

A Guide to Running Statgraphics using Microsoft Azure

This guide provides step-by-step instructions for installing and running Statgraphics Version 19 using Microsoft Azure. 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 Azure account to install and run Statgraphics. All Azure charges are the responsibility of the organization installing the software.
2. An internet license permitting Statgraphics to be used by multiple users on Azure. 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.

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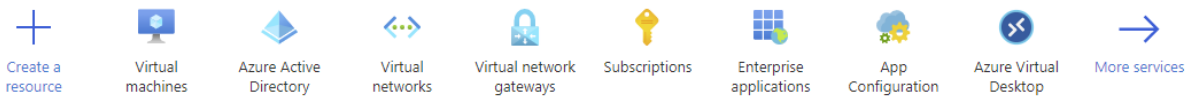
Step 1: Acquire an AWS account

In order to use Statgraphics under Azure, an organization must first create an Azure account. This may be done by going to <https://azure.microsoft.com>. An owner email address is required to create the items necessary to run Statgraphics.

Step 2: Log into Azure

Go to azure.microsoft.com and log into Azure using your username and password.

Azure services



Step 3: Create a new resource group

Search for research groups. Then press *Create*. Give the group a name, select a region, and then press *Review and create*. After validation is passed, press *Create* again.

[Home](#) > [Resource groups](#) >

Create a resource group ...

Basics Tags Review + create

Resource group - A container that holds related resources for an Azure solution. The resource group can include all the resources for the solution, or only those resources that you want to manage as a group. You decide how you want to allocate resources to resource groups based on what makes the most sense for your organization. [Learn more](#)

Project details

Subscription * ⓘ

Azure subscription 1

Resource group * ⓘ

SGResources

Resource details

Region * ⓘ

(US) East US 2

It should be added to the list:

[Home](#) >

Resource groups

Default Directory

[+ Create](#) [Manage view](#) [Refresh](#) [Export to CSV](#) [Open query](#) [Assign tags](#)

Filter for any field...

Subscription equals **Azure subscription 1**

Location equals **all** [×](#)

[+ Add filter](#)

[0](#) Unsecure resources

No grouping [v](#)

<input type="checkbox"/> Name ↑↓	Subscription ↑↓	Location ↑↓
<input type="checkbox"/> NetworkWatcherRG	Azure subscription 1	East US 2
<input type="checkbox"/> SGResources	Azure subscription 1	East US 2
<input type="checkbox"/> StatgraphicsResources	Azure subscription 1	East US 2

Step 4: Create a virtual network

Search for Virtual networks and then press *Create*. Select the resource group that we just created as name the network:

[Home](#) > [Virtual networks](#) >

Create virtual network

[Basics](#) [IP Addresses](#) [Security](#) [Tags](#) [Review + create](#)

Azure Virtual Network (VNet) is the fundamental building block for your private network in Azure. VNet enables many types of Azure resources, such as Azure Virtual Machines (VM), to securely communicate with each other, the internet, and on-premises networks. VNet is similar to a traditional network that you'd operate in your own data center, but brings with it additional benefits of Azure's infrastructure such as scale, availability, and isolation. [Learn more about virtual network](#)

Project details

Subscription *	i	Azure subscription 1	v
Resource group *	i	SGResources	v

[Create new](#)

Instance details

Name *	ADD-vnet	✓
Region *	East US 2	v

Then click on *Next: IP Addresses*.

Double-click on the name *default* and name it something more meaningful.

Home > Virtual networks >

Create virtual network ...

Basics **IP Addresses** Security Tags Review + create

The virtual network's address space, specified as one or more address prefixes in CIDR notation (e.g. 192.168.1.0/24).

IPv4 address space	
10.1.0.0/16	10.1.0.0 - 10.1.255.255 (65536 addresses)
<input type="text"/>	

☐ Add IPv6 address space ⓘ

The subnet's address range in CIDR notation (e.g. 192.168.1.0/24). It must be contained by the address space of the virtual network.

+ Add subnet Remove subnet

<input checked="" type="checkbox"/> Subnet name	Subnet address range	NAT gateway
<input checked="" type="checkbox"/> default	10.1.0.0/24	-

📘 Use of a NAT gateway is recommended for outbound internet access from a subnet. You can deploy a NAT gateway and assign it to a subnet after you create the virtual network. [Learn more](#) ⓘ

Review + create

< Previous

Next : Security >

[Download a template for automation](#)

Edit subnet

Subnet name *

Subnet address range * ⓘ
10.1.0.0 - 10.1.0.255 (251 + 5 Azure reserved addresses)

NAT GATEWAY

Simplify connectivity to the internet using a network address translation gateway. Outbound connectivity is possible without a load balancer or public IP addresses attached to your virtual machines. [Learn more](#)

NAT gateway

SERVICE ENDPOINTS

Create service endpoint policies to allow traffic to specific azure resources from your virtual network over service endpoints. [Learn more](#)

Services ⓘ

Save

Cancel

Accept all of the other defaults and press *Create*.

When deployment is complete, you will see this:

✓ Your deployment is complete

	Deployment name: Microsoft.VirtualNetwork-2022080117...	Start time: 8/1/2022, 5:27:03 PM
	Subscription: Azure subscription 1	Correlation ID: c1df7bf1-e96c-4c72-8255-c616f53ed05d
	Resource group: SGResources	

✓ Deployment details [\(Download\)](#)

^ Next steps

Go to resource

Step 5: Create a host pool

Search for *Azure virtual desktop*. Press *Create a host pool*. On the next screen, select the proper resource group, name the host pool, and pick a location. Set the type to *Pooled* and specify the number of virtual machines to be created.

Create a host pool ...

Subscription *	<div>Azure subscription 1</div>
Resource group *	<div>SGResources</div> <div>Create new</div>
Host pool name *	<div>SGHostPool</div>
Location *	<div>East US 2</div> <div>Metadata will be stored in Azure geography associated with (US) East US 2. Learn more</div>
Validation environment	<div><input checked="" type="radio"/> No <input type="radio"/> Yes</div>
Host pool type	
If you select pooled (shared), users will still be able to access their personalization and user data, using FSLogix.	
Host pool type *	<div>Pooled</div>
Load balancing algorithm	<div>Breadth-first</div>
Max session limit	<div>2</div>

On the subsequent screens, take all of the defaults and then press *Create*.

Step 6: Add virtual machines

Once the host pool is created, click on *Go to resource*. Then select *Session host* under *Manage*. Click on *Add* and then *Next: Virtual machines*. On the subsequent screen:

- Specify a prefix such as *SG* for the VMs.
- Set *Availability* to *No infrastructure redundancy required*.
- Set *Image* to *Windows 11 Enterprise multi-session*
- Set *Number of VMs* to *2*.
- Set *Disk type* to *Standard SSD*.
- Set *Boot diagnostics* to *Disable*.

Add virtual machines to a host pool ...

Basics Virtual Machines Advanced Tags Review + create

A host pool is a collection of one or more identical virtual machines within an Azure Virtual Desktop environment. Here you can give details to create Azure virtual machines for your host pool now, or you can create and add them later, for example if you plan to add virtual machines from Azure Stack HCI. [Learn more](#)

Add Azure virtual machines	<input type="radio"/> No <input checked="" type="radio"/> Yes
Resource group	SGResources
Name prefix *	SG ✓ <small>i Session host name must be unique within the Resource Group.</small>
Virtual machine location ⓘ	East US 2
Availability options ⓘ	No infrastructure redundancy required
Security type * ⓘ	Standard
Image type	Gallery
Image * ⓘ	Windows 11 Enterprise multi-session See all images
Virtual machine size * ⓘ	Standard D2s v3 2 vCPU's, 8 GiB memory Change size
Number of VMs *	2 ✓
OS disk type * ⓘ	Standard SSD
Boot Diagnostics ⓘ	<input type="radio"/> Enable with managed storage account (recommended) <input type="radio"/> Enable with custom storage account <input checked="" type="radio"/> Disable

Farther down on the page:

- Pick the virtual network we created earlier.
- Under *Domain to join*, select *Azure active directory*.

Network and security

Use Azure Firewall to secure your VNET and host pool resources. [Learn more](#)

Virtual network *	<input type="text" value="ADD-vnet"/>
Subnet	<input type="text" value="default (10.1.0.0/24)"/>
Network security group	<input type="text" value="Basic"/>
Public inbound ports	<input type="radio"/> Yes <input checked="" type="radio"/> No
Inbound ports to allow	<input type="text" value="Select one or more ports"/>

i All traffic from the internet will be blocked by default.

Domain to join

Select which directory you would like to join	<input type="text" value="Azure Active Directory"/>
Enroll VM with Intune	<input type="radio"/> Yes <input checked="" type="radio"/> No

Also set up a VM administrator account:

Virtual Machine Administrator account

Username *	<input type="text" value="azadmin"/>
Password *	<input type="password" value="....."/>
Confirm password *	<input type="password" value="....."/>

Custom configuration

Provide location of an ARM template (inline deployment script, desired state configuration, custom script extension) for custom configuration on your session hosts. Provisioning azure resources in the template is not supported. [Learn more](#)

ARM template file URL	<input type="text"/>
ARM template parameter file URL	<input type="text"/>

Step 7: Create a test user

Go to Azure Active Directory and create a new user:

New user ...

Default Directory



Got feedback?

Select template

☒ **Create user**

Create a new user in your organization.

☐ **Invite user**

Invite a new guest user to collaborate with your organization. The user will be ema

[Help me decide](#)

Identity

User name * ⓘ

SuperUser ✓

@

neilpolhemusgmail.onmi... ▼



[The domain name I need isn't shown here](#)

Name * ⓘ

Super User ✓

First name

Last name

Password

☐ Auto-generate password

☒ Let me create the password

Initial password * ⓘ

..... ✓

Groups and roles

Groups

0 groups selected

Roles

User

Settings

Block sign in

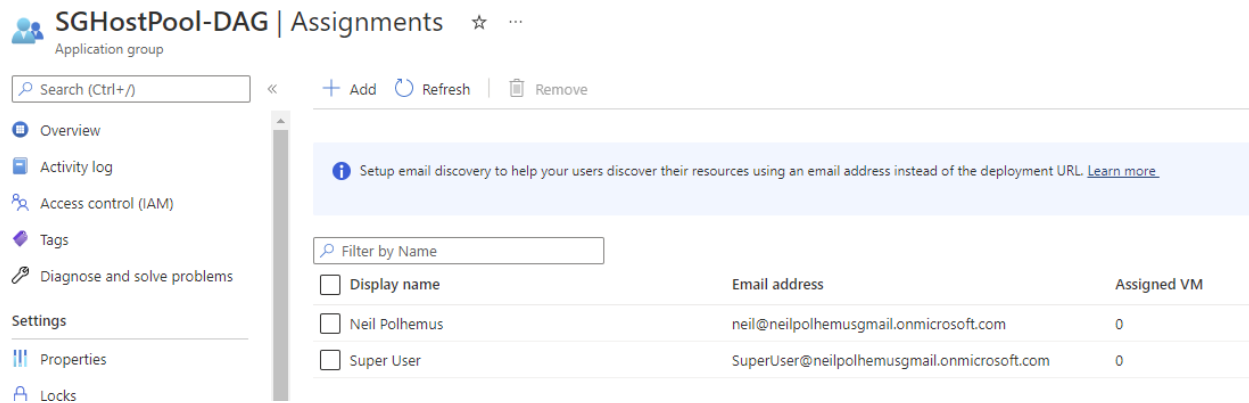
Yes

No

Usage location

Step 8: Assign user to host pool

Go to *Host Pools* and select the host pool we created. Then click on *Assignments* and *Add*. Select the user we just created and add it to the pool.



SGHostPool-DAG | Assignments ☆ ...

Application group

Search (Ctrl+/) << + Add Refresh Remove

Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems

Settings
Properties
Locks

Setup email discovery to help your users discover their resources using an email address instead of the deployment URL. [Learn more](#)

Filter by Name

<input type="checkbox"/> Display name	Email address	Assigned VM
<input type="checkbox"/> Neil Polhemus	neil@neilpolhemusgmail.onmicrosoft.com	0
<input type="checkbox"/> Super User	SuperUser@neilpolhemusgmail.onmicrosoft.com	0

Step 9: Add permissions to users

Search for *Resource Groups* and select our resource group. Go to *Access control (IAM)*. Click on *Add role assignment*, find *Virtual Machine User Login*, and then click *Next*. Then click on *Super user*, *Select*, *Review and assign* to give the user access to the VMs.

Repeat the same process for the Super User, this time giving them a *Virtual Machine Administrative Login* so that they can install software.

Step 10: Create a workspace

Go back to *Azure Virtual Desktop* and click on *Workspaces*. Click *Create* and select our resource group. Give the workspace a name.

Work space is a logical grouping of application groups. Users will only be able to access an application group published to them if it is registered to a workspace. [Learn more](#)

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ

Azure subscription 1



Resource group * ⓘ

SGResources

[Create new](#)

Instance details

Workspace name *

SG-Workspace

Friendly name

SG Workspace

Description

Location * ⓘ

East US 2

Accept the other defaults and press *Review and Create*.

✓ Your deployment is complete



Deployment name: Workspace-880c5af5-b7ee-4cd0-a75b-d4f53a0...
Subscription: [Azure subscription 1](#)
Resource group: [SGResources](#)

Start time: 8/1/2022, 7:04:17 PM

Correlation ID: bf044492-380b-4fc8-8f95-91e54af6f447

✓ Deployment details [\(Download\)](#)

^ Next steps

[Manage application groups](#) Recommended

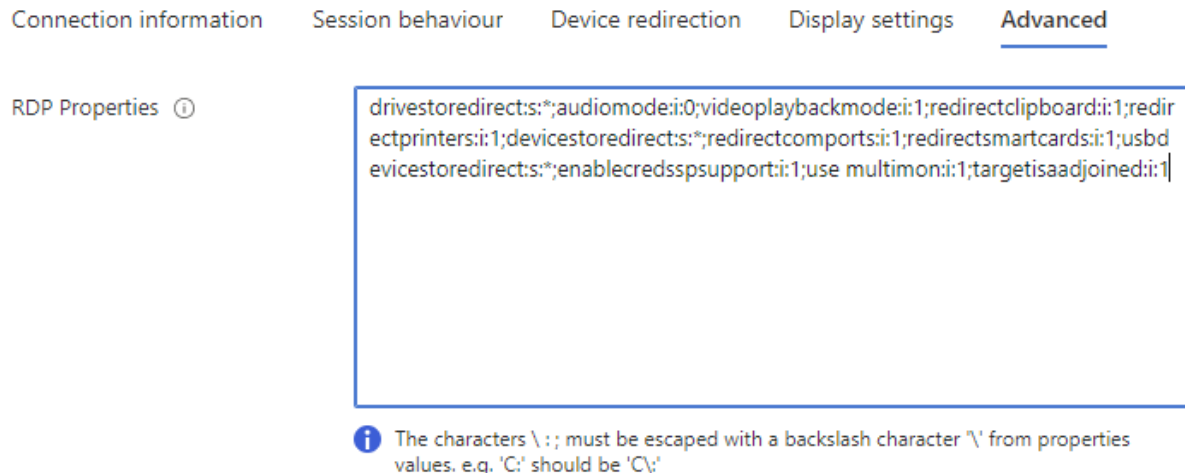
[Go to resource](#)

Step 11: Add workspace to application group

Press *Go to resource* and then *Application group*. Select our host pool and add it to the workspace.

Step 12: Add custom RDP property to host pool

Go back to *Azure Virtual Desktop* and select our *Host Pool*. Then go to *RDP properties*. Click on *Advanced* and add “;targetisaadjoined:i:1” to the end of the string.



Now go back to Azure Virtual Desktop and select our host pool again.

Step 13: Login to desktop through browser

Go to browser and type: [Remote Desktop Web Client \(microsoft.com\)](https://remote-desktop-client.microsoft.com)

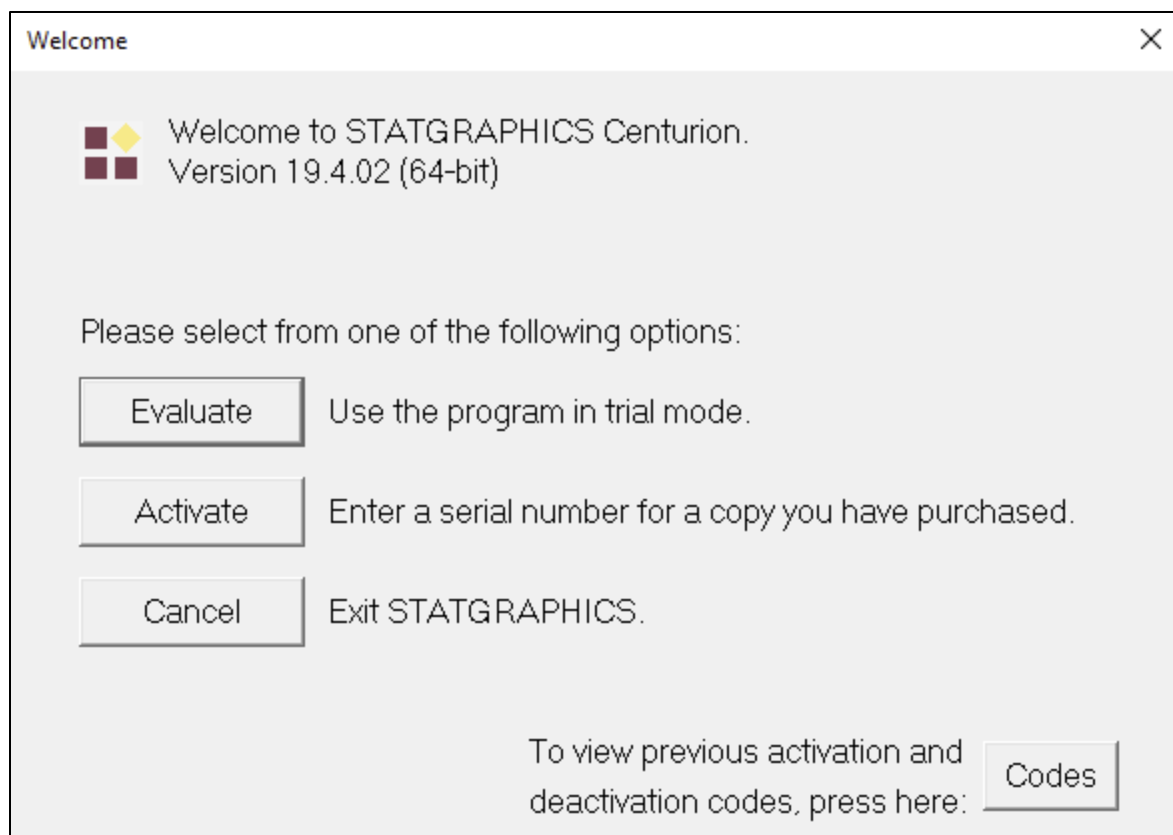
This should allow you to connect to your VM desktop. When logging in, use the SuperUser username and password.

Step 14: Install Statgraphics

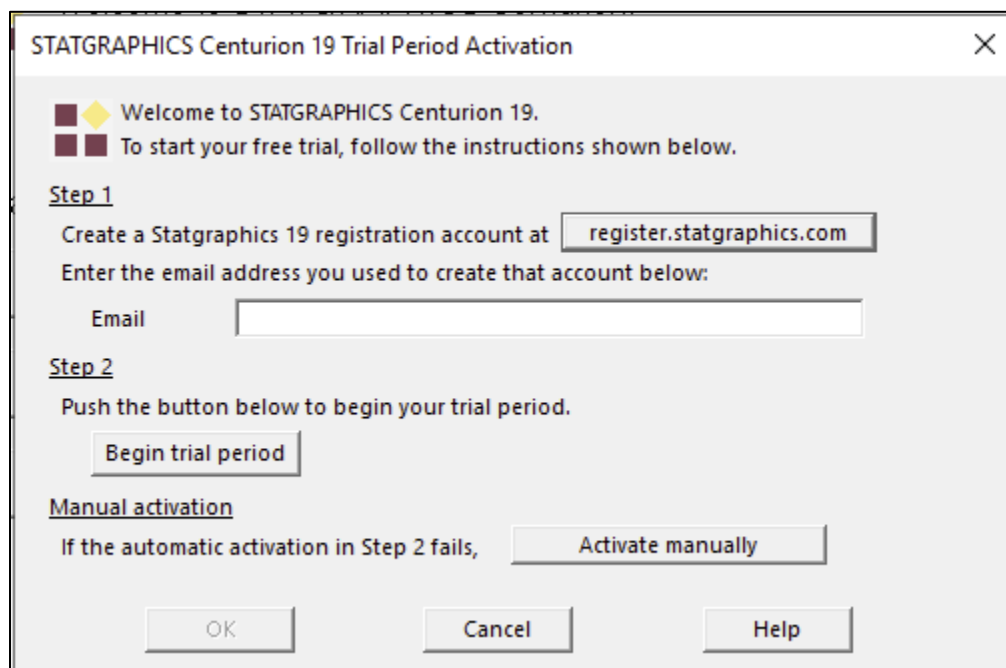
Install Statgraphics

To install Statgraphics, open a browser on your VM and go to www.statgraphics.com/download19. Download and install the English 64-bit primary language build.

Back on the desktop, click on the new 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:

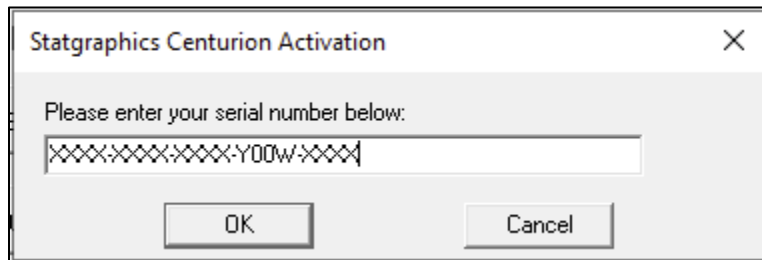


You need to do the following:

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*.

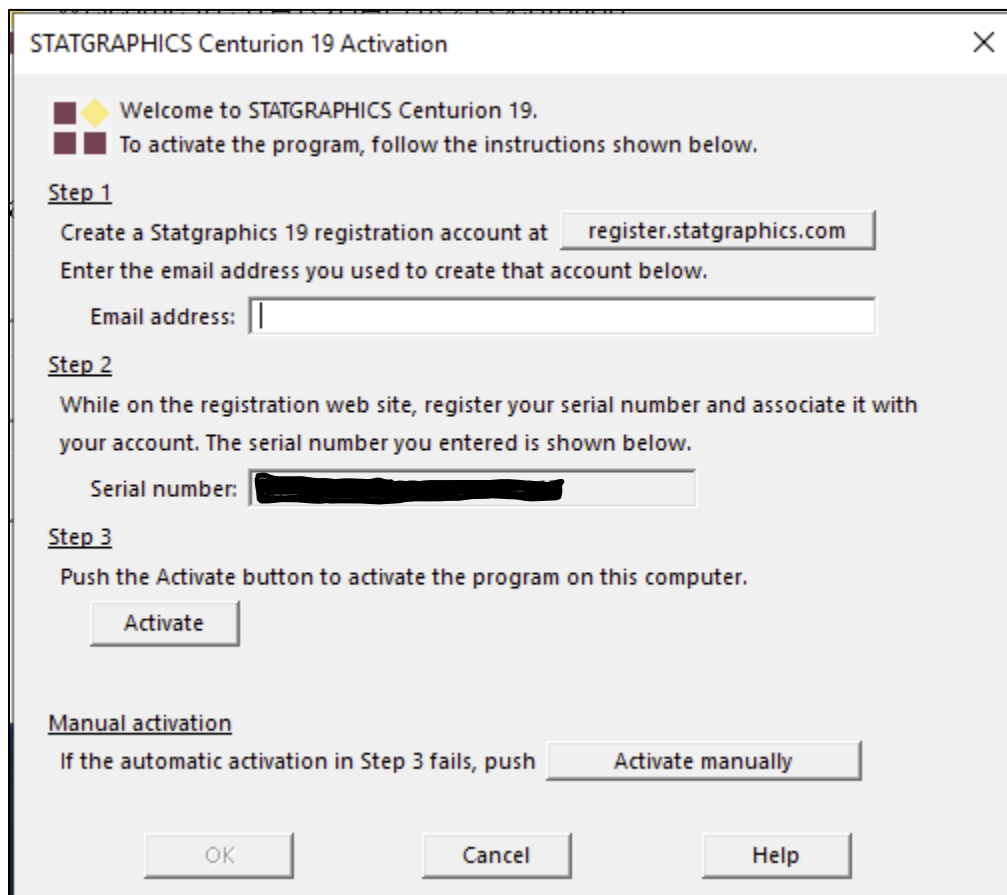
This will contact a Statgraphics web service that will send back a 30-day activation code to use with the program. Statgraphics will then automatically launch.

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



A dialog box titled "Statgraphics Centurion Activation" with a close button (X) in the top right corner. The text inside says "Please enter your serial number below:". Below this is a text input field containing a masked serial number: "XXXXXX-XXXXXX-Y00W-XXXX". At the bottom of the dialog are two buttons: "OK" and "Cancel".

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:



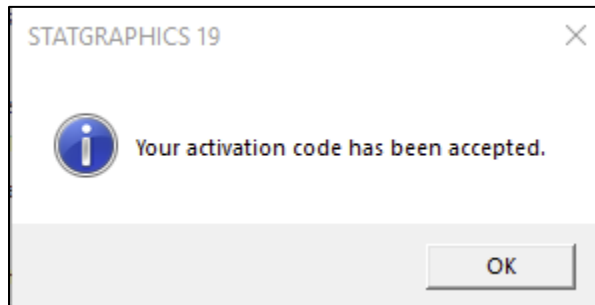
A larger dialog box titled "STATGRAPHICS Centurion 19 Activation" with a close button (X) in the top right corner. It contains the following text and elements:

- Two bullet points: "Welcome to STATGRAPHICS Centurion 19." and "To activate the program, follow the instructions shown below."
- Step 1**: "Create a Statgraphics 19 registration account at register.statgraphics.com" (the URL is in a button-like box). Below it: "Enter the email address you used to create that account below." followed by an "Email address:" label and an empty text input field.
- Step 2**: "While on the registration web site, register your serial number and associate it with your account. The serial number you entered is shown below." followed by a "Serial number:" label and a text input field containing a blacked-out serial number.
- Step 3**: "Push the Activate button to activate the program on this computer." followed by an "Activate" button.
- Manual activation**: "If the automatic activation in Step 3 fails, push" followed by an "Activate manually" button.
- At the bottom are three buttons: "OK", "Cancel", and "Help".

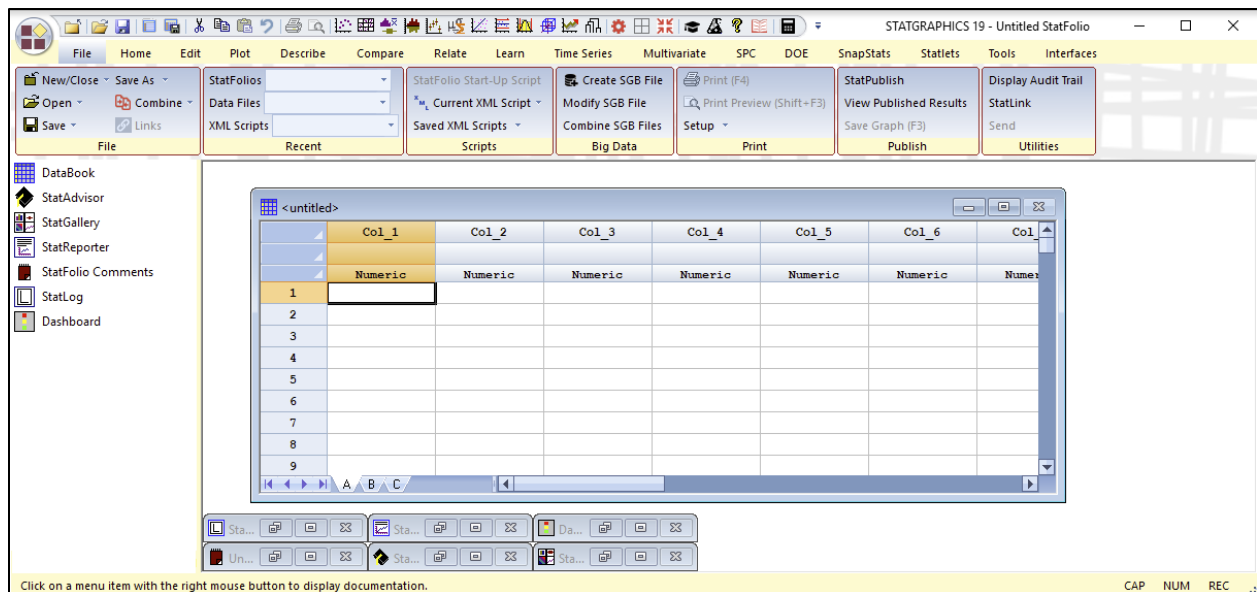
Now:

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:

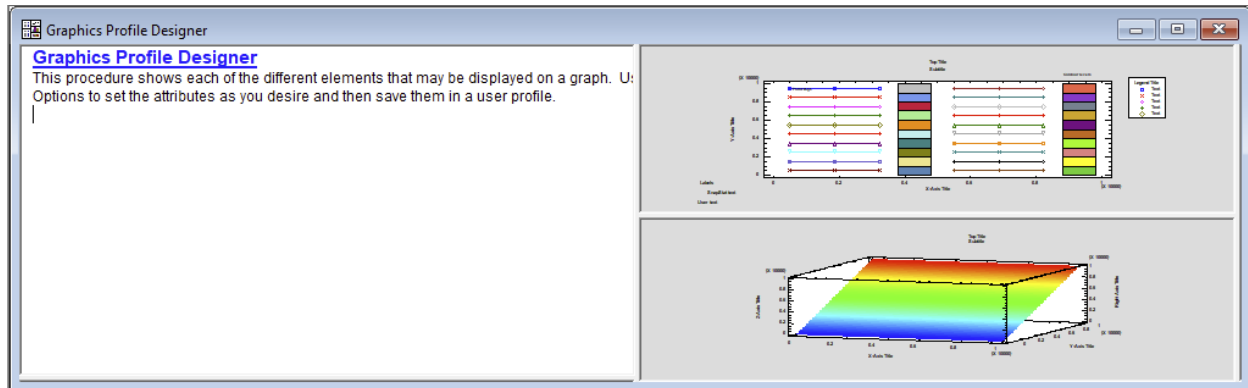


after which the main Statgraphics window should open:



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 15: 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 VM 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:

R - Installation and Configuration

1. To install R, click the 'download R' link on the R-project website:

Install

2. After installing R, enter the path to Rgui.exe in the field below:

Test

3. Set the maximum time to wait for R to execute a set of commands:

120

seconds

4. Install the R packages for the procedures you wish to use. After pressing a button, type Ctrl-V to copy and execute the required commands.

List installed packages

Install pandoc,markdown,Rcpp,stringi

Install ggplot2

Install seasonal

Install interval,lens

Install tm,SnowballC,wordcloud,igraph

Install MASS

Install tree

Install randomForest,igraph

Install pscl,MASS

Install EMCluster,MASS,Matrix,mixR

Install venneuler,tJava

Install quantreg

Required by all procedures and for executing scripts.

Required to create graphs.

For X-13ARIMA-SEATS Seasonal Adjustment.

For nonparametric analysis of arbitrarily censored data.

For Text Mining.

For Multidimensional Scaling.

For classification and regression trees.

For decision forests.

For zero inflated count regression.

For mixture distribution fitting.

For creating Venn and Euler diagrams.

For quantile regression.

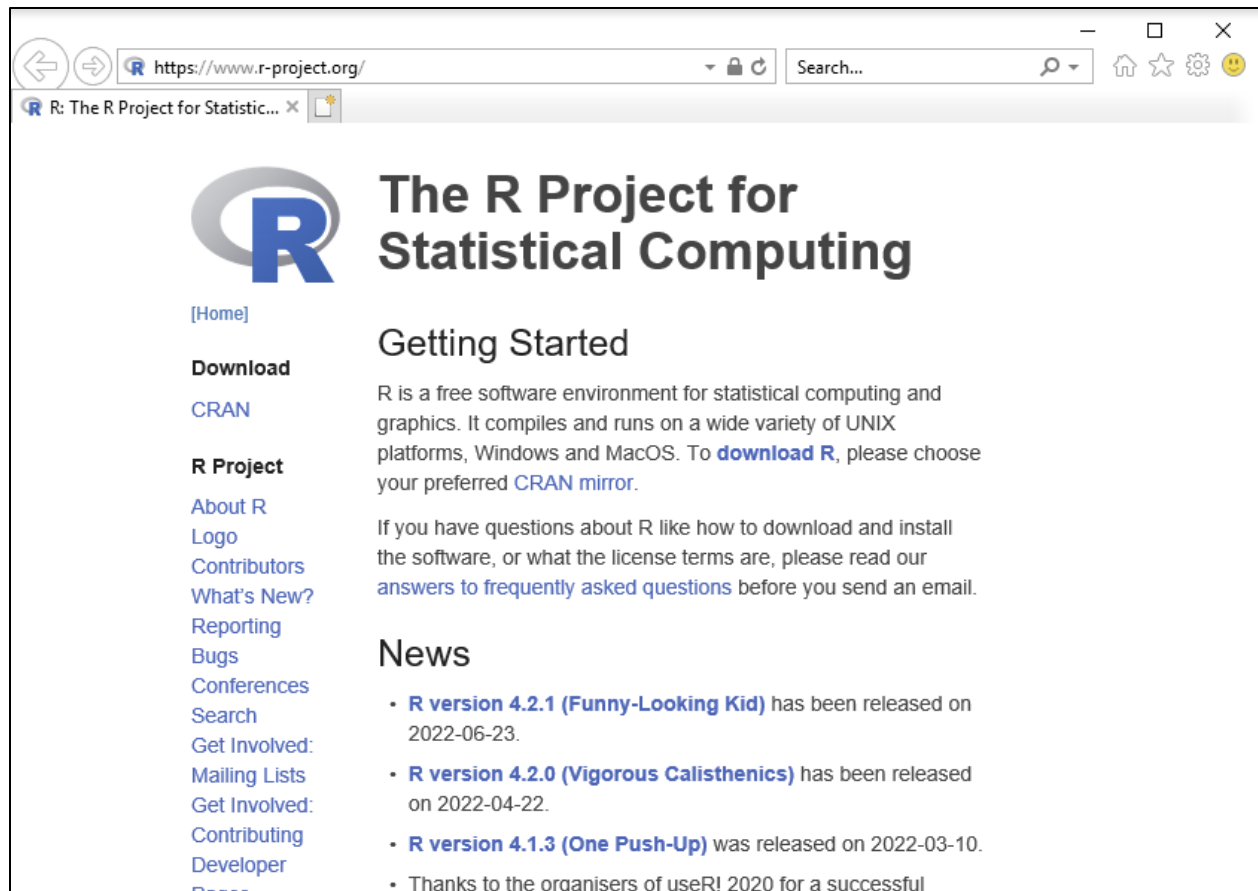
OK

Cancel

Advanced

Help

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



The screenshot shows the R Project for Statistical Computing website in a web browser. The browser's address bar displays <https://www.r-project.org/>. The website features the R logo, a navigation menu on the left, and main content sections for 'Getting Started' and 'News'.

The R Project for Statistical Computing

[Home]

Download

[CRAN](#)

R Project

[About R](#)

[Logo](#)

[Contributors](#)

[What's New?](#)

[Reporting](#)

[Bugs](#)

[Conferences](#)

[Search](#)

[Get Involved:](#)

[Mailing Lists](#)

[Get Involved:](#)

[Contributing](#)

[Developer](#)

[Press](#)

Getting Started

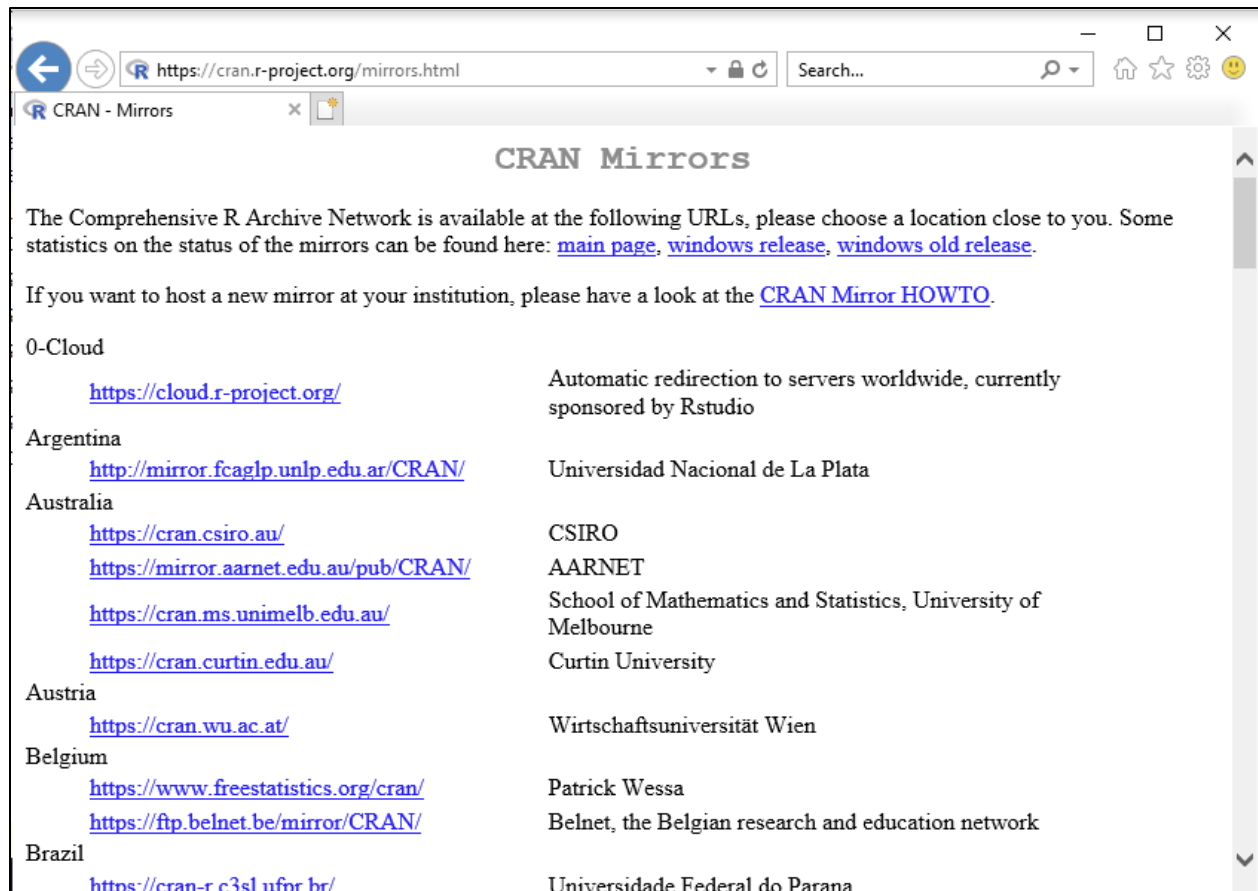
R is a free software environment for statistical computing and graphics. It compiles and runs on a wide variety of UNIX platforms, Windows and MacOS. To [download R](#), please choose your preferred [CRAN mirror](#).

If you have questions about R like how to download and install the software, or what the license terms are, please read our [answers to frequently asked questions](#) before you send an email.

News

- [R version 4.2.1 \(Funny-Looking Kid\)](#) has been released on 2022-06-23.
- [R version 4.2.0 \(Vigorous Calisthenics\)](#) has been released on 2022-04-22.
- [R version 4.1.3 \(One Push-Up\)](#) was released on 2022-03-10.
- Thanks to the organisers of useR! 2020 for a successful

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

A screenshot of a web browser window showing the CRAN Mirrors page. The browser's address bar displays 'https://cran.r-project.org/mirrors.html'. The page title is 'CRAN - Mirrors'. The main heading is 'CRAN Mirrors'. Below the heading, there is a paragraph explaining that the Comprehensive R Archive Network is available at various URLs and providing links to the 'main page', 'windows release', and 'windows old release'. Another paragraph mentions a 'CRAN Mirror HOWTO' for those interested in hosting a mirror. The page then lists several mirrors organized by country: 0-Cloud, Argentina, Australia, Austria, Belgium, and Brazil. Each entry includes a URL and the name of the hosting institution or organization.

CRAN Mirrors

The Comprehensive R Archive Network is available at the following URLs, please choose a location close to you. Some statistics on the status of the mirrors can be found here: [main page](#), [windows release](#), [windows old release](#).

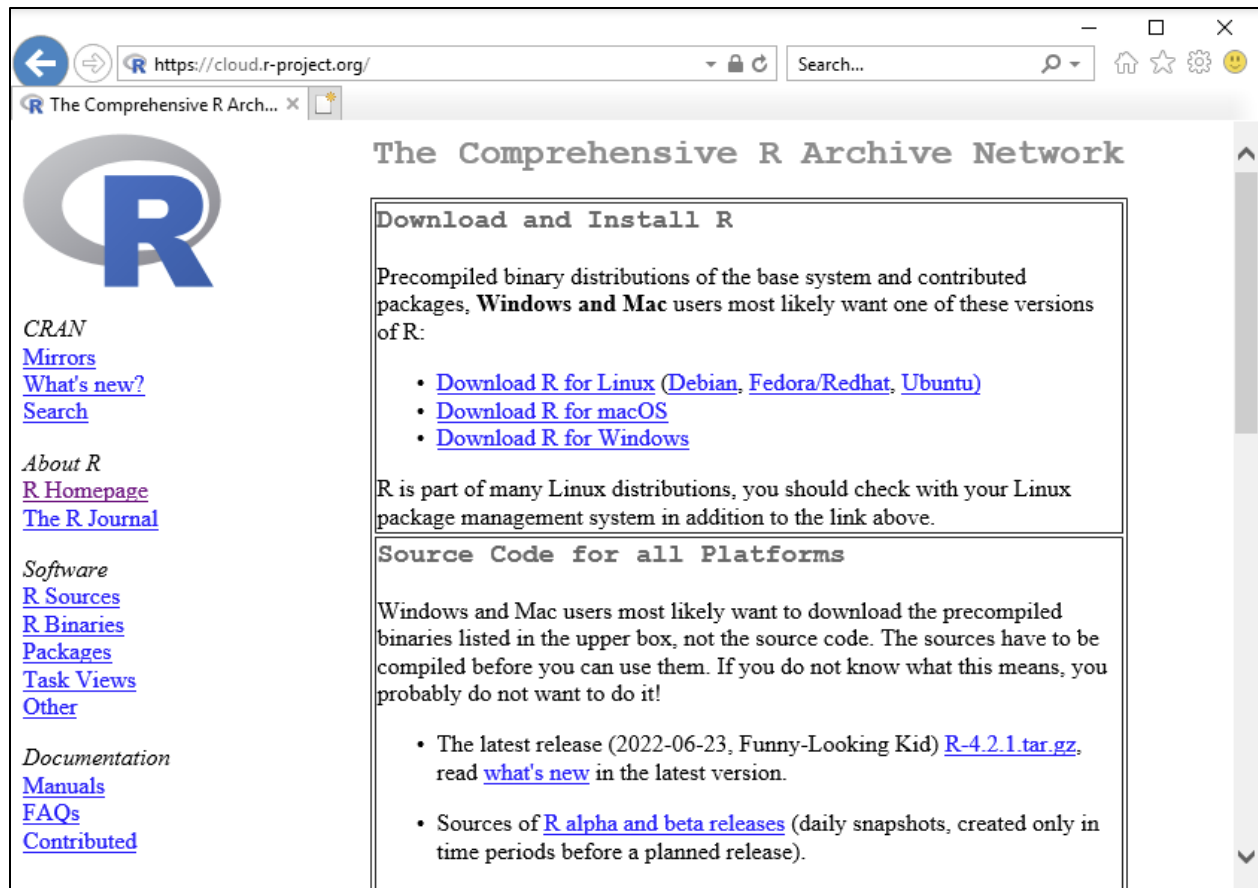
If you want to host a new mirror at your institution, please have a look at the [CRAN Mirror HOWTO](#).

0-Cloud

https://cloud.r-project.org/	Automatic redirection to servers worldwide, currently sponsored by Rstudio
Argentina	
http://mirror.fcaglp.unlp.edu.ar/CRAN/	Universidad Nacional de La Plata
Australia	
https://cran.csiro.au/	CSIRO
https://mirror.aarnet.edu.au/pub/CRAN/	AARNET
https://cran.ms.unimelb.edu.au/	School of Mathematics and Statistics, University of Melbourne
https://cran.curtin.edu.au/	Curtin University
Austria	
https://cran.wu.ac.at/	Wirtschaftsuniversität Wien
Belgium	
https://www.freeststatistics.org/cran/	Patrick Wessa
https://ftp.belnet.be/mirror/CRAN/	Belnet, the Belgian research and education network
Brazil	
https://cran-r.c3sl.ufpr.br/	Universidade Federal do Parana

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*.



The screenshot shows a web browser window with the address bar displaying <https://cloud.r-project.org/>. The page title is "The Comprehensive R Archive Network". On the left side, there is a navigation menu with links: [CRAN](#), [Mirrors](#), [What's new?](#), [Search](#), [About R](#), [R Homepage](#), [The R Journal](#), [Software](#), [R Sources](#), [R Binaries](#), [Packages](#), [Task Views](#), [Other](#), [Documentation](#), [Manuals](#), [FAQs](#), and [Contributed](#). The main content area is titled "The Comprehensive R Archive Network" and contains two sections. The first section, "Download and Install R", explains that precompiled binary distributions are available and lists three download links: [Download R for Linux \(Debian, Fedora/Redhat, Ubuntu\)](#), [Download R for macOS](#), and [Download R for Windows](#). It also notes that R is part of many Linux distributions and should be installed using the Linux package management system. The second section, "Source Code for all Platforms", explains that Windows and Mac users should download precompiled binaries instead of source code. It lists two options: the latest release (2022-06-23, Funny-Looking Kid) [R-4.2.1.tar.gz](#), which includes a link to [what's new](#), and sources of [R alpha and beta releases](#) (daily snapshots).

[The Comprehensive R Archive Network](#)

Download and Install R

Precompiled binary distributions of the base system and contributed packages, **Windows and Mac** users most likely want one of these versions of R:

- [Download R for Linux \(Debian, Fedora/Redhat, Ubuntu\)](#)
- [Download R for macOS](#)
- [Download R for Windows](#)

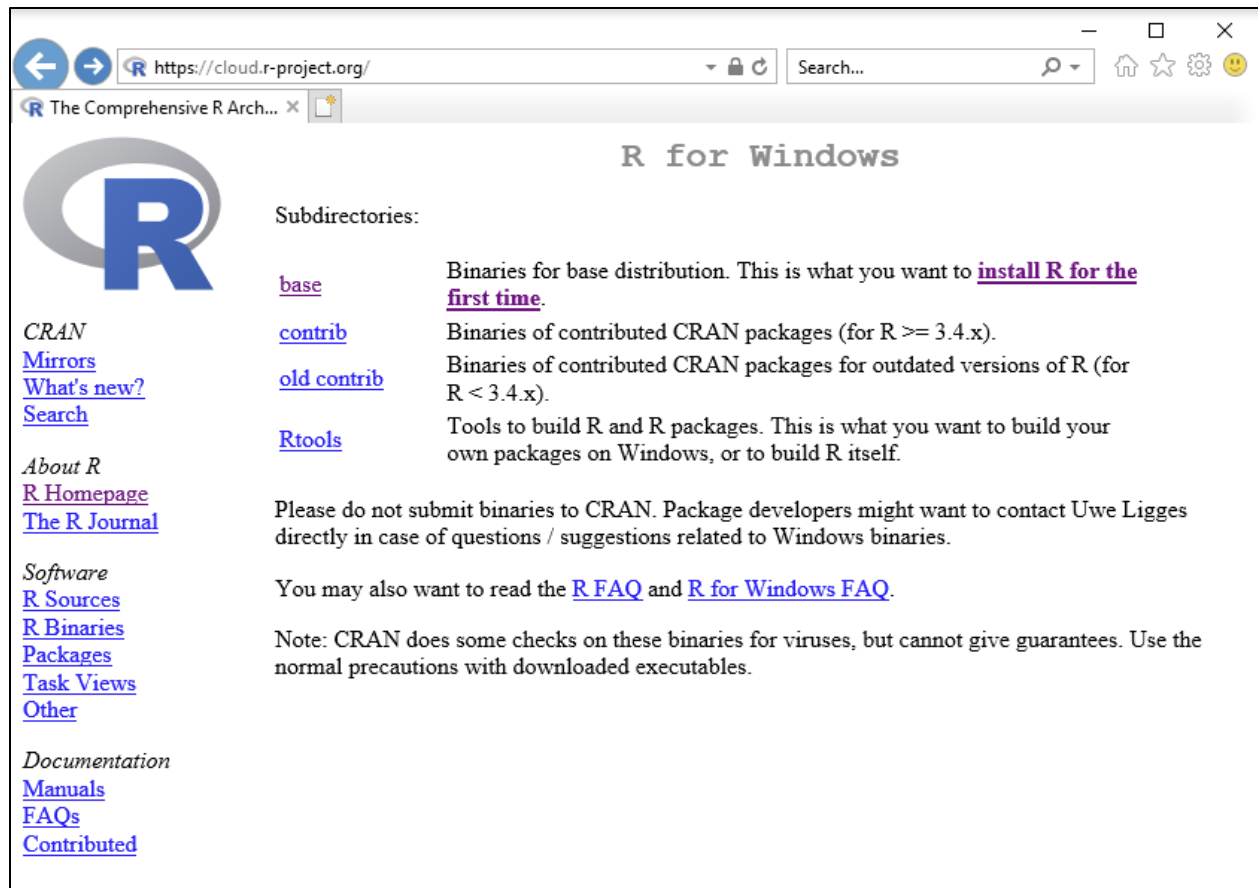
R is part of many Linux distributions, you should check with your Linux package management system in addition to the link above.

Source Code for all Platforms

Windows and Mac users most likely want to download the precompiled binaries listed in the upper box, not the source code. The sources have to be compiled before you can use them. If you do not know what this means, you probably do not want to do it!

- The latest release (2022-06-23, Funny-Looking Kid) [R-4.2.1.tar.gz](#), read [what's new](#) in the latest version.
- Sources of [R alpha and beta releases](#) (daily snapshots, created only in time periods before a planned release).

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



The screenshot shows a web browser window with the address bar displaying <https://cloud.r-project.org/>. The page title is "The Comprehensive R Arch...". The main heading is "R for Windows". On the left, there is a large blue "R" logo. Below the logo, there are several links: "CRAN", "Mirrors", "What's new?", "Search", "About R", "R Homepage", "The R Journal", "Software", "R Sources", "R Binaries", "Packages", "Task Views", "Other", "Documentation", "Manuals", "FAQs", and "Contributed". The main content area is titled "Subdirectories:" and lists four subdirectories: "base", "contrib", "old contrib", and "Rtools". Each subdirectory has a brief description. The "base" subdirectory is highlighted with a purple underline. The "base" description says: "Binaries for base distribution. This is what you want to install R for the first time." The "contrib" description says: "Binaries of contributed CRAN packages (for R >= 3.4.x)." The "old contrib" description says: "Binaries of contributed CRAN packages for outdated versions of R (for R < 3.4.x)." The "Rtools" description says: "Tools to build R and R packages. This is what you want to build your own packages on Windows, or to build R itself." Below the subdirectories, there is a paragraph: "Please do not submit binaries to CRAN. Package developers might want to contact Uwe Ligges directly in case of questions / suggestions related to Windows binaries." Another paragraph says: "You may also want to read the [R FAQ](#) and [R for Windows FAQ](#)." A final note says: "Note: CRAN does some checks on these binaries for viruses, but cannot give guarantees. Use the normal precautions with downloaded executables."

Subdirectories:

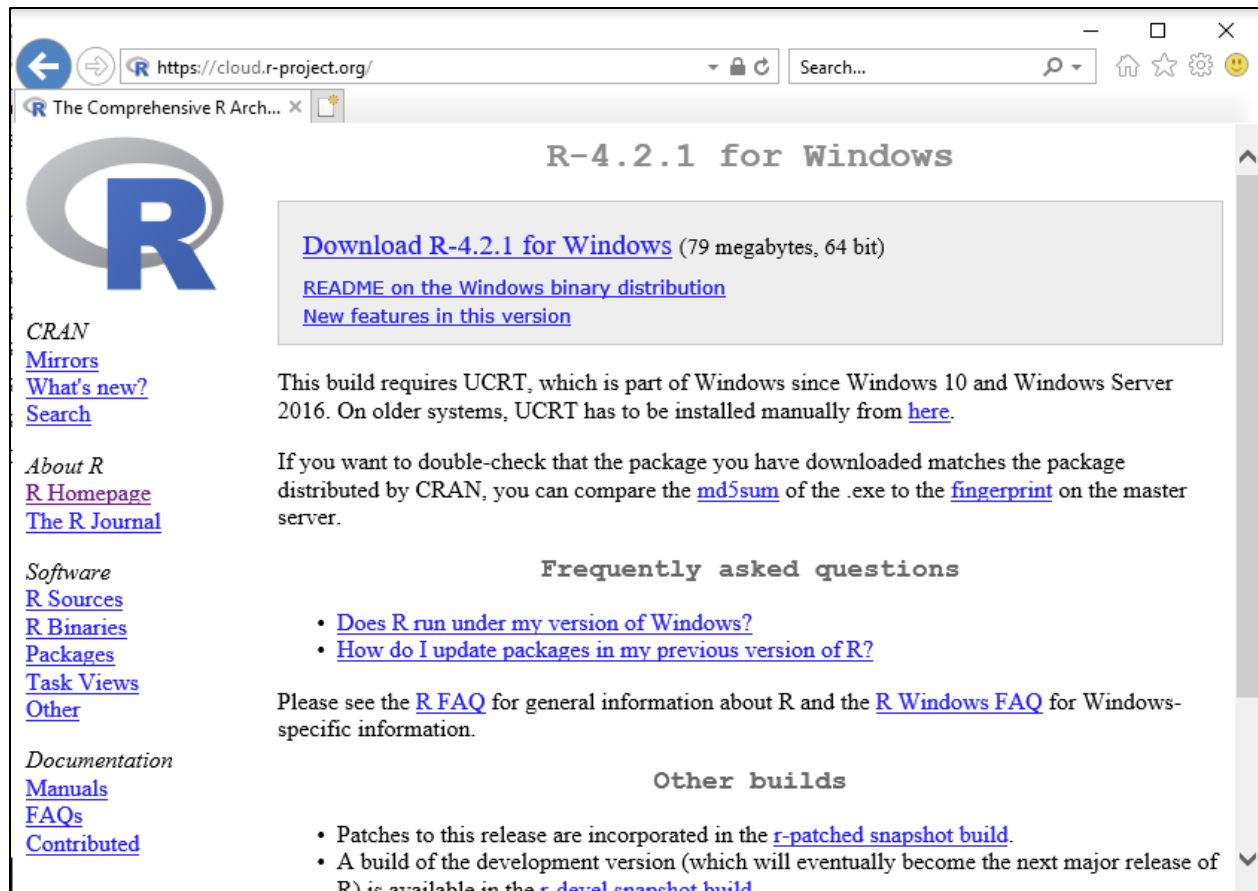
- [base](#) Binaries for base distribution. This is what you want to install R for the first time.
- [contrib](#) Binaries of contributed CRAN packages (for R >= 3.4.x).
- [old contrib](#) Binaries of contributed CRAN packages for outdated versions of R (for R < 3.4.x).
- [Rtools](#) Tools to build R and R packages. This is what you want to build your own packages on Windows, or to build R itself.

Please do not submit binaries to CRAN. Package developers might want to contact Uwe Ligges directly in case of questions / suggestions related to Windows binaries.

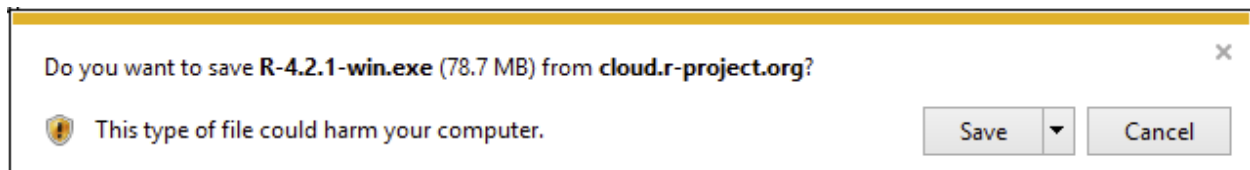
You may also want to read the [R FAQ](#) and [R for Windows FAQ](#).

Note: CRAN does some checks on these binaries for viruses, but cannot give guarantees. Use the normal precautions with downloaded executables.

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 the browser 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:

R - Installation and Configuration [X]

1. To install R, click the 'download R' link on the R-project website:

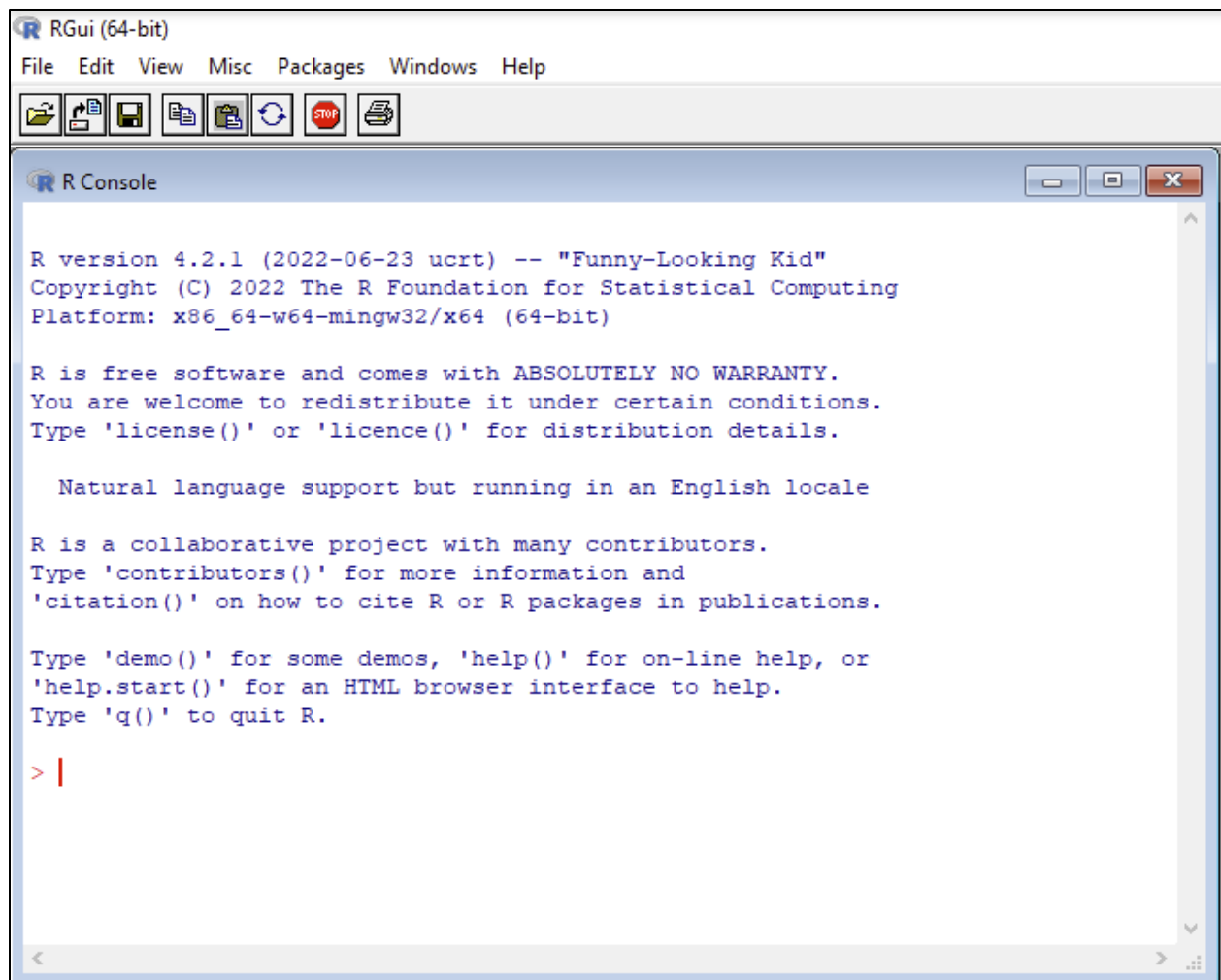
2. After installing R, enter the path to Rgui.exe in the field below:

3. Set the maximum time to wait for R to execute a set of commands: seconds

4. Install the R packages for the procedures you wish to use. After pressing a button, type Ctrl-V to copy and execute the required commands.

List installed packages	
<input type="button" value="Install pandoc,markdown,Rcpp,stringi"/>	Required by all procedures and for executing scripts.
<input type="button" value="Install ggplot2"/>	Required to create graphs.
<input type="button" value="Install seasonal"/>	For X-13ARIMA-SEATS Seasonal Adjustment.
<input type="button" value="Install interval,lens"/>	For nonparametric analysis of arbitrarily censored data.
<input type="button" value="Install tm,SnowballC,wordcloud,igraph"/>	For Text Mining.
<input type="button" value="Install MASS"/>	For Multidimensional Scaling.
<input type="button" value="Install tree"/>	For classification and regression trees.
<input type="button" value="Install randomForest,igraph"/>	For decision forests.
<input type="button" value="Install pscI,MASS"/>	For zero inflated count regression.
<input type="button" value="Install EMCluster,MASS,Matrix,mixR"/>	For mixture distribution fitting.
<input type="button" value="Install venneuler,iJava"/>	For creating Venn and Euler diagrams.
<input type="button" value="Install quantreg"/>	For quantile regression.

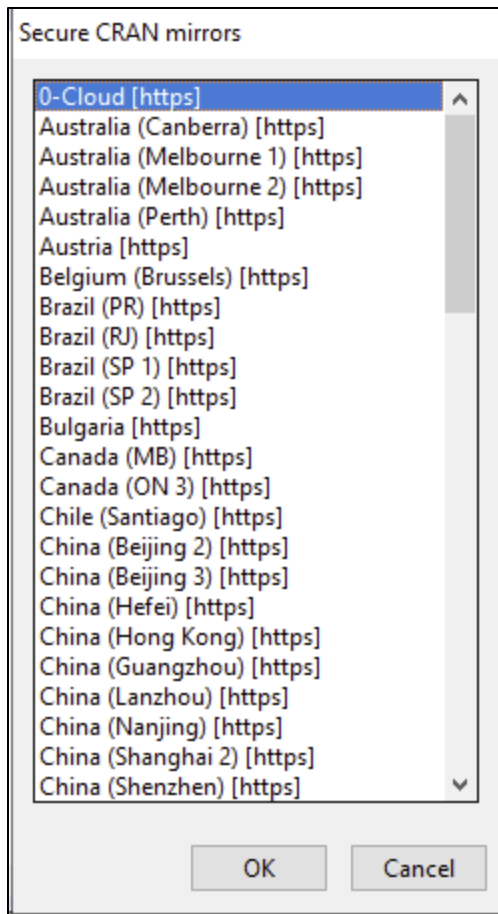
When you press *Test*, R should open in a new window:



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 from 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 must log out of the VM. Then go to Azure and select *Virtual Machines*. When you see the list of VMs, check the too you created earlier and then press *Restart*.

Virtual machines ✱ ...

Default Directory

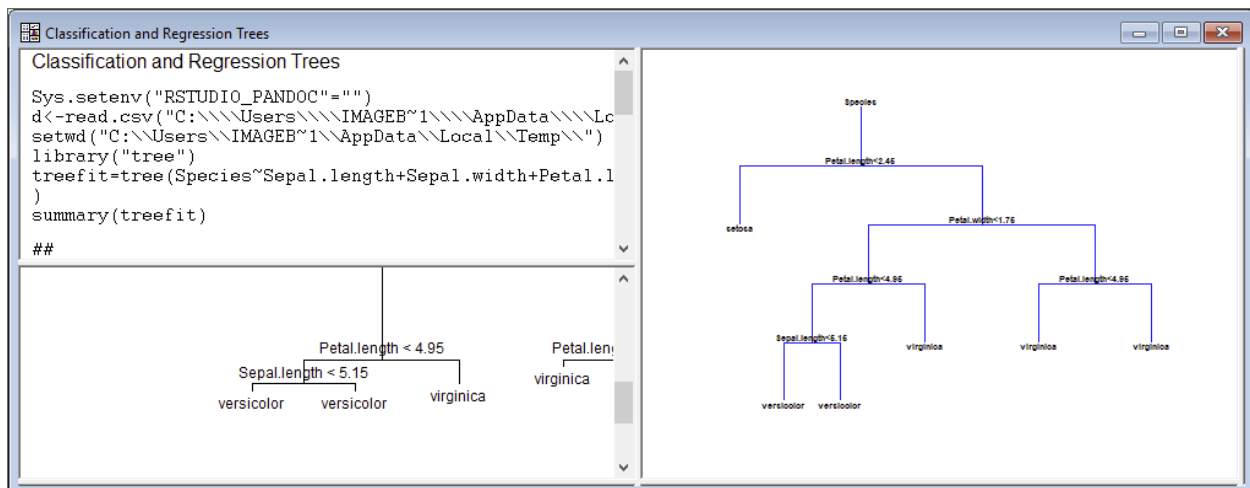
[+ Create](#) [Switch to classic](#)
[Reservations](#) [Manage view](#) [Refresh](#) [Export to CSV](#) [Open query](#) | [Assign tags](#) [Start](#) [Restart](#) [Stop](#) [Delete](#) ...

Filter for any field...
 Subscription equals **Azure subscription 1**
 Type equals **all**
 Resource group equals **all** ×
 Location equals **all** ×
 [Add filter](#)

No grouping [List view](#)

<input type="checkbox"/> Name ↑↓	Type ↑↓	Subscription ↑↓	Resource group ↑↓	Location ↑↓	Status ↑↓	Operating system ↑↓	Size ↑↓
<input type="checkbox"/> DC1-2022	Virtual machine	Azure subscription 1	StatgraphicsResources	East US 2	Stopped (deallocated)	Windows	Standard_D2s_v3
<input type="checkbox"/> SG-0	Virtual machine	Azure subscription 1	SGResources	East US 2	Running	Windows	Standard_D2s_v3
<input type="checkbox"/> SG-1	Virtual machine	Azure subscription 1	SGRESOURCES	East US 2	Running	Windows	Standard_D2s_v3
<input type="checkbox"/> wvd-apps-0	Virtual machine	Azure subscription 1	StatgraphicsResources	East US 2	Stopped (deallocated)	Windows	Standard_D2s_v3
<input type="checkbox"/> wvd-apps-1	Virtual machine	Azure subscription 1	StatgraphicsResources	East US 2	Stopped (deallocated)	Windows	Standard_D2s_v3

Wait a few minutes for the VMs to reboot. Then log into your virtual machine again and go to your virtual desktop. Click on the Statgraphics icon to reload it. You can test the installation by going to *File* on the main Statgraphics menu and selecting *Examples – StatFolios*. Select the StatFolio file named *trees1* and open it. It should create the following analysis window:

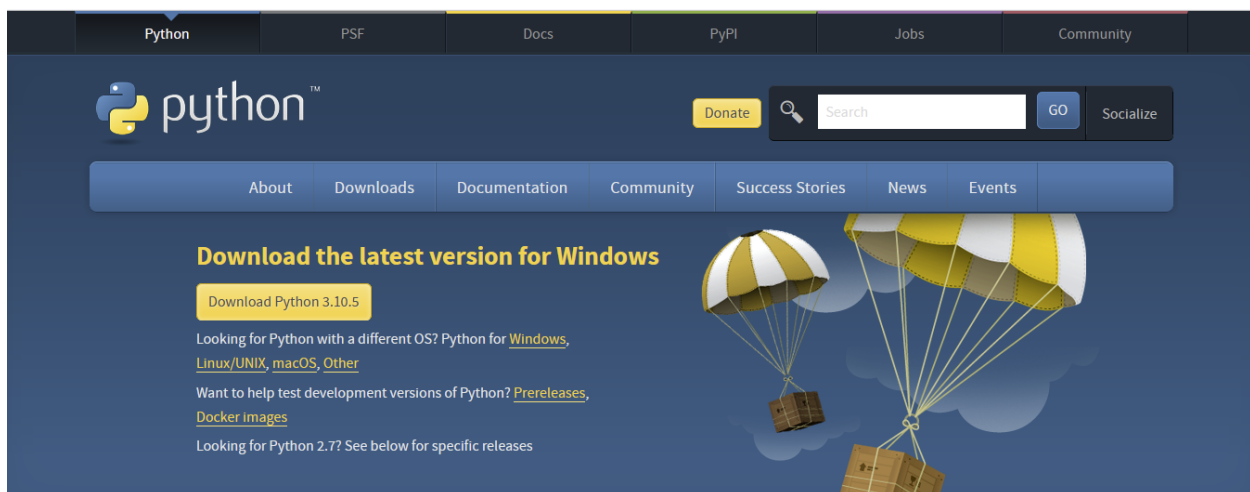


Step 16: Install Python

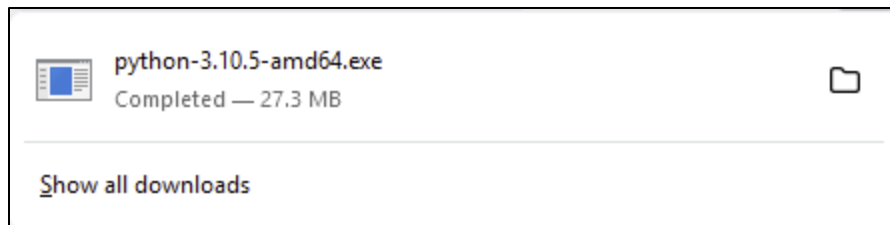
Several procedures such as *K-Means Clustering* and *Support Vector Machines* require that Python be installed together with Statgraphics. Python is a free computing environment that may be downloaded over the internet. Because of Azure security restrictions, you will have to install Python outside of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

<https://www.python.org/downloads>

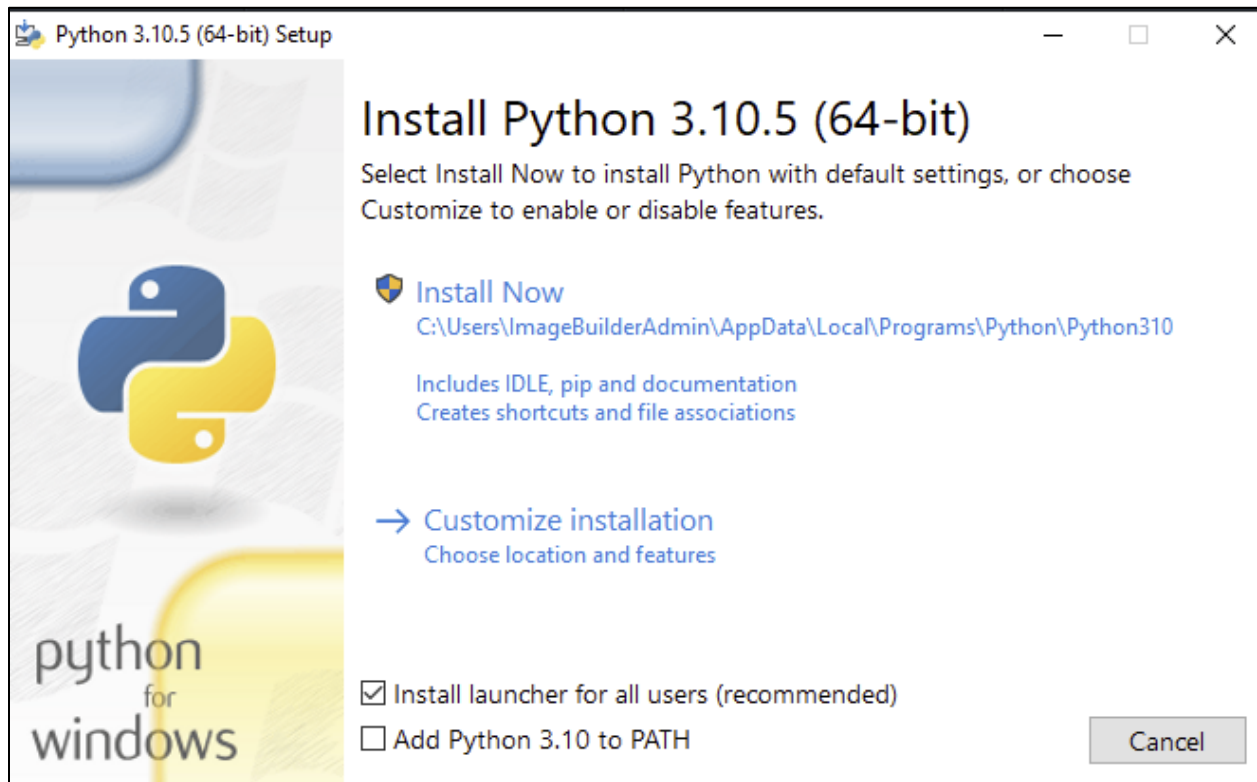
This displays the following web page:



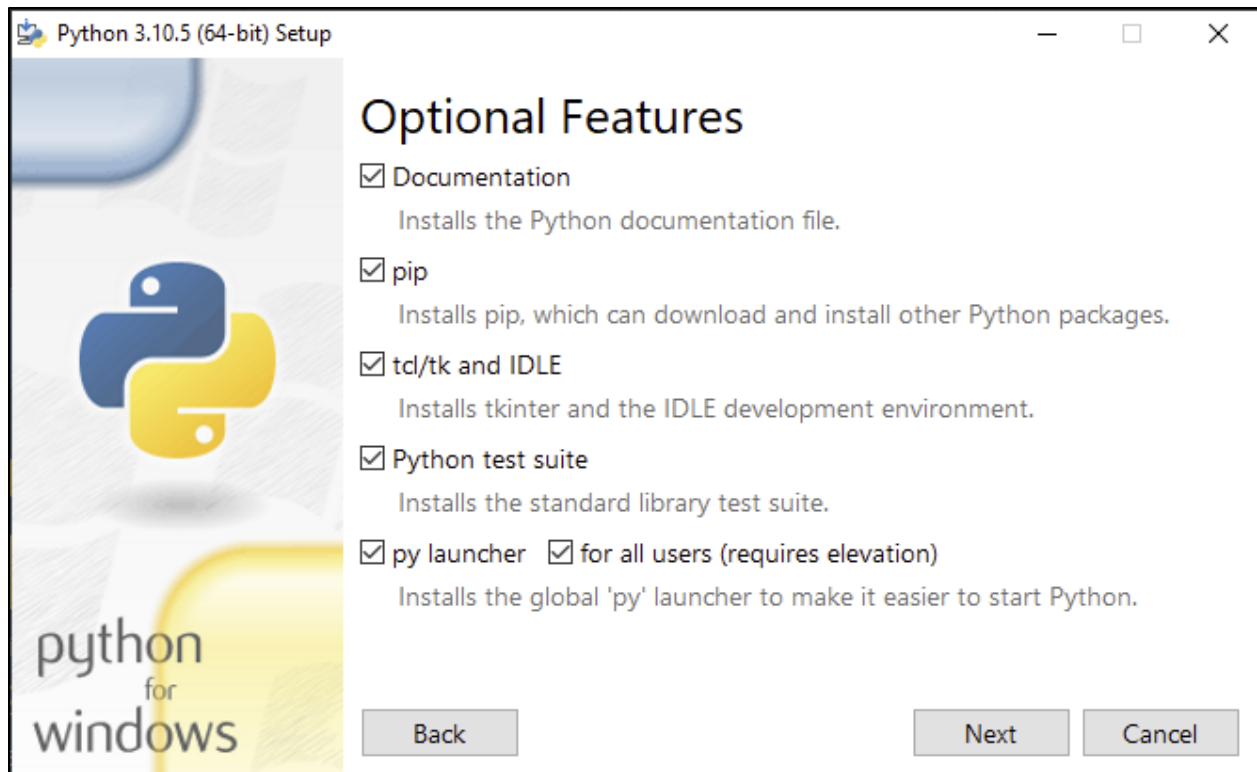
Click on *Download Python 3.10.5* or whatever the latest version is. When the download is complete, you will see a message similar to:



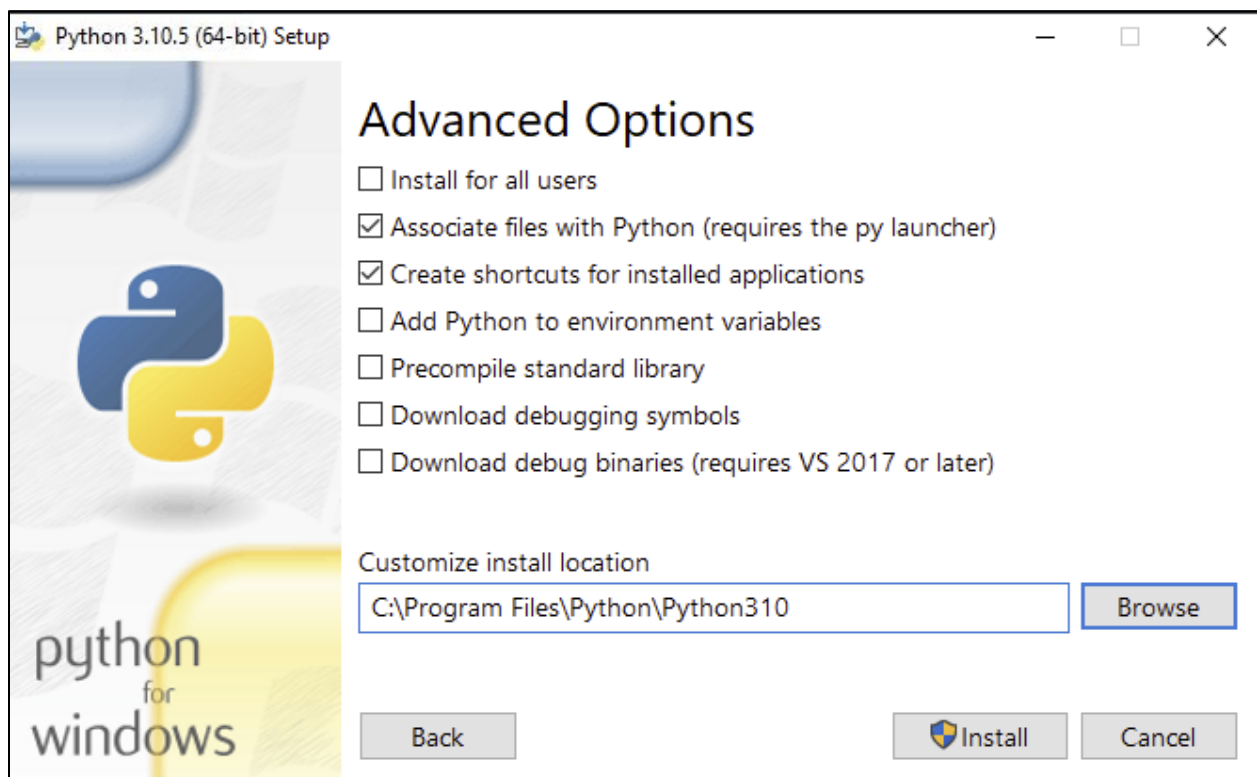
Click on *python-3.10.5-amd64.exe*. When the installation begins, the following dialog box will be displayed:



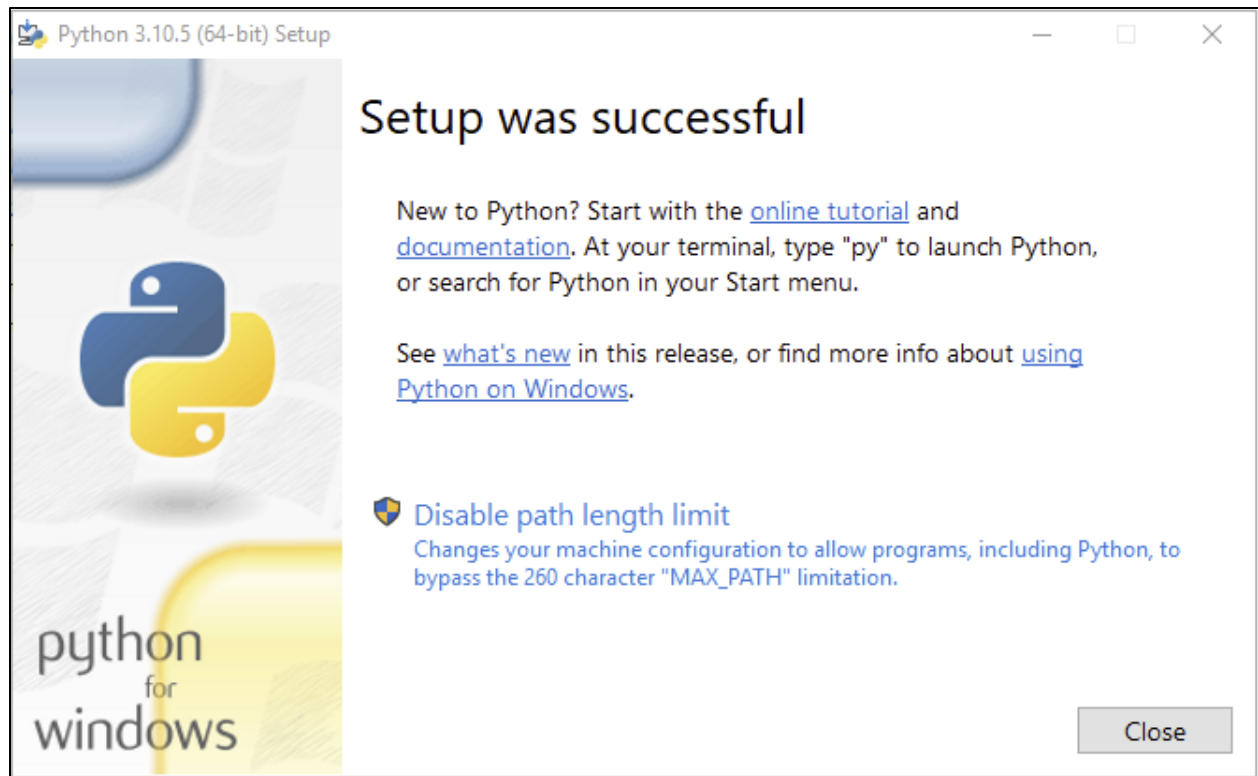
Be sure to click on *Customize installation* so that Python can be installed in a shared location. On the next dialog box, select all of the options and click on *Next*:



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

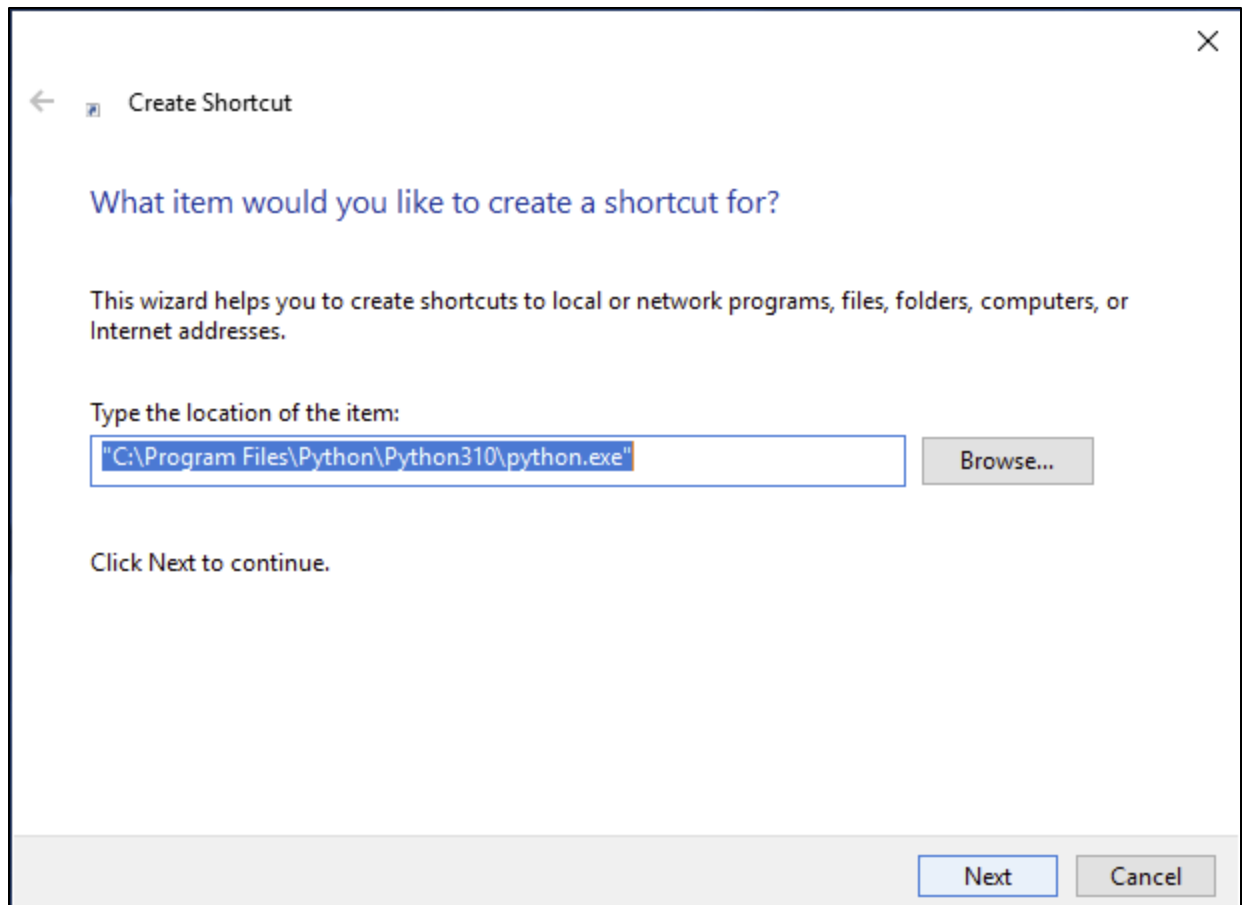


Then press *Install*. When the installation is complete, you will see:

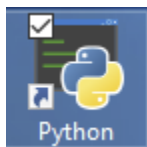


Note: if installation fails, you may have to exit your browser, go to File Explorer, right-click on the downloaded msi file and select *Run as administrator*.

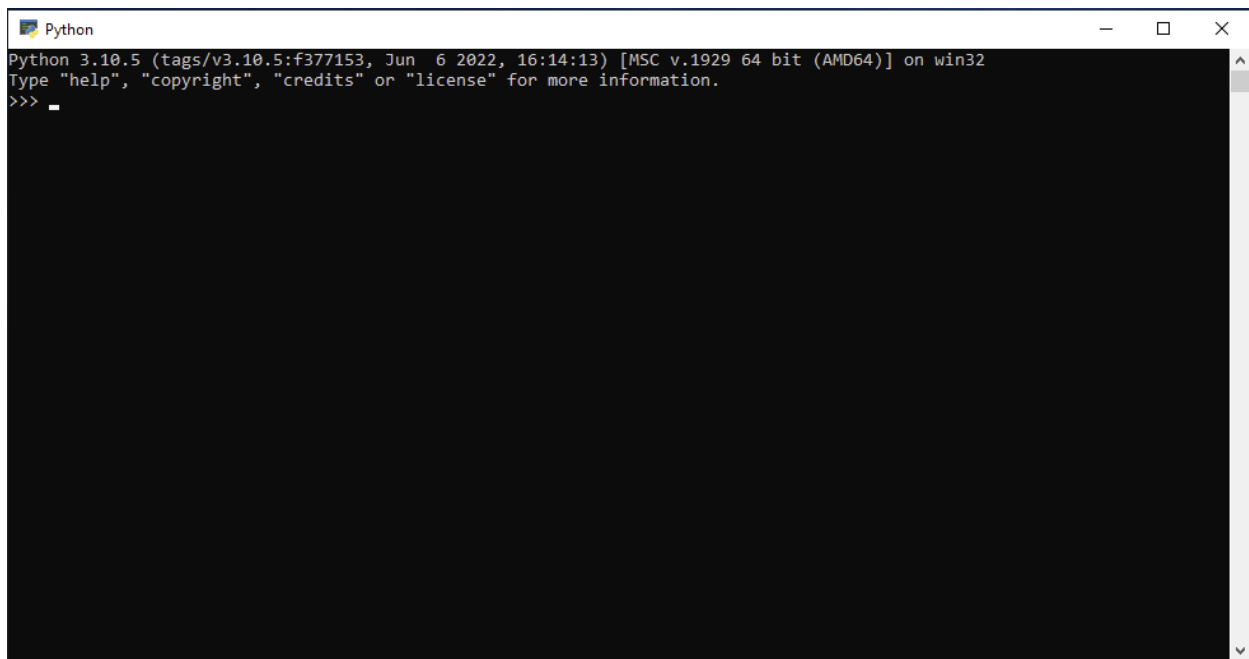
Now return to your desktop. Click anywhere on your desktop with the right mouse button and select *Create Shortcut*. Click on *Browse* and locate the installed Python executable:



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

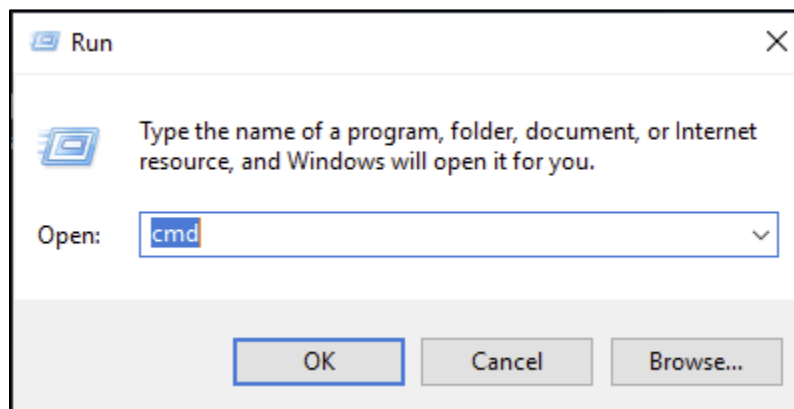


Now click on that shortcut to ensure that Python is properly installed. If it is, the following Python window will open:

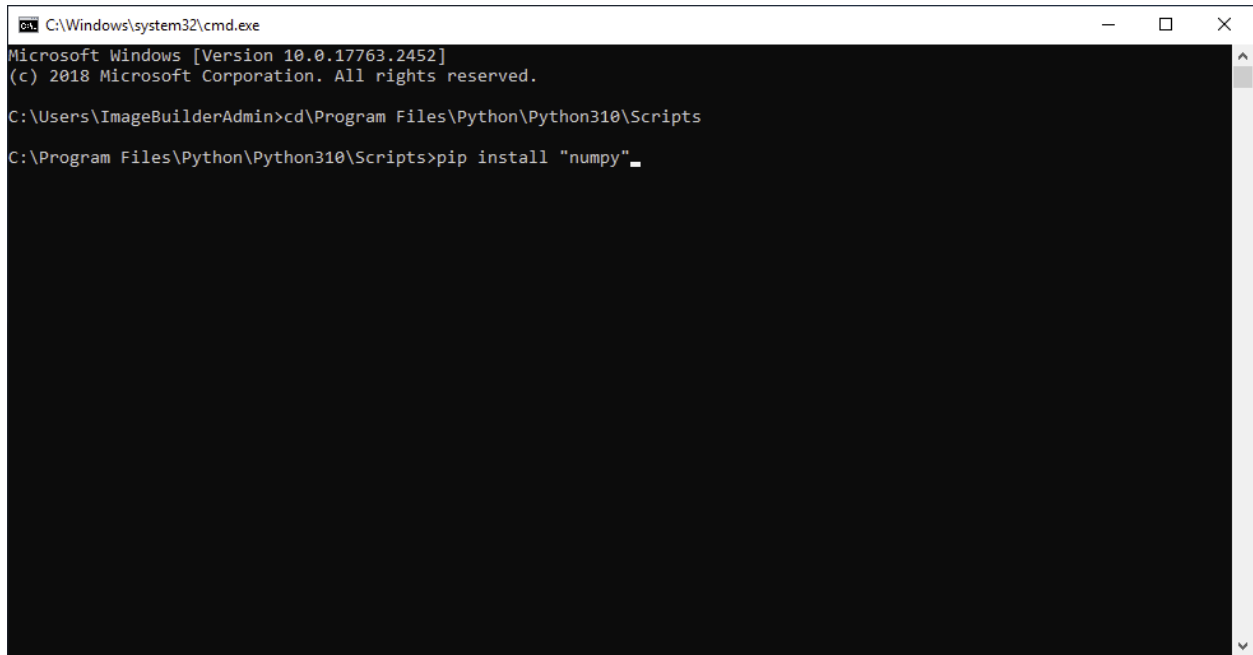
A screenshot of a Python 3.10.5 shell window. The title bar says "Python". The text inside the window reads: "Python 3.10.5 (tags/v3.10.5:f377153, Jun 6 2022, 16:14:13) [MSC v.1929 64 bit (AMD64)] on win32", "Type 'help', 'copyright', 'credits' or 'license' for more information.", and a prompt ">>> " followed by a cursor. The background of the shell is black.

```
Python
Python 3.10.5 (tags/v3.10.5:f377153, Jun 6 2022, 16:14:13) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> _
```

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:

A screenshot of a Windows Command Prompt window. The title bar shows 'C:\Windows\system32\cmd.exe'. The window content displays the following text: 'Microsoft Windows [Version 10.0.17763.2452] (c) 2018 Microsoft Corporation. All rights reserved. C:\Users\ImageBuilderAdmin>cd\Program Files\Python\Python310\Scripts C:\Program Files\Python\Python310\Scripts>pip install "numpy"'. The command prompt is currently at the end of the 'pip install "numpy"' command.

```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 10.0.17763.2452]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\ImageBuilderAdmin>cd\Program Files\Python\Python310\Scripts
C:\Program Files\Python\Python310\Scripts>pip install "numpy"
```

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 VM 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:

Python - Installation and Configuration

1. To install Python, click one of the 'Download' links on the Python website:

2. After installing Python, enter the path to python.exe in the field below:

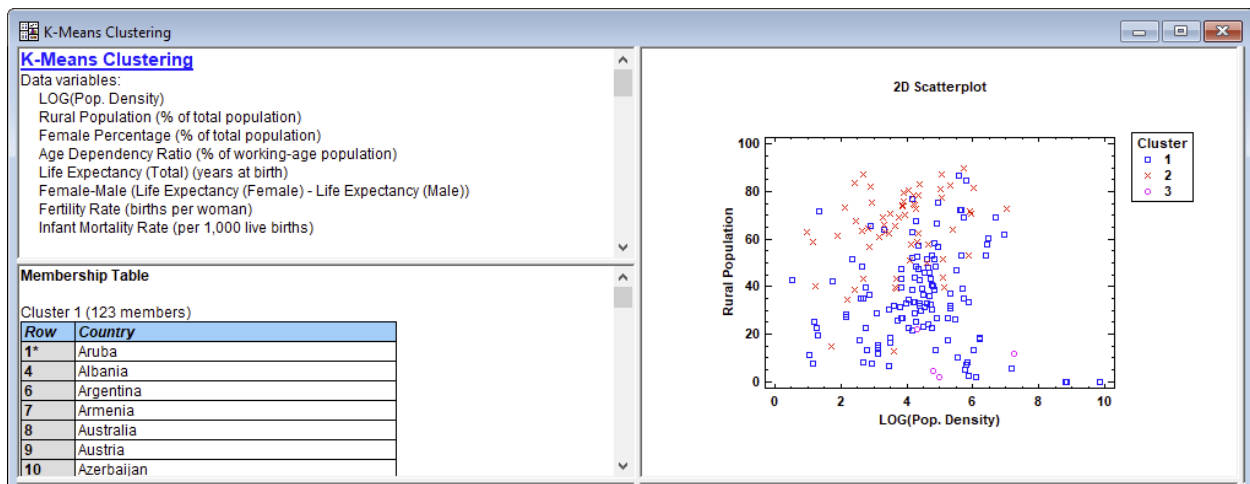
3. Set the maximum time to wait for Python to execute a set of commands: seconds

4. Install the Python modules for the procedures you want to use by clicking the buttons below.

<input type="button" value="List installed modules"/>	
<input type="button" value="Install IPython,Jupyter,Numpy,Pandas,Scipy"/>	Required by all procedures.
<input type="button" value="Install Matplotlib"/>	Required for creating graphs
<input type="button" value="Install Scikit-learn"/>	For machine learning algorithms

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 *Examples – StatFolios*. Select the StatFolio file named *kmeans* and open it. It should create the following analysis window:



Step 17: Create applications group

Now go back to *Azure Virtual Desktop* and select our host pool again. Select *Applications Group* and click on *Create*. We will now create an application group called *Statgraphics*. Click on *Add applications* and search for *Statgraphics*.

Add application



Select an application from your start menu or add from a file path.

Application source *	<input type="text" value="Start menu"/>
Application *	<input type="text" value="Statgraphics 19 - X64"/>
Display name	<input type="text" value="Statgraphics 19 - X64"/>
Description	<input type="text"/>
Application path ⓘ	<input type="text" value="C:\Program Files\Statgraphics\Statgraphics Centurion..."/>
Icon path	<input type="text" value="C:\Windows\Installer\{5B108F51-31E8-41EF-A769-69..."/>
Icon index	<input type="text" value="0"/>
Require command line	<input checked="" type="radio"/> No <input type="radio"/> Yes

Save

Cancel

Click *Save*. Then click *Add assignments*. Select *Super User*. On the next screen, select *Yes* next to *Register workspace*. Take all of the other defaults and then *Create*.

Create an application group ...

Basics Applications Assignments Workspace Advanced Tags Review + create

Subscription * ⓘ Azure subscription 1

Resource group * ⓘ SGResources
[Create new](#)

Host pool ⓘ SGHostPool

Location ⓘ East US 2

i Metadata stored in same location as host pool

Application group type

RemoteApp application groups are where you can add applications. A Desktop application group will grant full desktop access.

Application group type * ⓘ ☒ RemoteApp ☐ Desktop

i A desktop App group already exists in the selected host pool and you can only create RemoteApp app groups. [Learn more](#)

Application group name * Statgraphics ✓

Step 18: Launch Statgraphics

To access the VM containing Statgraphics, open a browser and enter:

<https://rdweb.wvd.microsoft.com/arm/webclient/index.html>

When requested, enter the name of the superuser (or other user) and the associated password. You will then be presented with a web page displaying your workspace:



Click on the *Statgraphics* icon to start Statgraphics or on the *SessionDesktop* icon to launch the virtual desktop. If you launch the desktop, you'll see shortcuts to Statgraphics, R, and Python. You also see any other items that you have saved to the desktop in earlier sessions. These items are visible only to the user who created them.

