

CrossConnect: CrossRoute

CROSSROUTE

CrossRoute is the automatic download tool for the CrossConnect backend system. CrossRoute can automatically download application, transcript, and recruitment data from your CFNC CrossConnect backend site on a pre-determined schedule. The best practice for CrossRoute is for the tool to be installed and run by a single campus CrossConnect account. Most campuses have a generic admissions or IT CrossConnect account setup and it's suggested that you use this account to install and run the CrossRoute tool. CrossRoute should **not** be installed and run by the same user account on different computers at the same campus.

CROSSROUTE TECHNICAL INFORMATION

CrossRoute

CrossRoute is compatible with the following operating systems:

- Microsoft® Windows 7 Professional (Enterprise and Ultimate) or newer
- Microsoft® Server 2008 R2 or newer

CrossRoute is not compatible with Mac operating systems.

The minimum hardware requirements to run CrossRoute are:

- 1 gigahertz (GHz) or faster 32-bit (x86) or 64-bit (x64) processor
- 2 GB RAM
- 40 GB available hard disk space (32-bit) or 60 GB hard disk space (64-bit)
- Microsoft .Net Framework 4.5.1

If you are unsure if you meet the minimum hardware requirements, please check with your IT office.

NOTE for North Carolina Community Colleges (NCCC): If you are setting up CrossRoute to use with the Colleague import, see the section at the end of this document ([Additional Notes for North Carolina Community Colleges](#)) for more information.

DOWNLOADING AND INSTALLING CROSSROUTE

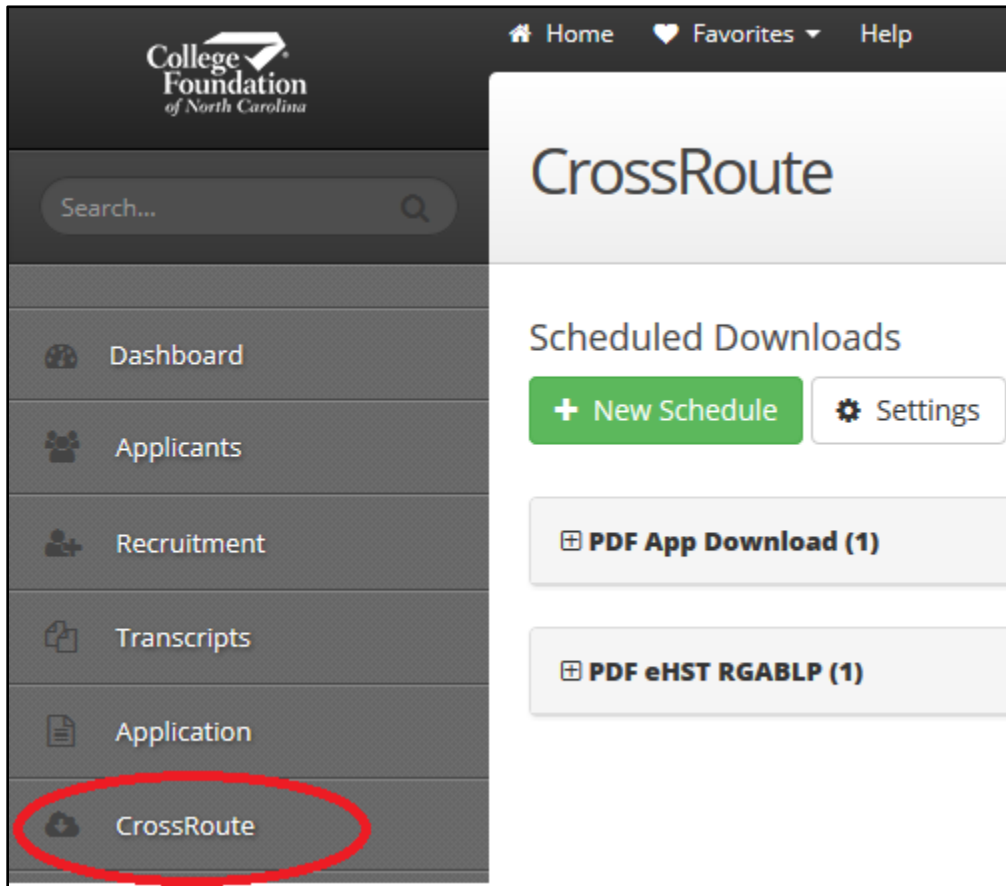
CrossRoute

The CrossRoute software can be downloaded from CrossConnect, in the **CrossRoute** area. If you do not have account permissions to access this area, please contact your CFNC Primary Campus Contact, or email cfnc-campus@northcarolina.edu for assistance. Downloading and installing the CrossRoute software also includes setting up your account-specific **key** and **secret**. The use of the **key** and **secret** are used to verify your account and access when setting up and using the CrossRoute tool and should be treated like passwords.

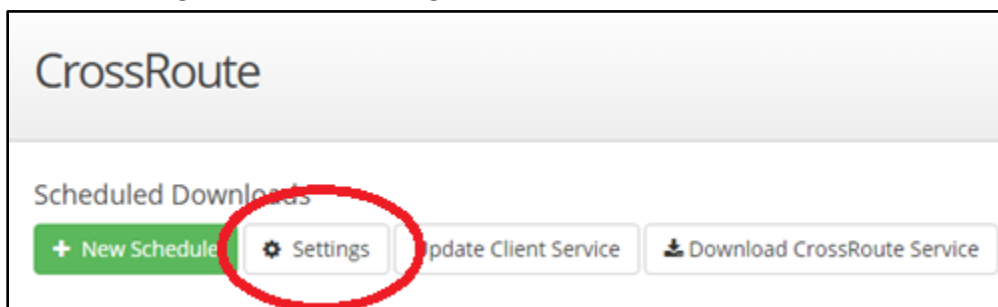
CrossConnect: CrossRoute

Downloading CrossRoute Software

1. Navigate to the CrossRoute area of CrossConnect



2. Click on **Settings** icon (⚙️) or Settings button



3. Make note of the **key** listed here (this will be needed for the CrossRoute Service Manager setup); the **key** is an account-specific code, generated by CrossConnect that should be treated like a password

CrossConnect: CrossRoute

CrossRoute Configuration

Key

Secret

Confirm Secret


Cancel Save

4. Enter in any combination of letters, numbers and special characters into the **secret** field; the **secret** is account-specific , set by the user and should be treated like a password
5. Re-enter your **secret** into the **confirm secret** box
6. Click **Save**
7. Back on the main CrossRoute screen, click the **Download CrossRoute Service** button (

 Download CrossRoute Service)

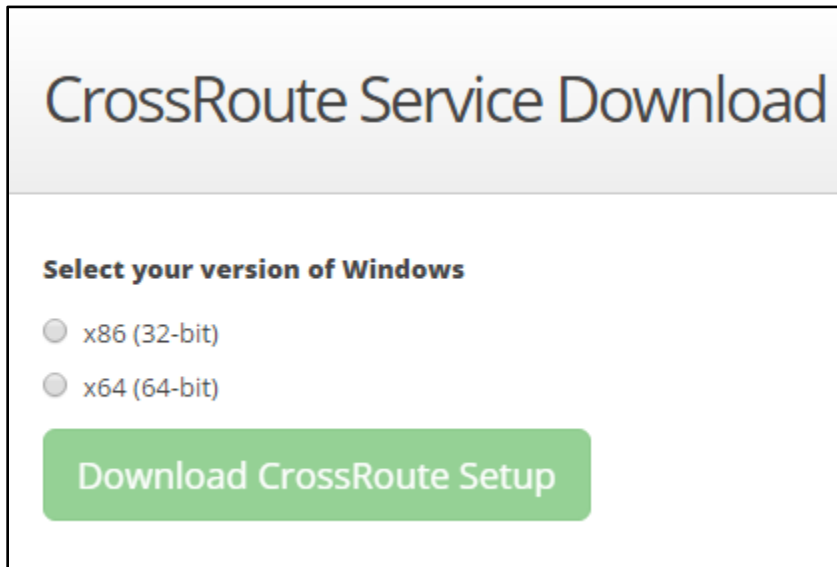
CrossRoute

Scheduled Downloads

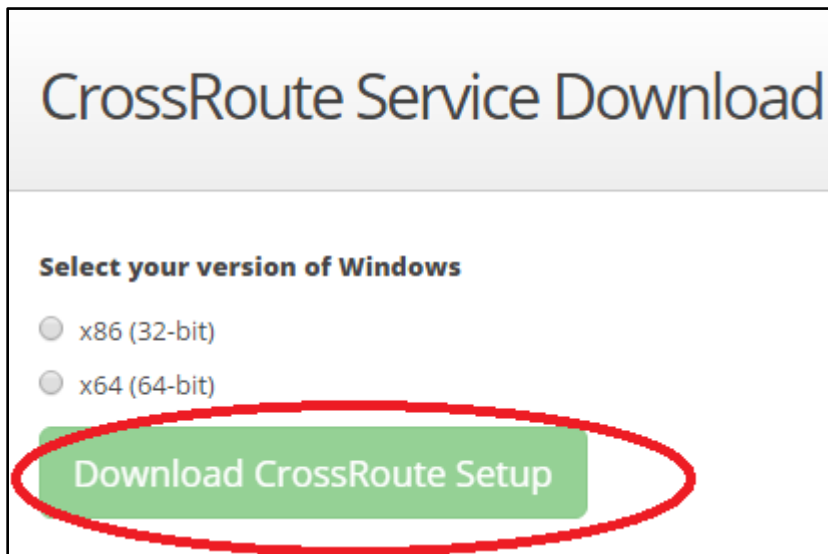
+ New Schedule Settings Update Client Service  Download CrossRoute Service

8. Select your version of windows to download the appropriate CrossRoute software (*Note: if you are unsure check with your IT office; 32-bit is default for most*)

CrossConnect: CrossRoute



9. Click the **Download CrossRoute Setup** button ()



10. A popup window will appear asking you what you would like to do with the `crossroute_setup.msi` file, click **Save File**

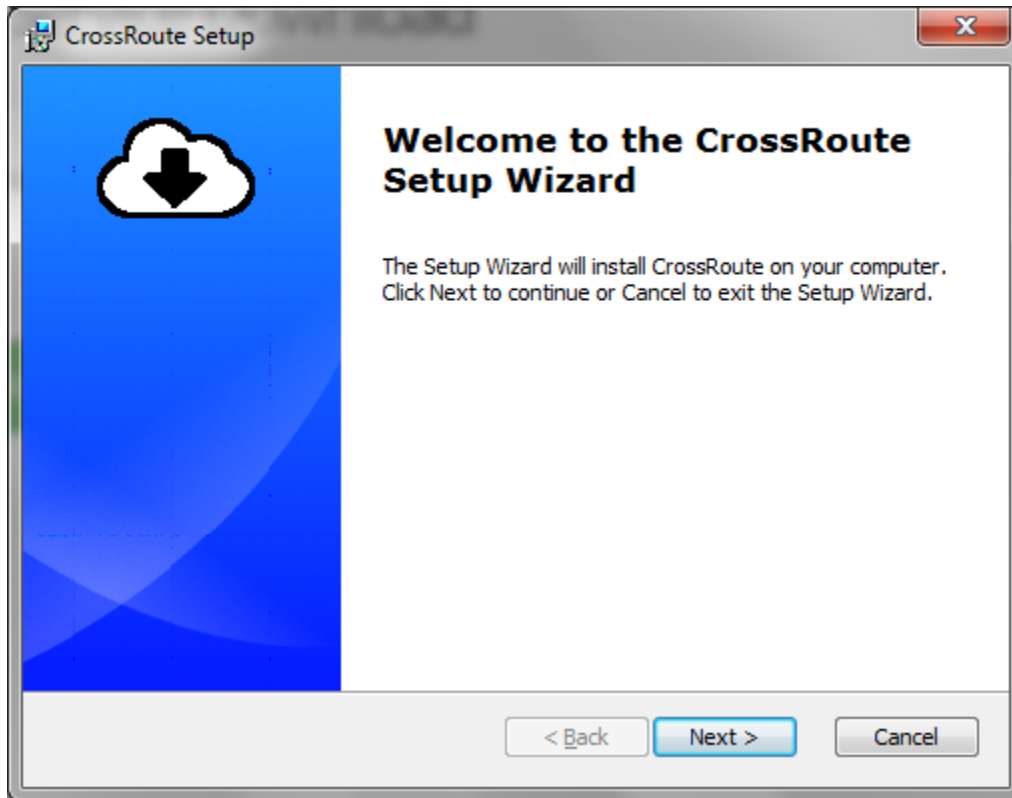
You have now established your account key and secret, as well as downloaded the needed CrossRoute software. When you are ready to install the software please follow the steps in the next section.

Installing CrossRoute

Note: You do need full administrative rights to install and fully run CrossRoute. Depending on your computer's security settings, you may be asked at various times throughout the setup if you are sure you want to run the software or allow the user account to make changes. If you get one or more of these messages, answer "Run" or "Yes" (whichever is an available option) to continue with the installation of the CrossRoute tool.

CrossConnect: CrossRoute

1. Navigate to the downloaded and saved crossroute_setup file on your computer
2. Double-click the file
3. In the **Welcome to the CrossRoute Setup Wizard**, click **Next** to start the setup process

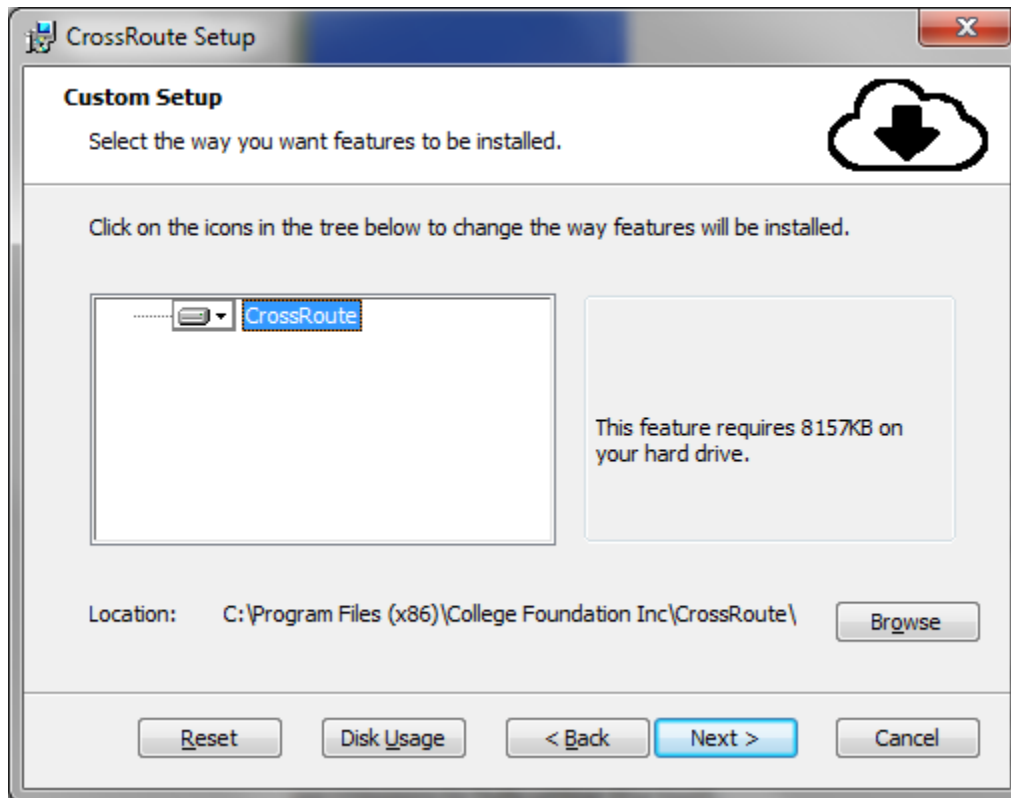


4. On the **Custom Setup** screen, you can select where you want the CrossRoute tool installed on your computer and click **Next**, or just click **Next** to accept the default location

C:\Program Files (x86)\College Foundation Inc \CrossRoute (if Windows version 32-bit)

C:\Program Files\College Foundation Inc \CrossRoute (if Windows version 64-bit)

CrossConnect: CrossRoute



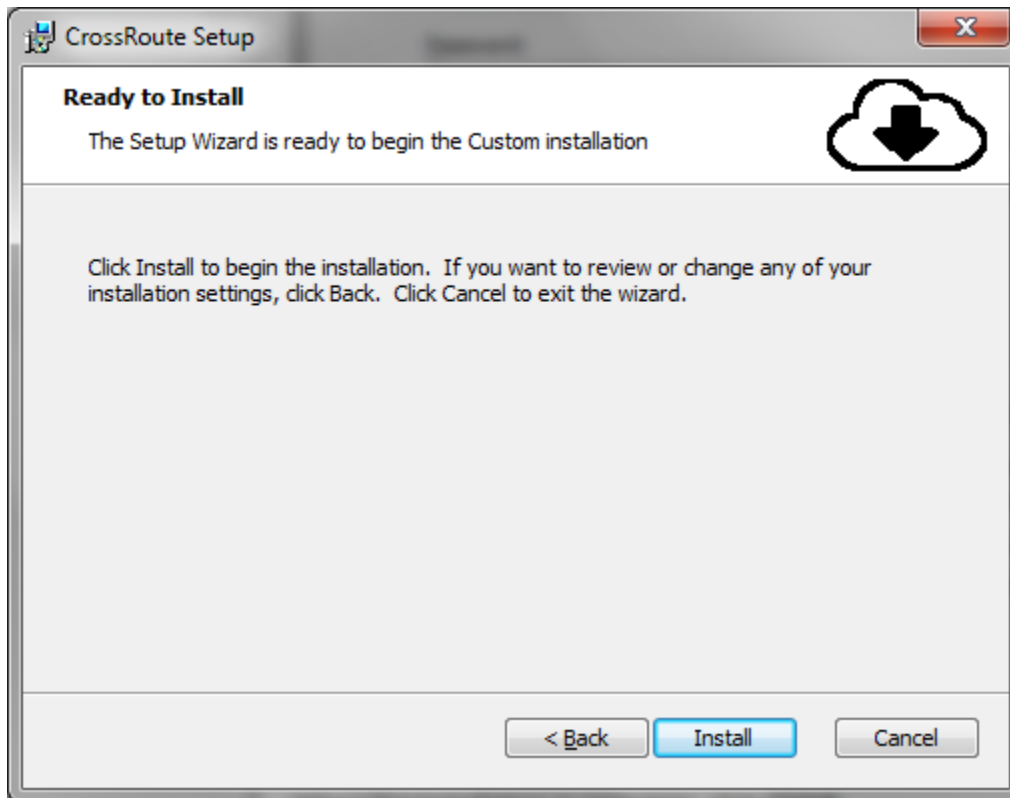
5. On the **CrossRoute Service Account** screen, specify a user account (computer account, not CrossConnect account) to run the CrossRoute service. This account should have **full administrative rights** on the computer (Network Service level accounts do not have high enough permissions to fully utilize the tool).

CrossConnect: CrossRoute

The screenshot shows a Windows-style dialog box titled "CrossRoute Setup". The main heading is "CrossRoute Service Account". Below the heading, it says "Please enter a username and password to use as the CrossRoute service account". There is a cloud icon with a downward arrow. Below this, there are two input fields: "User Name:" with the text "NT Authority\SYSTEM" entered, and "Password:" which is empty. A note at the bottom reads: "NOTE: To use the built in SYSTEM account, leave the password field blank and click the Next button. Otherwise, enter the username and password of the account you would like to use to run the CrossRoute service." At the bottom of the dialog are three buttons: "< Back", "Next >", and "Cancel".

- a. In the **User Name** field, you will need to enter the domain with a backslash followed then the user name for the computer administrative account.
 - b. Next in the **Password** field, enter the password for the user-specific administrative account
 - c. Click **Next**.
6. On the **Ready to Install** screen, click **Install**

CrossConnect: CrossRoute



7. When the installation is complete, click **Finish**

SETTING UP CROSSROUTE

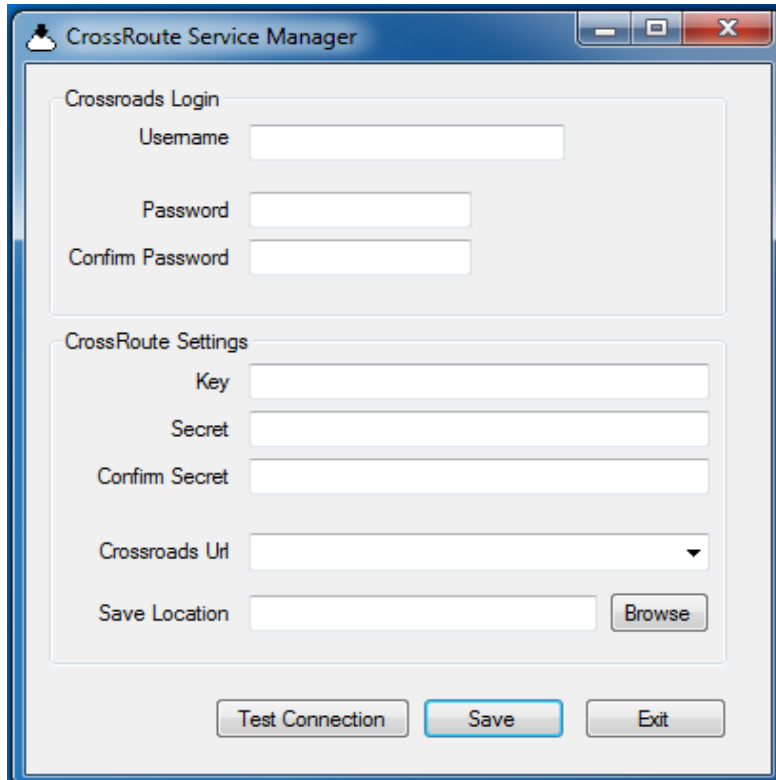
CrossRoute

Once the CrossRoute Service Manager has been installed, you will need to setup the tool to connect to your CrossConnect account as well as set up schedules and identify projects for the tool to download. These should be one-time only setups, unless you need to update your CrossConnect account information or want to alter your download schedule(s) or project associated with each schedule.

CrossRoute Service Manager

The CrossRoute Service Manager screen will open automatically after you install the software (if you need to access it at a later date, it can be found by clicking on the CrossRoute program installed on your computer). This is where you enter your CrossConnect account information so the tool can access and download your export projects from CrossConnect.

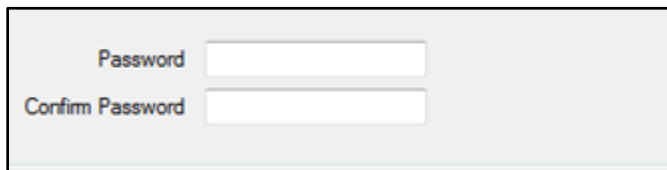
CrossConnect: CrossRoute



1. Enter your CrossConnect username (email address) into the **Username** field



2. Enter your CrossConnect password into both the **Password** and **Confirm Password** fields



3. Enter your unique user key (see *Downloading CrossRoute Software*, step 3 above for more details) into the **Key** field

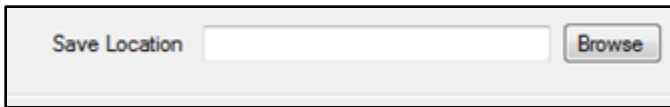


4. Enter your user-created secret (see *Downloading CrossRoute Software*, step 4 above for more details) into the **Secret** and **Confirm Secret** fields
5. Select either **Production** or **Beta** from the **CrossRoads URL** dropdown menu, to connect to the environment of your choice (*Note: If you want to download your live application data, you should select **Production**; if you are testing in the CFNC CrossConnect beta environment, you should select **Beta***)

CrossConnect: CrossRoute



6. Use the **Browse** button to locate the location on your computer you want CrossRoute files (i.e. log file) to save



Helpful hint about unified naming conventions:

When saving files to a network drive with CrossRoute, **you should use the path and not a mapped drive letter**. The mapped drive letters are not available to the CrossRoute service. The path is the name of the computer with the shared drive and the name of the share. For example, a computer named MainServer1 with a shared folder of Public would be \\MainServer1\Public. It is necessary to use unified naming convention paths for the Save Location as well as in any post processing commands.

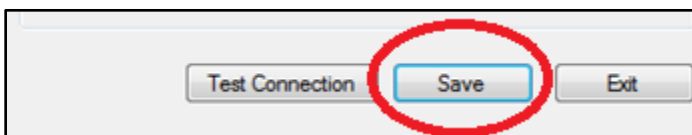
NOTE for North Carolina Community Colleges (NCCC): If you are setting up CrossRoute to use with the Colleague import, you need to enter as the file name "C:\CFNC\downloads"

7. Click the **Test Connection** button to ensure that the CrossRoute tool can connect to your CrossConnect account, using the information you have entered



- a. A message of **Connection Failed** will display if CrossRoute is unable to connect; please check your username, password, key, secret and CrossRoads URL for any errors and try again
- b. A message of **Connection Successful** will display if CrossRoute is able to connect

8. Upon a successful connection, click **Save**



9. You will get a confirmation message, **Configuration Saved**; click **OK**
10. After saving, you will be asked if you would like to start the CrossRoute service on your computer; click **Yes** if you want the service to start or click **No** if you want to start the service at a later time

CrossConnect: CrossRoute

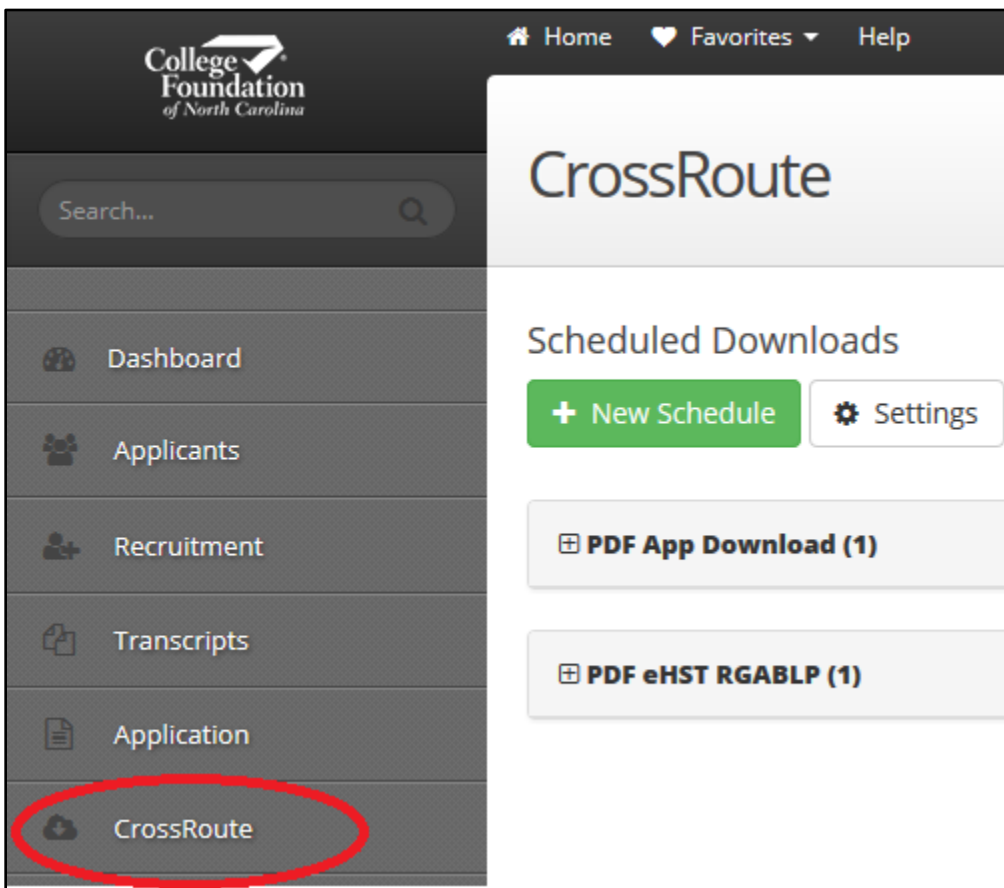
- The service will need to be running for any automatic schedule you create to run
- You can start the service at a later time by either accessing the **CrossRoute Service Manager** screen and clicking **Save**, which will trigger the popup window prompting you to start the service, or
- Depending on your computer configuration and your account permissions, you can access services in one of two ways:
 - a. Right click on your computer's task bar and select Start the Task Manager. Under the **Services** tab, locate **CrossRoute**, right-click on the name, and select **Start Service**.
 - b. Go to your computer's **Services** area (Control Panel | Administrative | Tools | Services) and click on **CrossRoute** and select **start service**.

11. You return to the CrossRoute Service Manager screen. Click the Exit button.



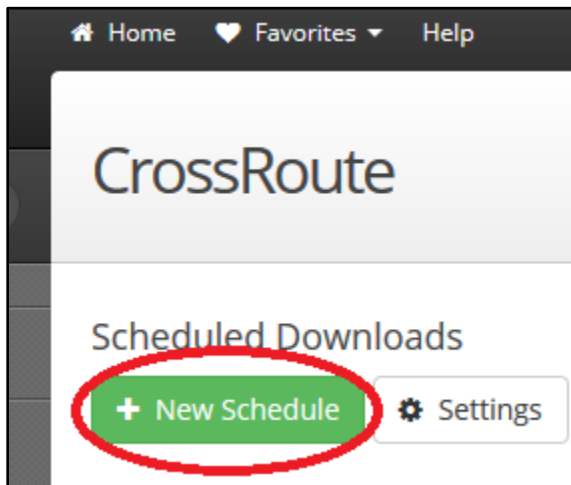
Creating Download Schedules

1. Navigate to the **CrossRoute** area of CrossConnect

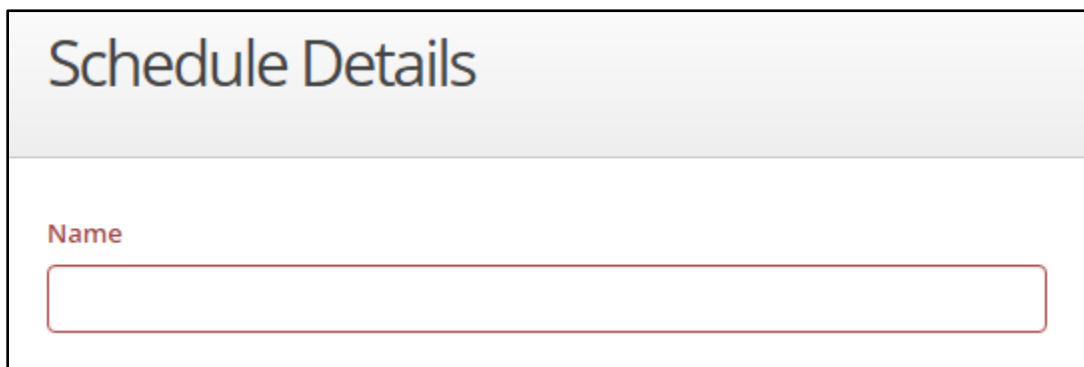


CrossConnect: CrossRoute

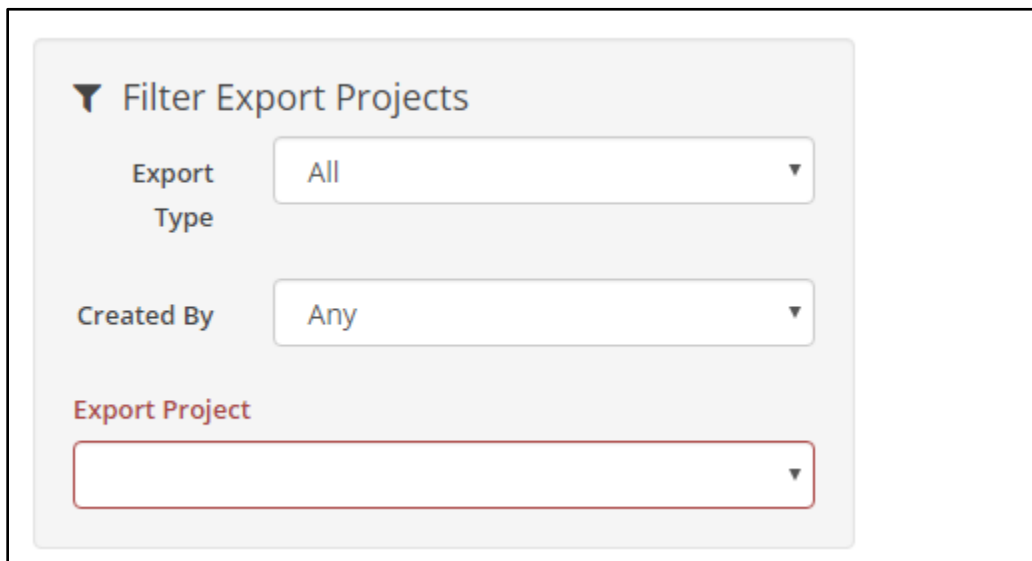
2. Click the + **New Schedule** button ()



3. Enter a name for the scheduled download in the **Name** field

A screenshot of the 'Schedule Details' form. The title 'Schedule Details' is at the top. Below it is a section labeled 'Name' with a red border and a text input field.

4. Select an **Export Project** from the **Filter Export Projects** area

A screenshot of the 'Filter Export Projects' area. It features three dropdown menus: 'Export Type' with 'All' selected, 'Created By' with 'Any' selected, and 'Export Project' which is currently empty. The 'Export Project' dropdown is highlighted with a red border.

- You can see all created export projects (applicants, transcript and recruitment) from the **Export Project** dropdown

CrossConnect: CrossRoute

- You can filter this list down by using the **Export Type** dropdown (Applicants, Transcript or Recruitment) and/or by using the **Created By** filter
 - If you select filters using the **Export Type** and/or **Created By** fields, the options in the **Export Project** list will change
5. Set the **Schedule Frequency** (how often you want the schedule to run)

Schedule Frequency

Daily ▼

- Daily** – use if you want to download only once a day
 - Weekly** – Use if you want to download multiple times a week or day (most common)
 - Monthly** – Use if you want to download only once a month
6. Set the **Start Date** – when the schedule should start running

Start Date

05/22/2016

7. Set the **Start Time** – the time you want the download to start

Start Time

▲

12

▼

:

▲

00

▼

AM

8. Select **Yes** or **No** to the **Repeat** field - if you want to download more than once a day, you will want to answer **Yes**

Repeat

Yes

No

- If set to **Yes**, enter the additional information into the **Every** field

Every

30

Minute(s) ▼

CrossConnect: CrossRoute

- i. Enter the number and select the time unit (either **minutes** or **hours**) from the dropdown menu (e.g., **Every 30 Minutes**)
- b. If set to **Yes**, enter the **End Time** – when the schedule should stop running for the day

End Time

▲
▲

:

▼
▼

9. If you selected **Weekly** for the **Schedule Frequency**, you will see the **Days** checkboxes; check the days you would like the schedule to run

Days

Monday
 Tuesday
 Wednesday
 Thursday

Friday
 Saturday
 Sunday

10. If you will be running any post-download processes, enter the command in the **Post Processing Command** field

Post Processing Command

Helpful hint about the post processing command:

It is recommended that the post processing command specifies the full file path. For example, if a campus has a script that runs a program called converter.exe, the post processing command may look like c:\program files\FileConvert\converter.exe. Any filename parameters that are used in post processing should utilize the full path.

NOTE for North Carolina Community Colleges (NCCC): If you are setting up CrossRoute to use with the Colleague import, see the section at the end of this document ([Additional Notes for North Carolina Community Colleges](#)) for more information on Post Processing.

11. Select **Yes** or **No** to the **FTP Enabled** field – if you want CrossRoute to automatically FTP the file after downloading, answer **Yes**

CrossConnect: CrossRoute

FTP Enabled


Yes No

*NOTE for North Carolina Community Colleges (NCCC): If you are setting up CrossRoute to use with the Colleague import, it is recommended that you **not** use FTP. Files are transferred using SFTP in the Post Process when using the NCCCS-specific post processing command. See the section at the end of this document ([Additional Notes for North Carolina Community Colleges](#)) for more information.*


12. Select **Yes** or **No** to the **Schedule Enabled** field – if you want the schedule you’ve just setup to be started once you click **Save**, select **Yes**; if you are not ready for the tool to start downloading on the schedule you’ve just set up, select **No** (you can always edit the schedule at a later date and enable the schedule when you are ready)

Schedule Enabled

Yes No





13. Click **Save** () to save your new schedule

Cancel Save

14. On the main CrossRoute screen, click the **Update Client Service** button ()

CrossRoute

Scheduled Downloads

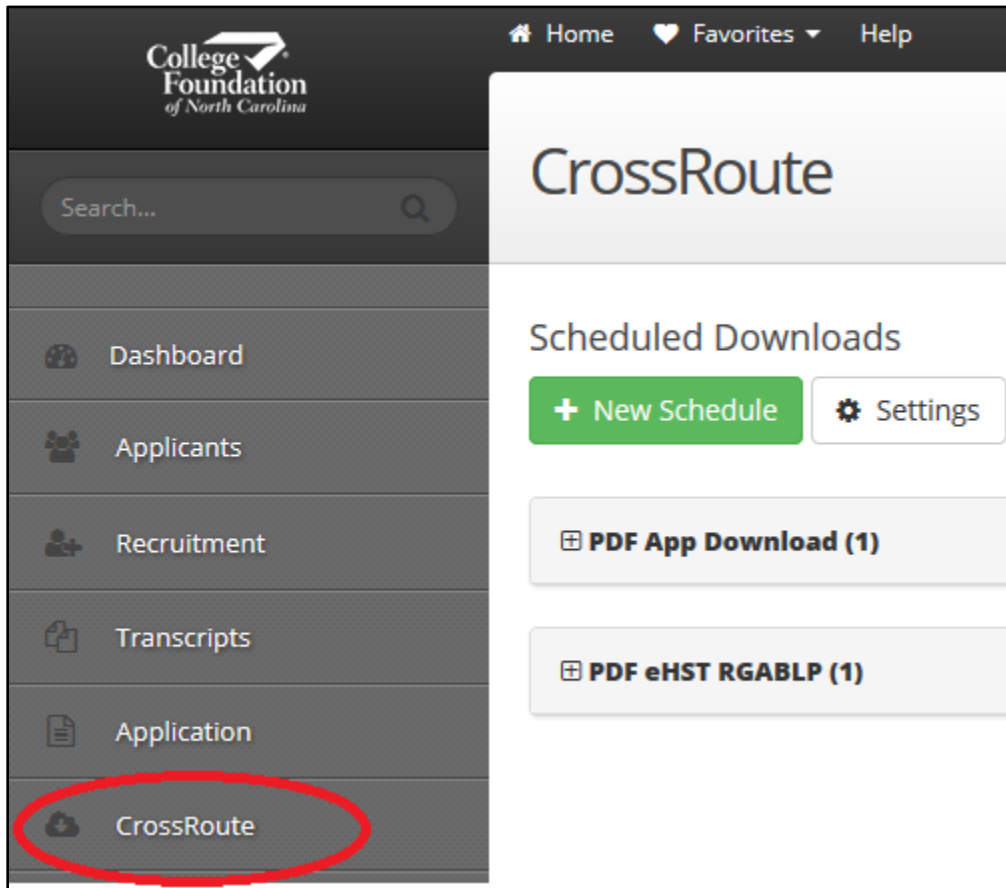






Managing Download Schedules

To make changes to an existing schedule:

1. Navigate to the **CrossRoute** area of CrossConnect

CrossConnect: CrossRoute



2. Click on the CrossRoute schedule you want to edit to display it and then click the **Edit** () button

CrossConnect: CrossRoute

CrossRoute

Scheduled Downloads

+ New Schedule
⚙ Settings
Update Client Service
⬇ Download CrossRoute Service

⊞ NCCCS Colleague Files (1)

⊞ PDF App Download (1)

	NAME ▲	SCHEDULE FREQUENCY	SCHEDULE
<div style="display: flex; flex-direction: column; gap: 5px;"> ✎ Edit ⏪ Run Now </div>	RSG-PDF Applications	Weekly on Monday, Tuesday, Wednesday, Thursday, Friday	8:00 AM to repeats every minute(s)

3. Make your changes on the **Schedule Details** screen

CrossConnect: CrossRoute

Schedule Details



Name
RSG-PDF Applications




Export Project
PDF App Download


Schedule Frequency
Weekly

Start Date
05/02/2016

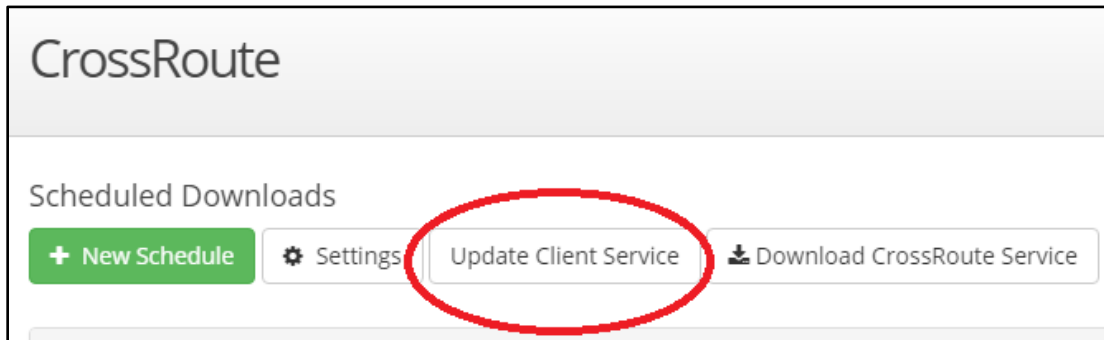
Start Time
08 : 00 AM

4. Click **Save** () to save your schedule changes or click **Cancel** () to cancel your changes and go back to the main CrossRoute screen

 Cancel  Save  Delete


5. On the main CrossRoute screen, click the **Update Client Service** button ()


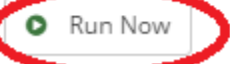
CrossConnect: CrossRoute



DOWNLOADING USING CROSSROUTE

CrossRoute

CrossRoute will download your export project(s) according to the schedule(s) you've set. You can manually trigger the download process by clicking the **Run Now** button () next to the specific scheduled download on the main CrossRoute screen. Manually running the scheduled download is helpful when testing a new or modified schedule.

	NAME ^	SCHEDULE FREQUENCY
 Edit  Run Now	RSG-PDF Applications	Weekly on Monday, Tuesday, Wednesday, Thursday, Friday

CROSSROUTE LOGGING

By default, **only** errors will be written to the CrossRoute log. If you want more information to write to the log (e.g. every time the CrossRoute schedule kicks off based on the pre-determined schedule), you have to make this change manually. It is a two-step process: (1) grant access to update the CrossRoute service executable file, and (2) update CrossRoute service executable file by changing the value of filter from "Warning" to "Information" for both name="Event Log Listener" and name="Flat File Trace Listener".

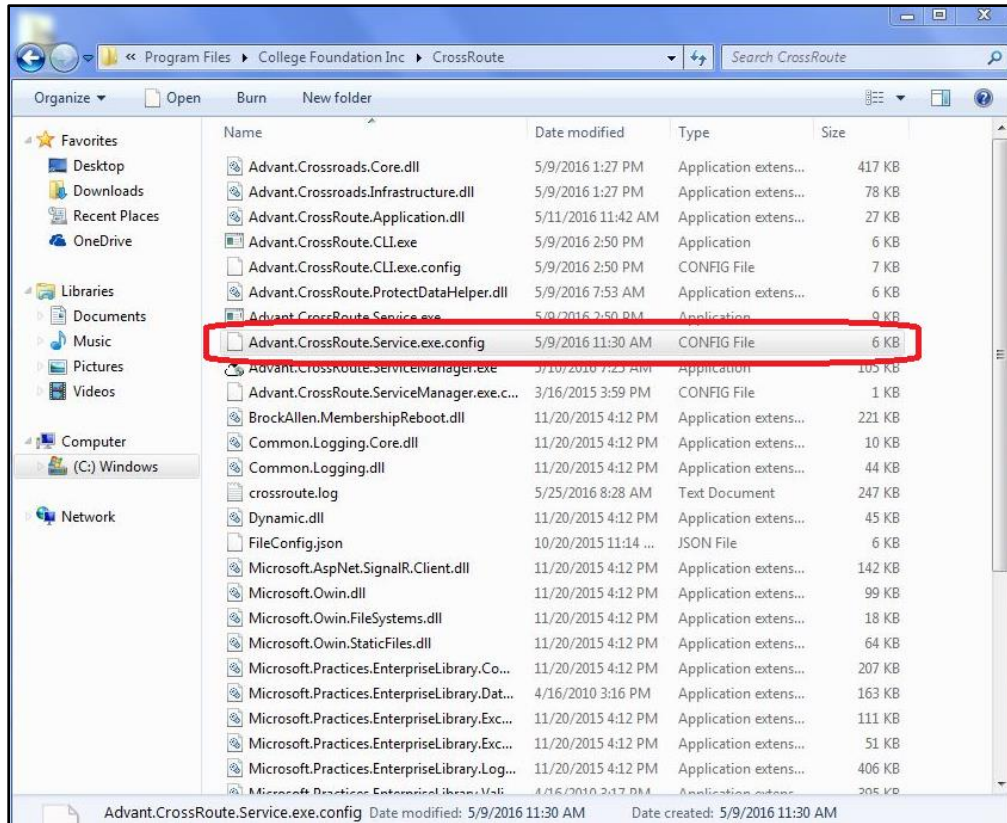
1. Locate the CrossRoute service executable configuration file where the CrossRoute service is installed. If the default was used in the install process, the file (Advant.CrossRoute.Service.exe.config) will be located in:

C:\Program Files (x86)\College Foundation Inc \CrossRoute (if Windows version 32-bit was installed)

CrossConnect: CrossRoute

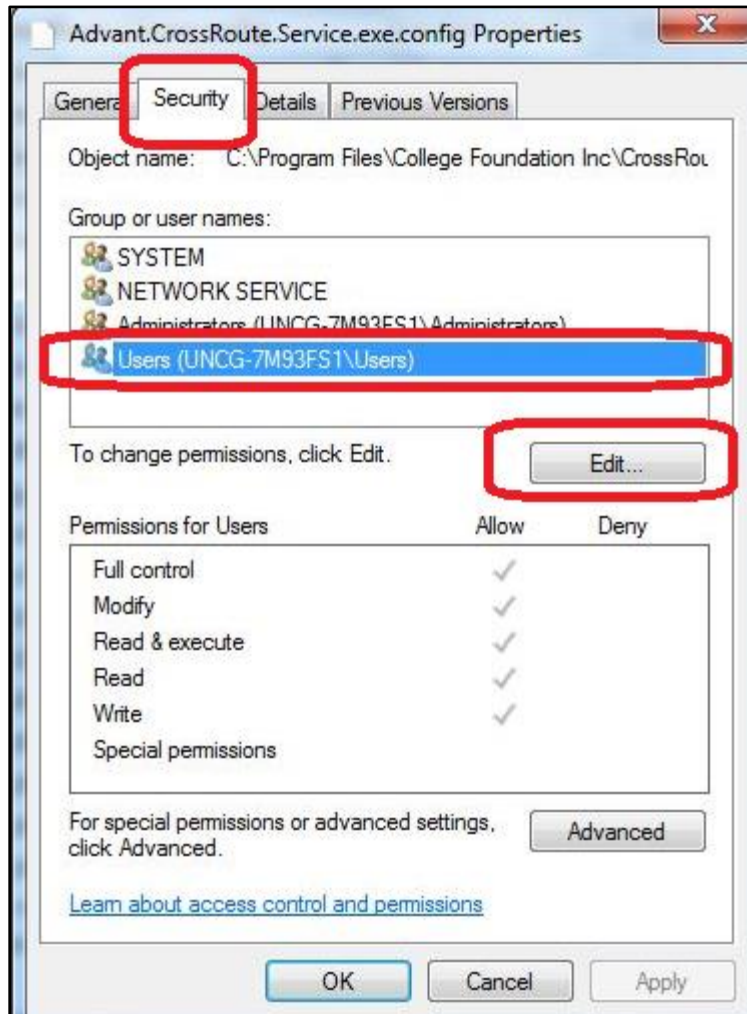
C:\Program Files\College Foundation Inc \CrossRoute (if Windows version 64-bit was installed)

2. Locate the file name, Advant.CrossRoute.Service.exe.config, right click and select Properties



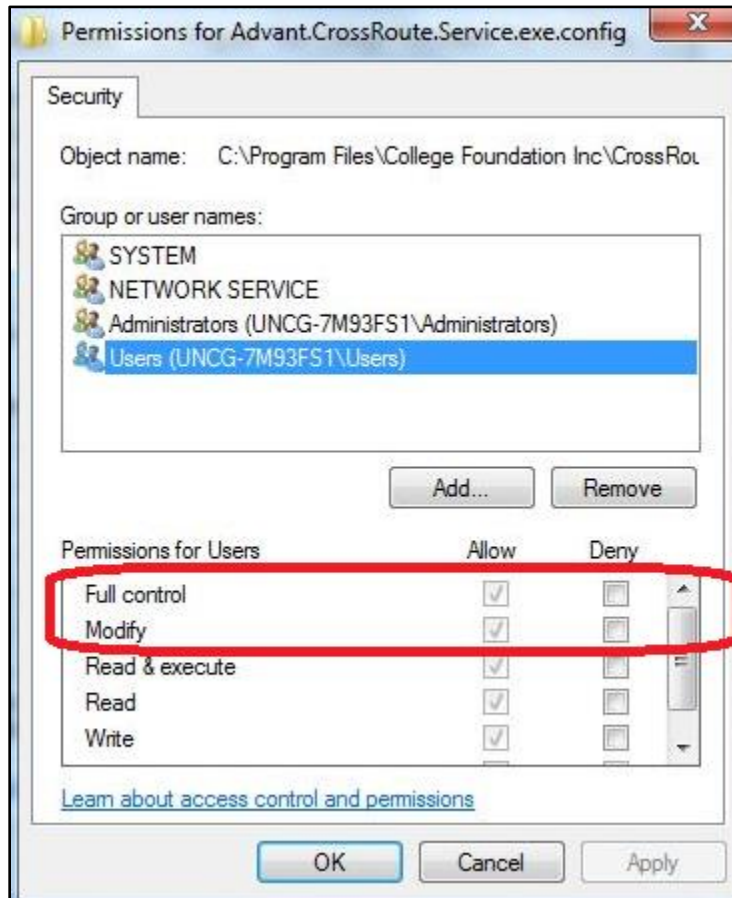
3. Navigate to the Security tab and click the “Users” option from the “Group or user names:” Note that depending on your computer’s configuration, there may be additional text in parenthesis beside the word Users. For example, “Users (UNCG-7M93FS1\Users)”. Then click the Edit button.

CrossConnect: CrossRoute



4. In the Permissions for Users box, select Full Control and Modify, click Apply, and then OK

CrossConnect: CrossRoute



- Open the file Advant.CrossRoute.Service.exe in Notepad (or WordPad), and change the text “Warning” to “Information” in for both name="Event Log Listener" and name="Flat File Trace Listener". This will log all activity to the crossoute.log file. Please note that this file may become very large, so you may only want to set this option to Information for a short time period; then, switch it back to Warning.

CrossConnect: CrossRoute

```

Microsoft.Practices.EnterpriseLibrary.ExceptionHandling, Version=
6.0.0.0, Culture=neutral, PublicKeyToken=31bf3856ad364e35"
requirePermission="true" />
</configSections>
<loggingConfiguration name="" tracingEnabled="true"
defaultCategory="General">
  <listeners>
    <add name="Event Log Listener"
type="Microsoft.Practices.EnterpriseLibrary.Logging.TraceListene
r.FormattedEventLogTraceListener,
Microsoft.Practices.EnterpriseLibrary.Logging, Version=6.0.0.0,
Culture=neutral, PublicKeyToken=31bf3856ad364e35"
listenerDataType="Microsoft.Practices.EnterpriseLibrary.Logging.C
onfiguration.FormattedEventLogTraceListenerData,
Microsoft.Practices.EnterpriseLibrary.Logging, Version=6.0.0.0,
Culture=neutral, PublicKeyToken=31bf3856ad364e35"
source="CrossRoute" formatter="Text Formatter"
log="Application"
machineName="." traceOutputOptions="None"
filter="Information" />
    <add name="Flat File Trace Listener"
type="Microsoft.Practices.EnterpriseLibrary.Logging.TraceListene
r.FlatFileTraceListener,
Microsoft.Practices.EnterpriseLibrary.Logging, Version=6.0.0.0,
Culture=neutral, PublicKeyToken=31bf3856ad364e35"
listenerDataType="Microsoft.Practices.EnterpriseLibrary.Logging.C
onfiguration.FlatFileTraceListenerData,
Microsoft.Practices.EnterpriseLibrary.Logging, Version=6.0.0.0,
Culture=neutral, PublicKeyToken=31bf3856ad364e35"
fileName="crossroute.log" formatter="Text
Formatter" filter="Information"
asynchronous="true" />
  </listeners>
  <formatters>
    <add
type="Microsoft.Practices.EnterpriseLibrary.Logging.Formatters.Te

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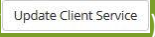
CrossConnect: CrossRoute

COMMON CROSSROUTE TASKS (EXAMPLES)

CrossRoute

Daily CrossRoute Schedule

You want to set up a new CrossRoute schedule that will download an Application Export Project you previously created called “PDF Applications”. You want this new schedule to download Monday – Friday, starting at 6am, downloading every 15 minutes and ending at 8pm every weekday. You do not have a post-processing action or FTP set up.

1. Click on **CrossRoute** in the CrossConnect left navigation
2. Click on **+ New Schedule** button ()
3. Name your new schedule something descriptive, like “PDF Application Download”
4. *OPTIONAL STEP:* Select **Applicants** from the **Export Type** dropdown menu
5. *OPTIONAL STEP:* Select **[Your Name]** from the **Created By** dropdown menu (since you created the Export Project you want to download on this schedule)
6. Select your desired Export Project from the **Export Project** dropdown menu
7. Select **Weekly** from the **Schedule Frequency** dropdown menu
8. Enter a start date
9. Enter the start time of **6: 00 AM**
10. Click **Yes** to the **Repeat**
11. Enter “15” into the first **Every** field and select “**Minute(s)**” from the dropdown
12. Check the boxes next to the days you want to download (Monday, Tuesday, Wednesday, Thursday and Friday)
13. Leave the **Post Processing Command** blank
14. Leave **FTP Enabled** field set to “No”
15. Set the **Scheduled Enabled** to “Yes” (since you are ready for this download to start)
16. Click **Save** ()
17. Click the **Update Client Services** button ()

Your download will now run according to the schedule you just set.

CrossConnect: CrossRoute

ADDITIONAL NOTES FOR NORTH CAROLINA COMMUNITY COLLEGES (NCCC)

If CrossRoute is being setup and installed for the Colleague import, please see additional information below.

TECHNICAL REQUIREMENTS:

North Carolina Community College System Office (NCCCSO) will provide the CFNC_WinSCPUuploader zip package to be installed on the same CFNC Windows server (at the local college) that contains the CrossRoute installation so that downloaded files can be transferred securely to the internal Colleague server. To obtain CFNC_WinSCPUuploader zip package, refer to: NCCCS Release N99_XSU201765-R18*001

- NCCCSO requires a Windows 2008 R2 or Windows 2012 R2 Server
- CFNC server should be placed in the college DMZ and allowed outbound access via port 443 to specific URLs:
 - BETA (xroadsapibeta.cfnc.org)
 - PRODUCTION (xroadsapi.cfnc.org)
- Dot Net 4.5x is required before CrossRoute is installed

PROCESS OVERVIEW:

The CFNC system retrieves Web-based admissions applications and makes the application data available for campuses to securely download in various formats.

- The four files required to import into Colleague are:
 1. Main
 2. Institutions
 3. Miscellaneous
 4. Test Scores
- Three of these four files (Main, Institutions, and Miscellaneous) have been pre-configured in CrossConnect for each community college based on the Colleague import requirements provided by the NCCCSO.
- The CrossRoute tool:
 - Automates the process of securely downloading CFNC applications, in the Main, Institutions, and Miscellaneous file formats, from a Web server to an intermediate host server at the local college
 - Runs a NCCC-specific post process (CFNC_WinSCPUuploader zip package) that:
 - Converts the three Colleague files (downloaded from CFNC) from variable-length to fixed-length to meet the Colleague import requirements
 - Generates the Test Scores file
 - Securely transfers all 4 Colleague files to the internal Colleague server

CrossConnect: CrossRoute

When CrossConnect, CrossRoute, and Colleague have been properly configured and the NCCCS Release is installed:

1. Applications are securely downloaded (based on the college's schedule) from CFNC using SSL with 2048 bit encryption, and converted to Colleague-formatted files.
2. Converted Colleague files are securely transferred from the intermediate host server to the internal Colleague server and then imported into Colleague.

*Note: CrossRoute and NCCCS Release N99_XSU201765-R18*001 are required to be installed and configured when automating the import of CFNC applications into Colleague.*

CONFIGURING CROSSROUTE AND USING THE NCCCS POST PROCESSING COMMAND

1. Enter the Post Processing command that will run after the download completes.

C:\CFNC\CFNC_SendFilesToColleague.bat "{filename}" 3 NCSO_

- NOTE: the above command has to be entered exactly as it appears above
- {filename} represents a literal string and the program automatically replaces it with the actual file name when the program runs and must also be enclosed in quotes
- The number 3 represents the current version of CFNC download you have been using to download CFNC application data. If you are not aware of which version is correct (will either be 2 or 3), check your Legacy Downloads in the Control Center using the account that has slots configured for the CFNC Datatel files and check the version number. If the assigned project for the slots ends in V2, use 2, otherwise use 3.
- The string "NCSO_" is a local selection and is the prefix for the converted files
- Files are converted and renamed to the following before transferring to the Colleague server, e.g.
 - NCSO_yyyymmddhhmm.main
 - NCSO_yyyymmddhhmm.misc
 - NCSO_yyyymmddhhmm.inst
 - NCSO_yyyymmddhhmm.tests