Using the Pinnacle Controller "Backup and Restore" Feature.

Creating a backup requires that the controller be in normal run mode (and not in loader mode), and will not affect the normal operation of the controller.

! Restoring from a backup requires that the controller be in loader mode which will stop all of the controller functions such as running programs, communications, and alarming. Steps should be taken to insure that the controller being offline for a couple minutes will not cause any problems due to any controller functions being temporarily not available.

If you attempt to do a backup or restore and there are problems then see the "Troubleshooting" section at the end of this document.

Quick procedure list

These steps are discussed in further detail below this section. This is a quick rundown of the procedures.
Backup:

1. Plug a USB stick into one of the USB ports.

2. Log into the controllers web portal with a web browser and go to "Administration".

3. Go to "Create a USB Backup Image".

4. Fill in the appropriate information and click "Start Backup".

Restore

1. Put the controller into loader mode. Please read the information above in the second paragraph regarding restoring from a backup before putting the controller into loader mode.

    a. To put the controller into loader mode, power cycle the unit and then press and hold the button that is close to the Com ports (and not either button by the display).

    b. Hold the button until the display reads "SB Loader…" then let go.

    c. Wait until the drives are mounted and the display is showing an IP address before proceeding.

2. Plug the USB stick (containing backup files) into one of the USB ports. The display should respond with the message "Restore?".

3. Press the big button close to the display down then release. You will be presented with information on the display about the first backup on the stick. There can be more than one backup, and if there is you can use the big button to navigate to the backup that you want to use (press up and down on the button).

4. When the correct backup is selected, press down on the big button. The display will show the name of the backup and the question "Start Restore?". Press down on the big button to start the restore.

5. The display will now show the procedures progress until the procedure is complete at which point it will display "Restore Successful" and "Reboot?".

6. Press the big button will reboot the controller. The controller will come back up in normal run mode with the new configuration in place.

Detailed procedures

Backup

You should use a USB stick that is free of any files other than other Pinnacle backup files or Pinnacle data log files. You can have many Pinnacle controller backup files on a stick and the system is designed to work this way, so that is not a problem.

1. Plug a USB stick into one of the USB1 ports on the controller. Any USB port can be used and it is safe to leave other sticks plugged in that may be there for data logging.

   Note: If the controller display shows a "Prep USB?" message, then you press the large button next to the display. The display should respond with a "Complete" message. "Prepping" the stick removes any boot sector so that it is safe to leave the stick in the controller if desired. This keeps the controller from booting to the stick in the case of a power fail.

2. Log into the controllers web portal by opening a web browser and using the controllers IP address as the web page address.
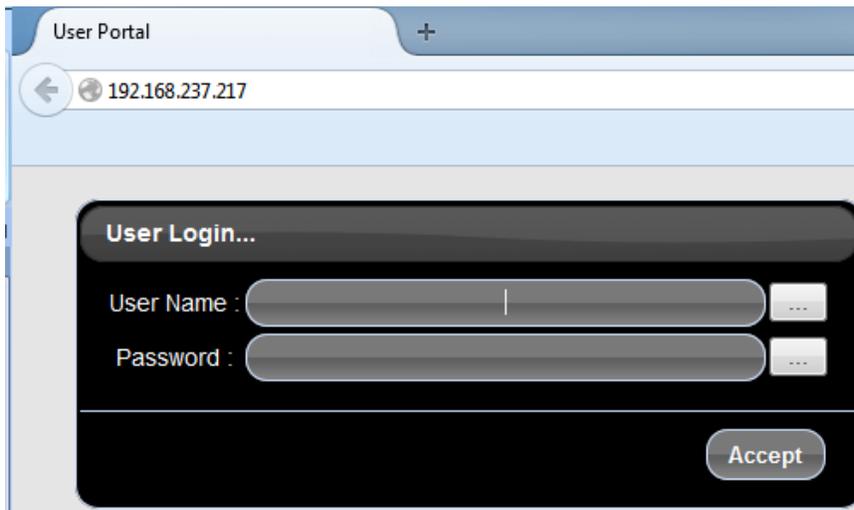
3. You should see the web portal main menu which may look different depending on the permissions assigned to the account that you are logged in to. Any account with backup permission will have an Administration button.
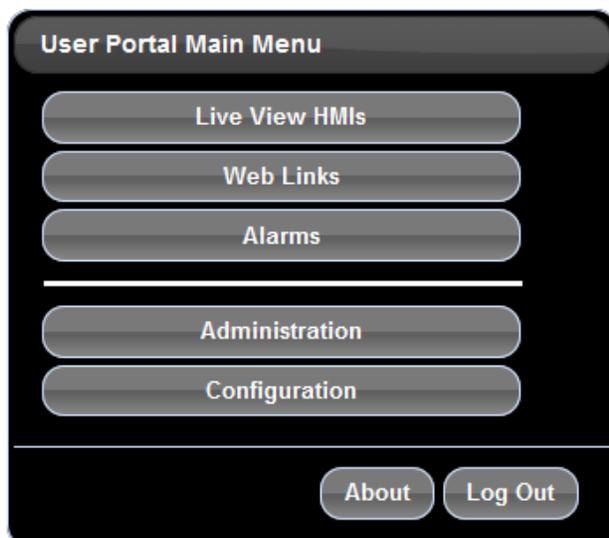
4. Click on the "Administration" button, then on the "Create a USB Backup Image" button.

5. Select the correct USB port.

6. Select the backup mode. "Application only" is all that is needed to clone this unit by restoring from this backup. "Application + Data" will also copy any data that has been logged for trends.

7. Fill in the LCD Note fields. What you put here will be displayed when restoring the backup to a controller, so good information to put here is information about the unit being backed up and the date of the backup. Anything can be put in here so the information is up to you. At least the first line has to be filled in to continue.

   Note: Only use letters from the alphabet, numbers, dashes, or underscores in the LCD Notes. Using other characters such as "#" may cause the backup to not work properly.
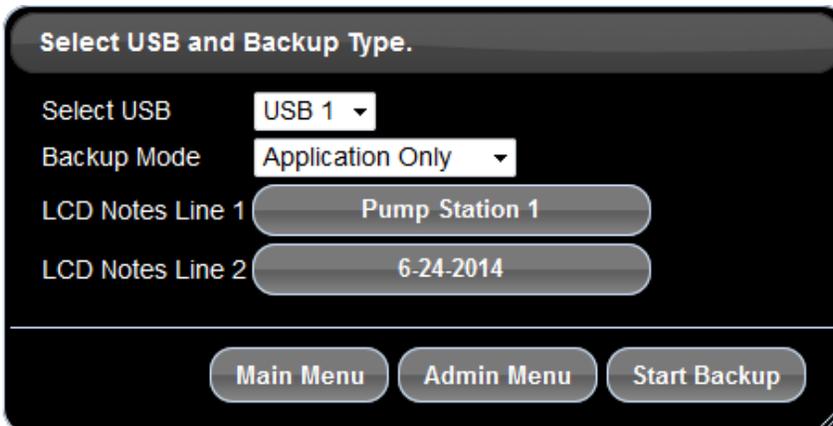
8. You should see a progress bar at this point. You can navigate away from this screen and the backup will continue, but you cannot get back to this screen to check the progress once you have changed screens.
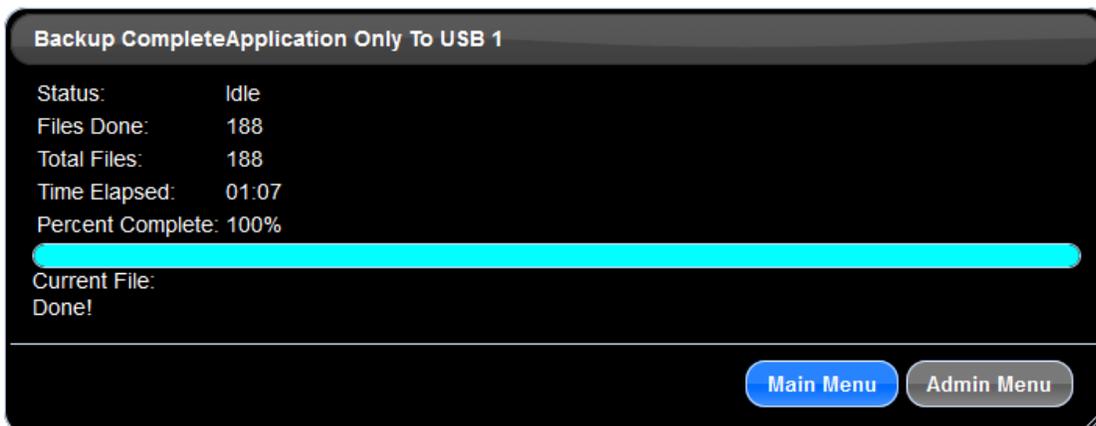
Restore

1. Put the controller into loader mode. Please read the information on the first page of this document in the second paragraph regarding restoring from a backup before putting the controller into loader mode.

    d. To put the controller into loader mode, power cycle the unit and then press and hold the button that is close to the Com ports (and not either button by the display).

    e. Hold the button until the display reads "SB Loader…" then let go.

    f. Wait until the drives are mounted and the display is showing an IP address before proceeding.

2. Plug the USB stick (containing backup files) into one of the USB ports. The display should respond with the message "Restore?".

3. Press the big button close to the display down then release. You will be presented with information on the display about the first backup on the stick. There can be more than one backup, and if there is you can use the big button to navigate to the backup that you want to use (press up and down on the button).

4. When the correct backup is selected, press down on the big button. The display will show the name of the backup and the question "Start Restore?". Press down on the big button to start the restore.

5. The display will now show the procedures progress until the procedure is complete at which point it will display "Restore Successful" and "Reboot?".

6. Press the big button will reboot the controller. The controller will come back up in normal run mode with the new configuration in place.

Troubleshooting

The USB Stick

Some USB sticks have an extra partition or are bootable, which make them not work well with the controller. If you plug a stick to do a backup and the display shows a "Prep USB?" message, then you can press the large button and any boot sector will be removed. This procedure does not destroy any files on the stick. This protects the controller from booting to the stick in the case of a power fail, and the stick can be left in the unit if desired for data logging.

In the case of an extra partition, the backup or restore procedure may not work properly and the fix is to try a different stick.

Kernel and Loader Version

The controller must have Kernel version 5.03b32 or greater and Loader version 1.12b32 or greater for the backup and restore feature to work. the Kernel is a file that is downloaded by ScadaBuilder and the version will be the same as the version of ScadaBuilder.

The latest version of ScadaWorks can be downloaded from our website here:

http://files.iclinks.com/software/scadaworks/release/InstallImage.zip

You can check the loader version by putting the controller into loader mode:

> Power cycle the controller. If it is difficult to remove power from then unit then you can alternatively reboot the controller by clicking the "Restart Target" button in the node settings under the "Target Configuration / IsaGRAF-FTP-HTTP-Admin" tab at the bottom of the page.
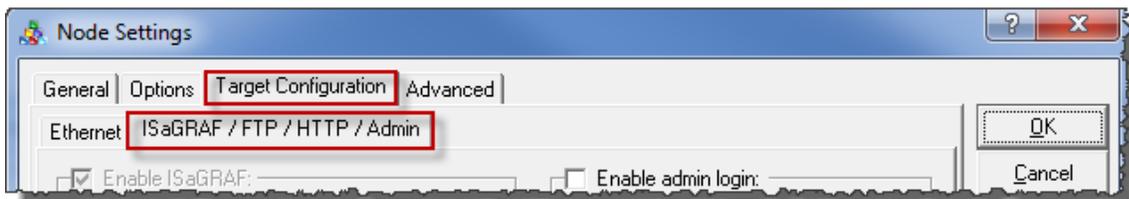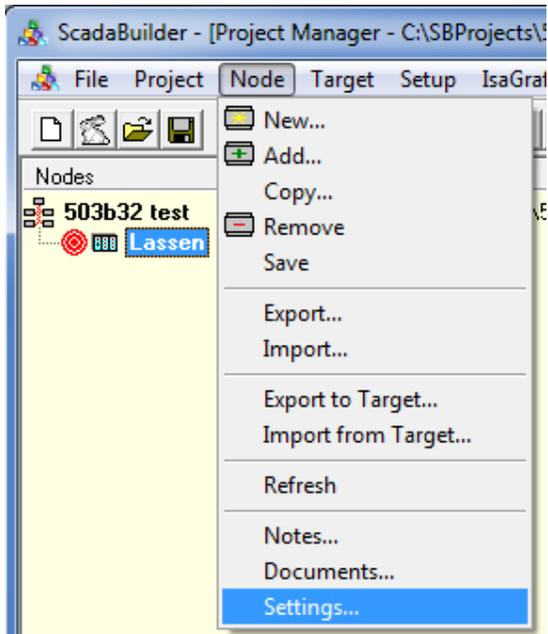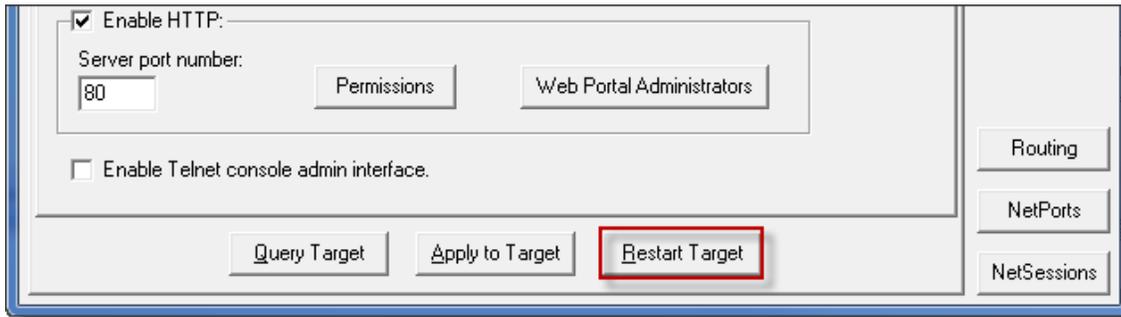
Press and hold the button that is close to the Com and USB ports (and not the button by the display).
Hold the button until the controller display reads "SB Loader …" then let go.
The loader version is at the top of the display.

If the loader version is not high enough then the unit will require a loader update through ScadaBuilder. The loader update feature is located under the "Target" menu (not the red target icon).
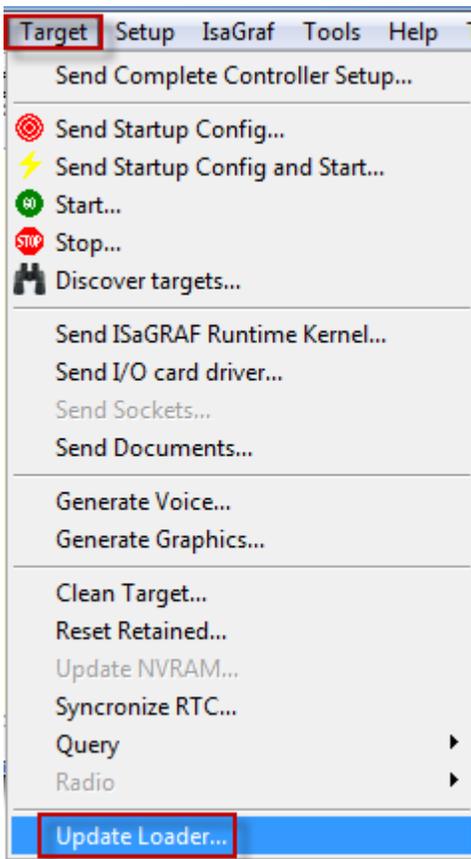
The unit must be in loader mode when updating the loader version.

If you have any questions then contact ICL support.

support@iclinks.com

530-888-1800 then hit the 3 key for support.