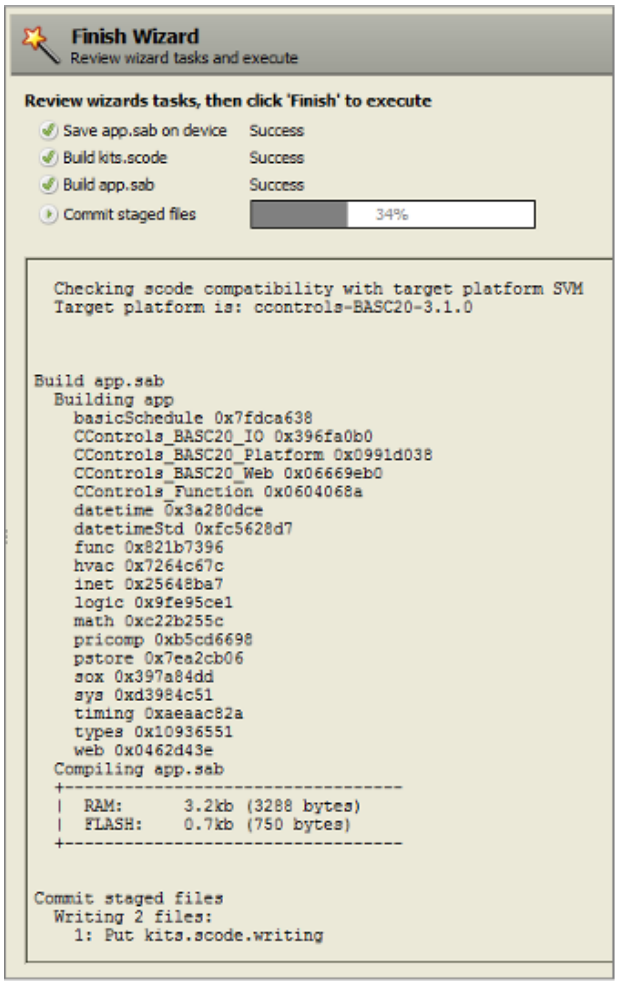
You will be presented with a choice of files. You can click on the Modified column to arrange the files by date to help you search for the one you want. Once you highlight it, click **Next** at the bottom of the screen.

ou will be presented with a list of kits along with the ability to make kit changes. The kits installed in the controller will have either a check mark or an icon indicating that it is being used in the application. The installed version is then listed. The column called Latest identifies the version number available in the Component Bundle that was installed in Workbench. If a version difference is noted, then you have the option to *Keep*, *Upgrade* or *Downgrade*. It is best to ignore these options and just click **Next**.



If a kit is not found in Workbench, or a kit is present but with a different checksum, it will be necessary to upgrade you Component Bundle. Contemporary Controls only adds kits to Component Bundles and does not remove old kits. Therefore, it is safe to install the latest bundle. Complete the operation by clicking **Next** and then **Finish**. You can observe the progress of the restore operation on the subsequent screen. Once the restore is completed you will be prompted to *Restart* the Device. Go ahead and do that.

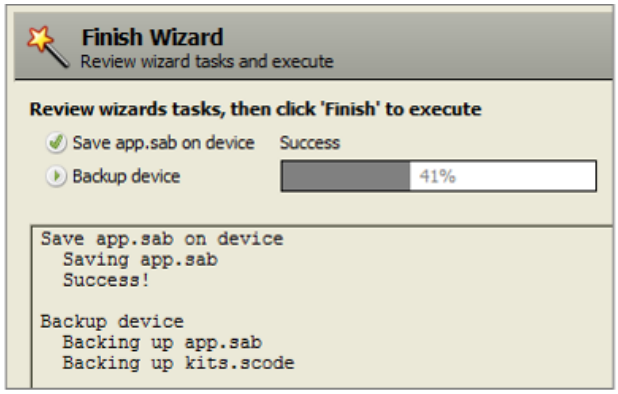
You will notice that you will lose connection to the controller. Just wait until the controller is finished restarting and then log into the controller again.



6 Using the Backup/Restore Tool

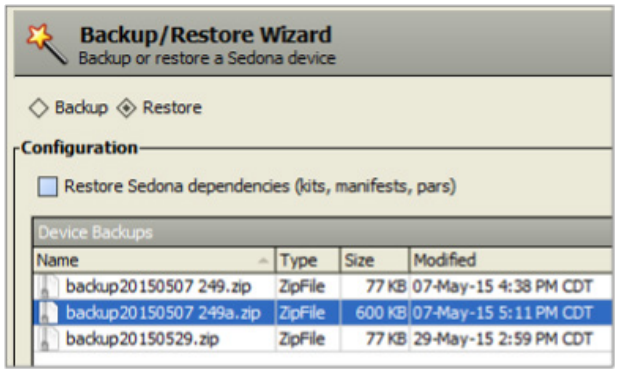
The second tool is the Backup/Restore tool which should not be confused with Contemporary Controls' Sedona Backup and Restore Utility. The former only backs up applications while the latter backs up the complete Contemporary Controls' controller project including BACnet configuration and web pages. The main difference between the Backup/Restore tool and the Application Manager tool is that the *kits.scode* file is also saved during the backup process and is put back during the restore process. Backing up the *kits.scode* file takes much more time.

Clicking on the **Backup/Restore** option gains you a screen asking for selections. Do not ask to have the Sedona VM backed up and it is usually not necessary to backup dependencies. However, you should leave the box checked for backing up the *app.sab* and the *kits.scode*. Notice that you will be saving everything in one zip file. Change the name or append the controller number if you wish. Also notice that you will not be generating an app.sax like you did when using the Application Manager. Click **Next** and then **Finish** to complete the process. You can observe the backup process with the following screen. Once the process is completed by announcing Finished, click **Close**.



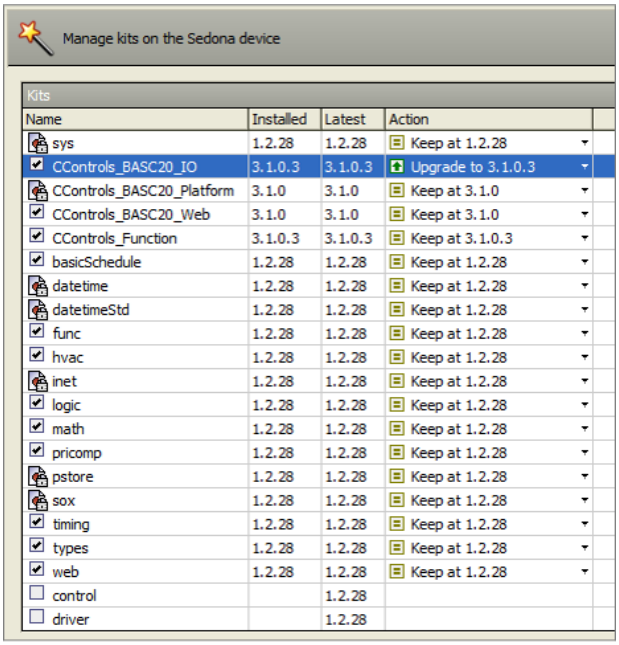
To do a restore, select the Restore option and you will be presented with a choice of files. Select the one you want and click **Next** and **Finish**. It is not necessary to restore dependencies.

Once the process is complete you will be prompted to *Restart* the device. Do so and then wait until the controller restarts before accessing it again with Workbench.



7 Using the Kit Manager

The final Sedona tool in Workbench is the Kit Manager. The Kit Manager allows you to generate a proper *kits.scode* file based upon the kits you select. The Kit Manager firsts compares the kits that are installed on the controller with those available on Workbench. If different versions of kits exist, then you are given the option to *Keep*, *Upgrade* or *Downgrade* that particular kit. Once selections are made, the Kit Manager uses the *app.sax* version of the installed *app.sab* and generates a new *kits.scode* for use in the controller. It is highly recommended to use the Kit Manager only at the direction of Contemporary Controls' technical support. Consider this tool as only necessary for invoking advanced features of Sedona Framework.



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