A Guide to Running Statgraphics using Amazon Web Services (AWS)

This guide provides step-by-step instructions for installing and running Statgraphics Version 19 using AWS. It is designed for organizations that want to provide predictive analytics and data visualization through the cloud rather than on local desktops. Implementing Statgraphics in this manner requires:

1. An AWS account to install and run Statgraphics. All AWS charges are the responsibility of the organization installing the software.
2. An internet license permitting Statgraphics to be used by multiple users on AWS. Internet licenses are provided by Statgraphics Technologies, Inc. and charged on an annual basis. The cost of the license depends on the maximum number of concurrent users, which is monitored over the Internet.

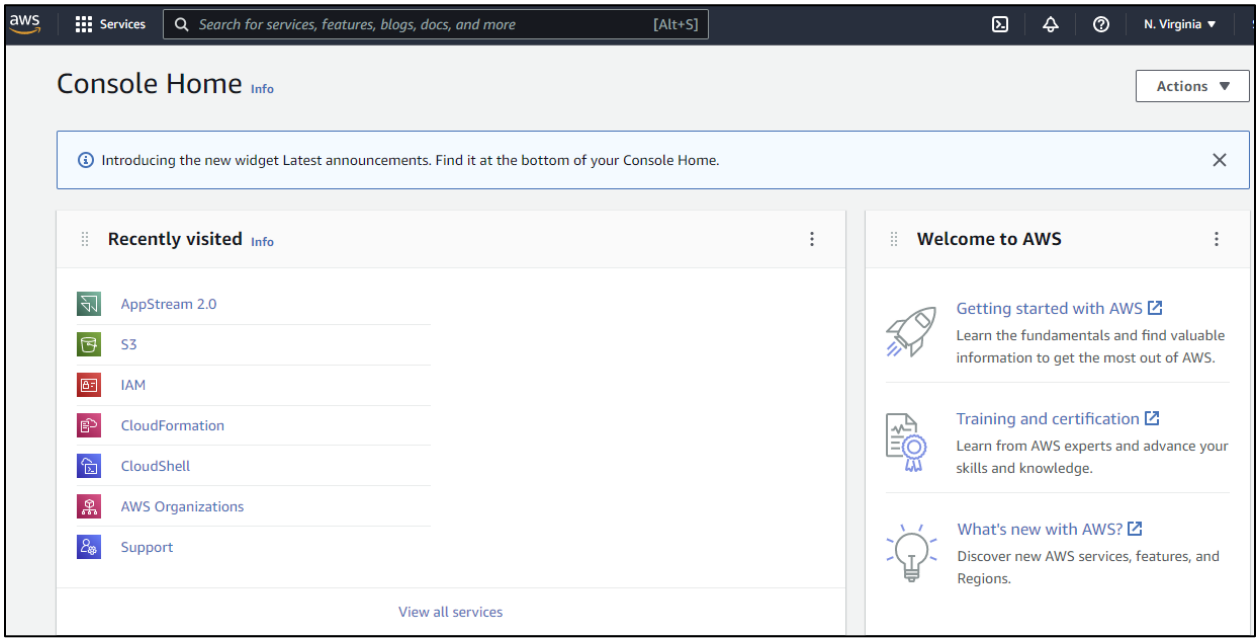
Contents

Step 1: Acquire an AWS account

In order to use Statgraphics under AWS, an organization must first create an AWS account. This may be done by going to https://portal.aws.amazon.com/billing/signup#/start/email. A root user email address is required to create the items necessary to run Statgraphics.

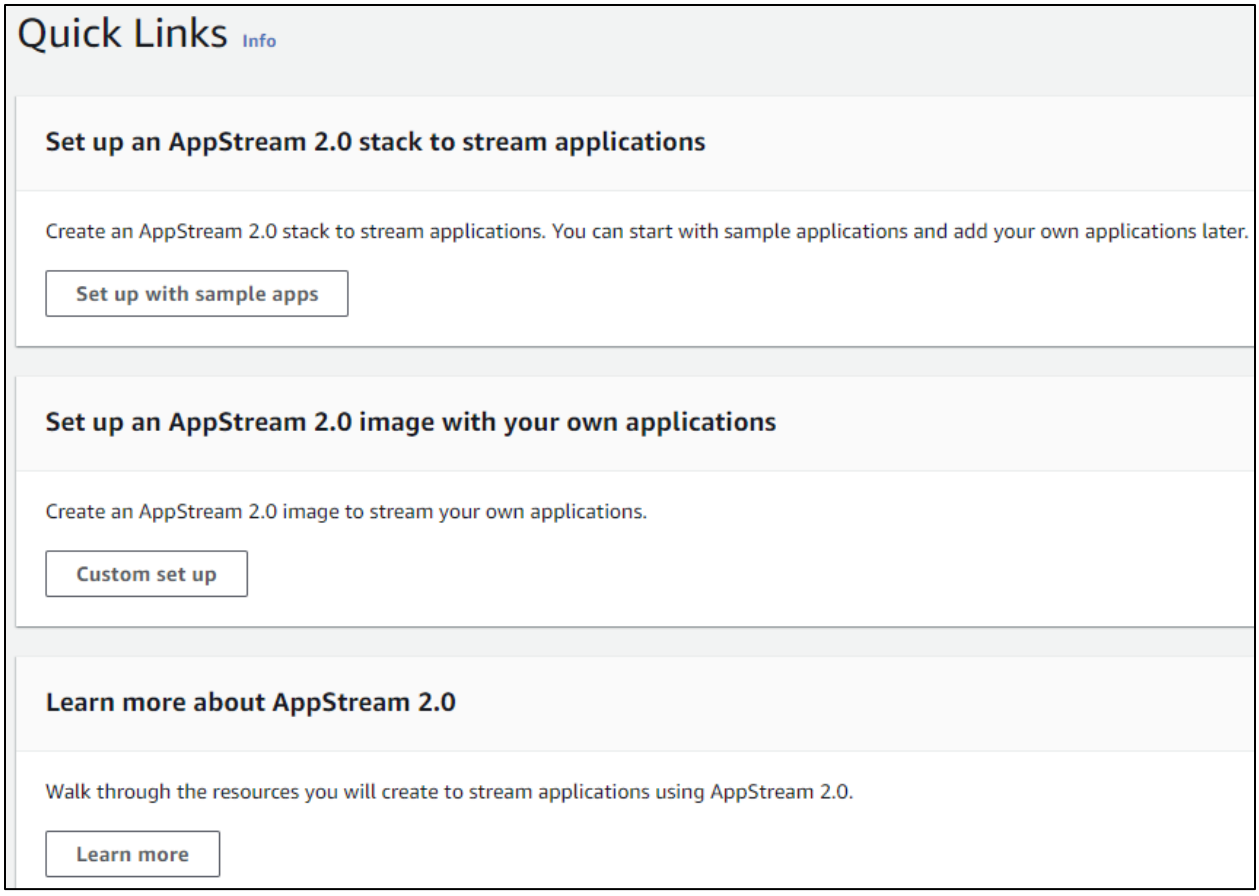
Step 2: Login to the AWS Management Console

Using the account created above, go to https://aws.amazon.com and access the *AWS Management Console*. You will see a screen similar to the one below:



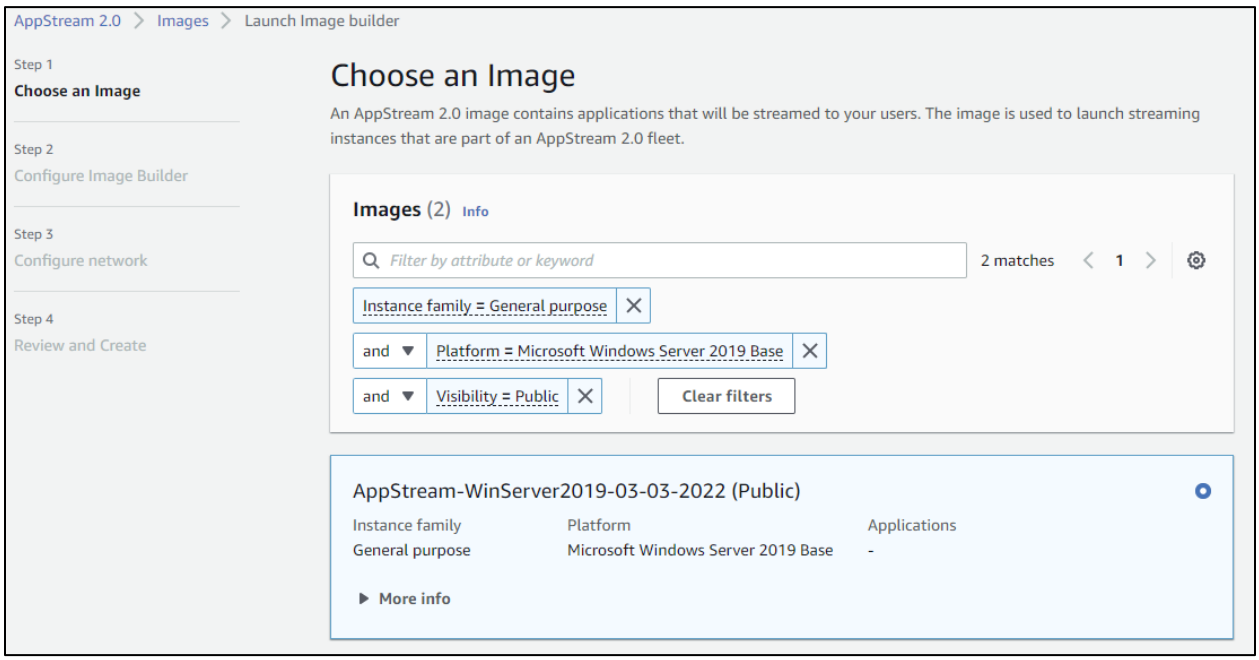
Step 3: Create an image to use with Statgraphics

Click on *Services* near the top left of the screen and then click on *Amazon AppStream 2.0*. On the next screen, push the *Getting Started* button. This will display the screen shown below:



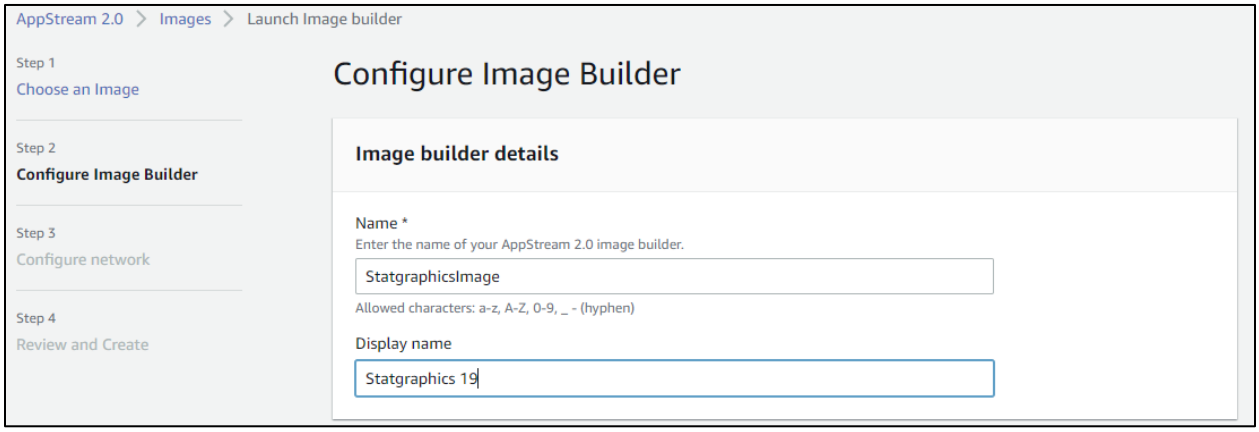
Click on *Custom set up*.

On the next screen, select an image to base your custom image on.

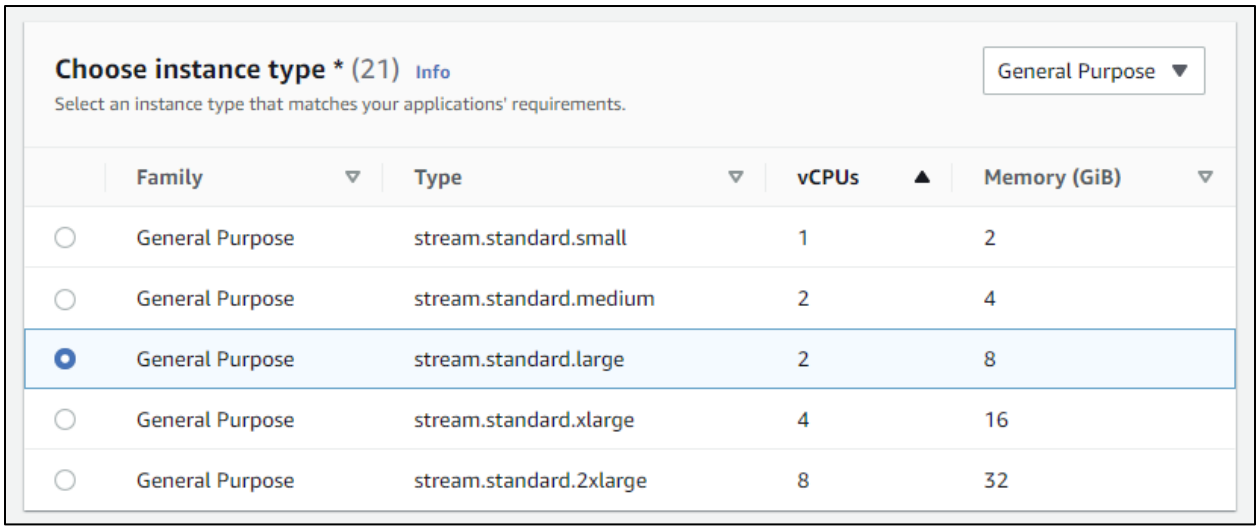


A good choice is the *Microsoft Windows Server 2019 Base* with the most recent date.

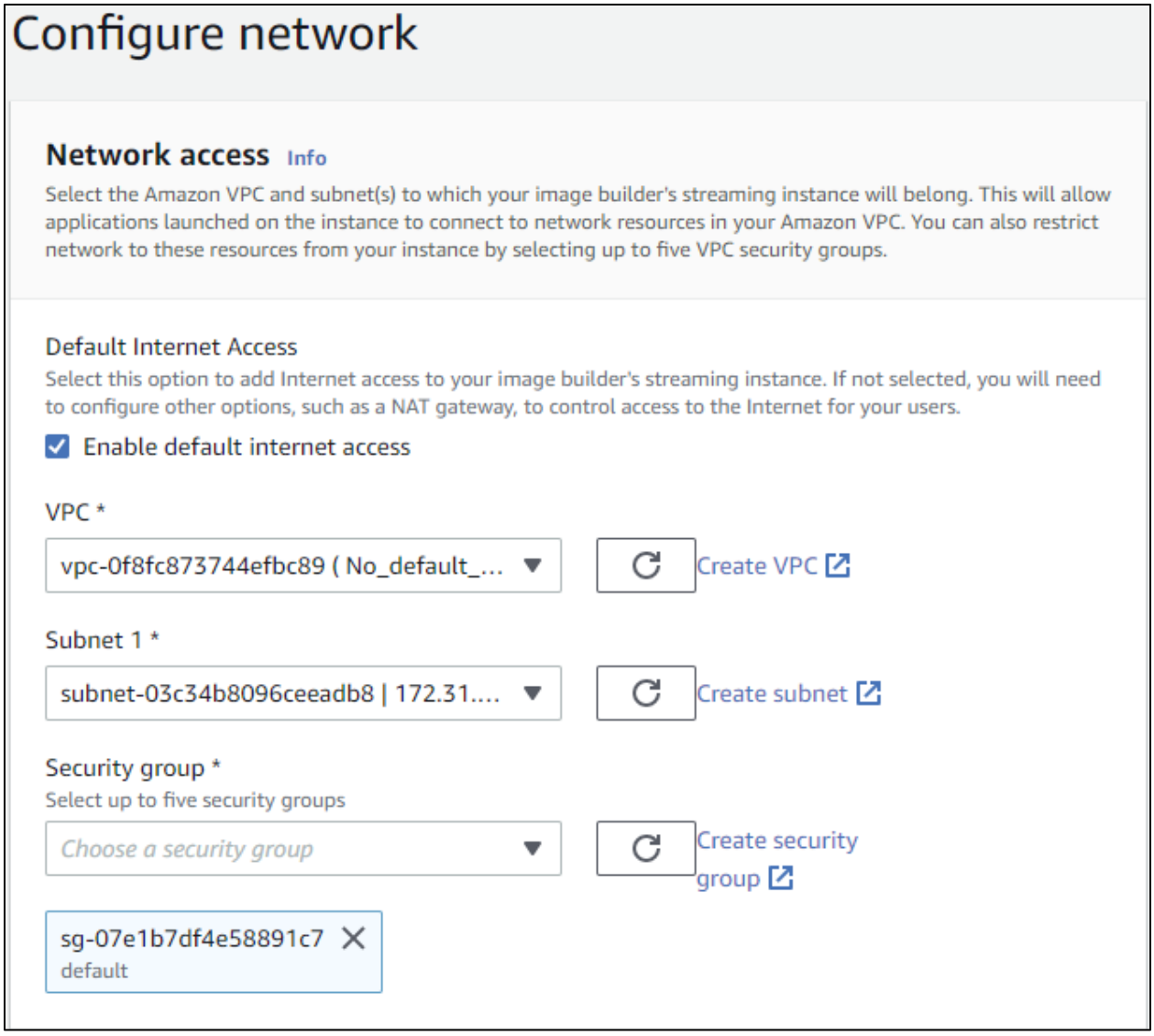
On the next screen, specify an internal name and a display name for the image you are about to create.



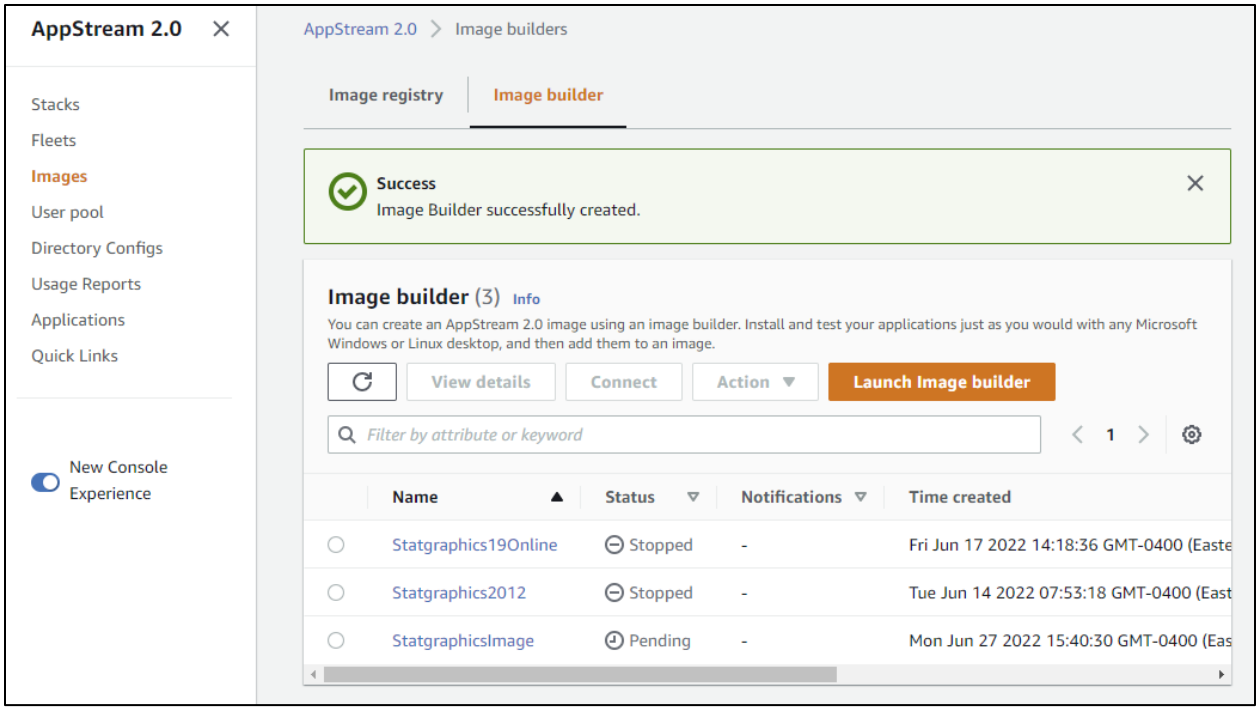
Farther down on the page, select the type of image you wish to create. We suggest that you pick at minimum the *stream.standard.large* image, which has 2 CPUs and 8 GiB of RAM. The price you'll pay to Amazon for each streaming hour depends on how large a machine you select. You can use the help links to check on the pricing. The type of machine you select also affects how large a dataset you can analyze.



The next screen is used to configure access to the network. To be sure you can access the internet without any further setup, be sure to check the box labeled *Enable default internet access*.

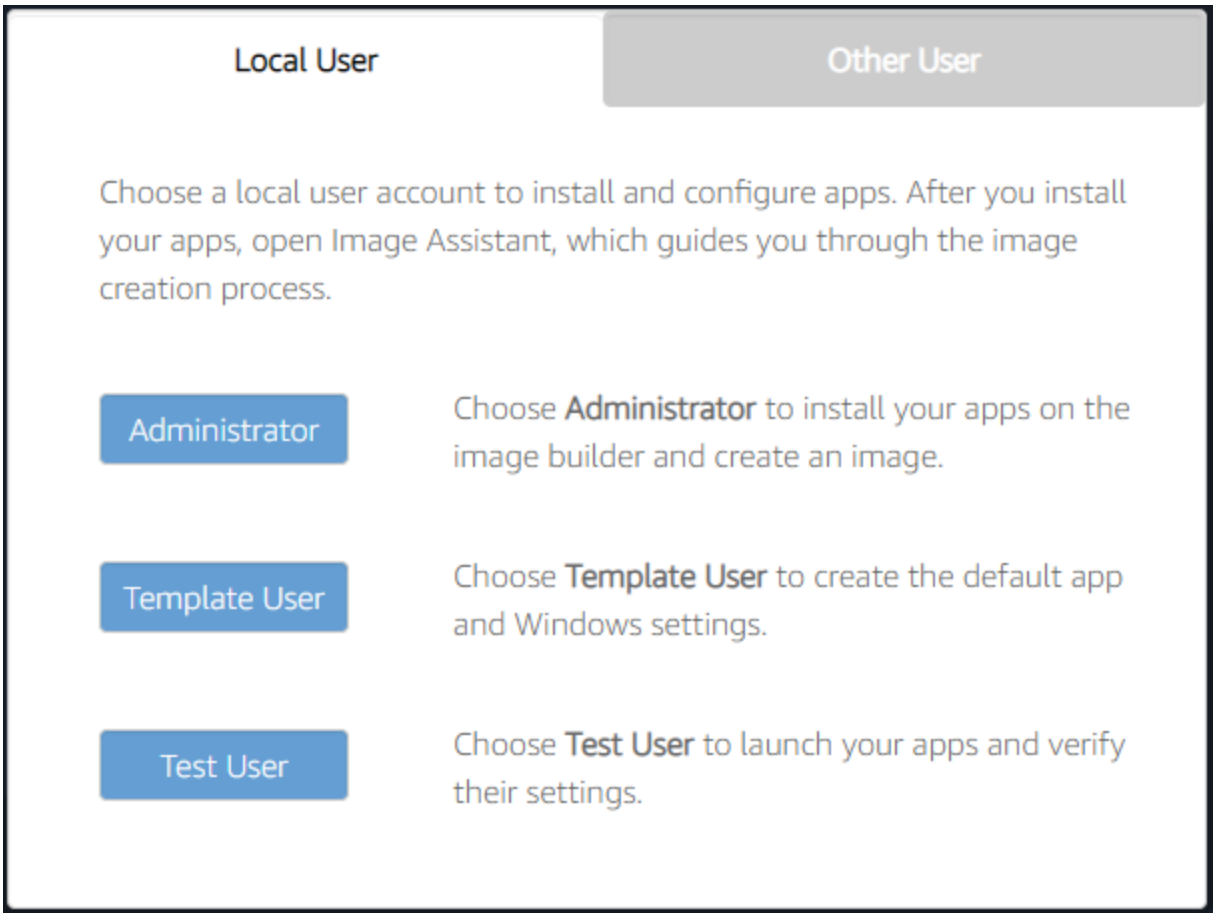


The final screen lets you review your choices. If satisfied, press the button labeled *Launch Image Builder.* This will start the process of building the image, which may take several minutes. When done, the *Image Builder* page will change the status of your image from *Pending* to *Running*. Note: use the refresh button to display the current status of your image.



Step 4: Install Statgraphics in the Image

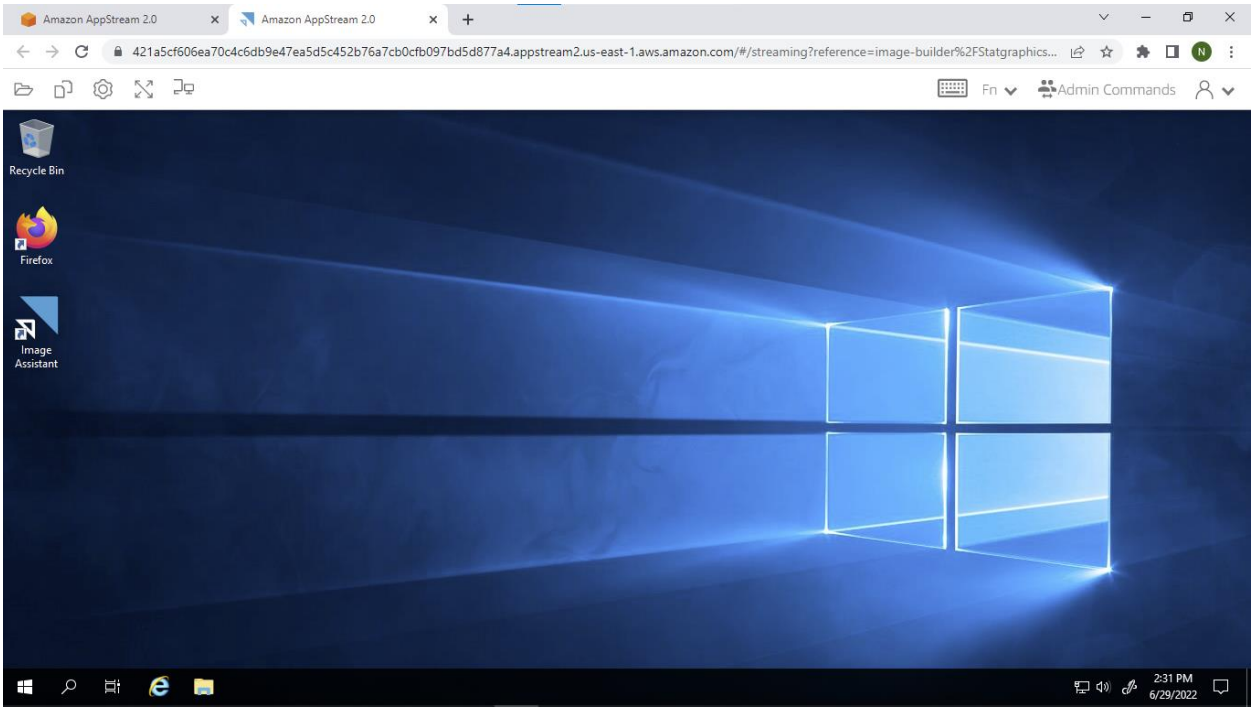
Once the status of the image you created changes to *Running*, you now need to install Statgraphics in that image. Click on the radio button alongside the image you created and then press *Connect*. This loads the image and starts a session. The first dialog box you will see is shown below:



There are 3 basic steps to create the image you need:

1. Login as *Administrator* and install the applications you wish to use. You need to install 3 apps: Statgraphics, R and Python.
2. Login as *Template User* and set default options that users will see when they start their first session.
3. Login as *Test User* and verify that everything works as expected.

Begin by selecting *Administrator*. This will connect you to a Windows Server 2019 session and display the following screen:

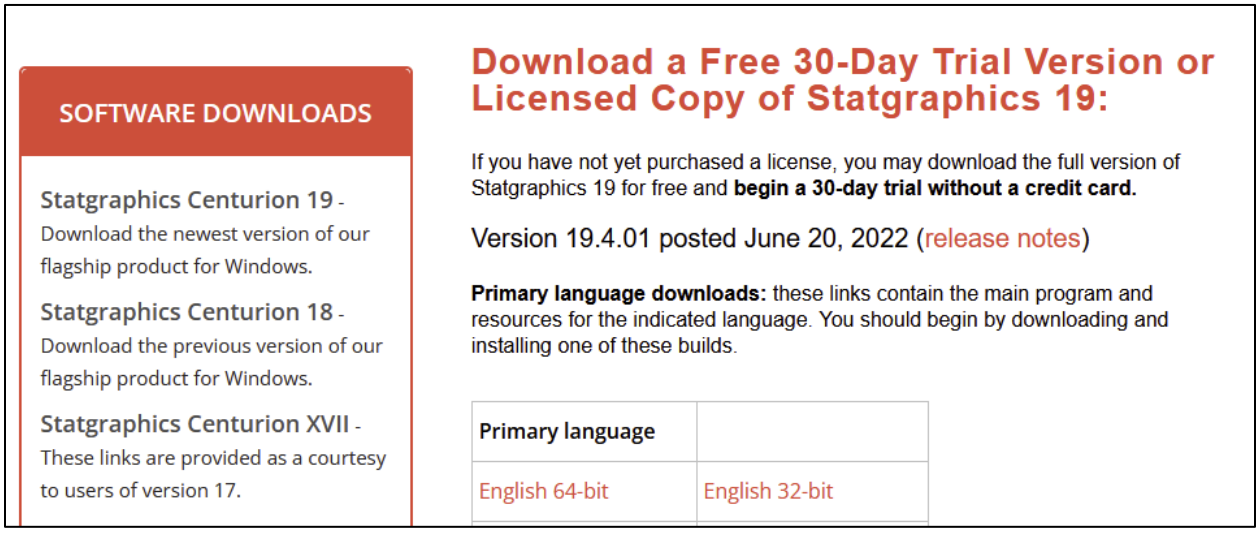


Initially you have access to *Firefox* and *Internet Explorer*, which you can use to access the Internet, and *Image Assistant*, which guides you through the installation process.

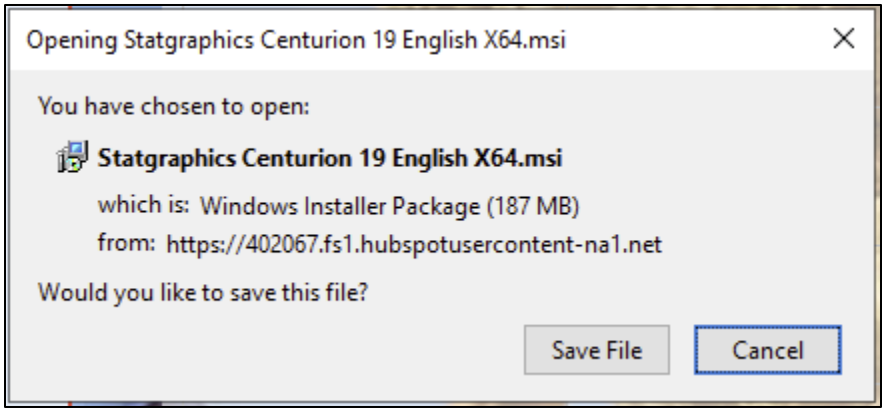
Click on *Firefox* to load the Firefox browser. When it asks if you wish to make Firefox the default browser, click on *Yes*. This simplifies the installation of R and Python in later steps.

After Firefox loads, enter the following URL: https://www.statgraphics.com/download19

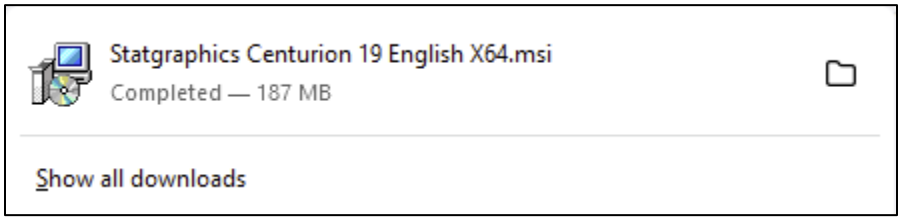
This will take you to the main download page for Statgraphics, a portion of which is shown below:



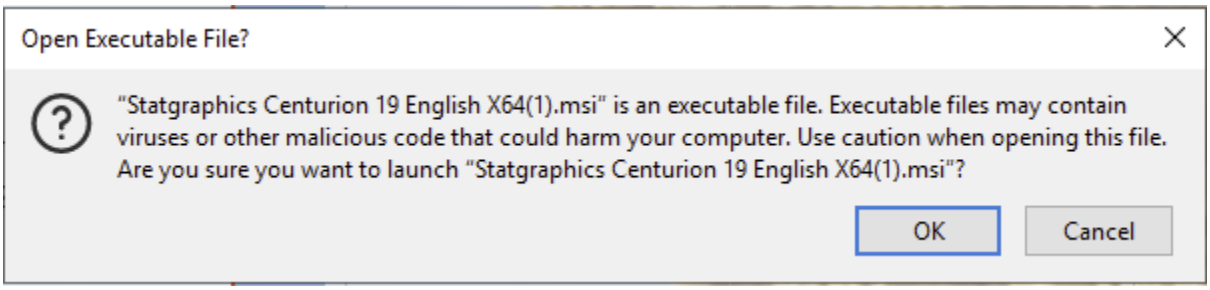
Click on the link labeled *English 64-bit* under *Primary language*. This will download the 64-bit English version of Statgraphics 19. When you see the following message, tell it that you wish to save the file:



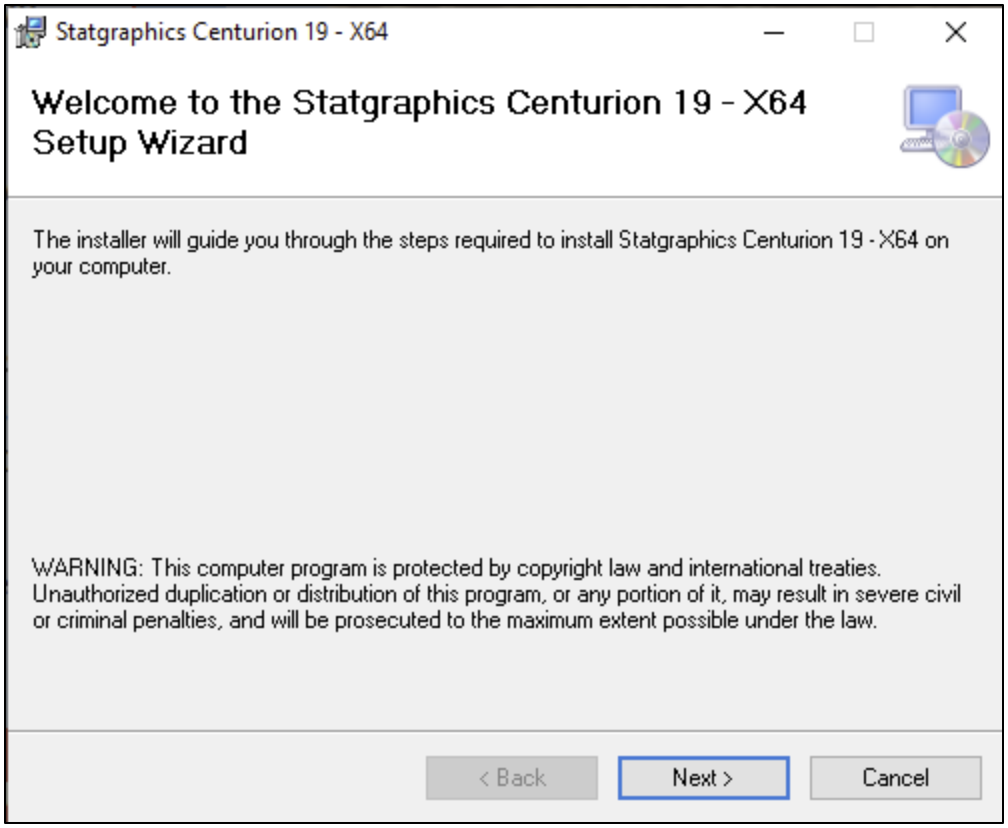
Once it downloads, you will see the following message:



Click on *Statgraphics Centurion 19 English X64.msi.* You will see a warning that you have downloaded an executable:



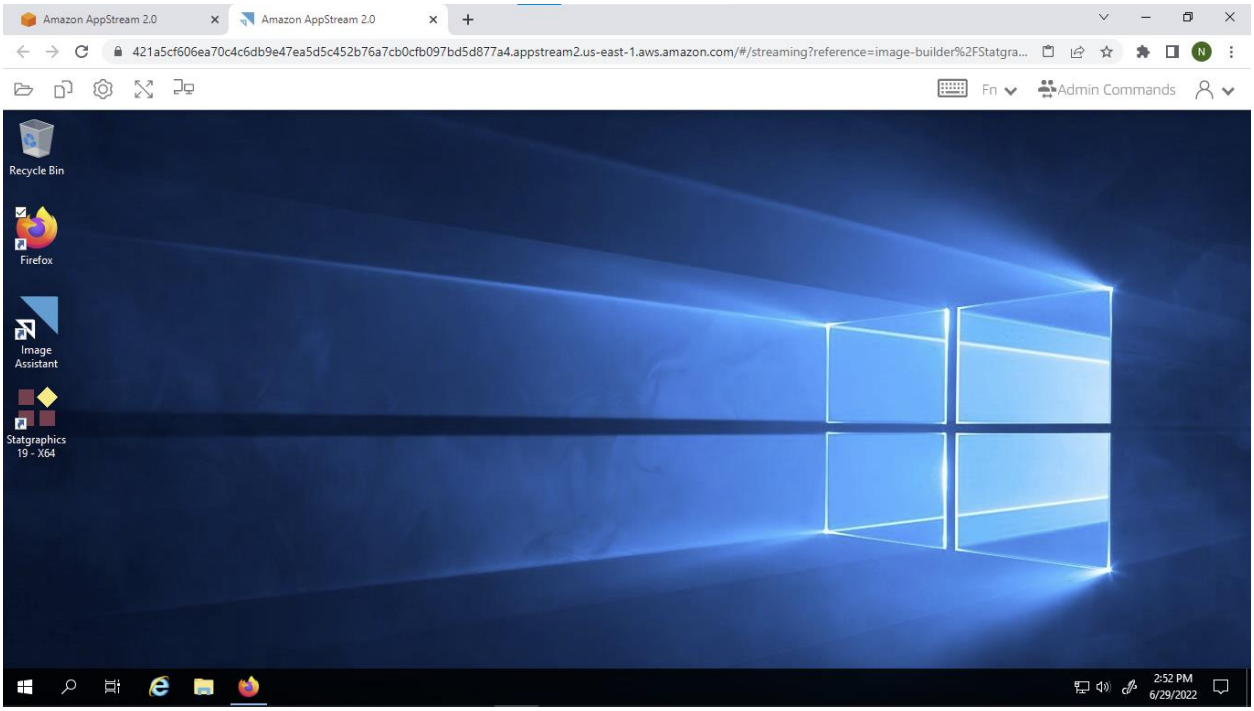
Go ahead and press *OK*. This will launch the Statgraphics *Setup Wizard*:



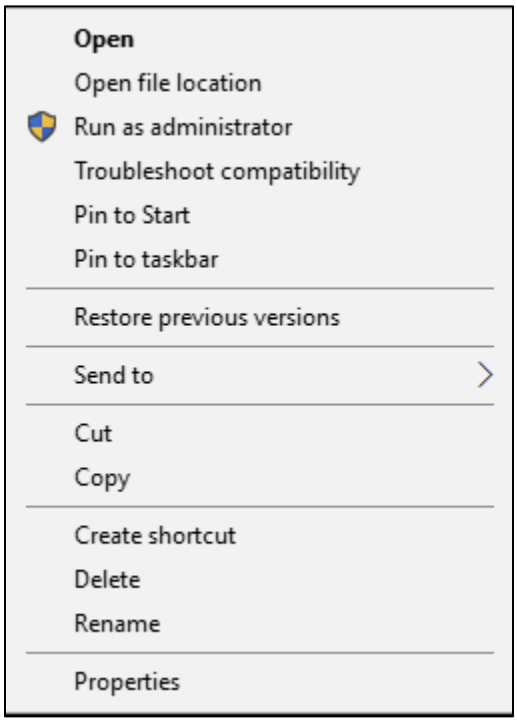
You may select all of the defaults during installation, except that you may want to put in your organization's name on the *Customer Information* dialog box. Note that the program is installed by default in:

c:\Program Files\Statgraphics\Statgraphics Centurion 19 – X64\

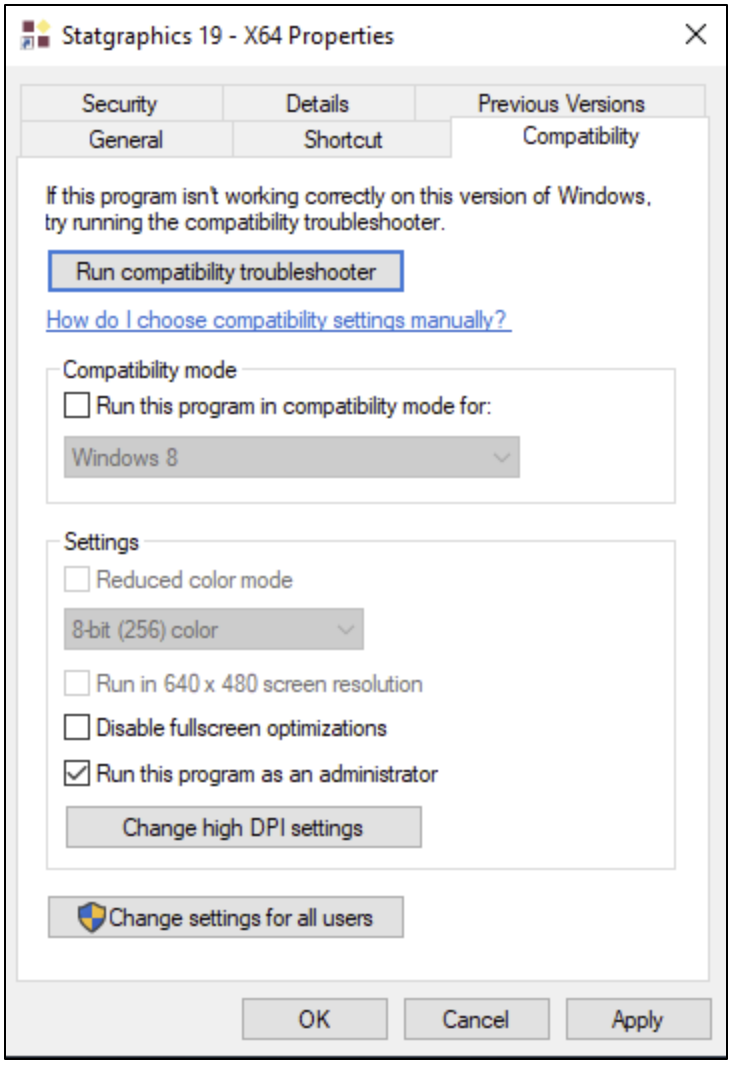
When installation is complete, a new shortcut will have been added to your desktop:



Before starting Statgraphics for the first time, you should click on the Statgraphics icon with the right mouse button and select *Properties* from the popup menu:

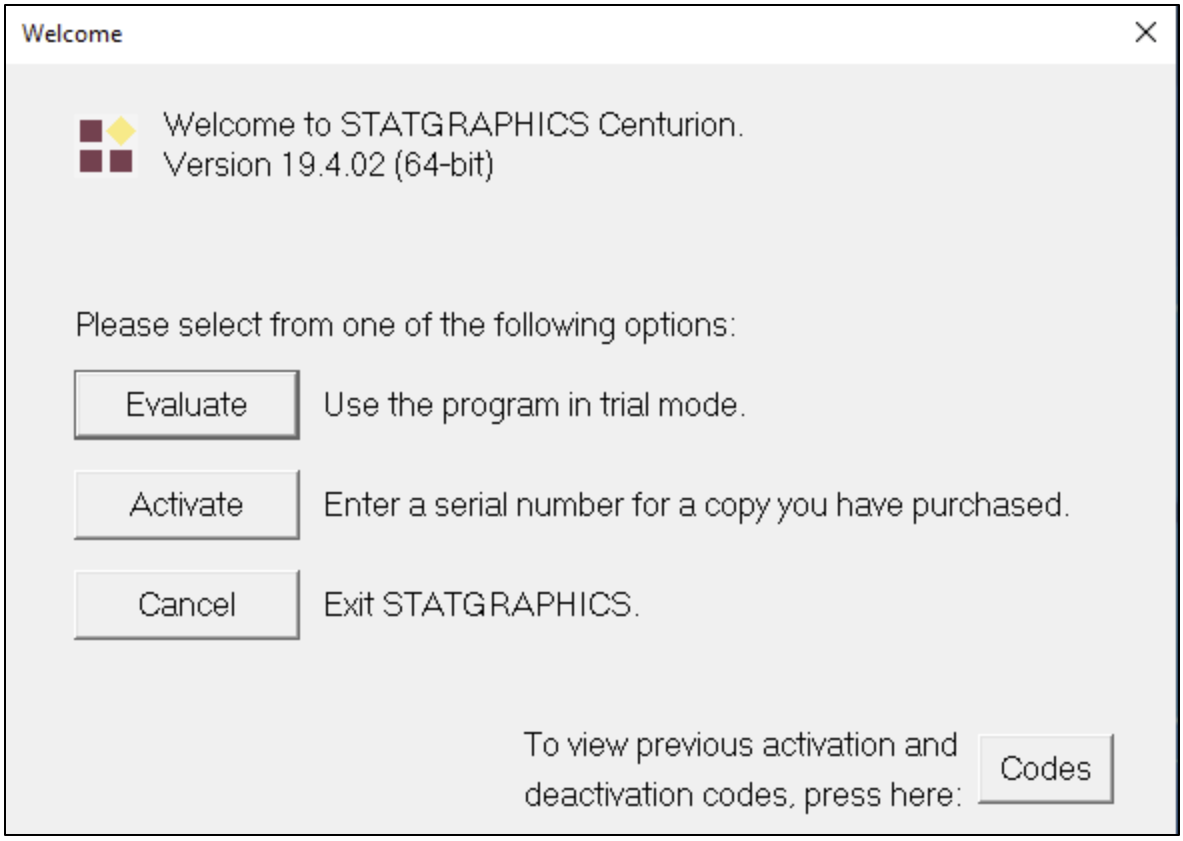


On the *Compatibility* tab of the *Properties* dialog box, check the box labeled *Run this program as an administrator*:

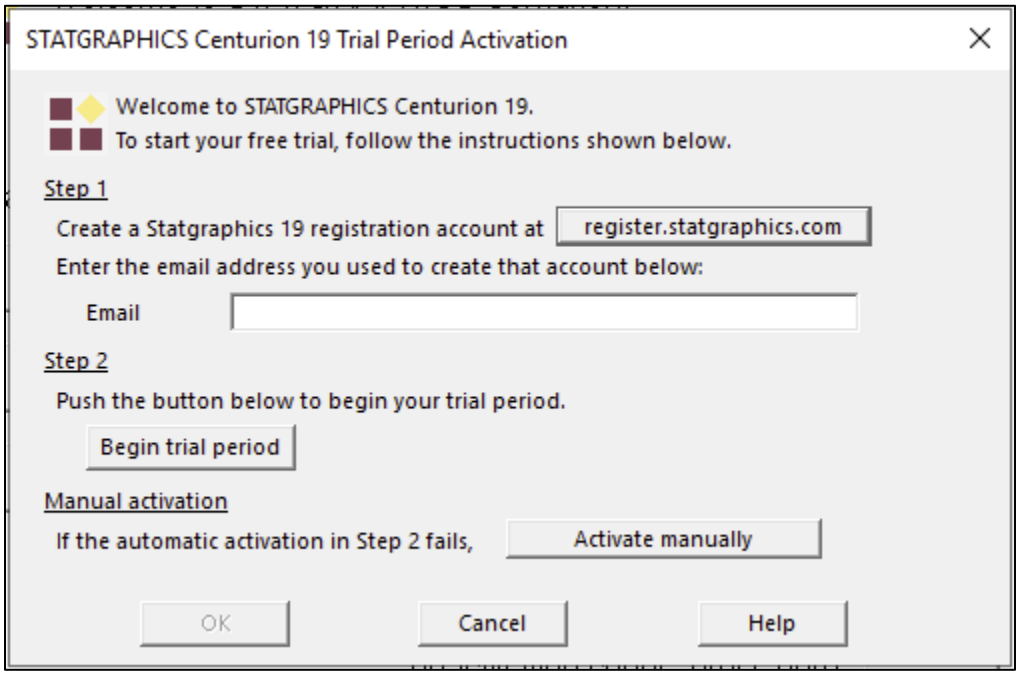


Then press *OK*. This will ensure that R and Python can also been installed in the *Program Files* directory.

Back on the desktop, click on the Statgraphics shortcut with the **right** mouse button and select *Run as administrator* to start the program. The first dialog box you'll see is shown below:



If you have already purchased a license for Statgraphics, press *Activate*. If not, you can press *Evaluate* to set up a free 30-day trial period. If you select *Evaluate*, you will next see the following dialog box:

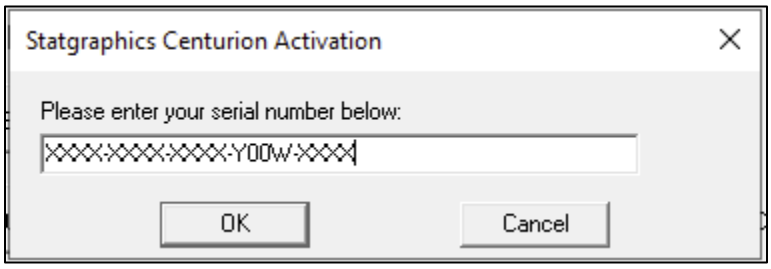


You need to do the following:

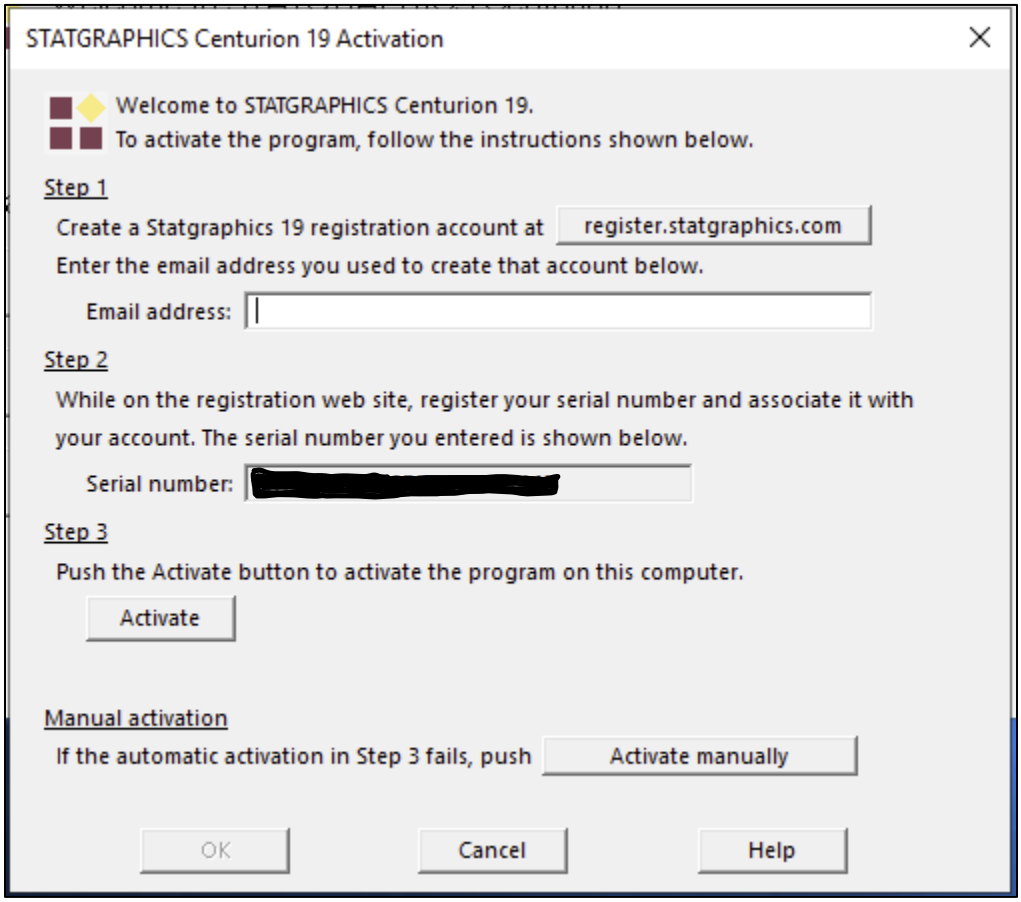
1. Go to *register.statgraphics.com* and set up an account using your email address.
2. Enter that email address on the dialog box shown above.
3. Press *Begin trial period*.

This will contact a Statgraphics web service that will send back a 30-day activation code to use with the program. Statgraphics will then automatically launch.

If you already have a serial number, press *Activate* instead. You'll then be asked to enter a serial number:



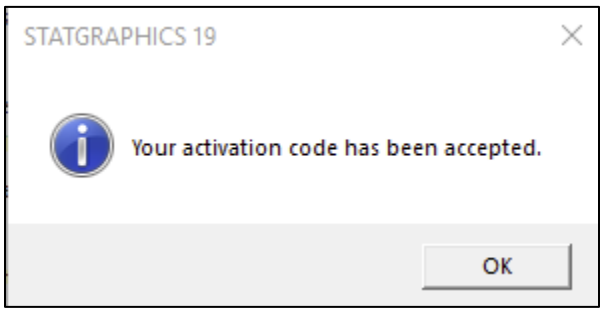
Be sure to enter a serial number that has the pattern "Y00W" in the fourth section. The "W" indicates that this is a serial number intended for use in a web environment. Press *OK* to display the final activation dialog box:



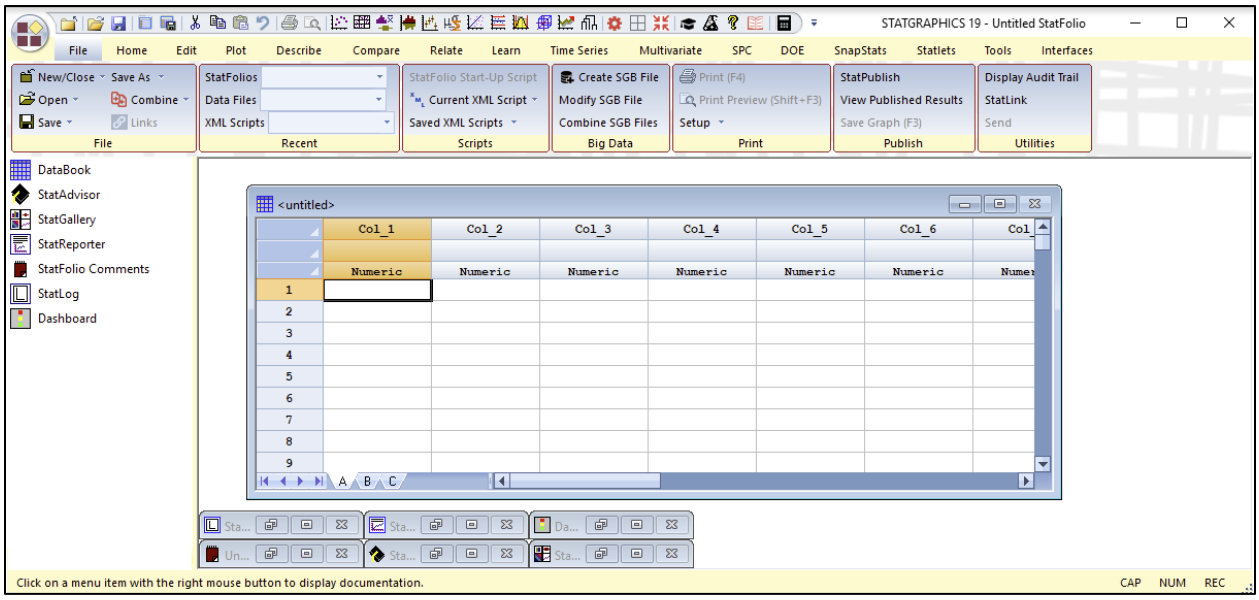
Now:

1. If you have not done so, go to *register.statgraphics.com* and set up an account using your email address.
2. Enter that email address on the dialog box shown above.
3. Press *Activate*.

You should then see the message:

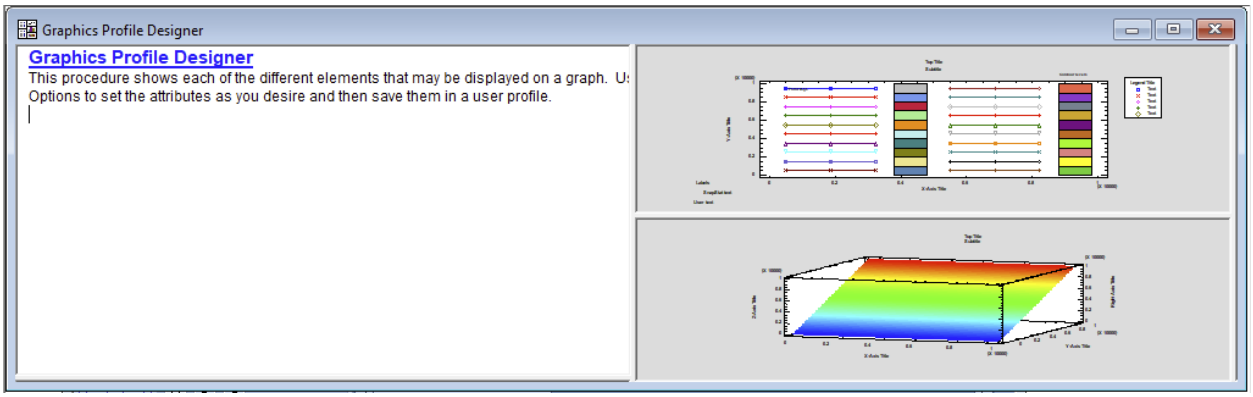


after which the main Statgraphics window should open:



Note: you'll probably want to expand the size of the window.

To be sure that everything is working properly, go to *Tools* on the main menu and select *Graphics Profile Designer*. When the dialog box appears, press *OK* and you should see the following analysis window:



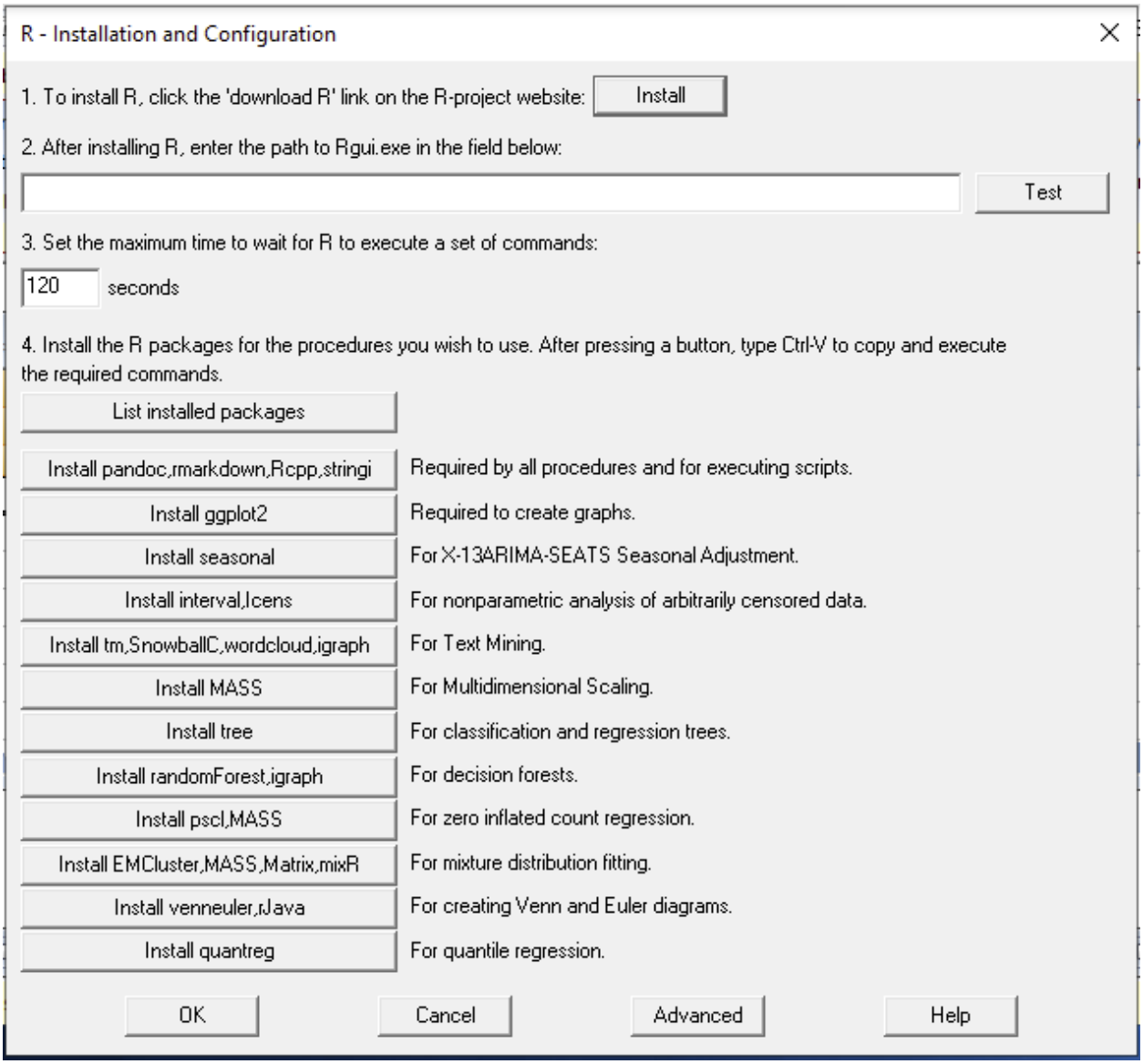
It's also a good idea to now exit Statgraphics and launch Statgraphics again. The program should open without prompting for an activation code.

You can now return to www.statgraphics.com/download19 and download and install one or more additional languages from the *Supplementary Languages* table. Run the normal installer for each language you download. No further activation is required.

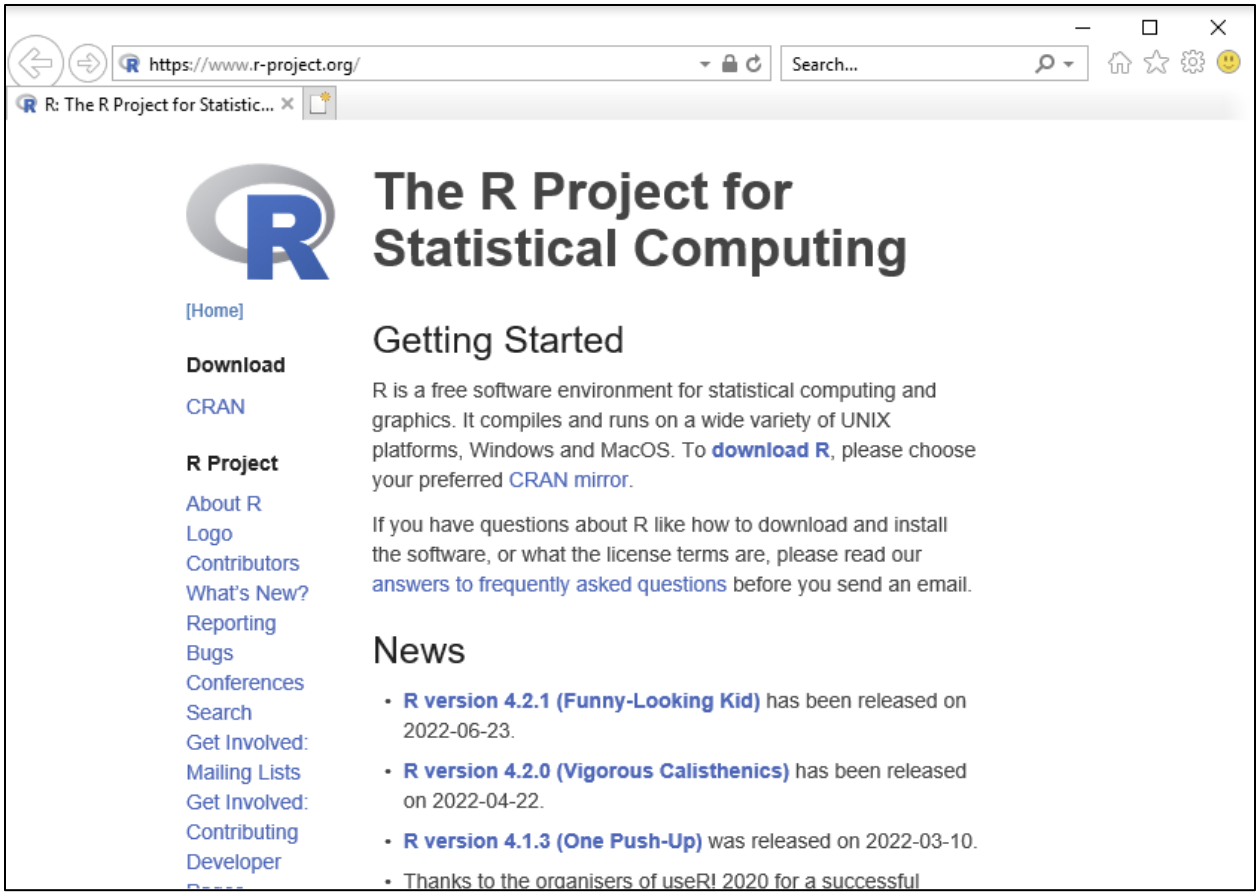
Step 5: Install R

Several procedures such as *Text Mining* and *Multidimensional Scaling* require that R be installed together with Statgraphics. R is a free statistical computing environment that may be downloaded over the internet.

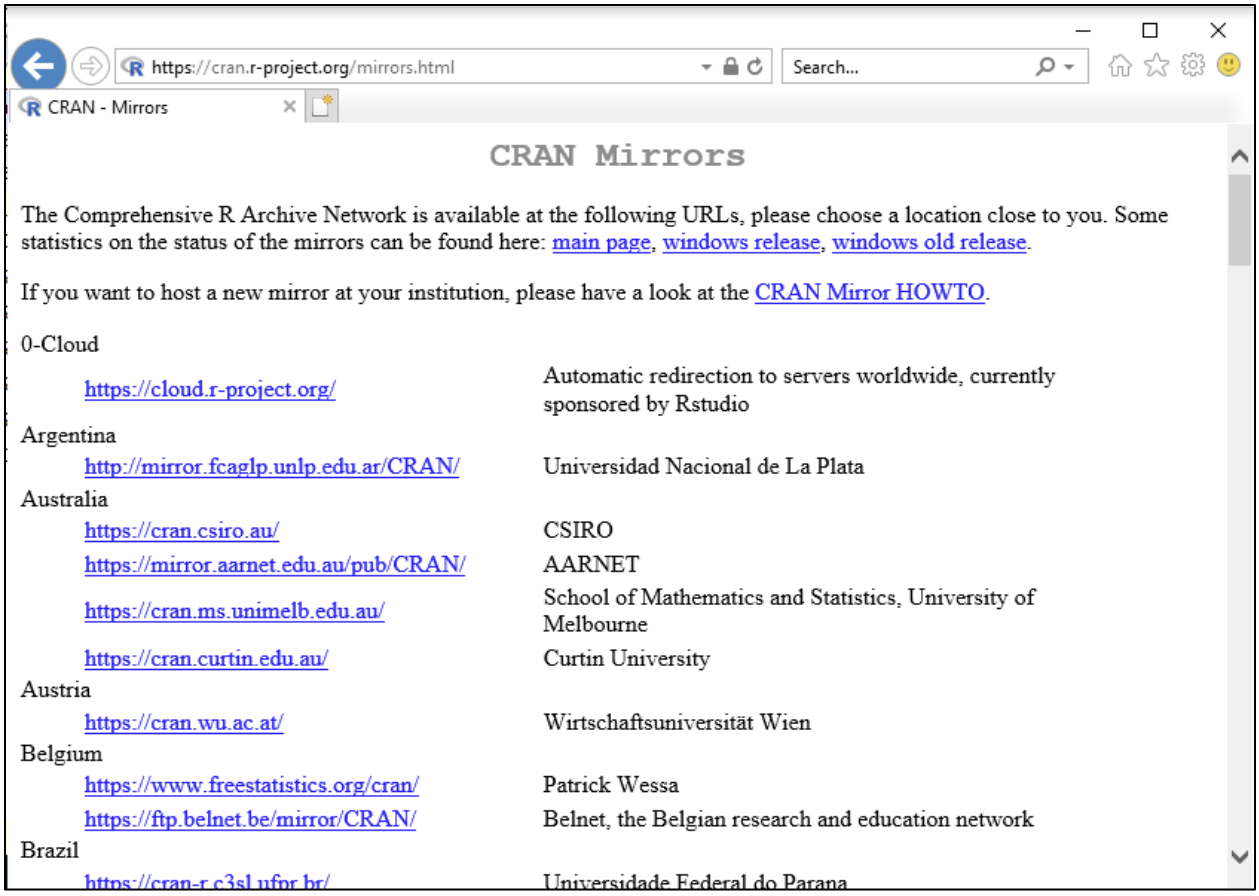
To install R, return to your desktop and start Statgraphics again by clicking on the Statgraphics shortcut with the **right** mouse button and selecting *Run as administrator*. Then click on *Interfaces* on the main Statgraphics menu and select *R – Installation and Configuration*. When you do so, you'll see the following dialog box:



To install R, click on the *Install* button. This displays the following web page:

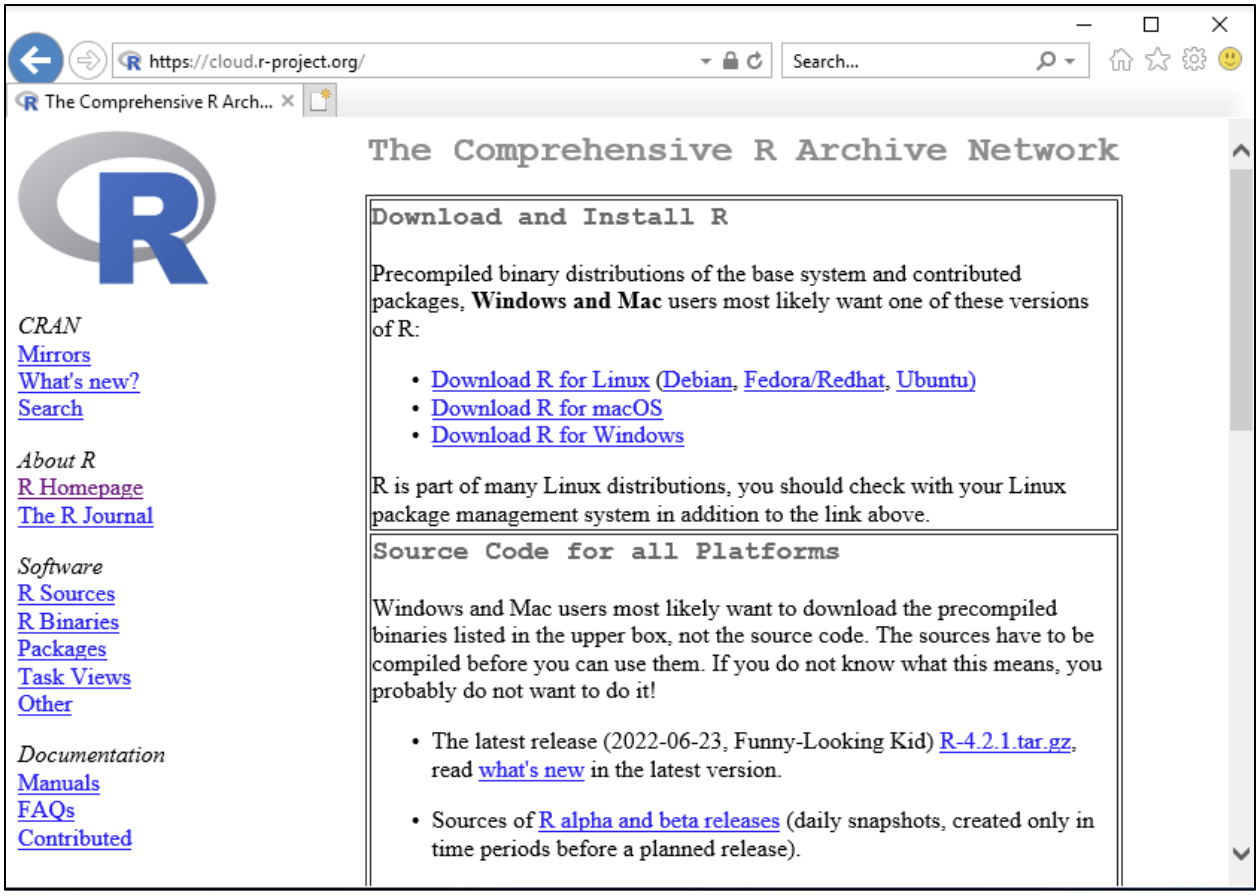


Click on *download R* to display a list of CRAN Mirrors from which the program may be downloaded:

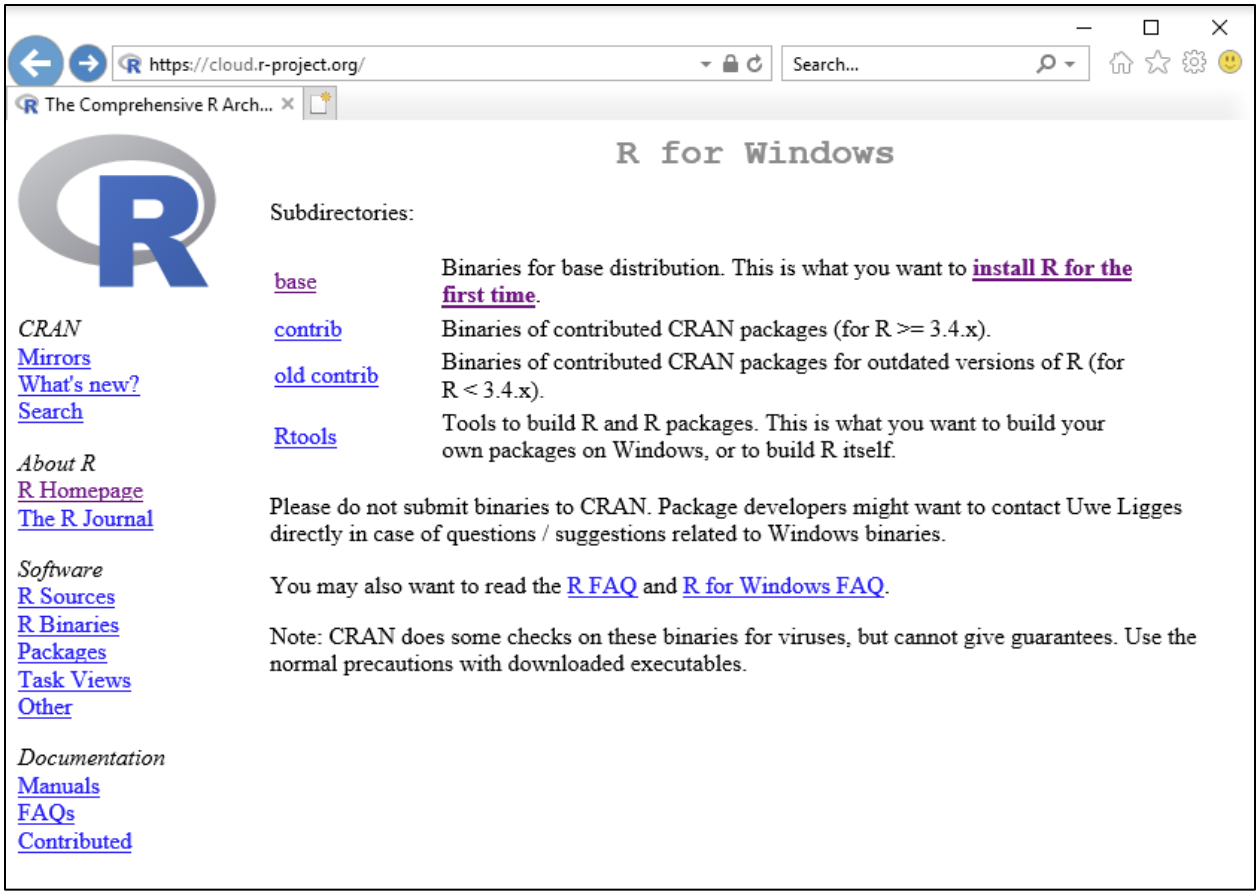


A good choice is https://cloud.r-project.org/ which will attempt to select a site close to you geographically.

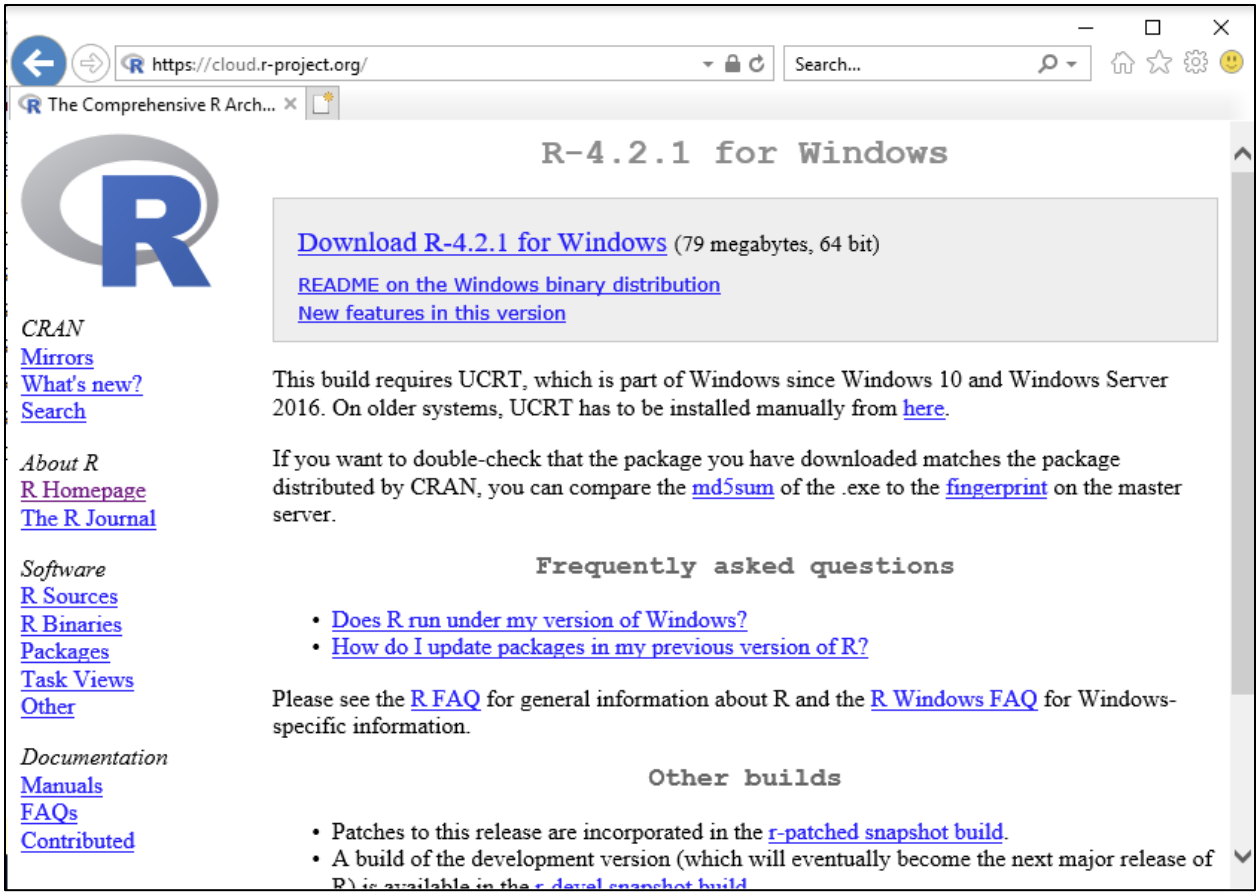
On the next page, select *Download R for Windows*.



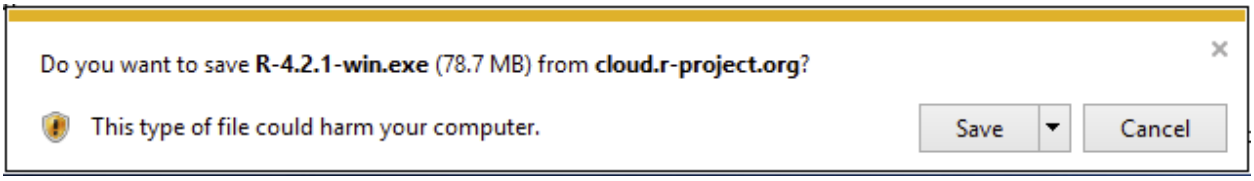
On the next page, *install R for the first time:*



On the next page, select *Download R-4.2.1 for Windows* or a newer release if available:



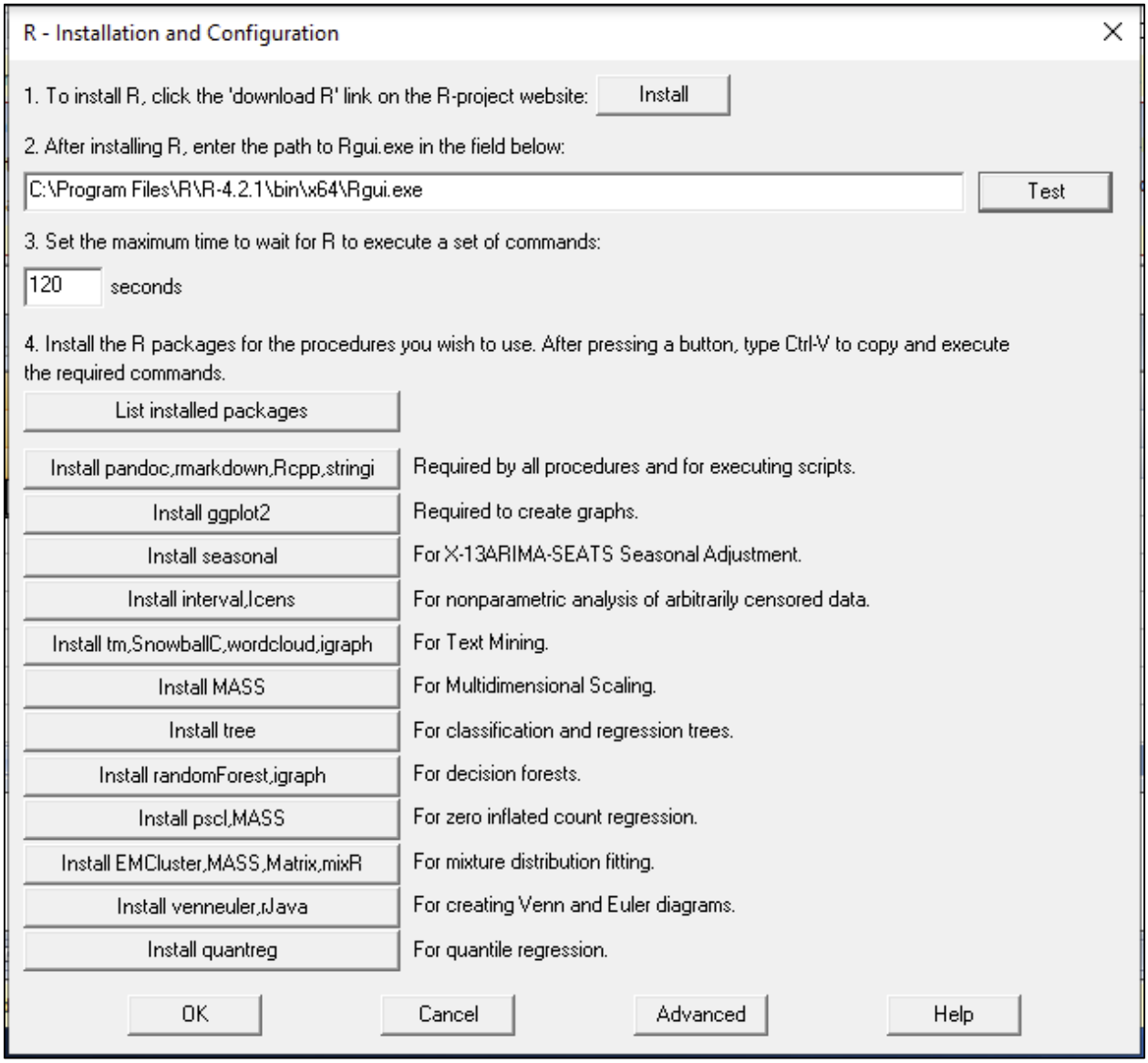
The browser will then ask if you want to save the file:



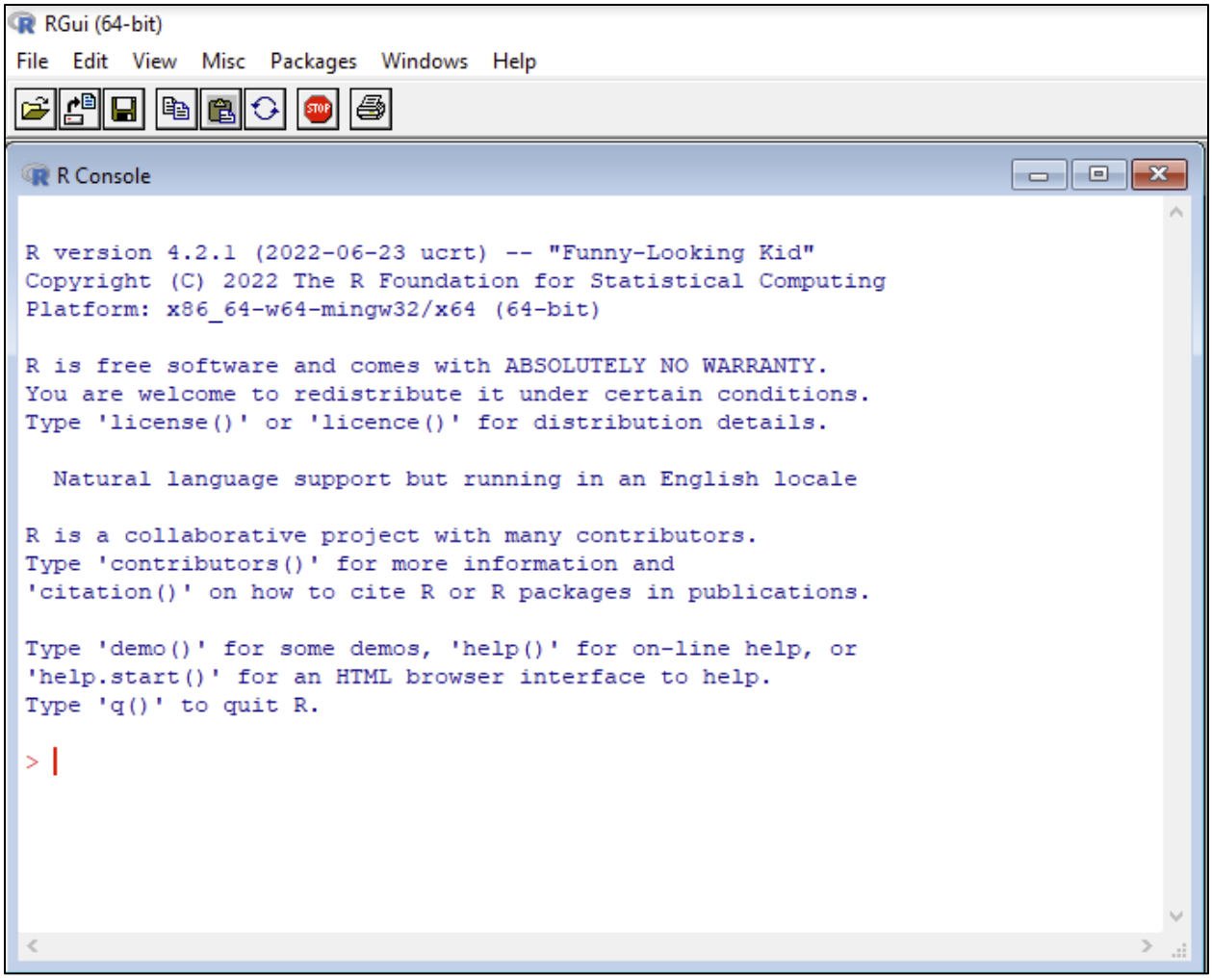
Press *Save*. Note: you may have to add *cloud.r.project.org* to your list of trusted sites when Firefox prompts you to do so.

After the download is complete, select *Run* to complete the installation. You can safely select all of the defaults. Note that R is installed in *C:\Program Files\R\R-4.2.1\bin\x64*.

You can now return to Statgraphics and enter the path to R as shown below:



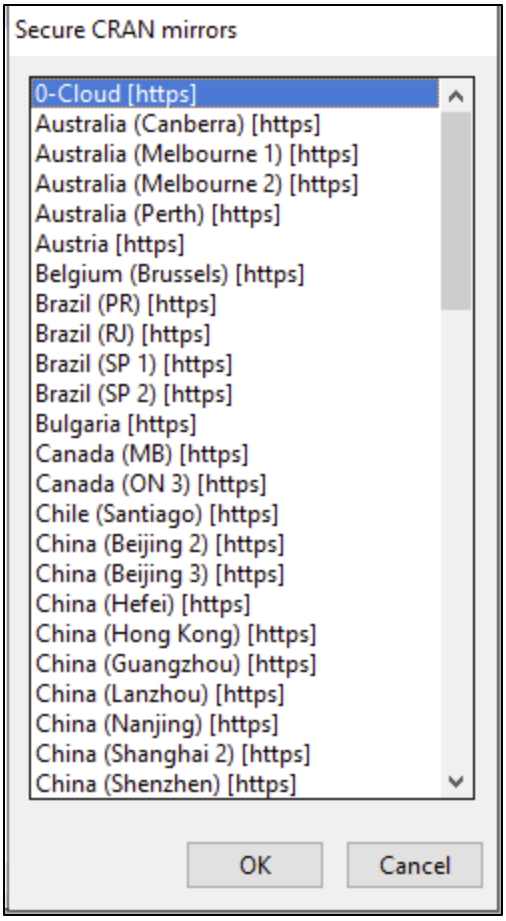
When you press *Test*, R should open in a new window:



If it doesn't, you can check the properties of the shortcut for R which should have been placed on your Windows desktop.

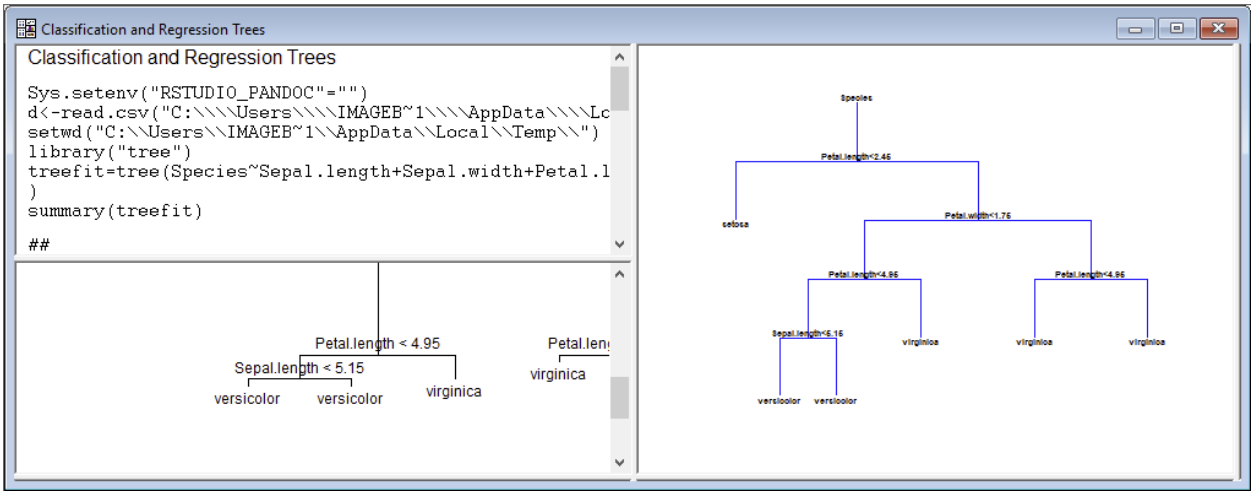
Now that R has been installed, a number of supporting libraries must be added. Step 3 on the *Statgraphics Installation and Configuration* dialog box has several buttons which must be pressed, one at a time, starting with *Install pandoc, rmarkdown, Rcpp, stringi*. You need to:

1. Press each button which will open R.
2. Press Ctrl+V to paste a statement form the clipboard into the R console. This will display a dialog box asking you to select a CRAN Mirror:



3. Select *O-Cloud (https)* and press *OK*.

After all of the libraries have been installed, you can test the installation by going to *File* on the main Statgraphics menu and selecting *Open – Open StatFolio*. Select the StatFolio file named *trees1* and open it. It should create the following analysis window:



Step 6: Install Python

Several procedures such as *K-Means Clustering* and *Support Vector Machines* require that Python be installed together with Statgraphics. Python is a free computing environment that may be downloaded over the internet. Because of AWS security restrictions, you will have to install Python outside of Statgraphics. To do so, exit Statgraphics and load FireFox. Type in the following URL:

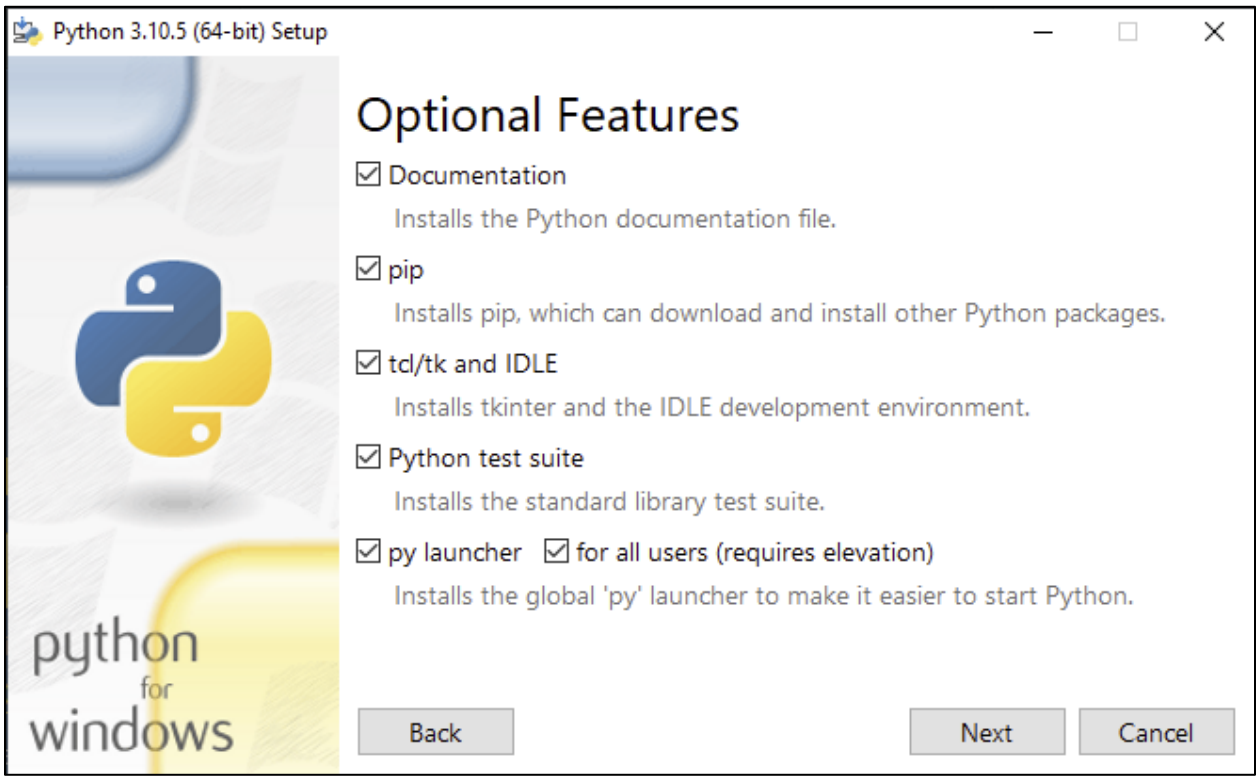
https://www.python.org/downloads

This displays the following web page:

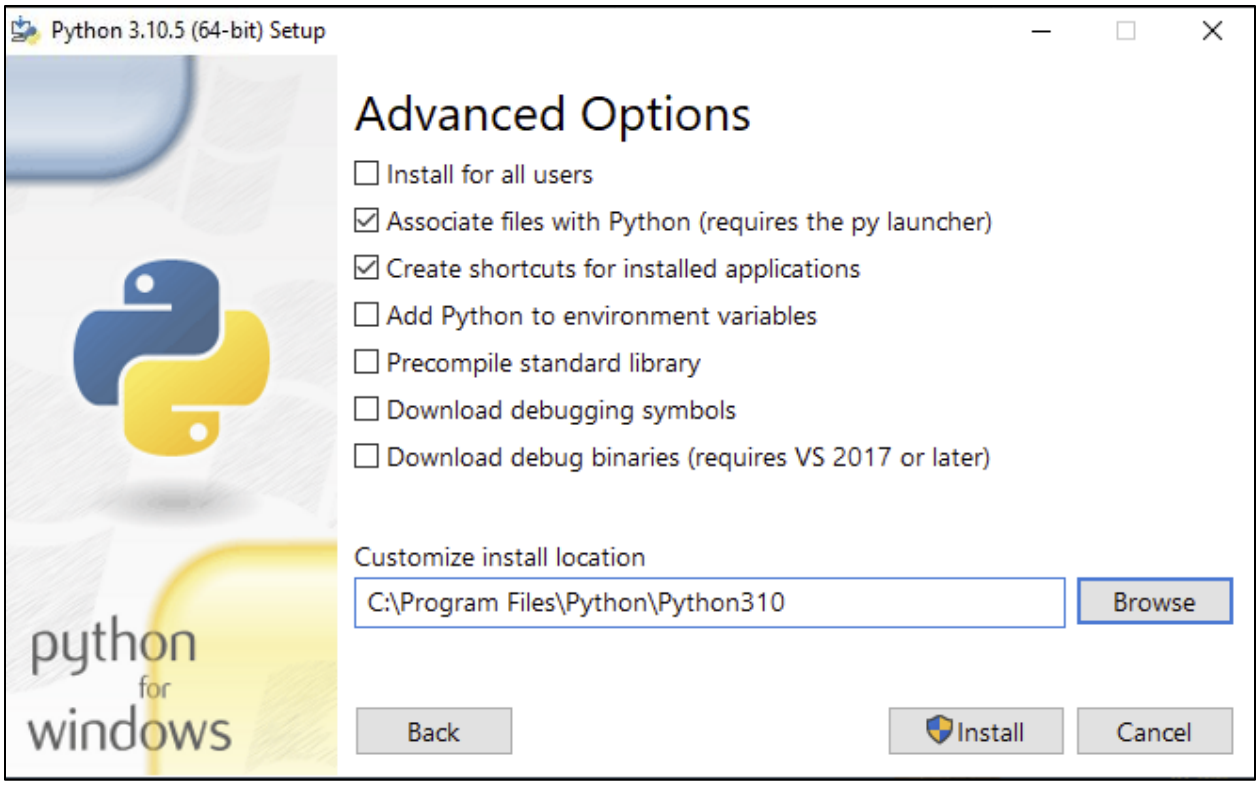
Click on *Download Python 3.10.5* or whatever the latest version is. When the download is complete, you will see a message similar to:

Click on *python-3.10.5-amd64.exe*. When the installation begins, the following dialog box will be displayed:

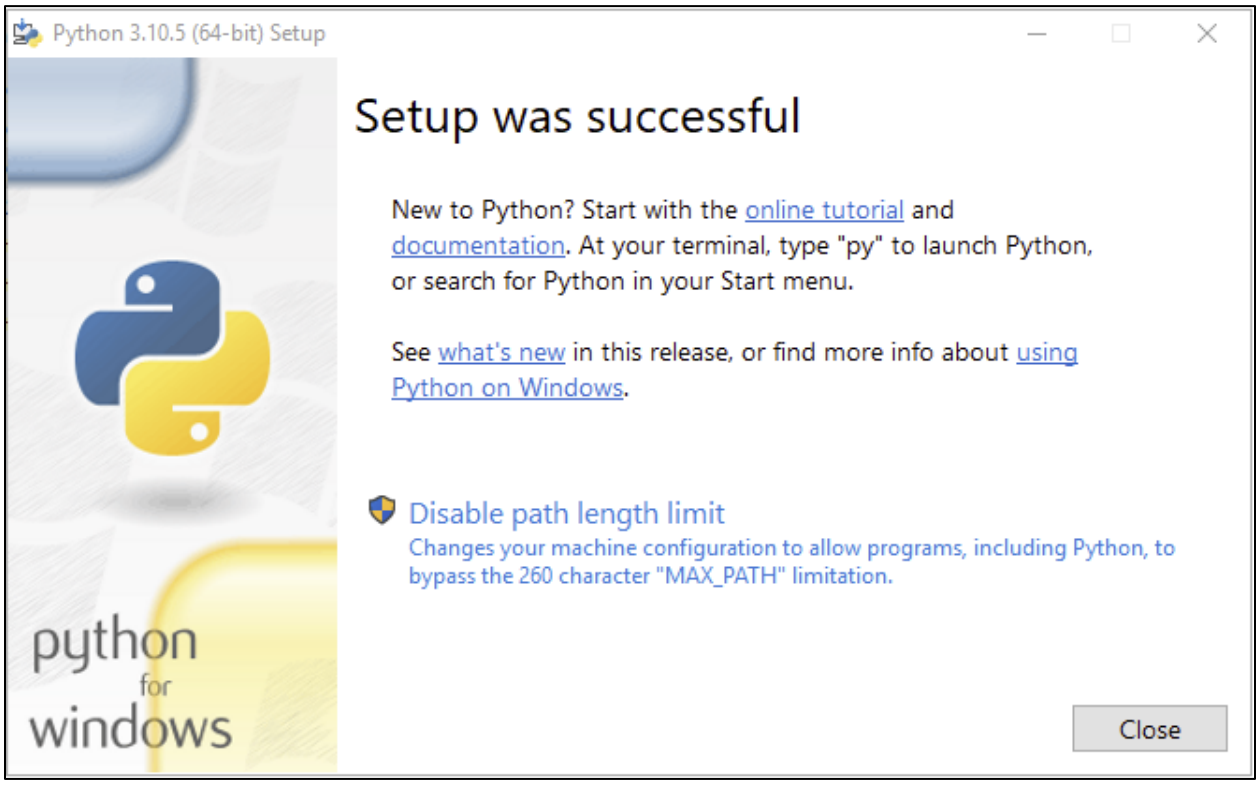
Be sure to click on *Customize installation* so that Python can be installed in a shared location. On the next dialog box, select all of the options and click on *Next*:



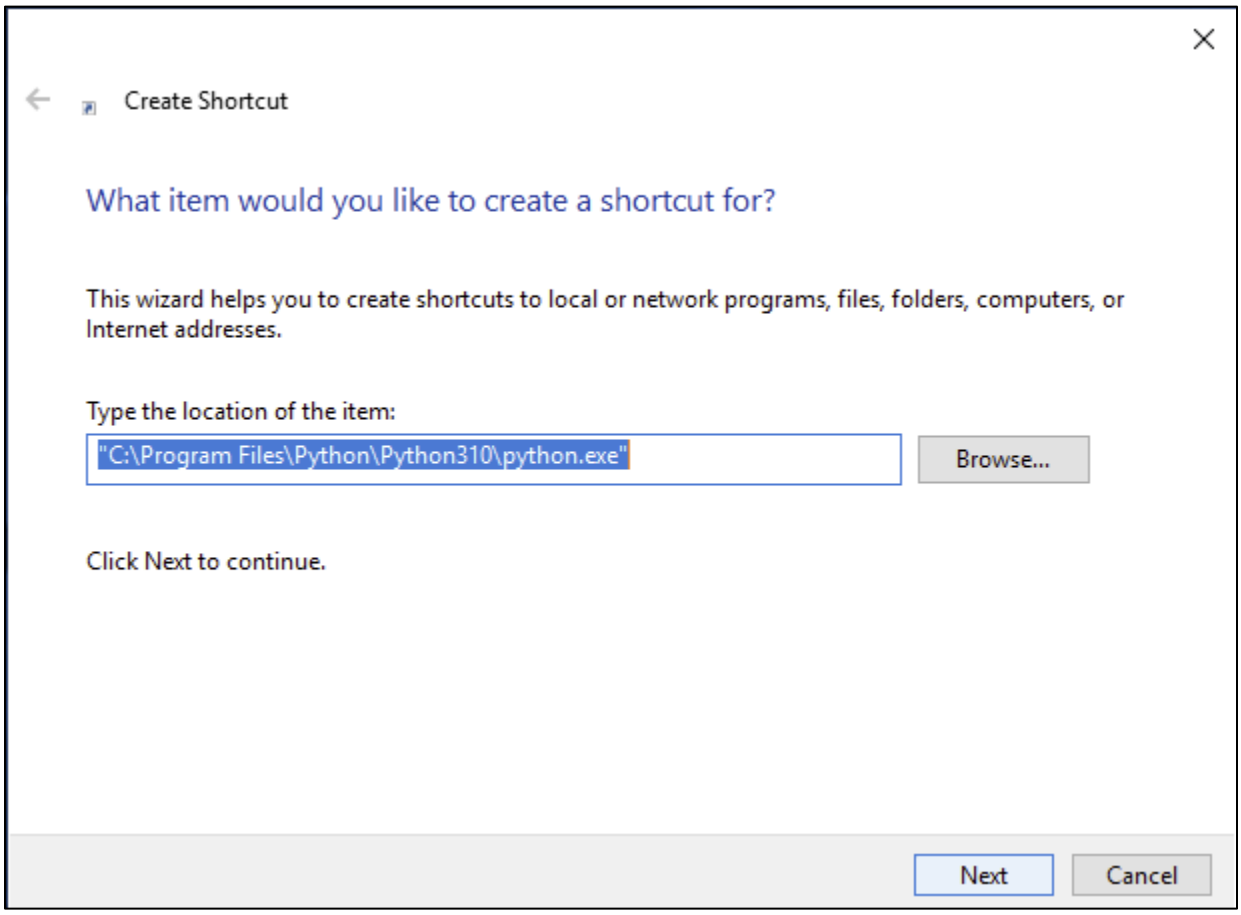
On the *Advanced Options* dialog box, set the install location as shown below:



Then press *Install*. When the installation is complete, you will see:

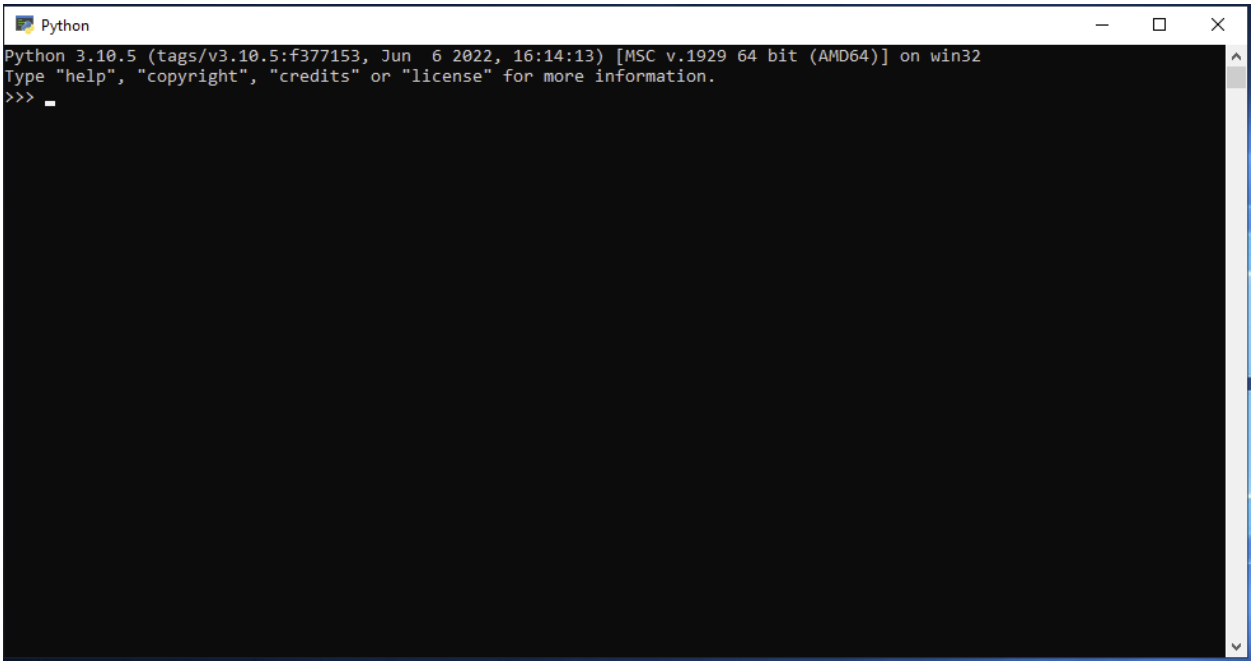


Now return to your desktop. Click anywhere on your desktop with the right mouse button and select *Create Shortcut*. Click on *Browse* and locate the installed Python executable:

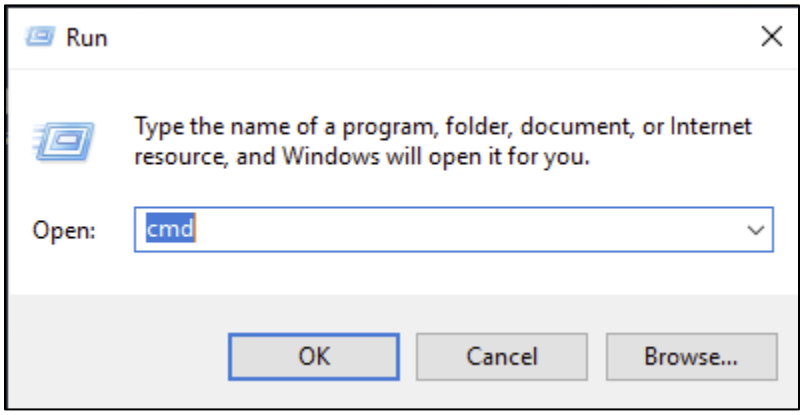


Click *Next* to add a shortcut to your desktop:

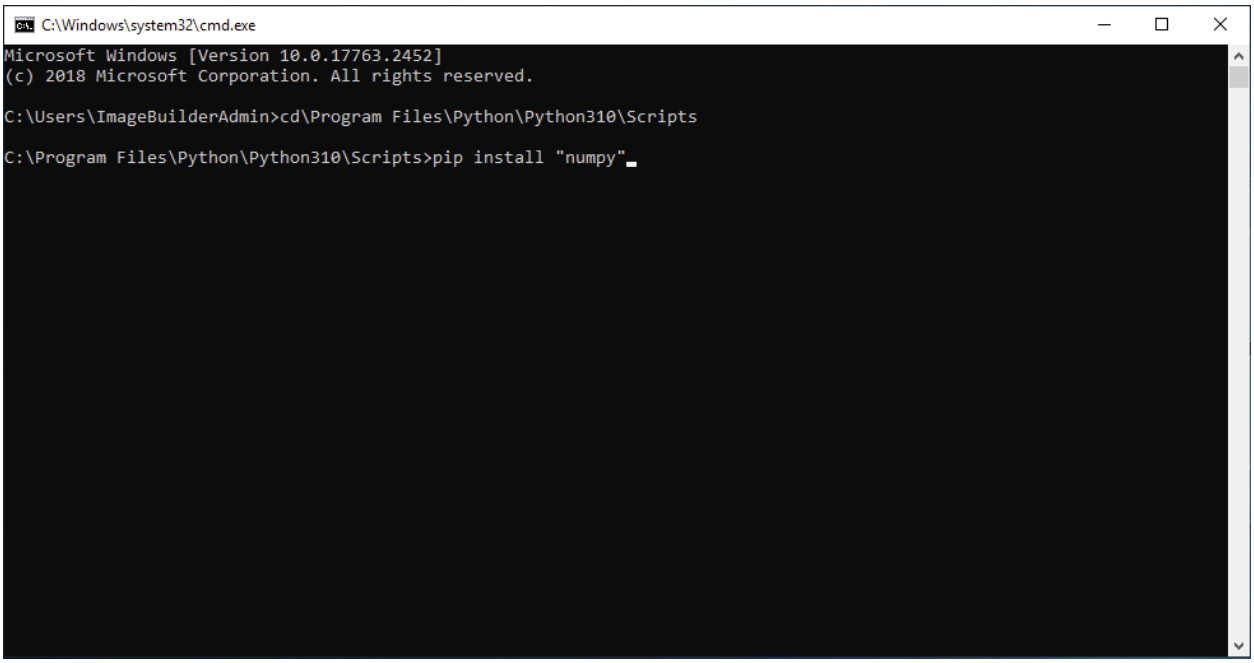
Now click on that shortcut to ensure that Python is properly installed. If it is, the following Python window will open:



The next step is to install several libraries needed by Python. To do this, you need to open a command window with administrative rights. To do this, click on the Windows icon at the bottom left corner of your screen and select *Run* to open the following window:



Type “cmd” in the edit field and press *Ctrl+Shift+Enter*. This will open a command window with full administrator rights as shown below:



Enter the following commands, one at a time:

cd\Program Files\Python\Python310\Scripts

pip install “numpy”

pip install “pandas”

pip install “jupyter”

pip install “ipython”

pip install “scipy”

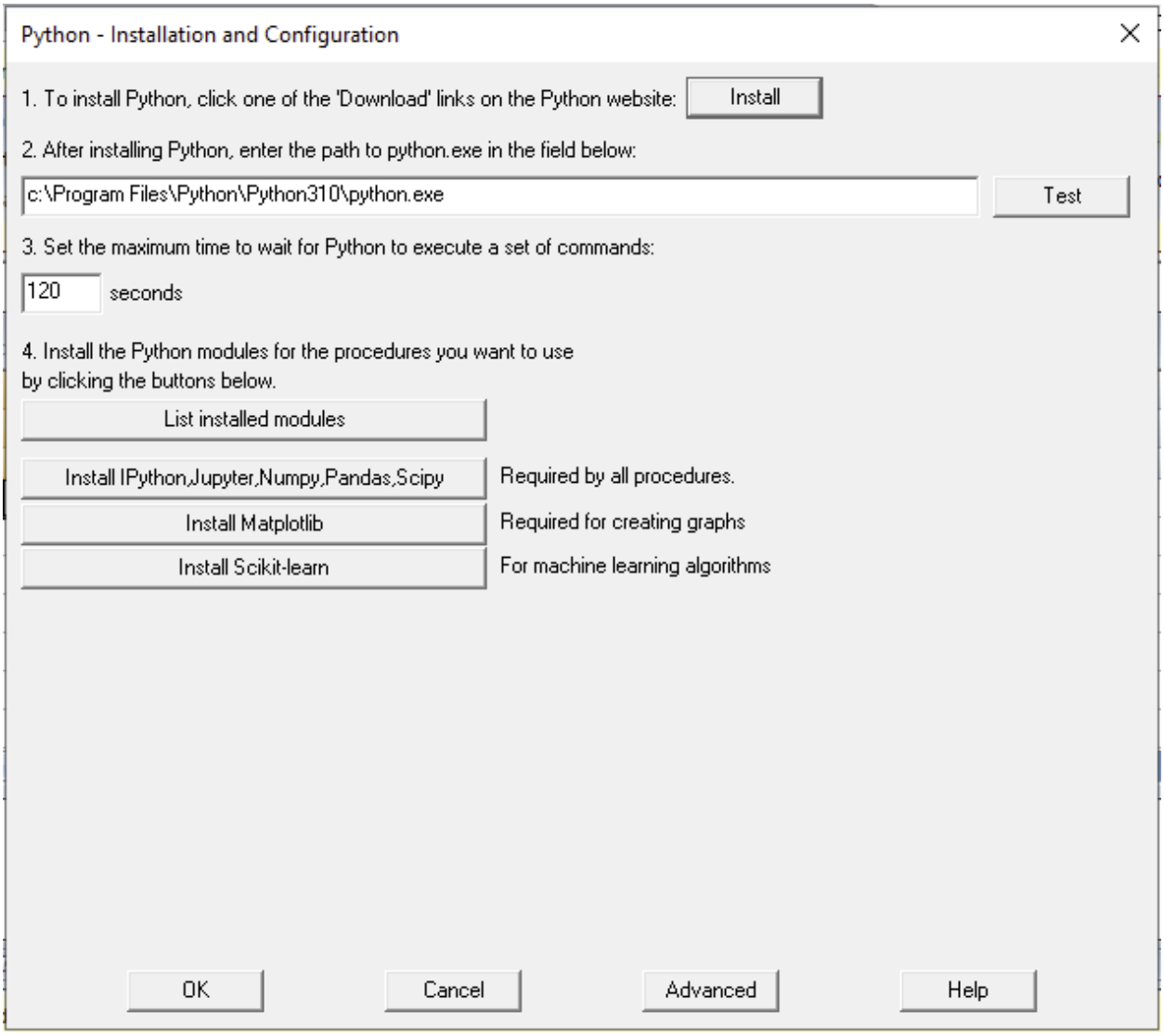
pip install “scikit-learn”

pip install “matplotlib”

If the installation worked properly, new libraries will have been added to

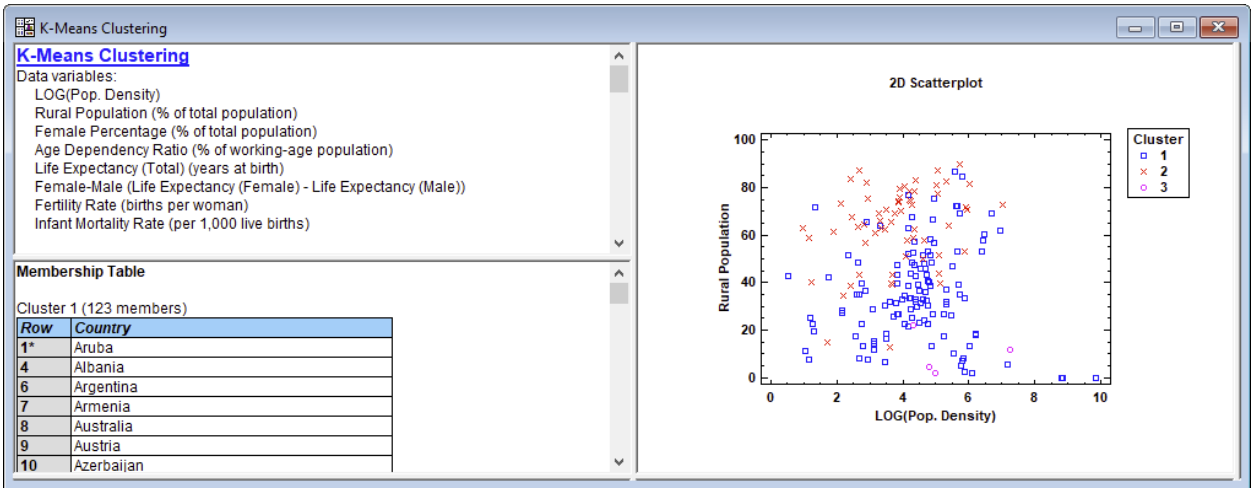
c:\Program Files\Python\Python310\lib\site-packages

To complete the installation, launch Statgraphics again from the desktop. Select *Interfaces* from the main menu and then *Python – Installation and Configuration*. On the dialog box that is displayed, enter the path to the Python executable:



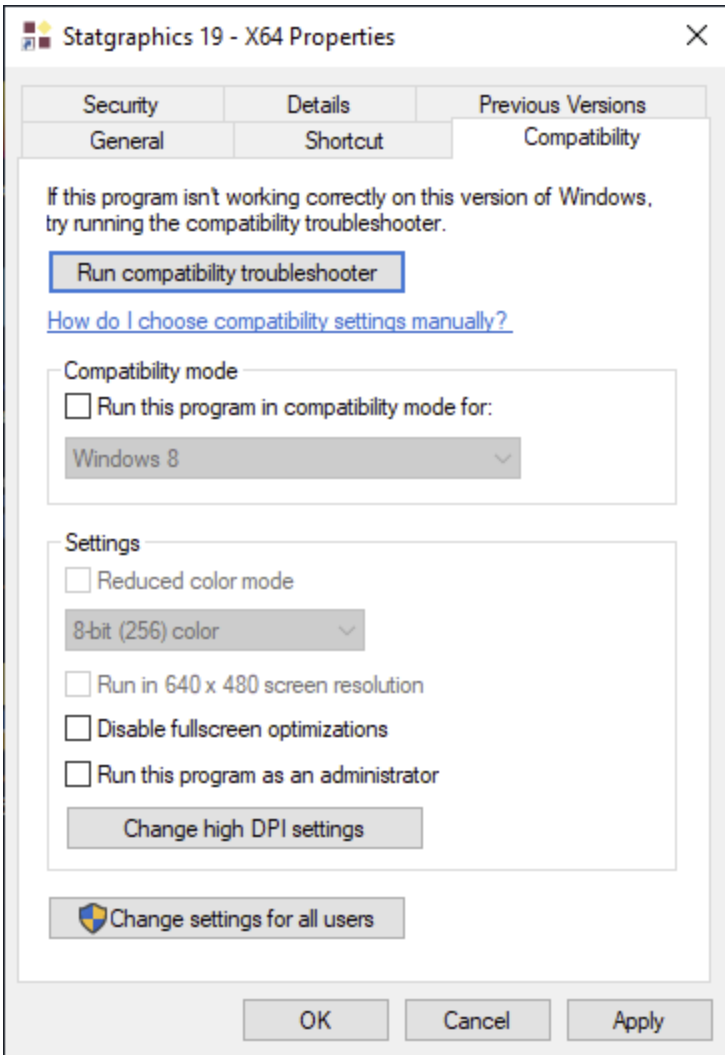
Pressing *Test* should launch a Python session. You can close the session and press *OK* to save the path.

As a final test, go to *File* on the main Statgraphics menu and select*Open* – *Open StatFolio*. Select the StatFolio file named *kmeans* and open it. It should create the following analysis window:



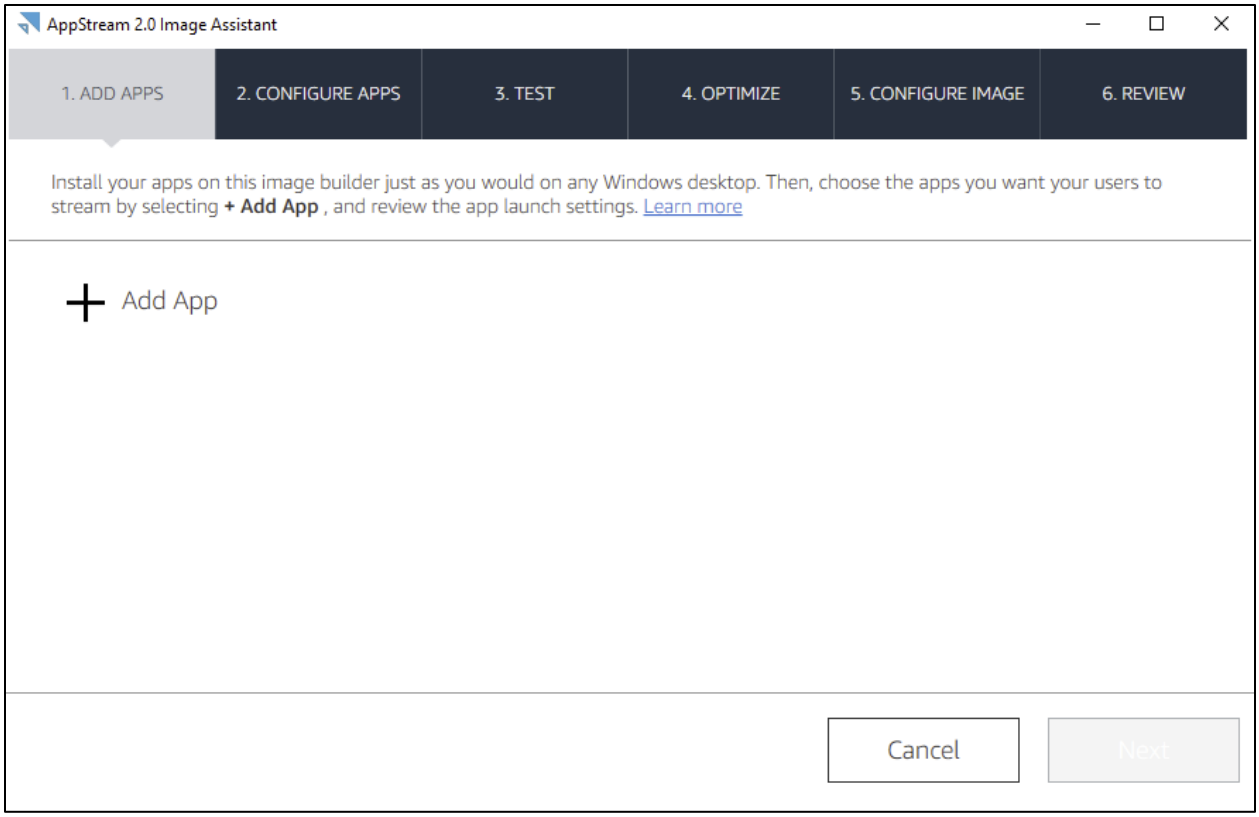
Step 7: Set up user defaults

Once Statgraphics, Python and R have been installed, it is time to set up the final image for normal users. Before doing so, find the Statgraphics shortcut on the desktop. Click with the right mouse and select *Properties*.

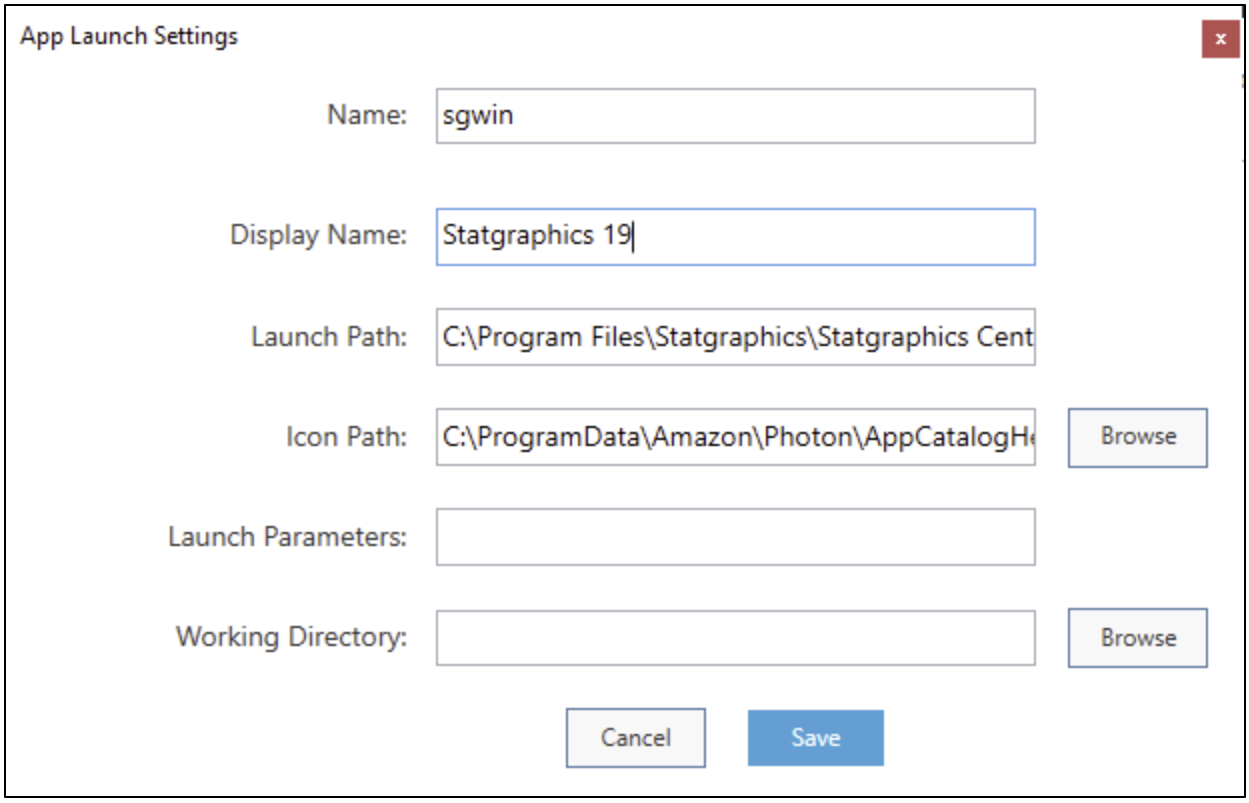


On the *Compatibility* tab, uncheck *Run this program as an administrator* so that normal users with not have admin rights.

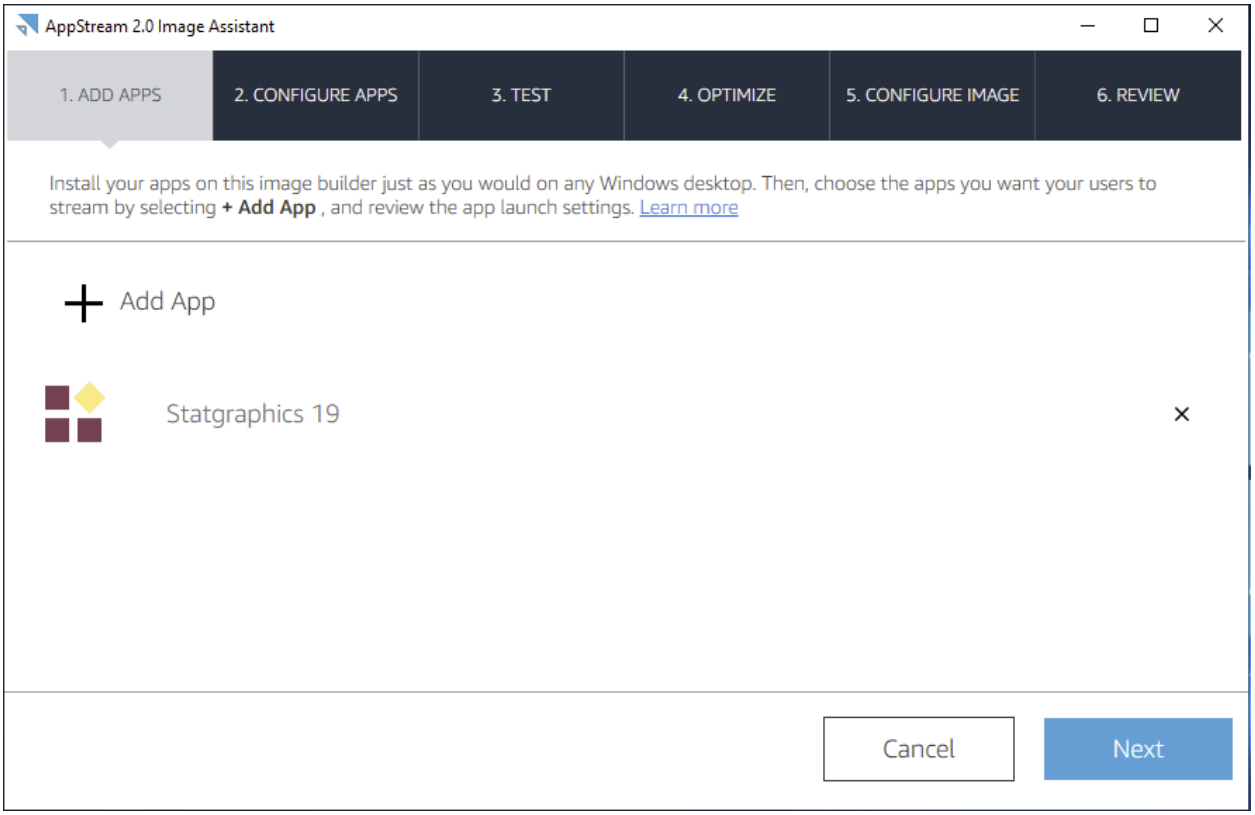
Now click on the desktop shortcut labeled *Image Assistant* which will launch the window shown below:



Click on *Add App*. Drill down through *Program Files, Statgraphics* until you find the executable named *sgwin*. Add a friendly display name on the screen below and press *Save*.



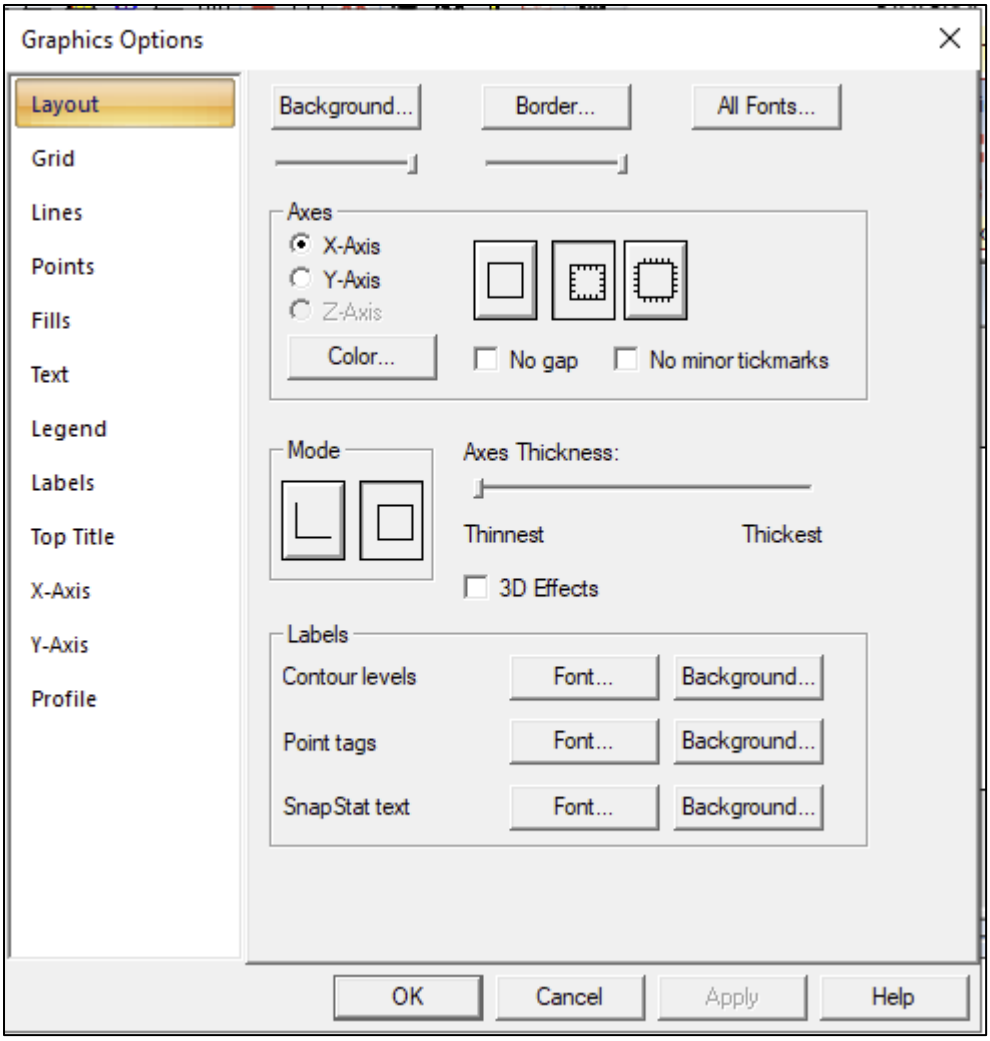
This will add Statgraphics for the users to see:



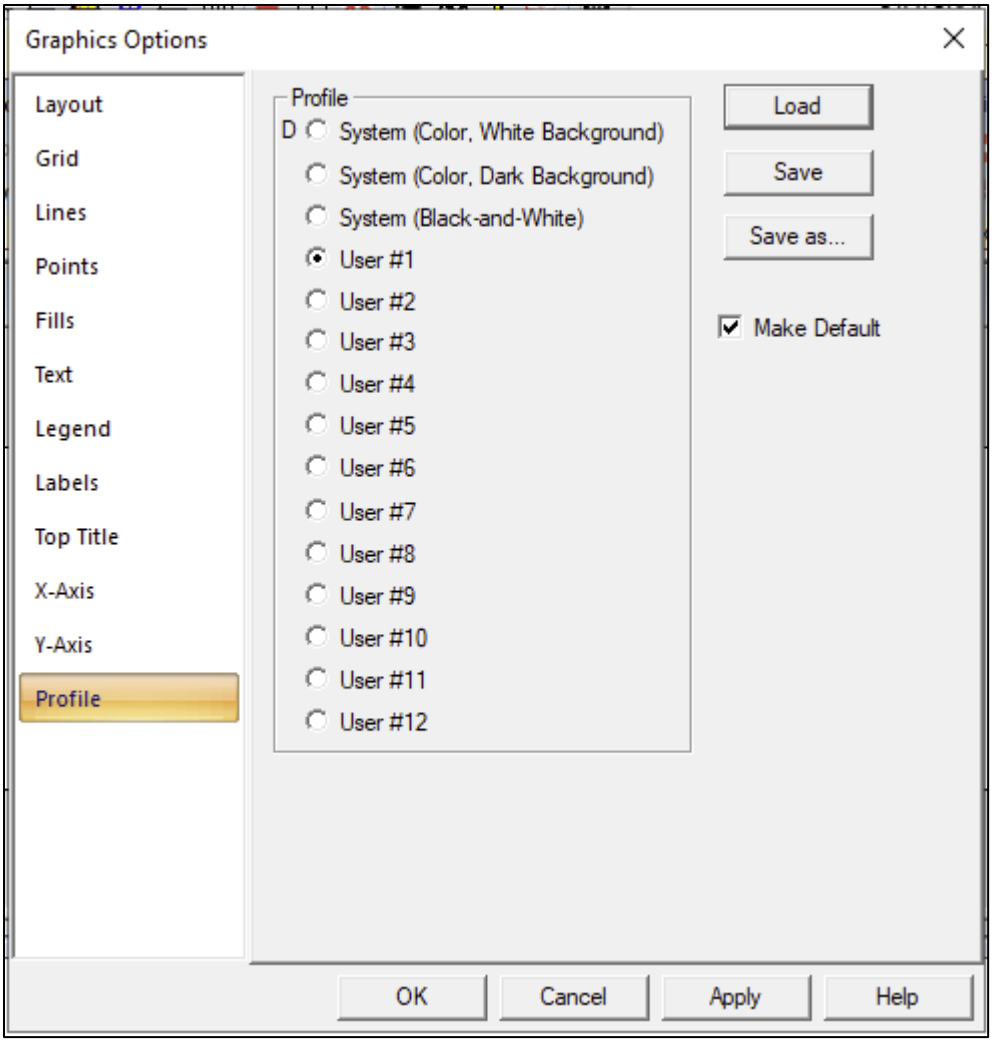
Click *Next* to move to *Configure Apps*. On that screen, click on *Switch User* and login as a *Template User*. Click on the Statgraphics shortcut to launch the program. You've have to repeat the activation process that you used as an administrator, after which the program will launch.

You now need to set various options which users will see when they first launch the program. Each user can customize the options later, but you should set good defaults.

1. Select *Interfaces* from the top menu. Go to *R – Installation and Configuration* and set the path to *C:\Program Files\R\R-4.2.1\bin\x64\Rgui.exe.* Press *Test* to be sure that R launches. Then press OK to save the path.
2. Select *Interfaces* from the top menu. Go to *Python – Installation and Configuration* and set the path to *C:\Program Files\Python\Python310\python.exe.* Press *Test* to be sure that Python launches. Then press OK to save the path.
3. We also suggest selecting *Home* from the top menu and unchecking *View - Task Bars*. The task bars are rectangular boxes that appear on the Statgraphics desktop. They are redundant now that the leftmost section of the Statgraphics menu contains a navigation bar listing all of the windows.
4. If you'd like to change any of the default graphics colors and fonts, select *Tools – Graphics Profile Designer*. This launches sample 2D and 3D graphs. You can double-click on each graph separately to enlarge it. Then press the right mouse button and select *Graphics Options* to open a large dialog box on which many graphics settings may be changed:

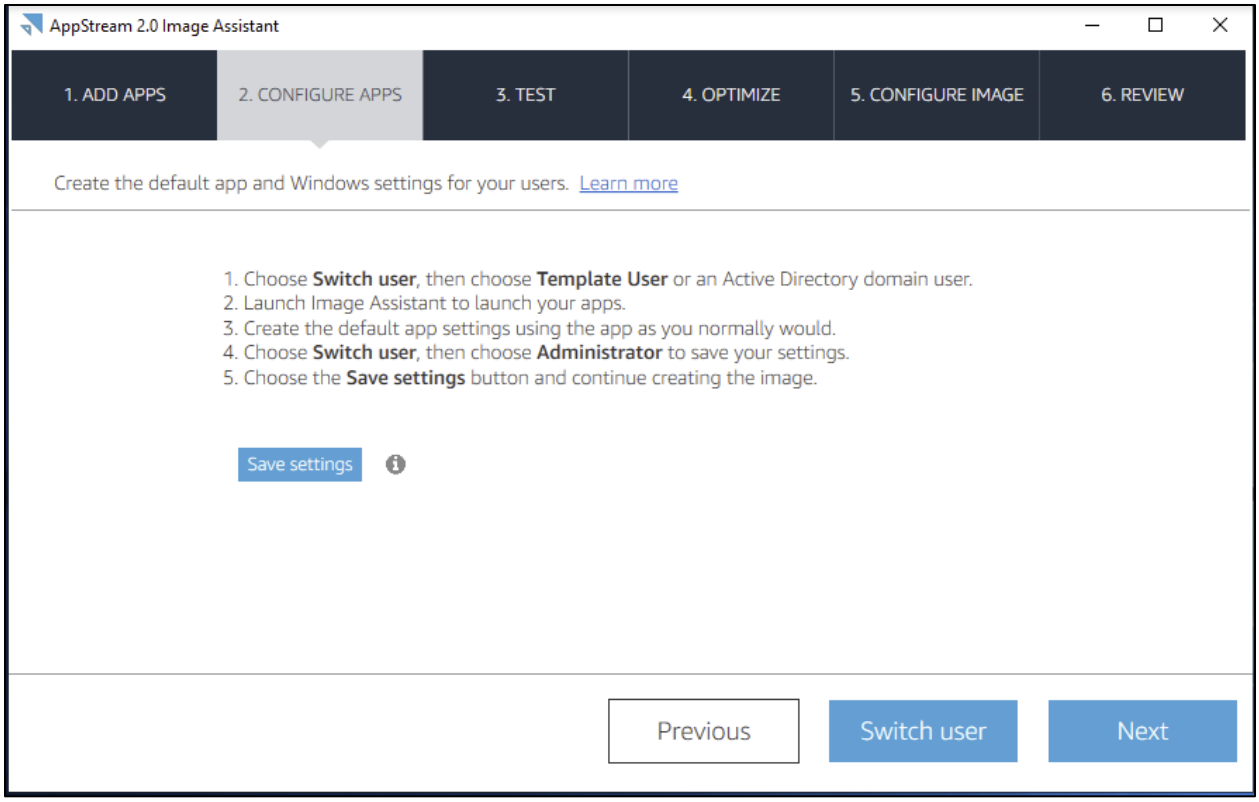


Make whatever changes you desire. Then select the *Profile* tab:



To make your new settings the defaults, click the radio button labeled *User #1*, check *Make Default*, and press *Save*. This profile will define the default settings for new users when their first AWS session is created. They will be able to change the defaults to their liking after that.

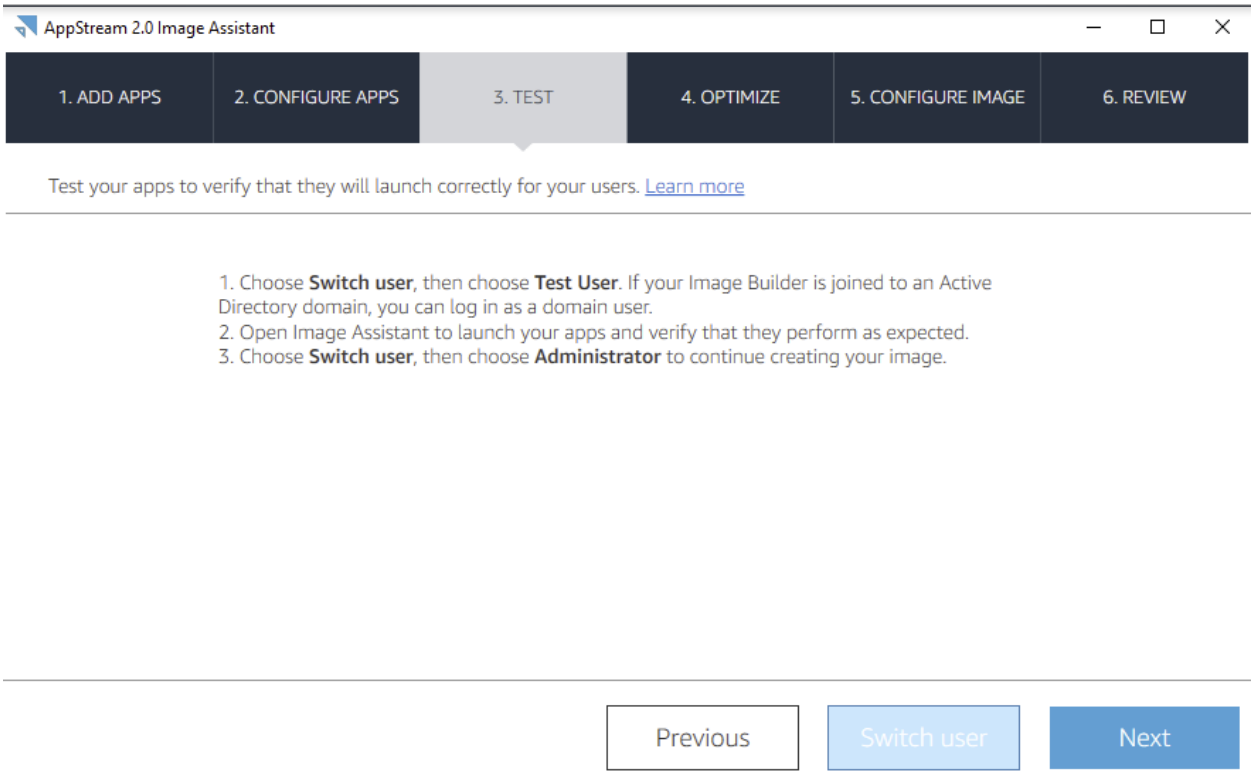
You should now exit the Statgraphics session and relaunch the *Image Assistant*. Click on *Switch User* and login as an *Administrator.* You'll then see the following screen:



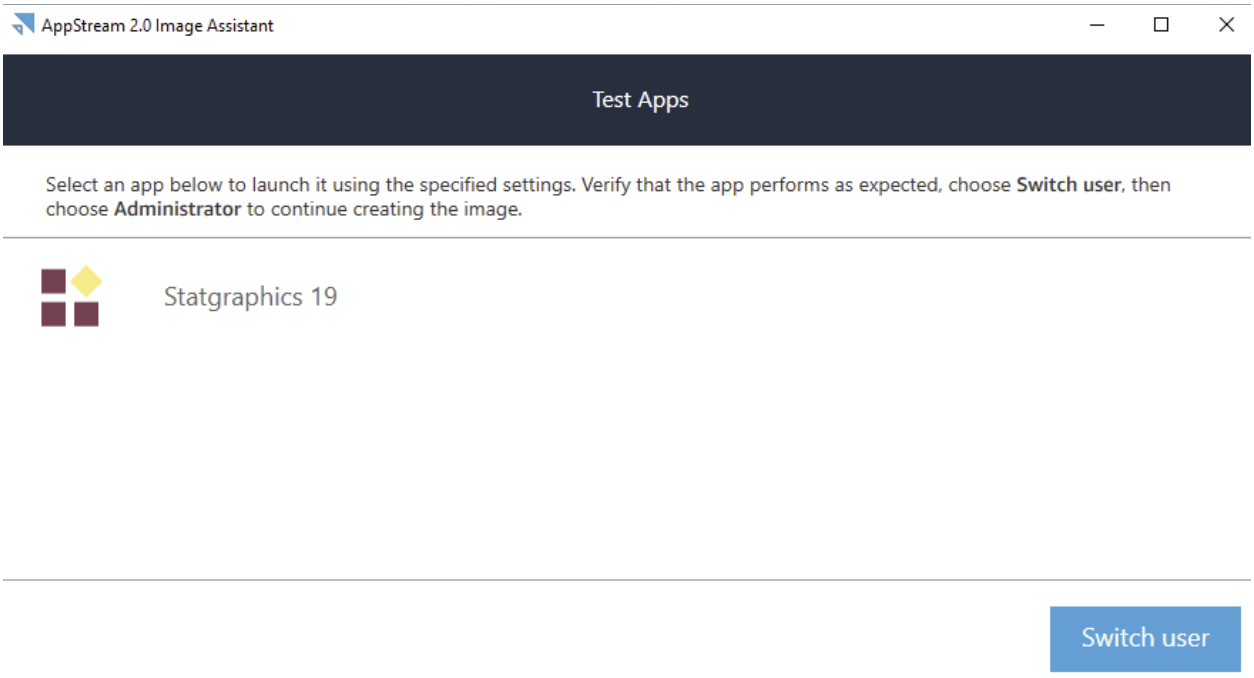
Press *Save settings*. This will save the settings you have selected.

Step 8: Test and optimize the final image

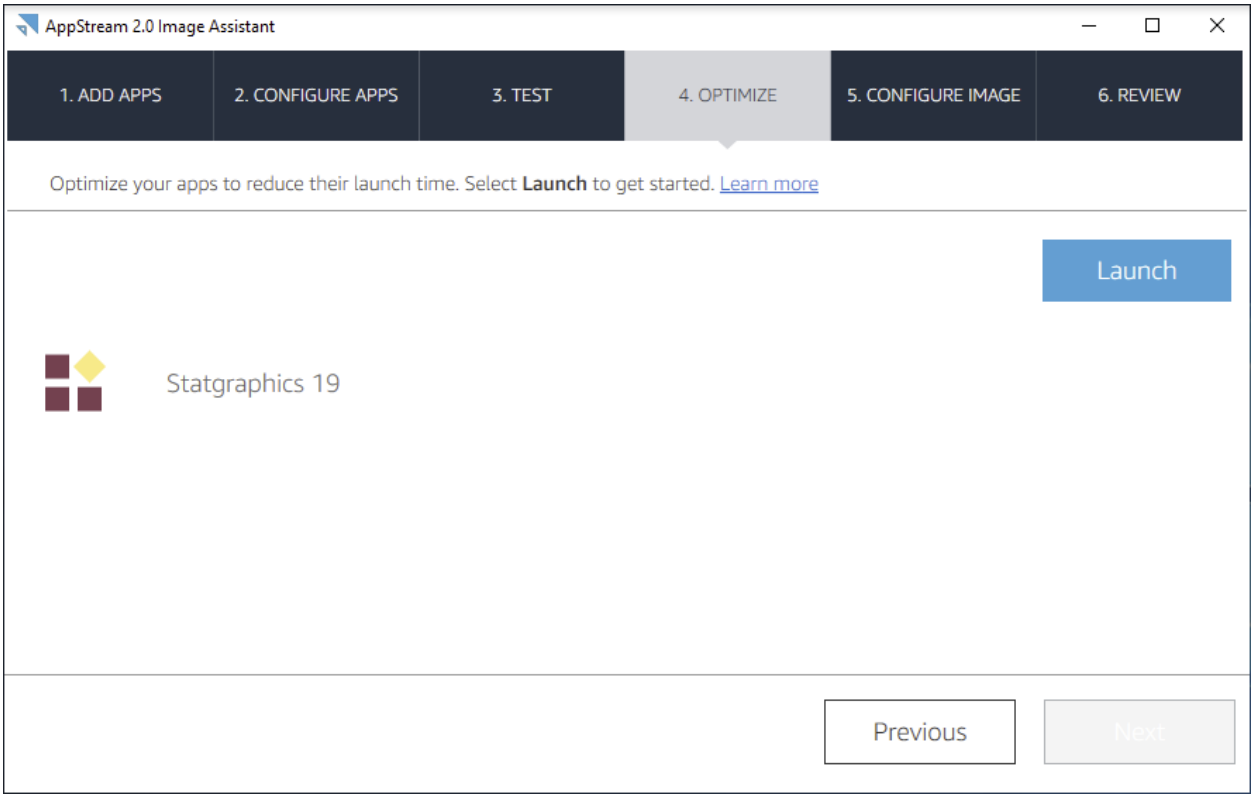
The next step is to switch to a *Test User* and be sure that your settings are correct. At this stage, the screen should be at the *Test* tab.



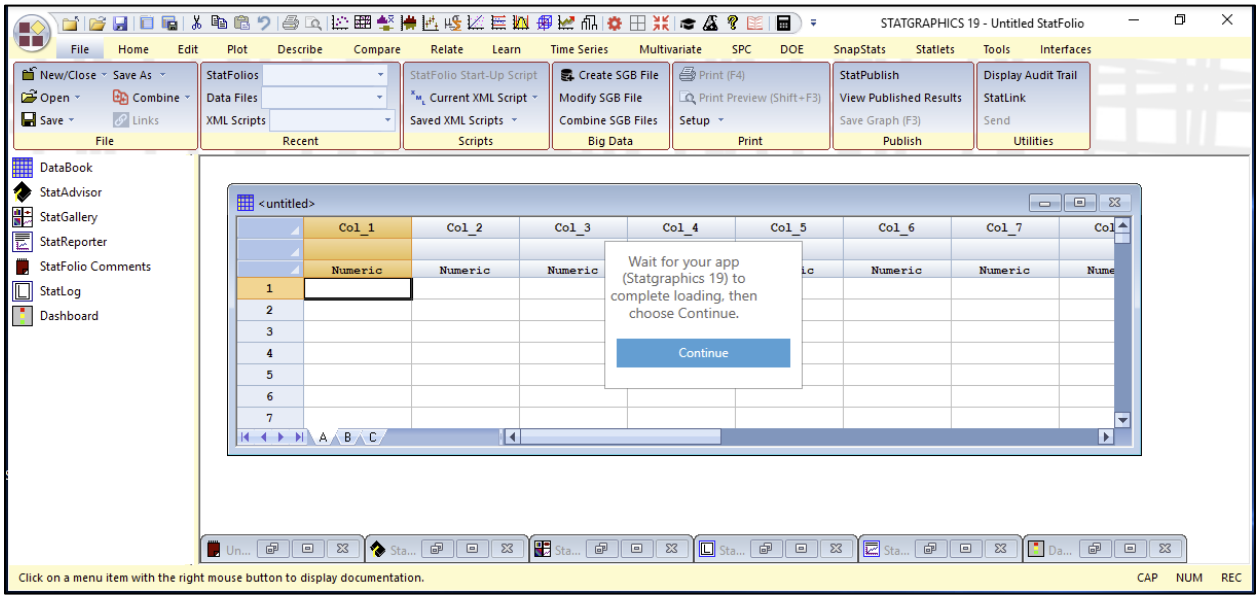
Press *Switch user* and login as a *Test user*. This will display the *Test Apps* screen:



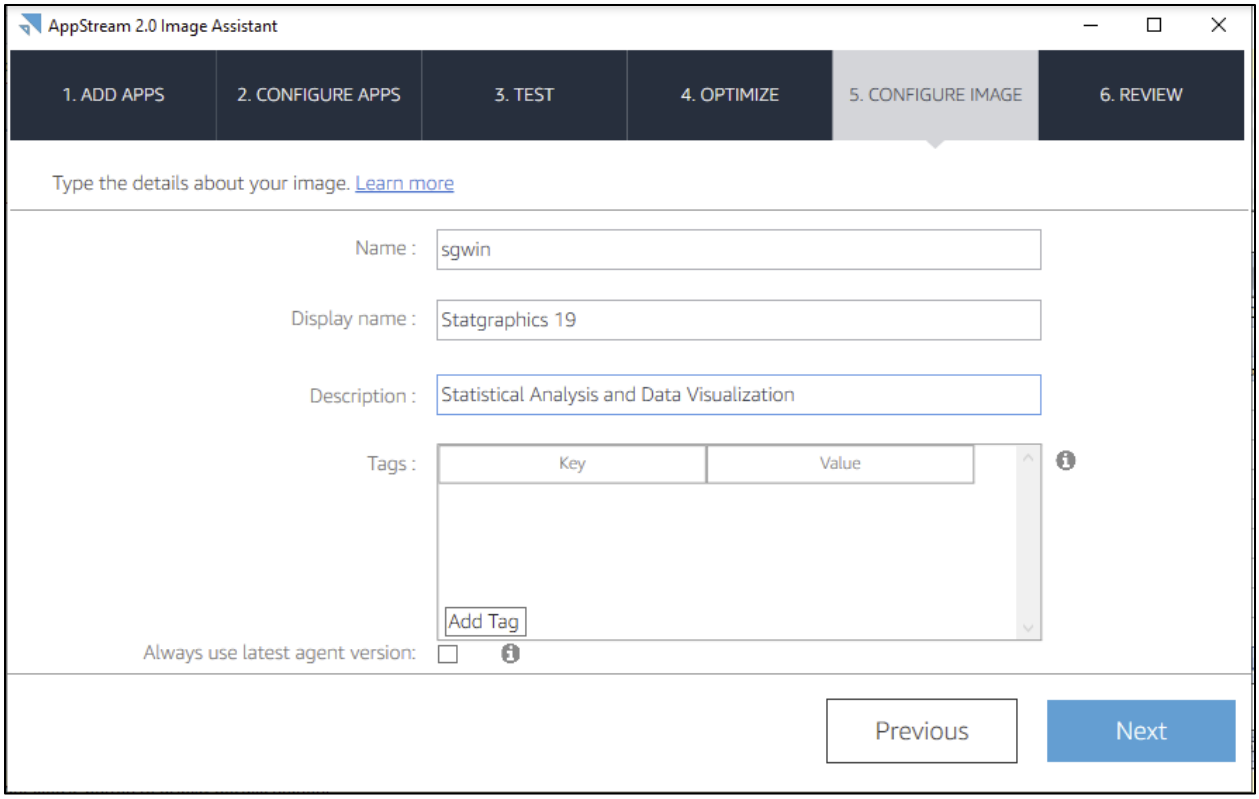
Double click on *Statgraphics 19* to launch it as a test user. When you're satisfied that it operates as expected, close Statgraphics, return to the screen above, and press *Switch user* to login as an administrator. Then press *Next* to move to the *Optimize* screen:



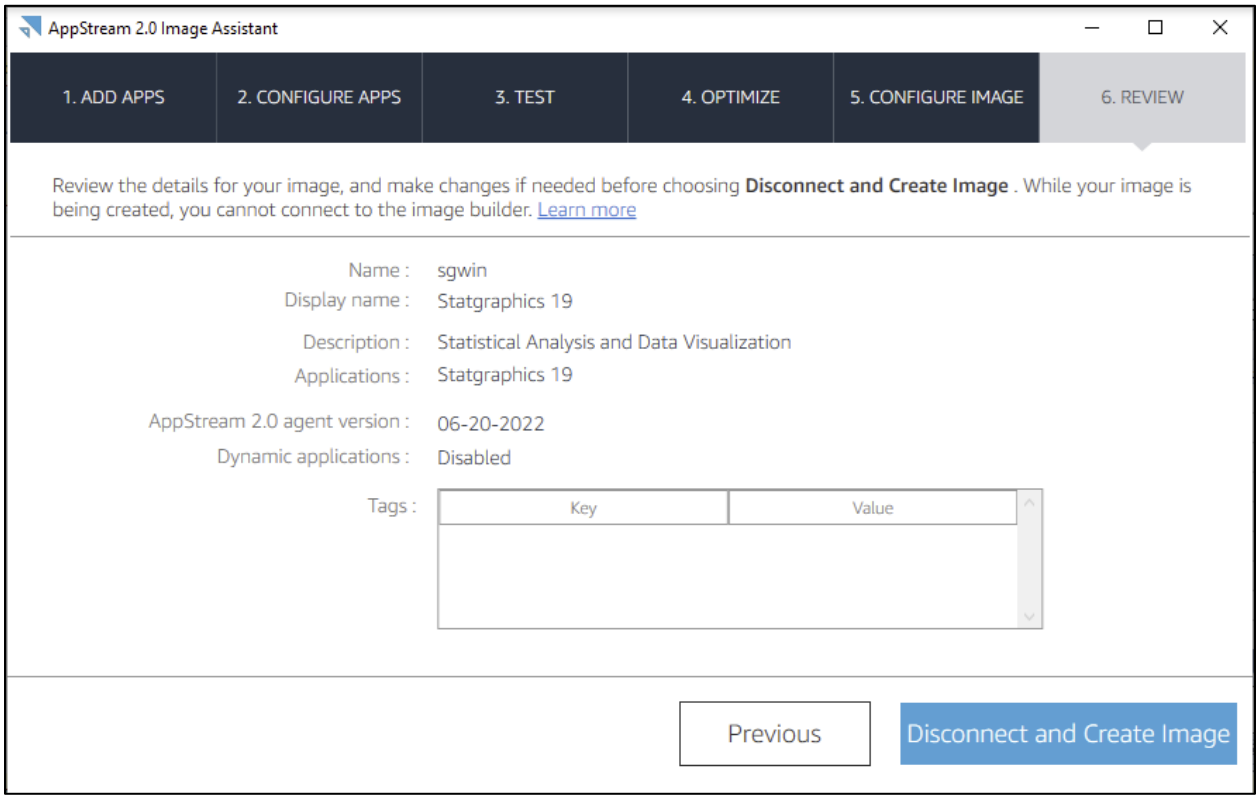
On this screen, select *Statgraphics 19* and press *Launch*. After Statgraphics opens, press *Continue* in the window shown below:



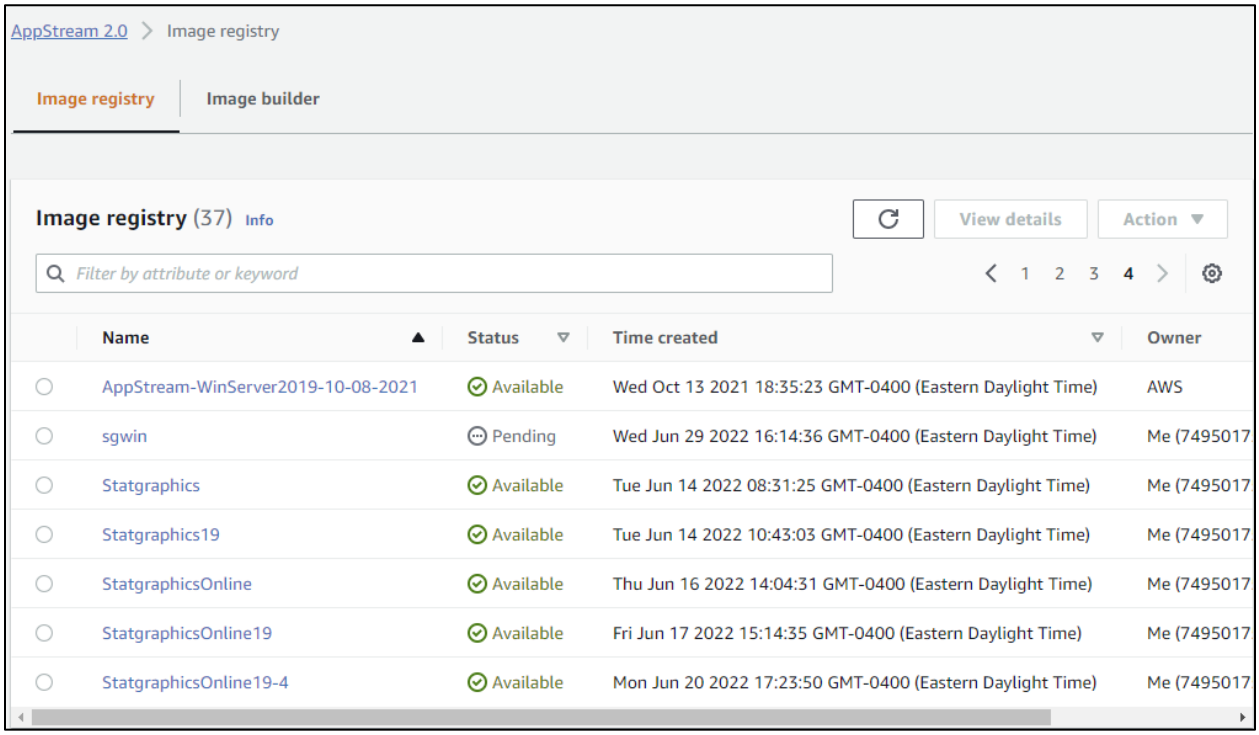
You'll next see a screen on which you can set some display information:



Fill in the fields and press *Next*. On the last screen, review the information and then press *Disconnect and Create Image*:



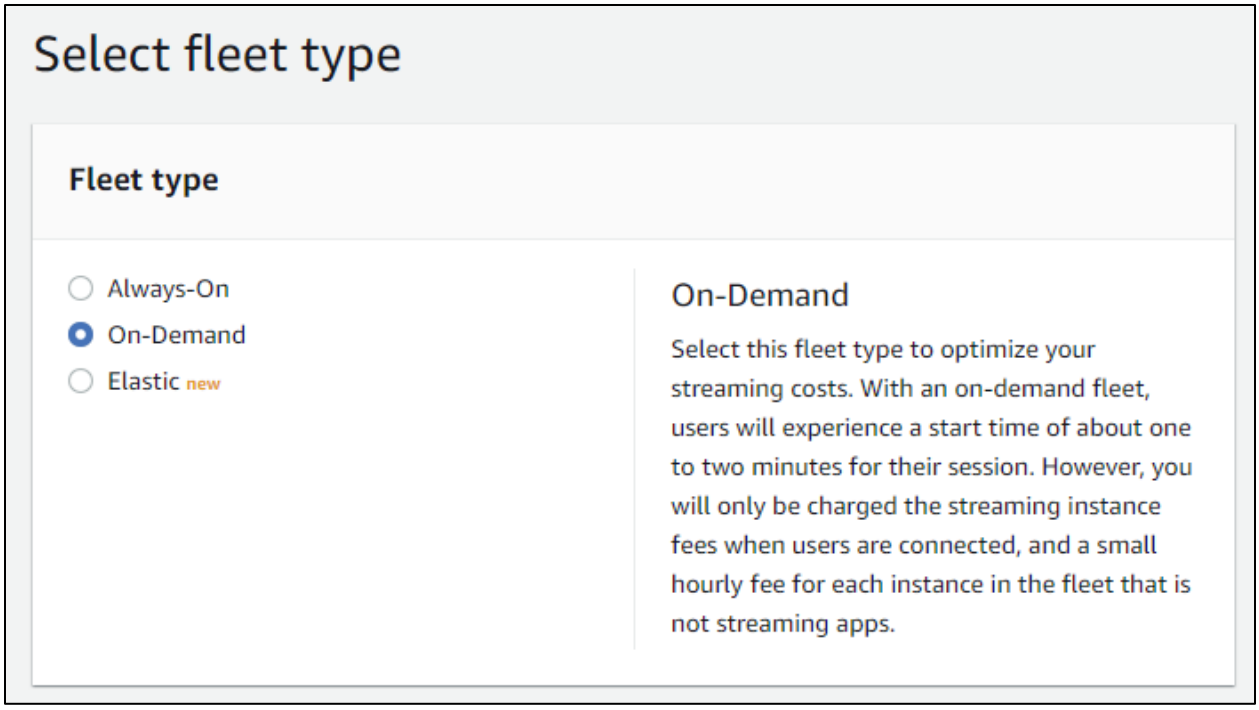
It will then take some time to create the image. To view the status of your image, log back into the *AWS Management Console*, click on *AppStream 2.0*, and select *Images*. Your new image will appear near the end of the image list with a status of *Pending*:



Refresh the screen periodically until the status changes to *Available*.

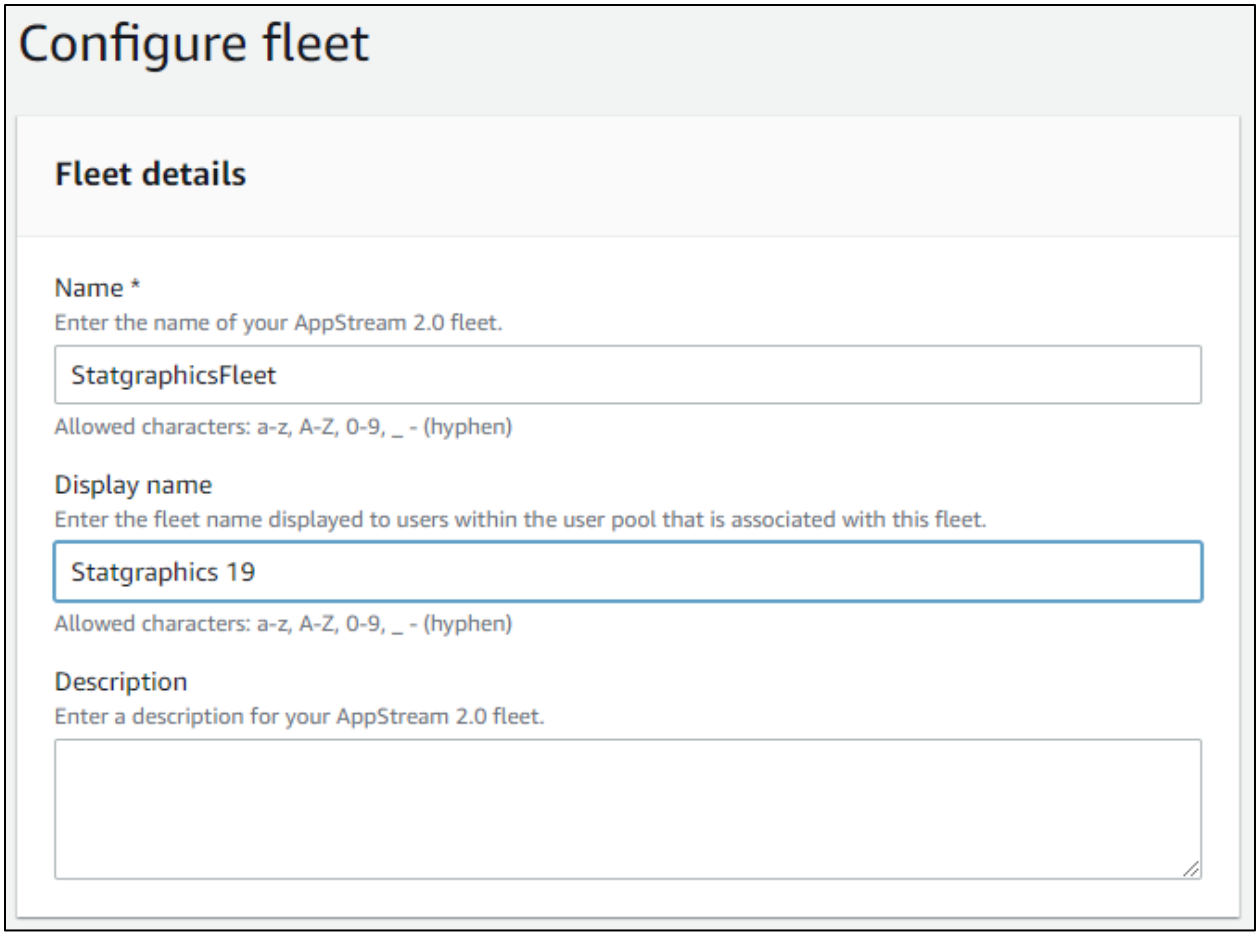
Step 9: Create a fleet

The next step creates a fleet to use with the image you created. In the AWS Management Console menu, click on *Fleets* to move to the *Fleets* page. Then click on the *Create fleet* button. On the first page, you decide whether to keep the fleet on at all times or have it start only when it is needed.

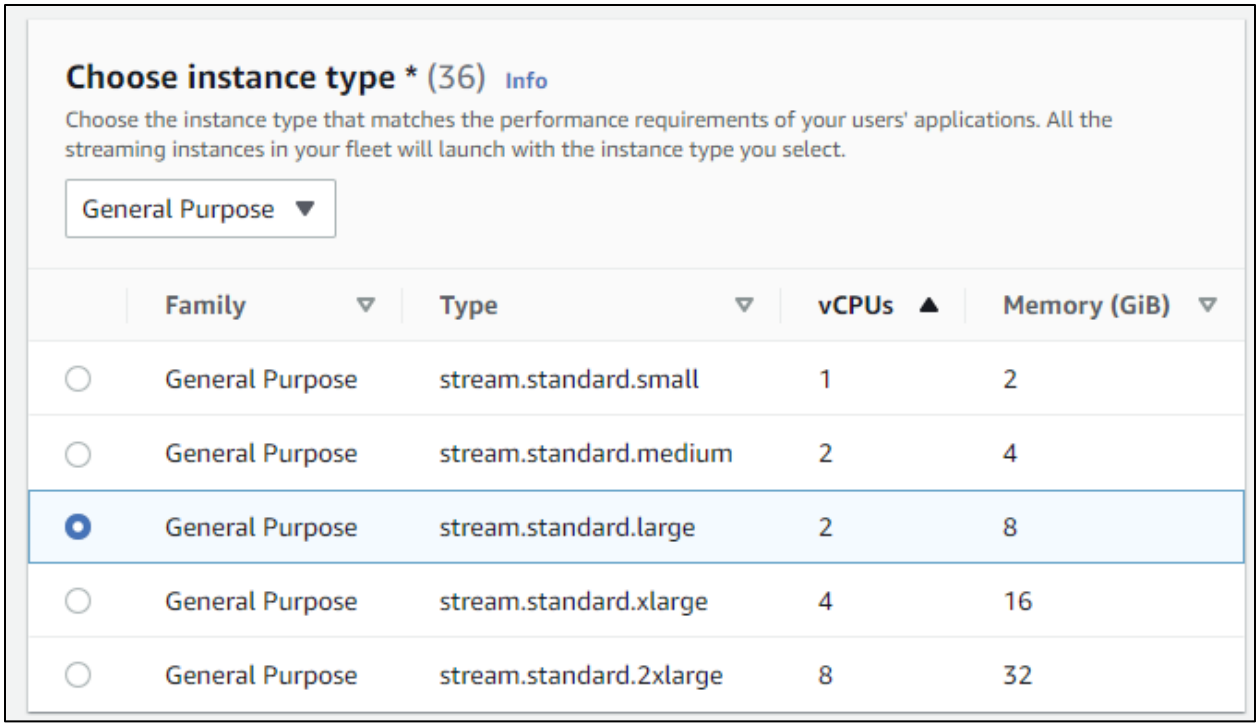


An *Always-On* fleet causes your application to load immediately, but you'll pay for running time whether or not fleet instances are being used. An *On-Demand* fleet is much cheaper if the fleet is often not being used at its maximum capacity, but it will take about 2 minutes for Statgraphics to load when using that type of fleet.

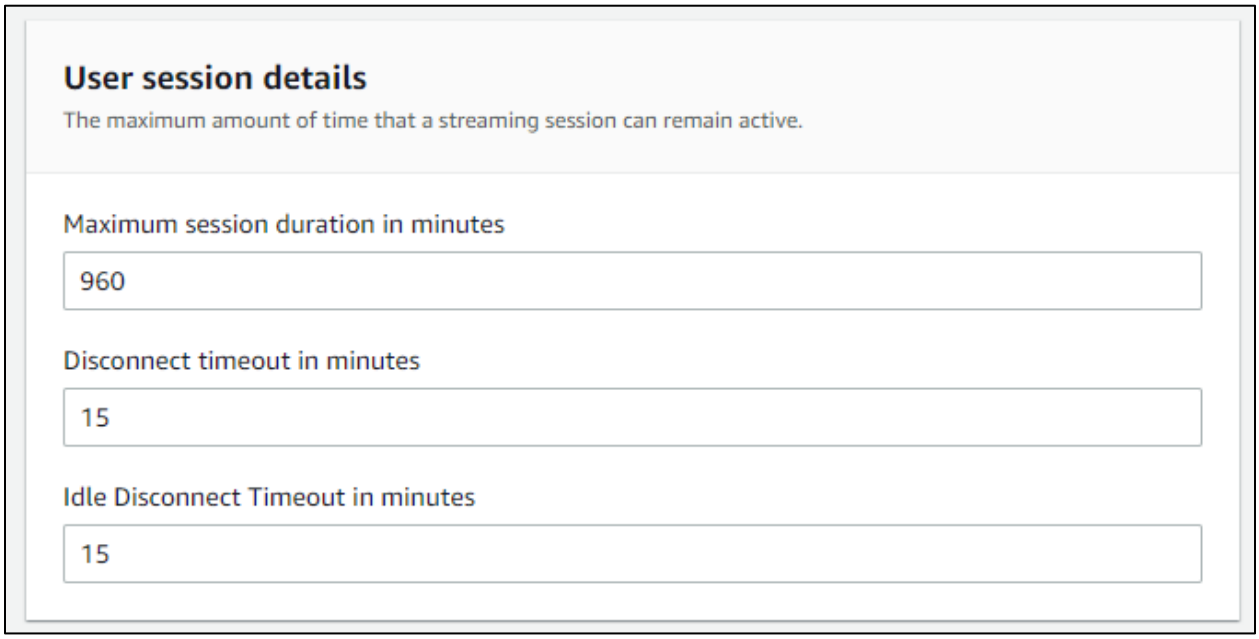
On the next page, give your fleet an internal name and a display name:



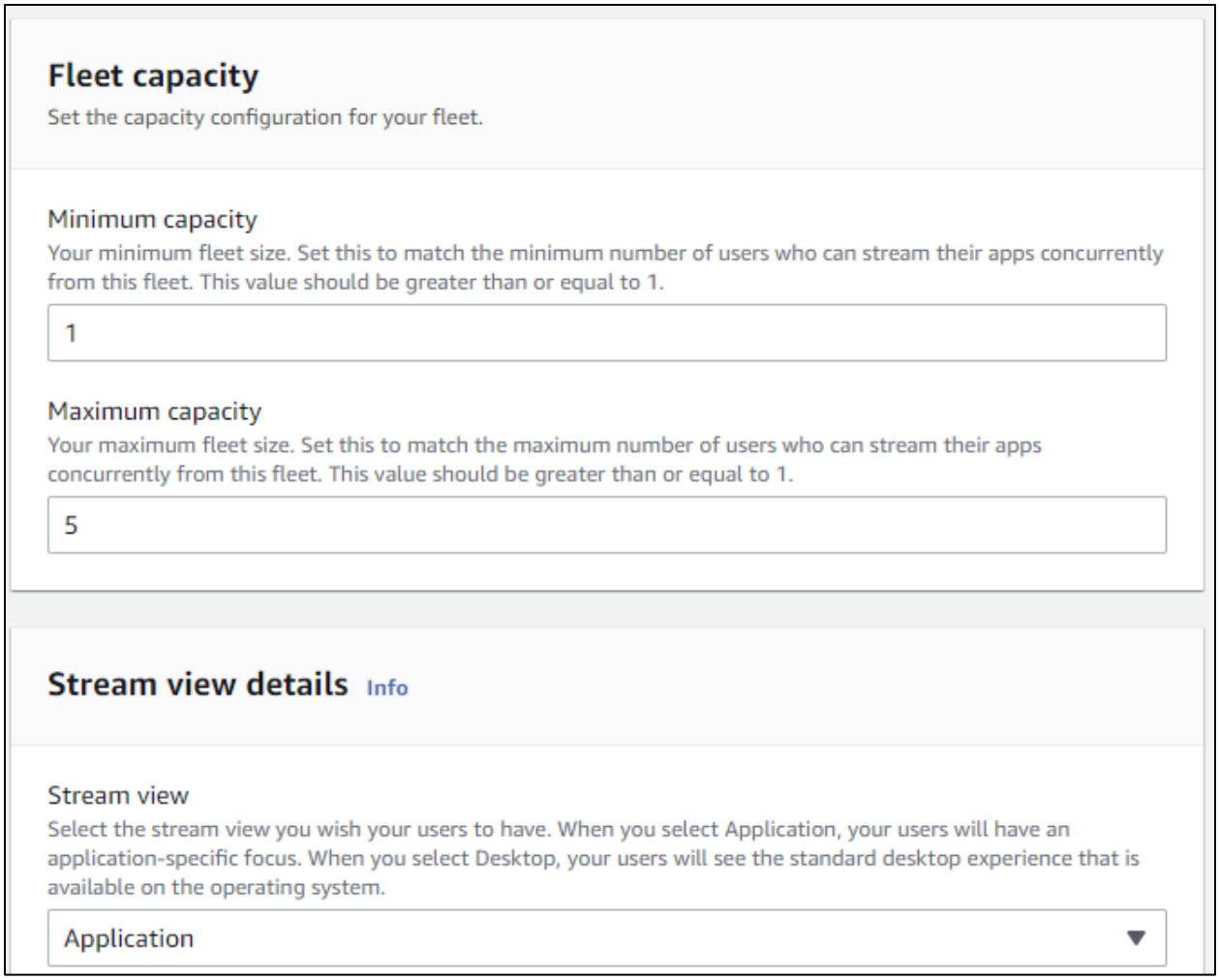
Farther down on the page, choose the *instance type* that matches the image type you chose earlier:



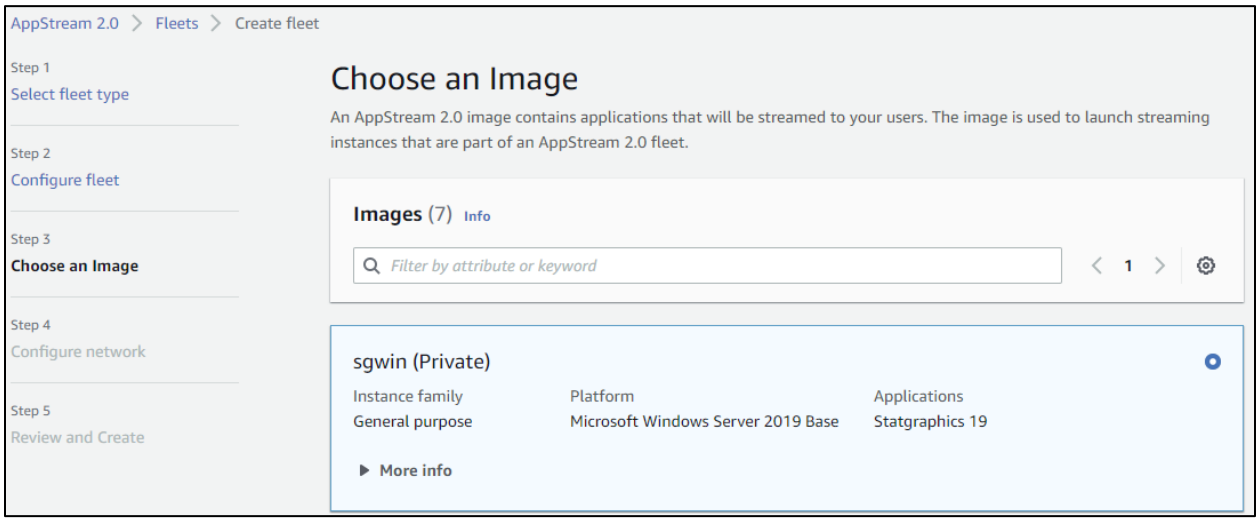
A little farther down, set the maximum duration of each session and the disconnect times. The *Disconnect timeout in minutes* is the number of minutes that a session will be preserved after a user disconnects. Until that time is up, they can reconnect and restore the session to the state it was at when they disconnected. After that time, a fresh session is started. There is also an *Idle Disconnect Timeout*. This is the time after which a session will be automatically disconnected if there is no activity.



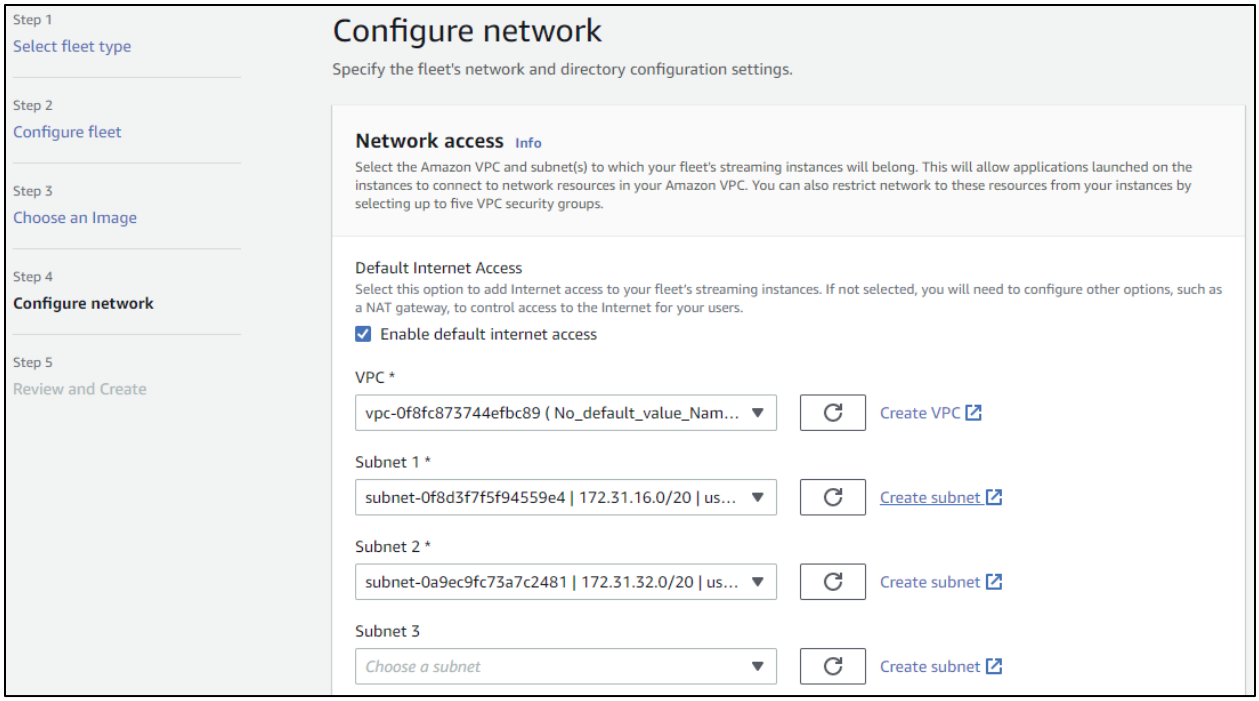
Finally, set the minimum and maximum number of concurrent users in the fleet:



Press *Next* to move to the next screen:

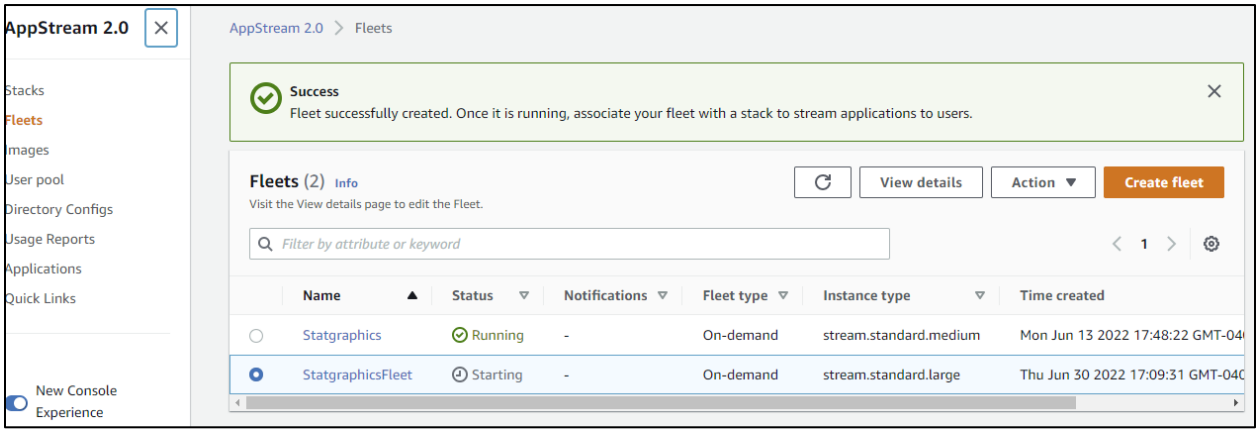


Choose the image that you created earlier and press *Next*. The next screen is used to configure the network:



Be sure to check *Enable default internet access*. You also need to select 2 subnets. Here in Virginia, a good choice is *us-east-1a* and *us-east-1b*. You should select at least 2 subnets in your region. Then press *Next*.

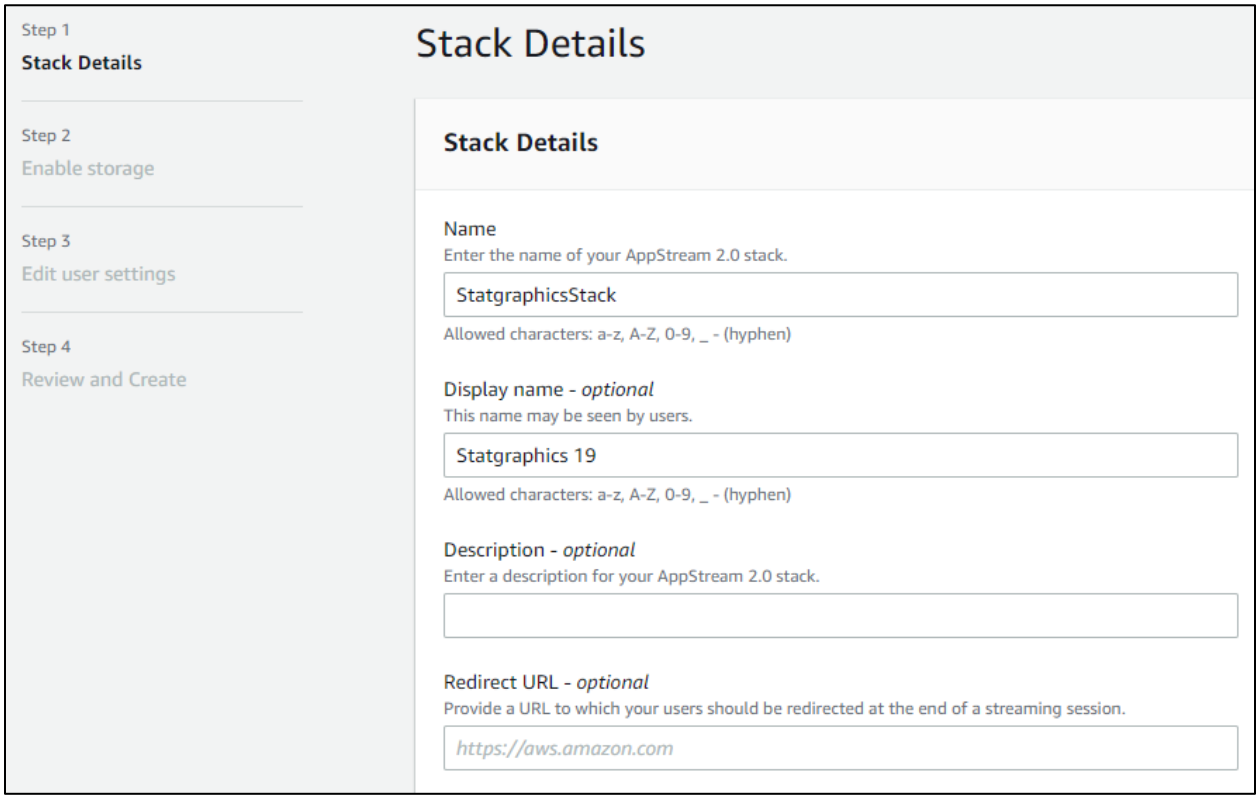
The final screen lets you review your fleet options and make changes if necessary. If you are satisfied, press *Create fleet*. You will then see your fleet listed as *Starting* in the management console:



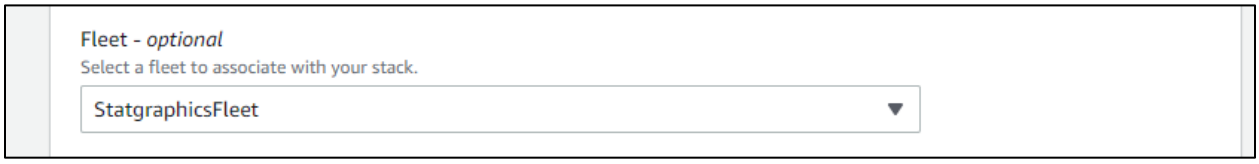
At this point, you will begin being charged a fee for each instance in the fleet. There is one charge if an instance is running, and a lower charge if it is idle (assuming you created an *On-demand* fleet).

Step 10: Create a stack

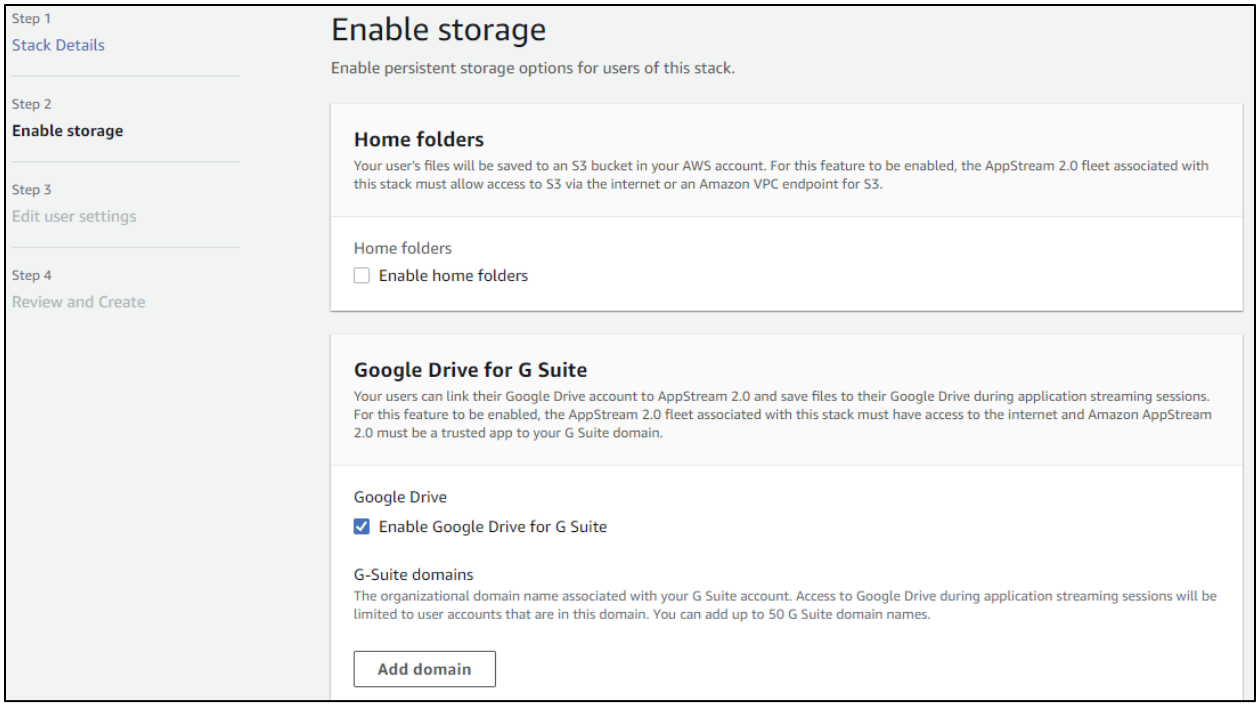
The next step is to create a stack. Once the status of your fleet changes to *Running*, click on *Stacks* in the left menu. When the stacks page appears, click on *Create stack*. On the next page, give your new stack a name:



Farther down on the page, link the fleet you just created to this new stack:

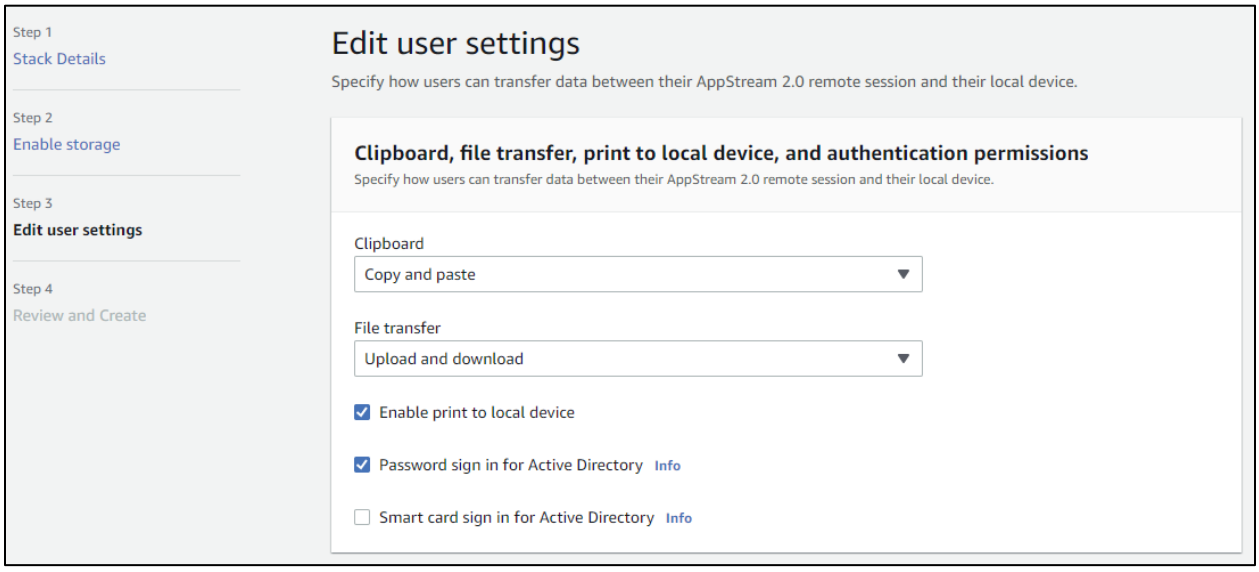


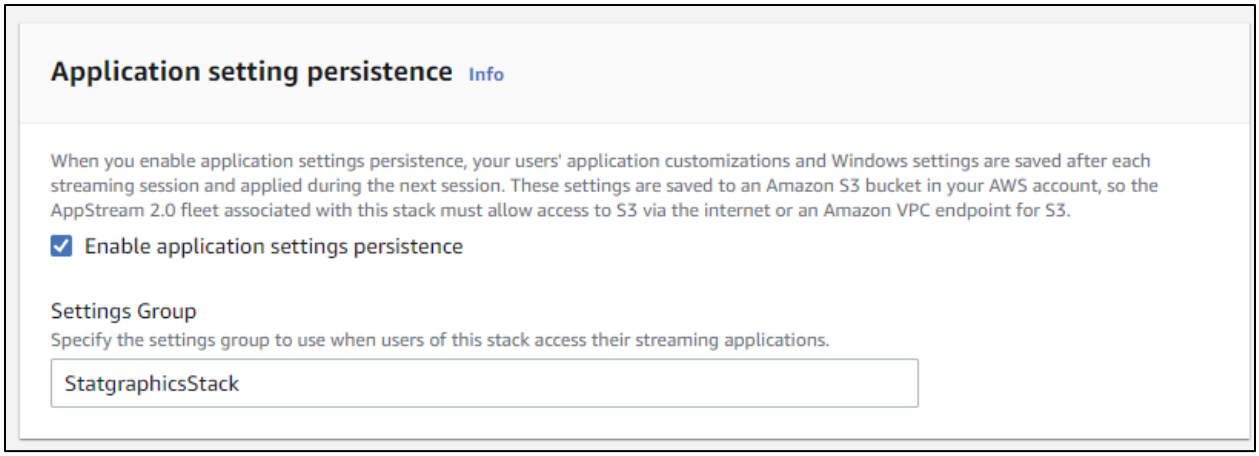
Then press *Next*. The next page defines where users may store their data files:



If you want users to be able to store data files on the AWS server, click on *Enable home folders*. A charge will be incurred if you do so depending on the amount of storage they use. To allow users to access files in other places in the cloud, you may also select to *Enable Google Drive for G Suite* and/or *Enable OneDrive for Business*. If enabling Google Drive or OneDrive, you also need to press the *Add Domain* button and link up to 10 domains for each of those services. Then press *Next*.

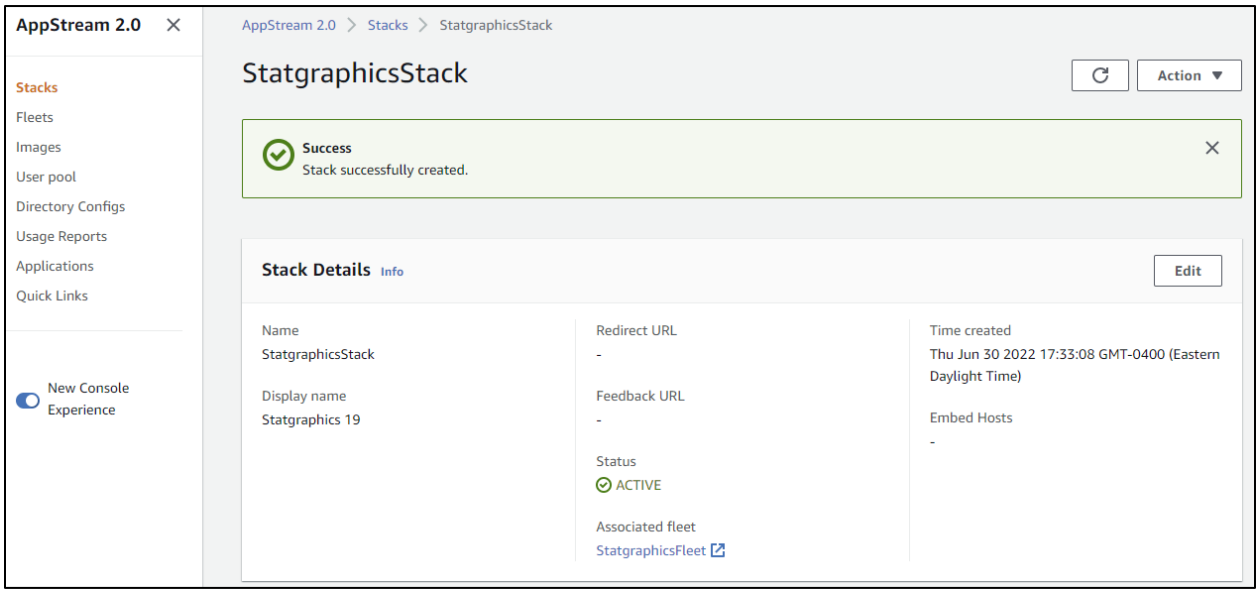
The next page defines various user settings:





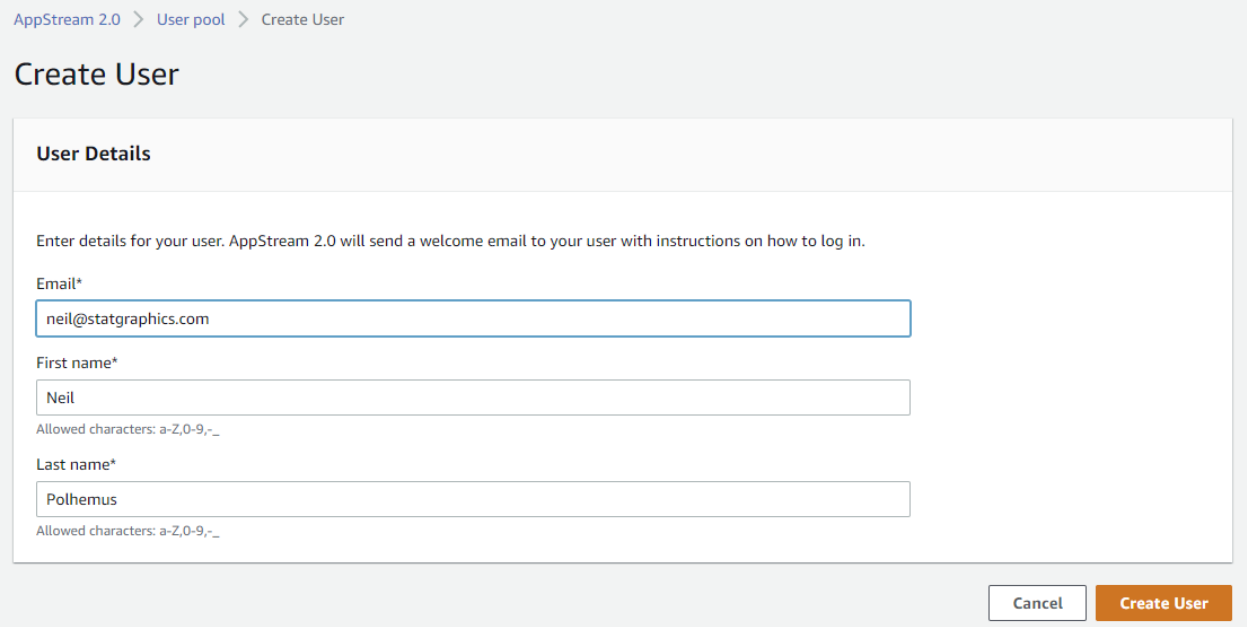
The default settings let users use the clipboard to copy and paste, let them upload and download files, and ensure that application settings for each user persist from session to session. Application persistence saves user settings in an S3 bucket in your AWS account and thus incurs a storage charge.

Press *Next* to review your settings and then *Create stack*. Once the stack is created, you will see the following screen:

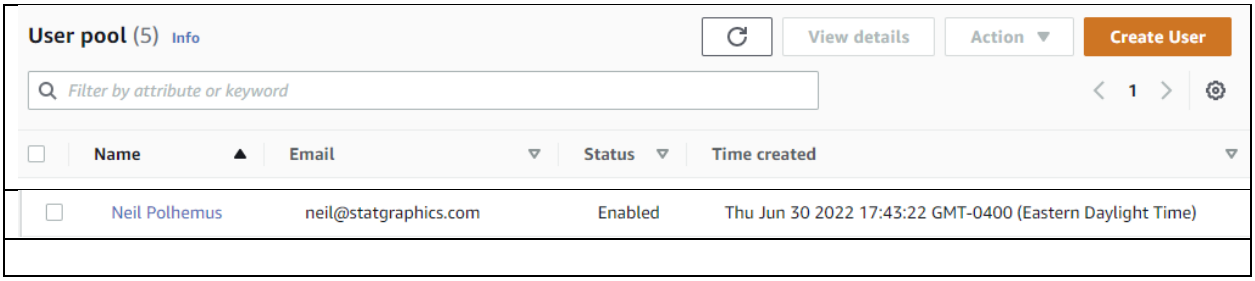


Step 11: Create a user pool

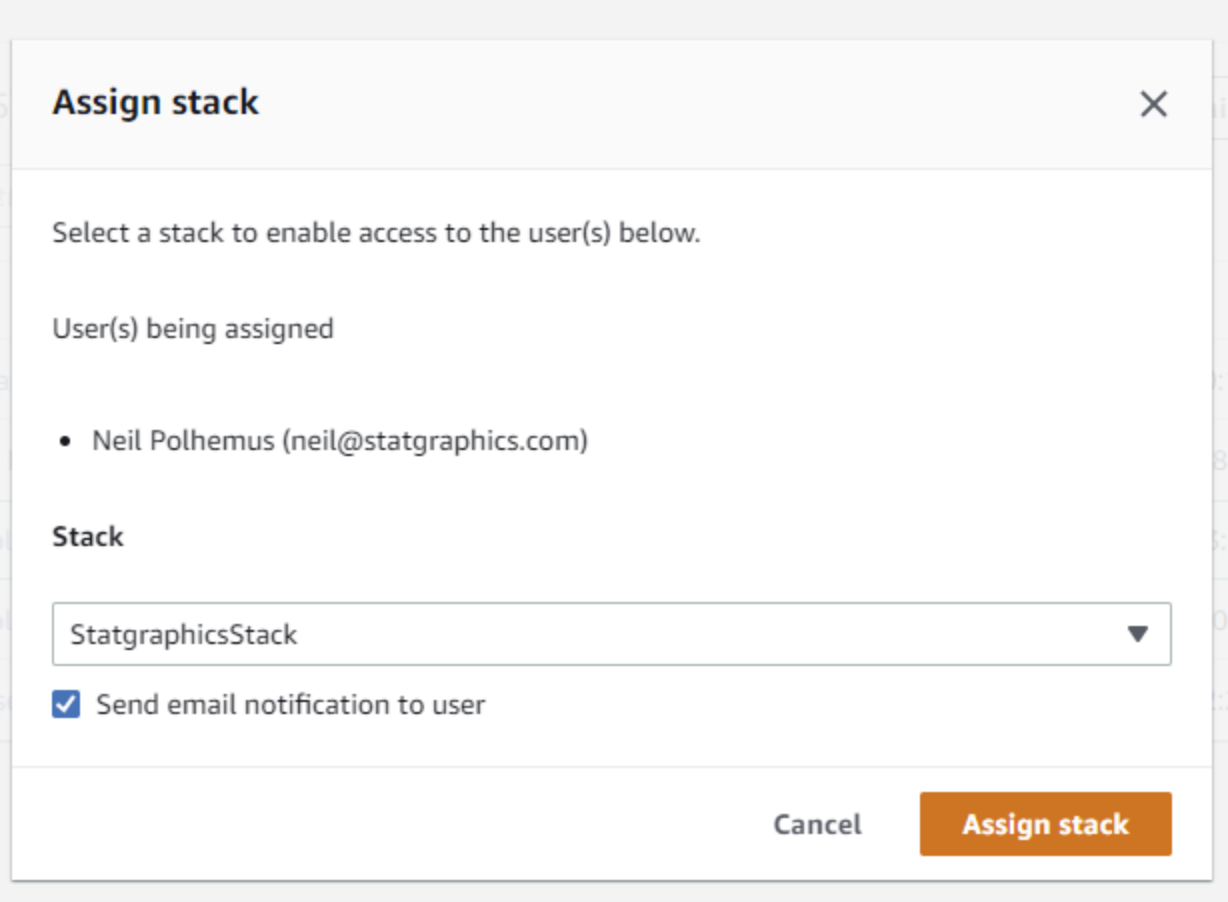
The final step creates a pool of users that can access your application. Click on User pool in the left menu. When the User pool screen appears, press *Create User*. This will display a screen for you to enter information about a user that you wish to add:



If you fill in the details and press *Create User*, the user will be added to the pool.



You should now select the new user, press the Actions button, and select Assign stack. This will display the dialog box shown below:

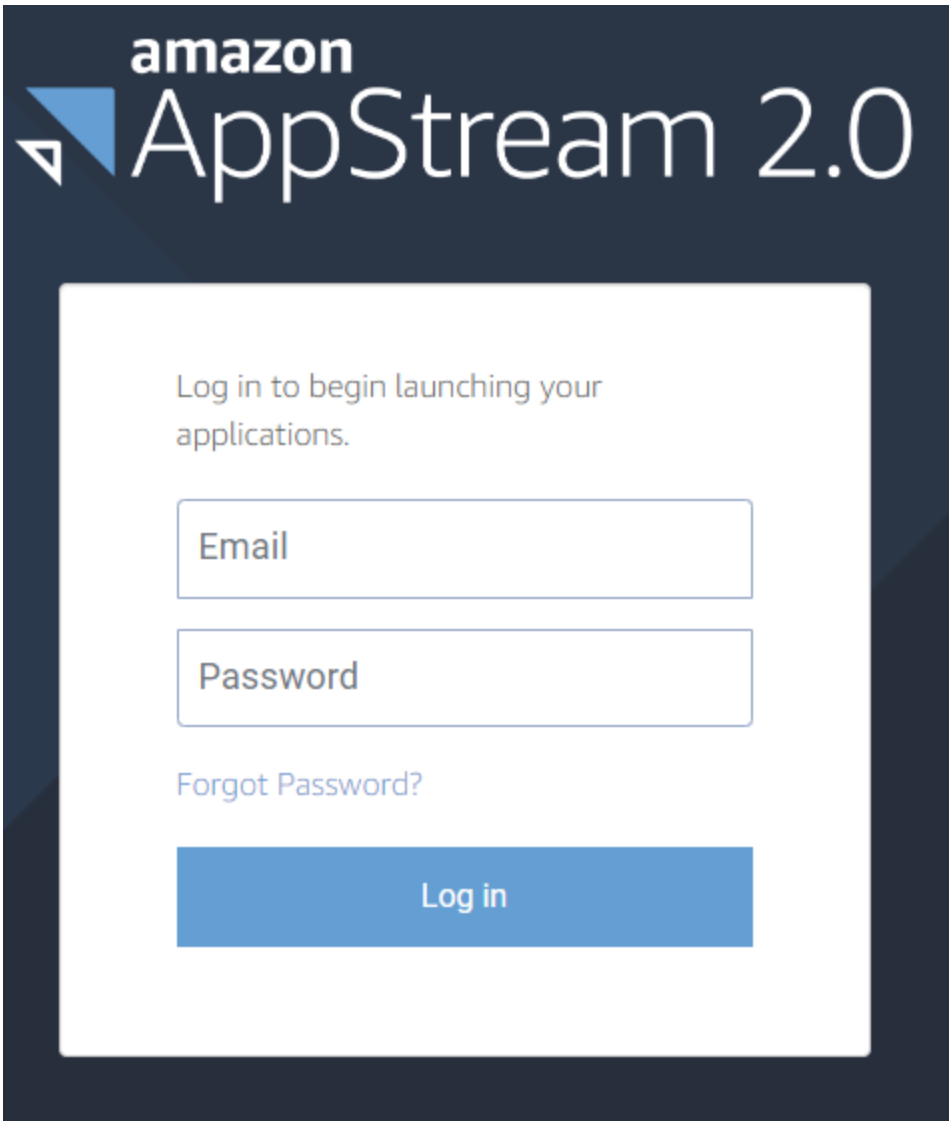


Select the stack you wish them to access and press *Assign stack*. They will then be sent an email with a URL that lets them access the stack you have created.

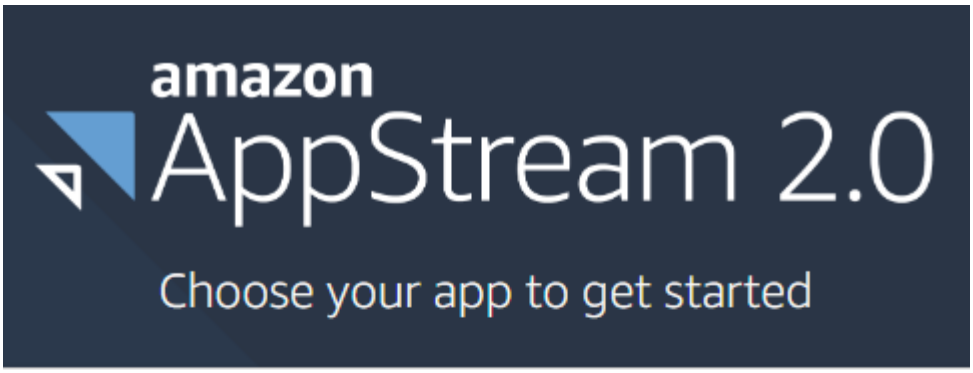
Note: you may create more than one stack, perhaps linked to images based on different size machines. Users may be given access to multiple stacks. For routine daily use, they could use a stack connected to a small image, while for analyzing larger datasets they could use a stack connected to a larger image.

Step 12: User access

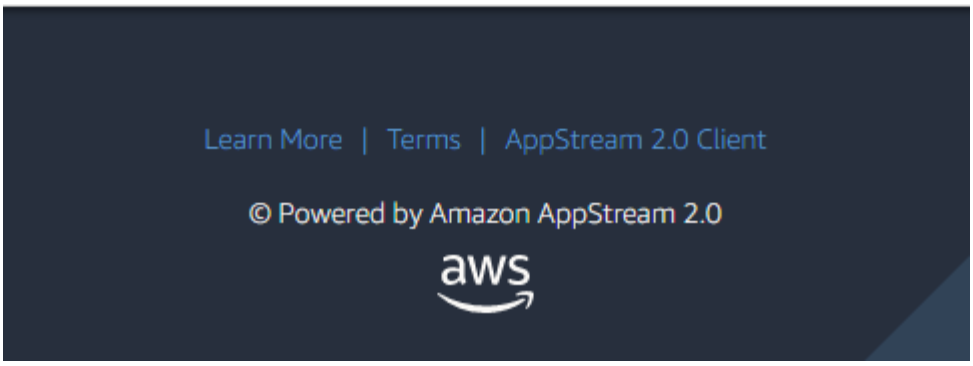
When a user clicks on the URL they received via email, a session will be started. The first screen they will see requires them to enter their email and password, which was emailed to them:



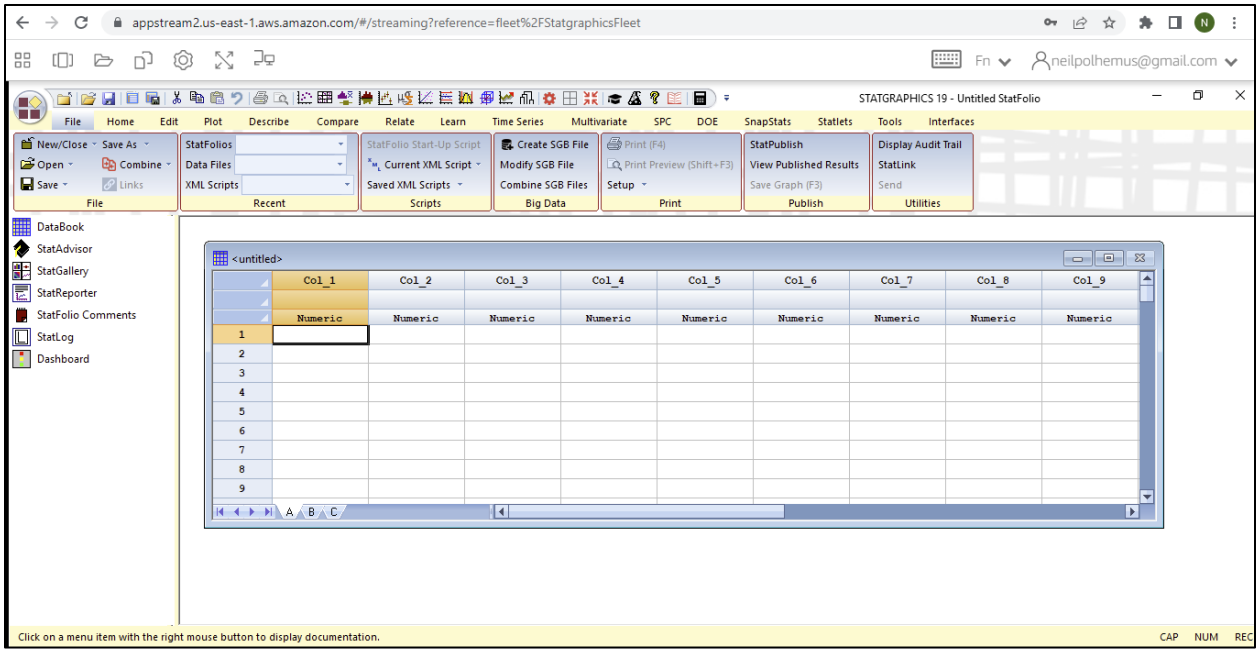
After they press *Log in*, they will see the following screen:



Statgraphics 19



Double-clicking on Statgraphics 19 starts the session. If the fleet was created as *On-demand*, there will be a delay of approximately 2 minutes while the session is created, after which the main Statgraphics window will appear:



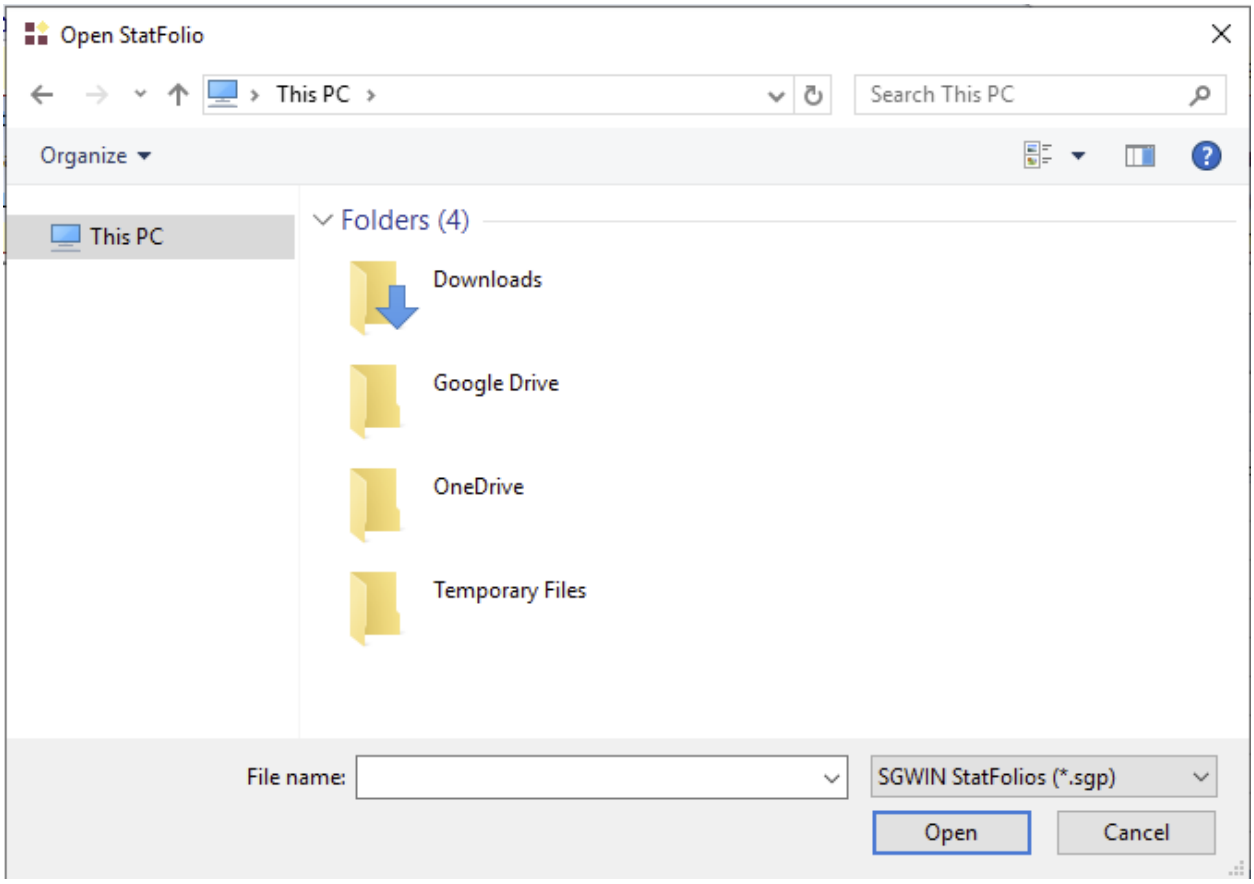
Using Statgraphics Online from a Browser

When accessed from within a browser, all of the basic features and operations of Statgraphics are accessible. The only differences between the browser experience and a normal desktop experience are centered around moving data, tables and graphs between the AWS cloud and the user's local computer.

Data Access

One of the primary differences between running Statgraphics from within a browser and running in on a client machine centers around data files. While files on the client can be read directly when running on a local machine, that is not possible from within a browser. Instead, use one of the following methods for accessing local files:

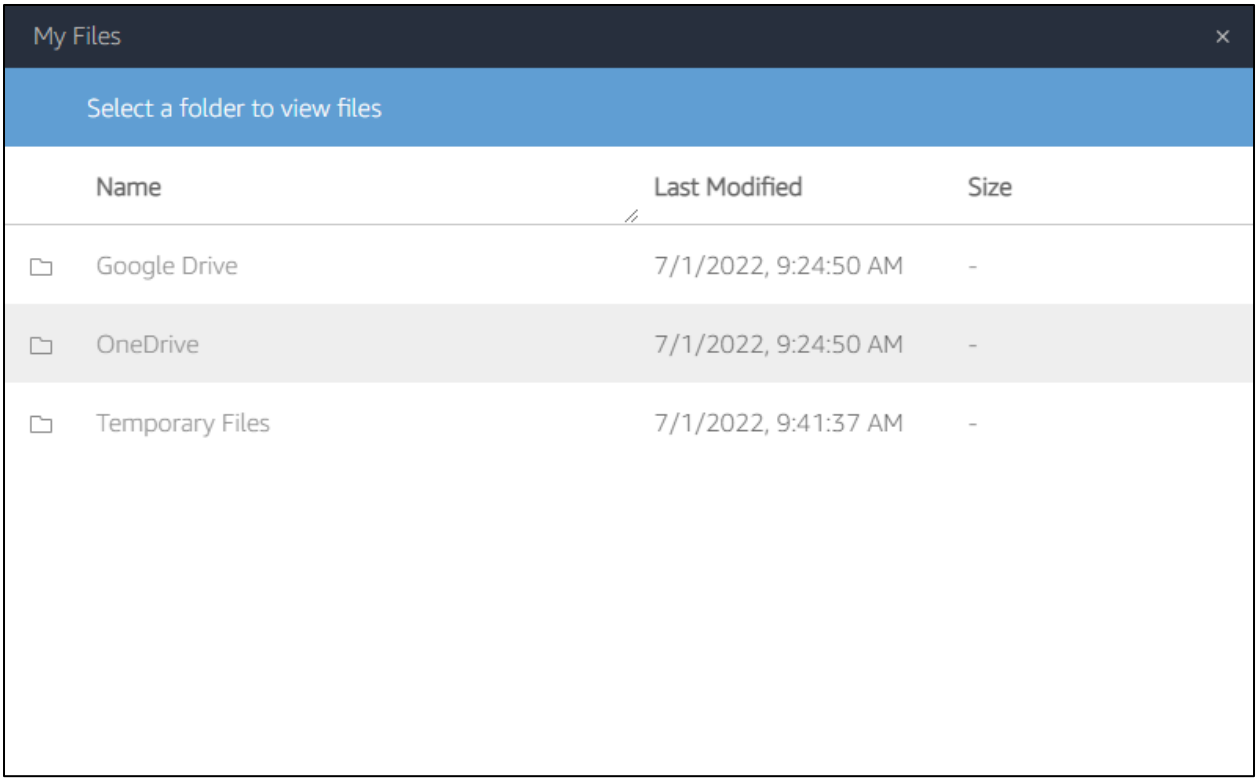
- **Method 1** – store data in the cloud on *OneDrive for Business* or *Google Drive G Suite*. Files stored in the cloud may be opened directly into Statgraphics while running in a browser or while running as a desktop application. For example, if a user runs Statgraphics from within a browser and selects *File – Open – Open StatFolio*, they will see the following choices:



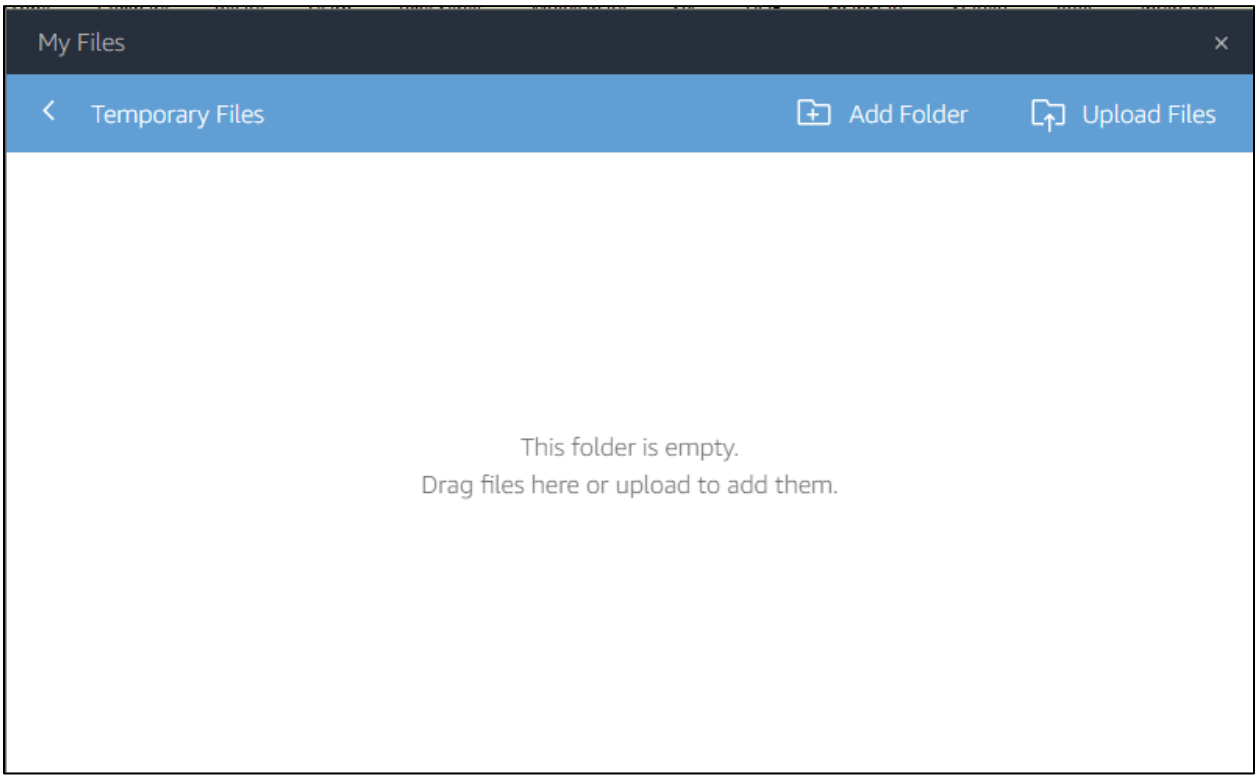
Google Drive and OneDrive will be available if access was provided to them when the fleet they are using was created.

- **Method 2** – download them from the client machine to the AWS session and then read them into Statgraphics. In the browser immediately above the Statgraphics window, there will be an AWS toolbar that looks like this:

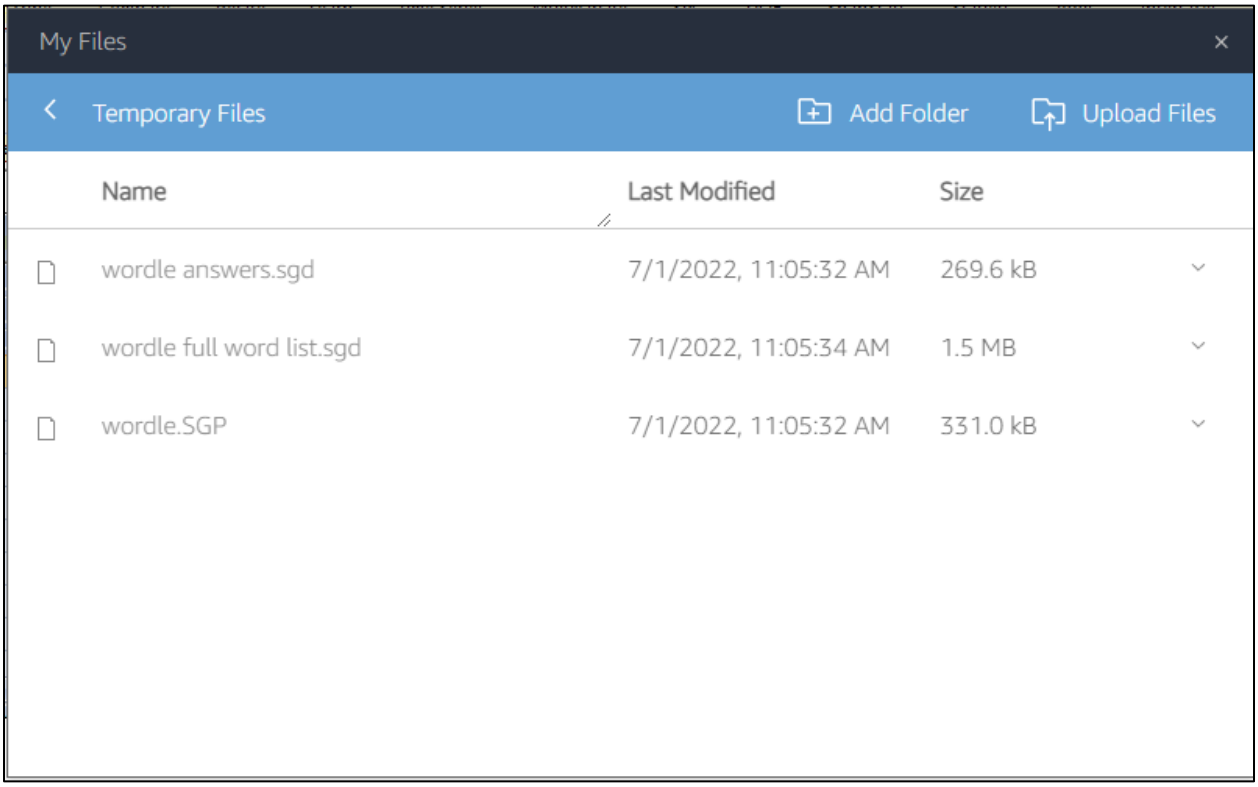
Click on the third image from the left to access My Files:



Click on *Temporary Files* to display the following page:

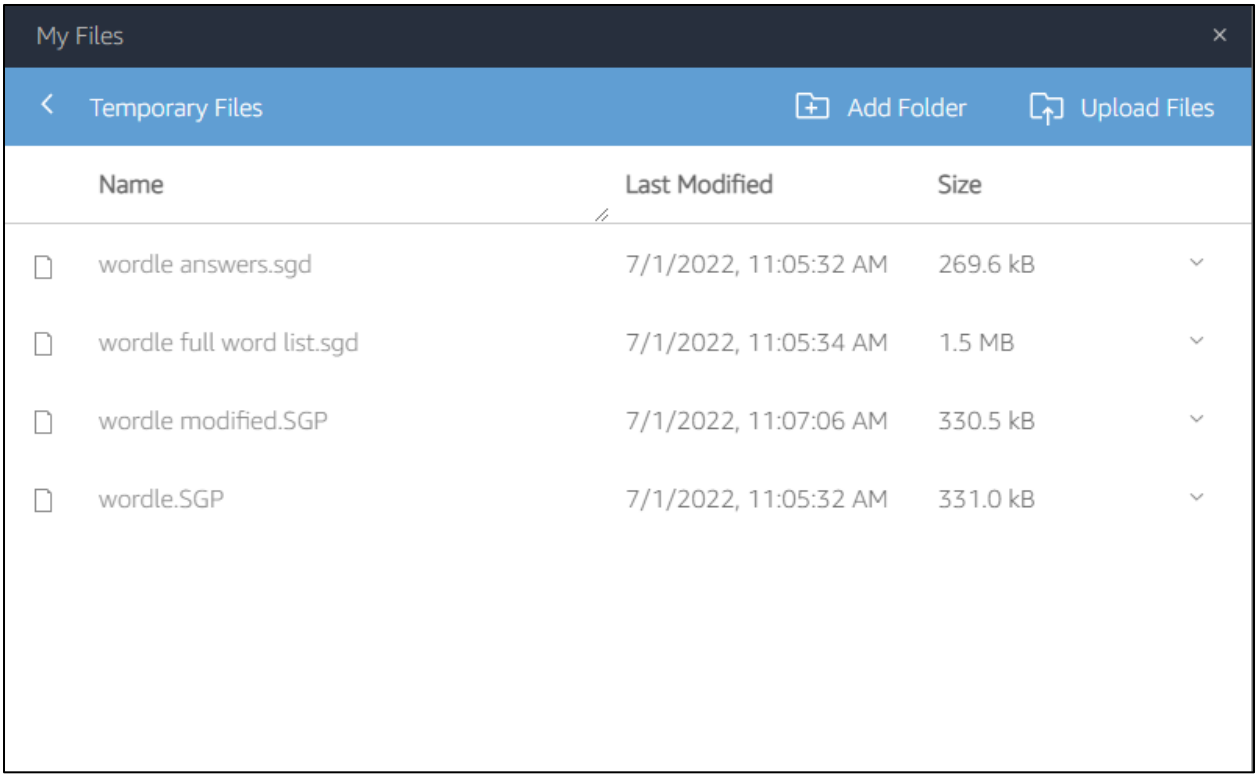


You can drag files onto this screen and click on *Upload Files* and select them from a list of files on your local computer.



They are then available to be opened from within Statgraphics.

To move a new or modified StatFolio or data file back to your local computer, save it to the *Temporary Files* folder.



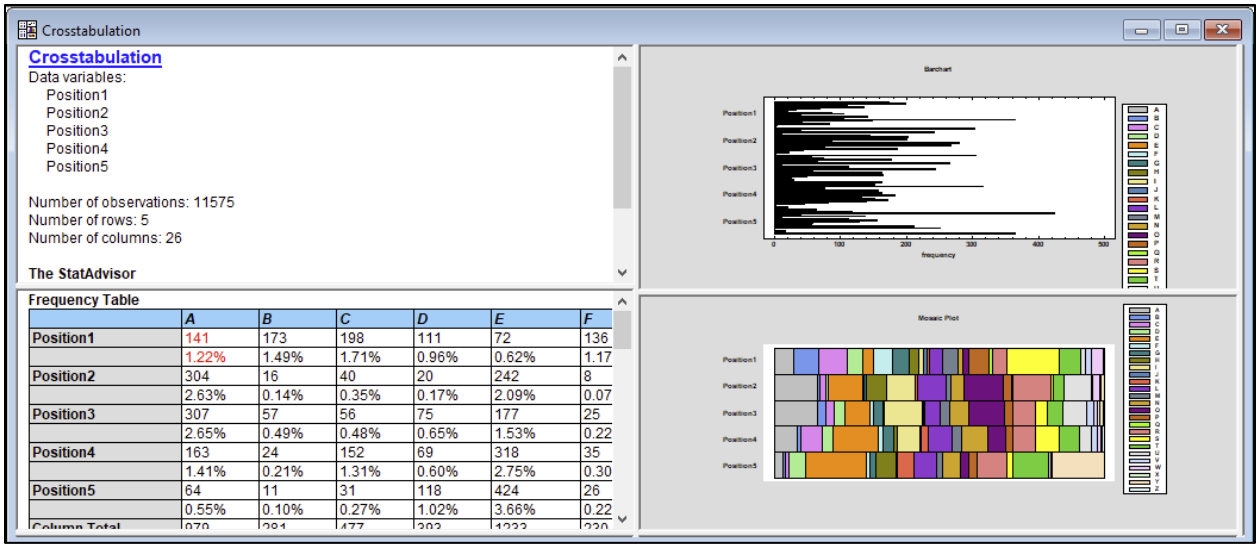
Then click on it to download it to your computer.

Copy and Paste

When running Statgraphics from within a browser, you cannot copy and paste tables and graphs directly from Statgraphics into an application such as Word running on your local machine. You can however copy and paste items between Statgraphics windows with no problem. If you want to move tables and graphs to your local computer, it is best to use the StatReporter or StatLog.

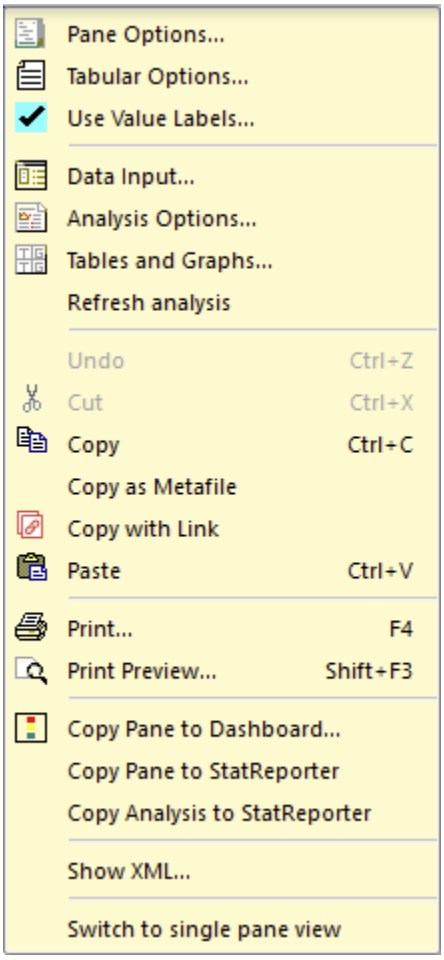
StatReporter

To copy items using the StatReporter, generate the desired tables and graphs within an analysis window, such as the *Crosstabulation* window shown below.



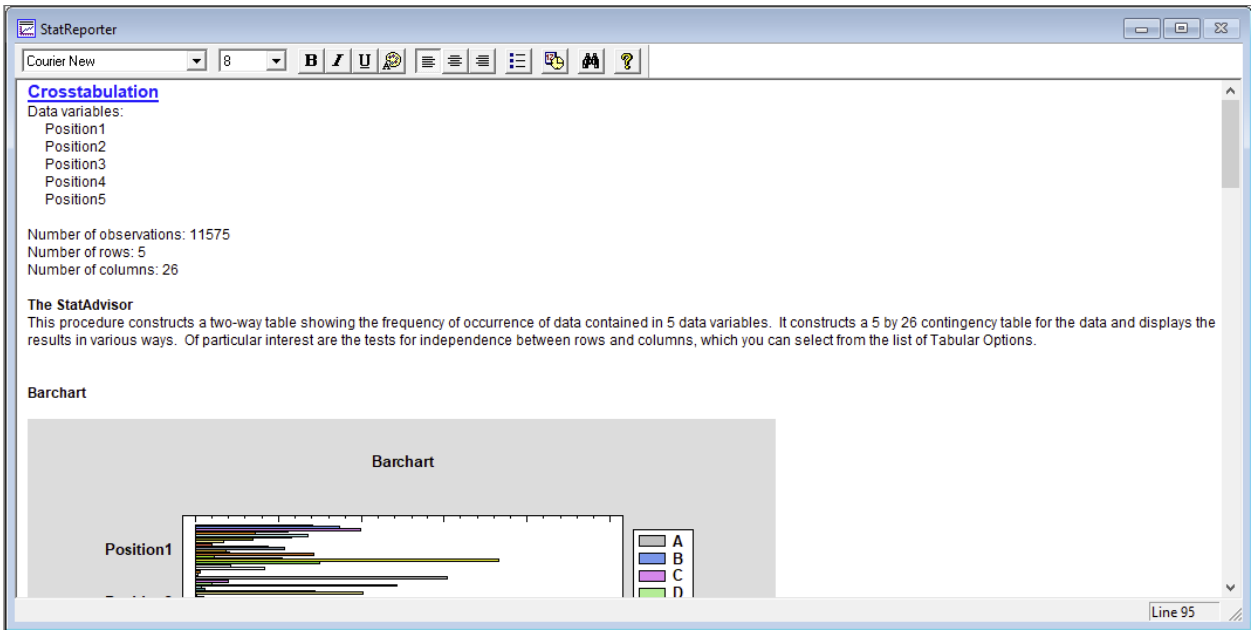
	A	B	C	D	E	F
Position1	141	173	198	111	72	136
	1.22%	1.49%	1.71%	0.96%	0.62%	1.17
Position2	304	16	40	20	242	8
	2.63%	0.14%	0.35%	0.17%	2.09%	0.07
Position3	307	57	56	75	177	25
	2.65%	0.49%	0.48%	0.65%	1.53%	0.22
Position4	163	24	152	69	318	35
	1.41%	0.21%	1.31%	0.60%	2.75%	0.30
Position5	64	11	31	118	424	26
	0.55%	0.10%	0.27%	1.02%	3.66%	0.22

Click on a selected table or graph with the right mouse button to display a popup menu:

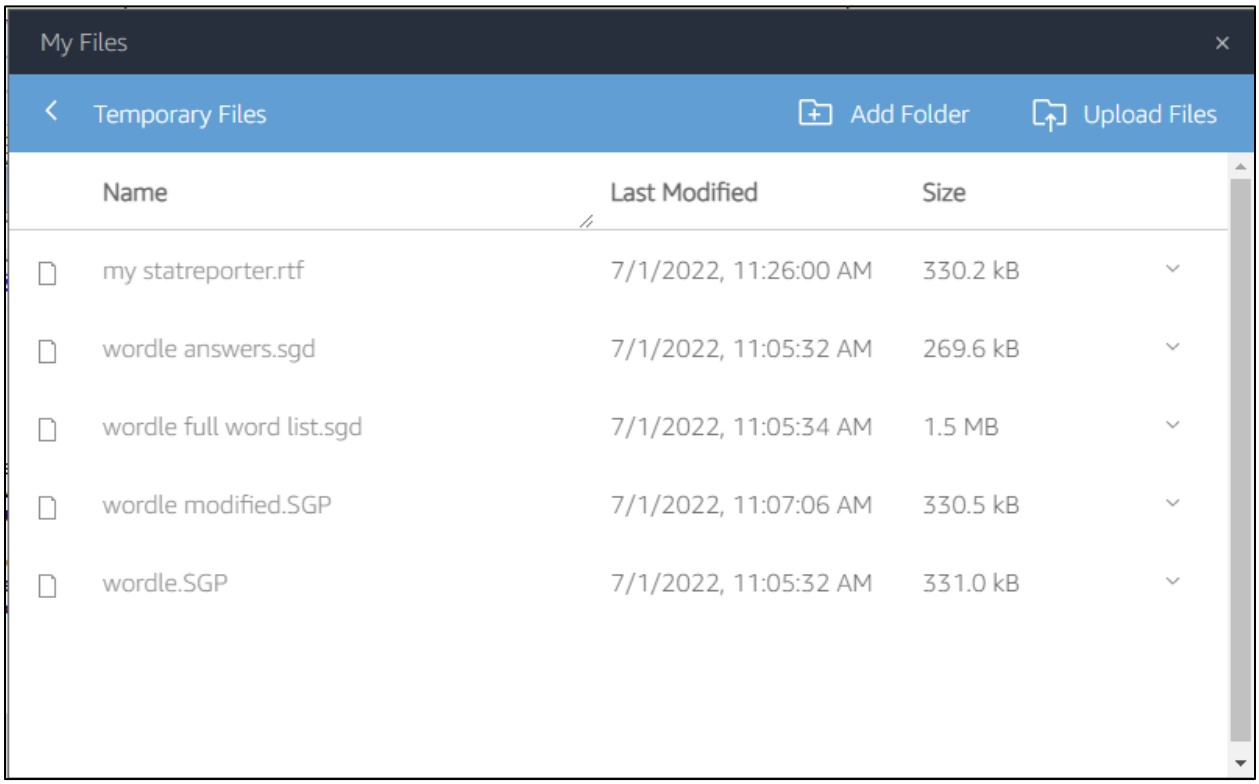


To copy just the table or graph you clicked on, select *Copy Pane to StatReporter*. To copy all tables and graphs in the analysis window to the StatReporter, select *Copy Analysis to StatReporter*. This will copy

and paste the items to the StatReporter, which is a separate Statgraphics windows with a rich edit control.



You can then select *File – Save – Save StatReporter* to save it to an RTF file in the *Temporary Files* directory.

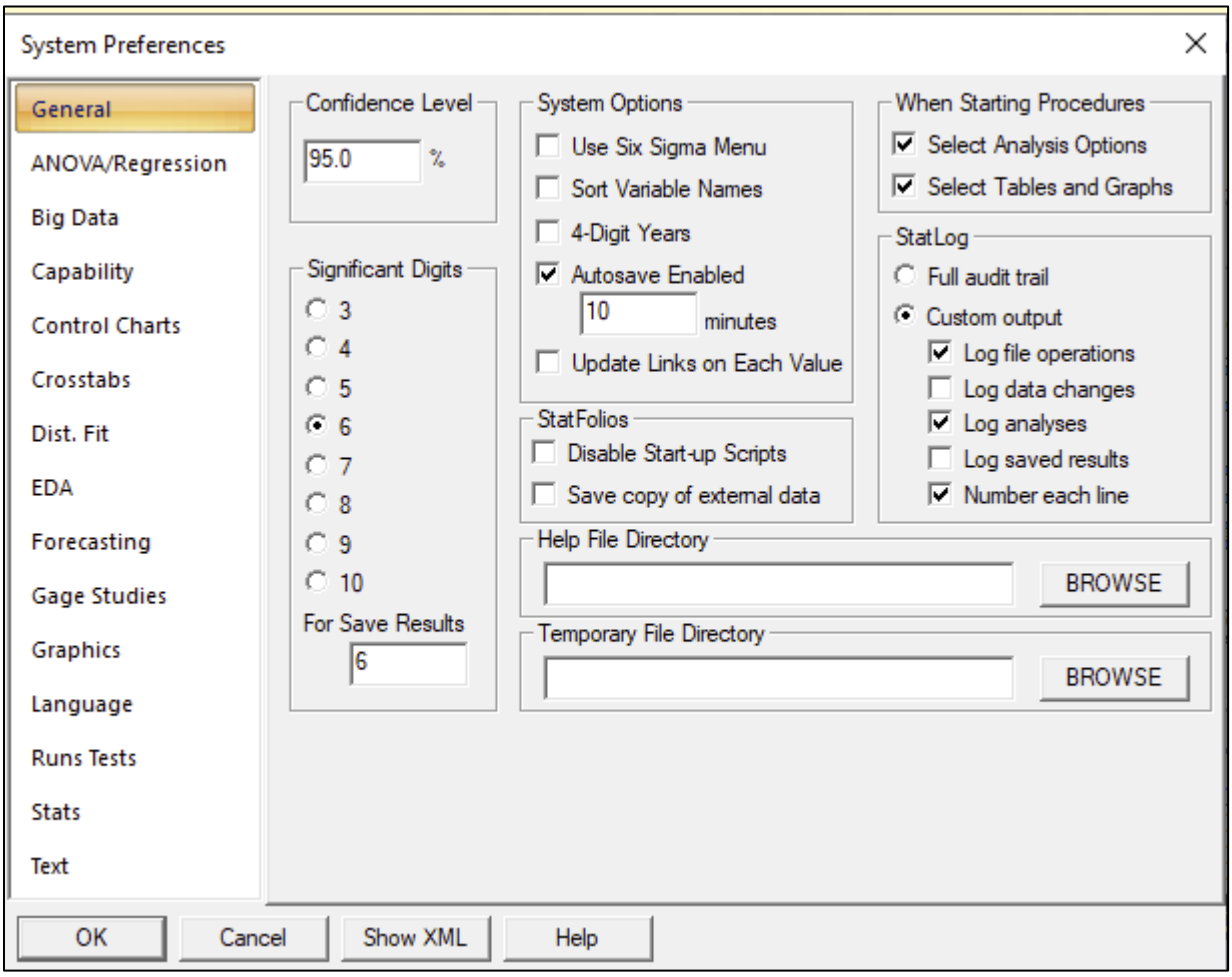


Click on the file you just saved to download it to your local computer and read it into a program such as Microsoft Word.

StatLog

You can also use the StatLog to move tables and graphs in much the same way as with the StatReporter. There are 2 ways to put items in the StatLog:

1. While the analysis window has the focus, click on *Output* – *Logfile* on the top ribbon bar. This will copy all tables and graphs from the analysis window to the logfile window.
2. Click on *Home* – *Preferences* – *System Preferences* in the main menu. This will display the dialog box shown below:



On the *General* tab, there is a section labeled *StatLog*. Select *Full audit trail* or check *Log analyses* under *Custom output*. This will cause all output that appears in analysis windows to be automatically copied to the StatLog. This is convenient but can result in a very large StatLog file.

When you're ready to download the StatLog to your computer, select it from the navigation bar on the lefthand side of the StatGraphics window. Then click anywhere within the StatLog with the **right** mouse button and select *Save StatLog As* from the popup menu. You can save the current StatLog in an RTF file and then download it to your computer in the same way that you would download the StatReporter.

Using Statgraphics Online from the AppStream 2.0 Client

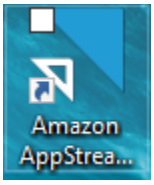
Windows users may also run Statgraphics AWS by first downloading and installing Amazon's AppStream 2.0 Client. The client application has 2 primary advantages over a normal browser:

1. It allows direct access to files on the user's computer without first copying them to the *Temporary Files* directory on the cloud server.
2. Tables and graphs may be pasted directly from the Statgraphics session into local apps without first saving them to the StatReporter or StatLog.

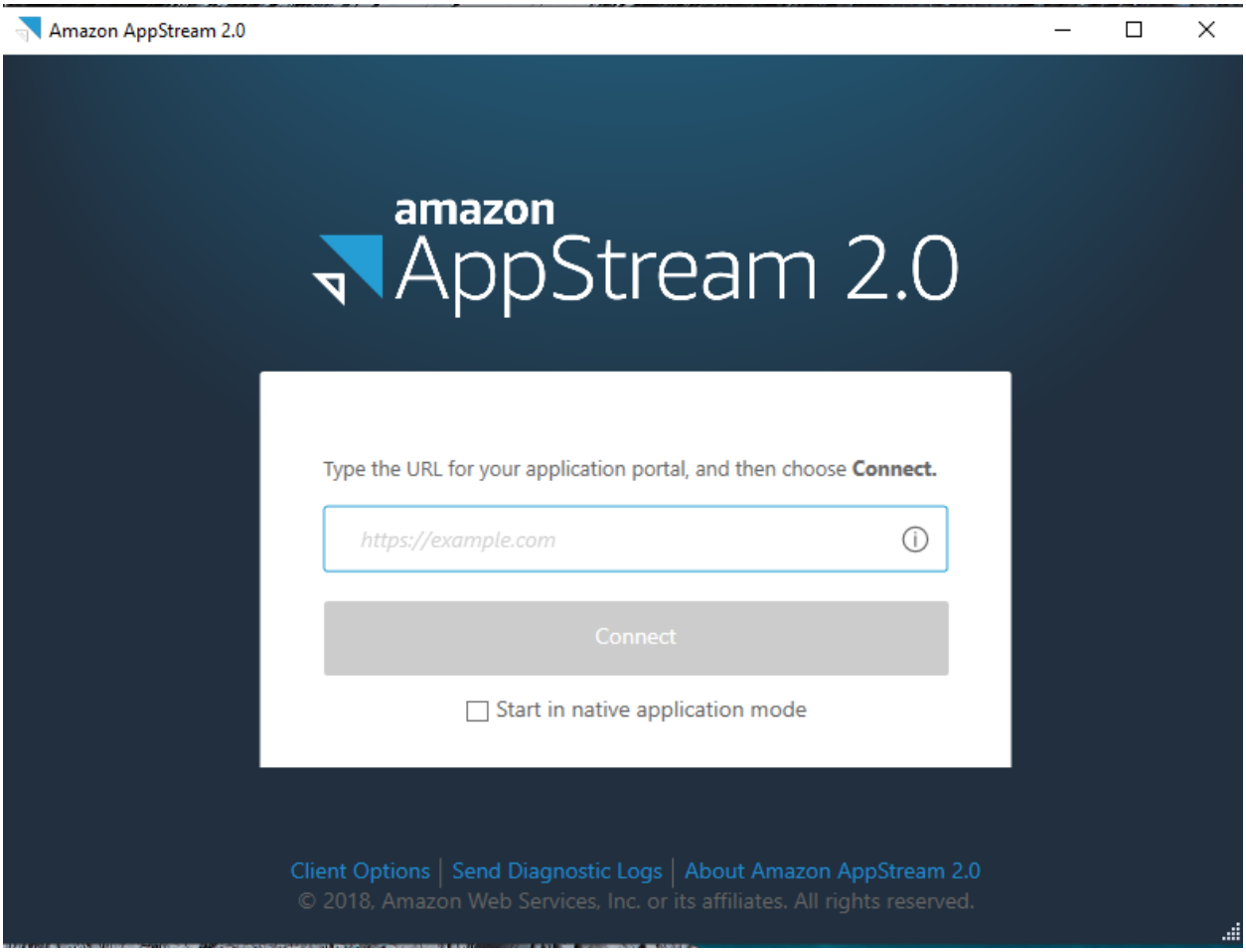
Instructions for downloading and installing the client may be found at:

https://docs.aws.amazon.com/appstream2/latest/developerguide/install-configure-client.html

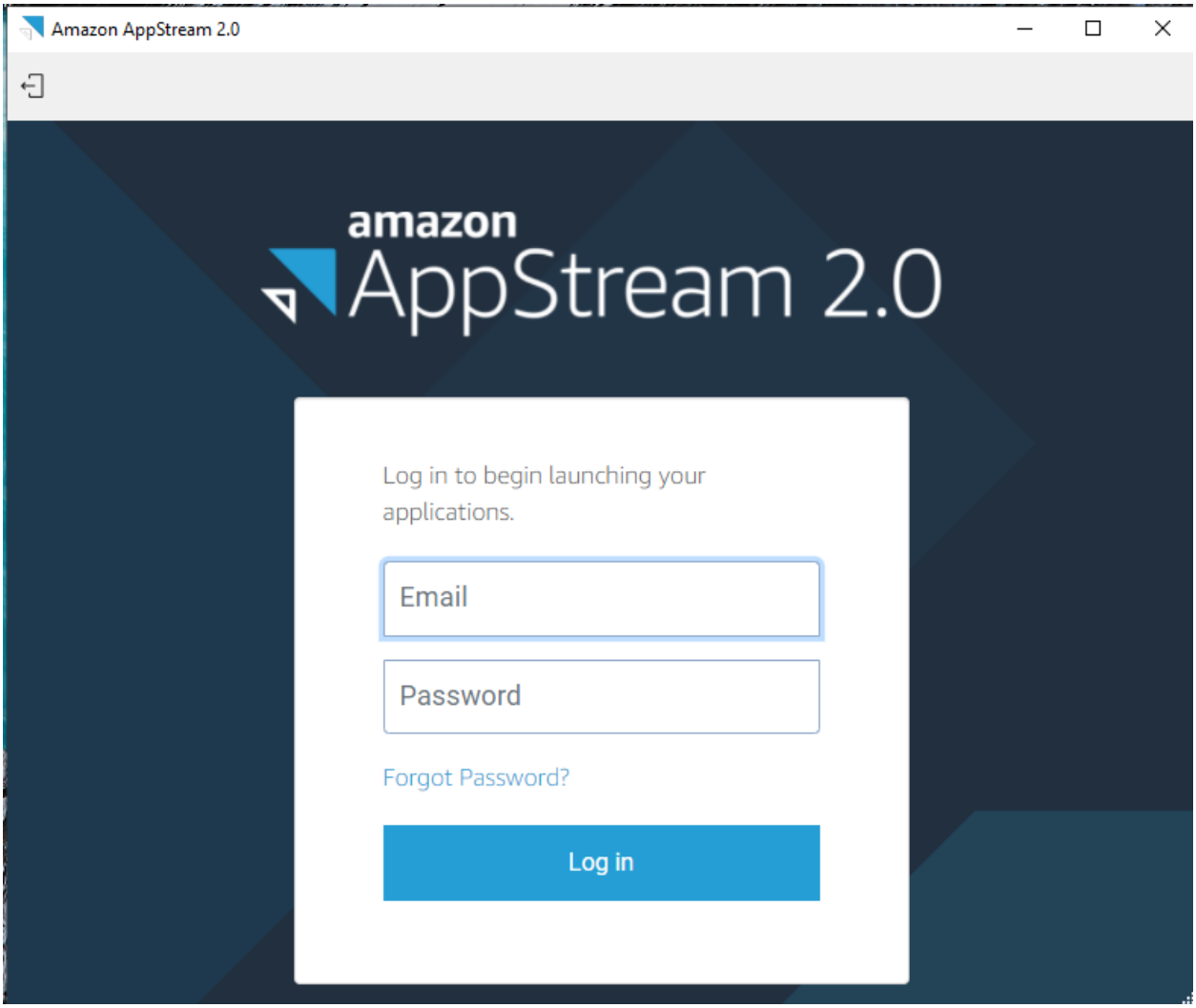
Downloading and installing the client on a Windows computer puts the following shortcut on the user's desktop:



Clicking on the shortcut will first display the following screen:

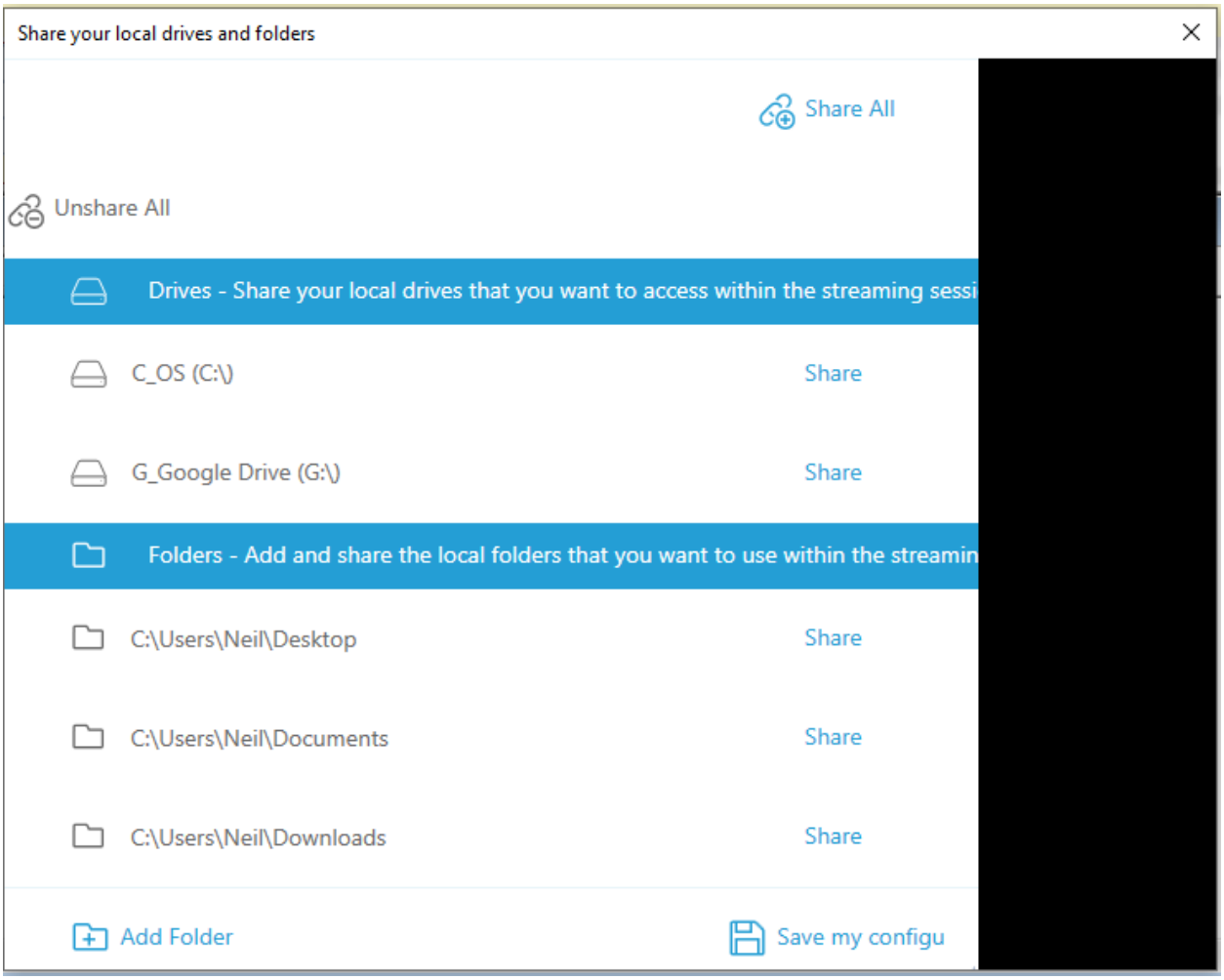


The user must type in the URL they were sent for accessing Statgraphics (the same URL as would be used in a browser). Then press *Connect*. Next, enter the user's email and password:



This will launch a Statgraphics session. Users next need to click on the *Settings* icon on the AWS toolbar:

and select *Local Resources*. On the next screen, selecting *Local drives and resources* will display the window shown below:



Users can then click on *Share* to share a particular drive or *Share all* to share everything. Once that is done, they can directly open files on their local computer. Note: on the *File – Open* dialog boxes, the local drives that have been shared will appear in the *Network locations* section.