



BACPAC Data Portal User Guide

Version 2.0, March 2023

Prepared by the BACPAC Data Integration, Algorithm Development, and Operations
Management Center (DAC)

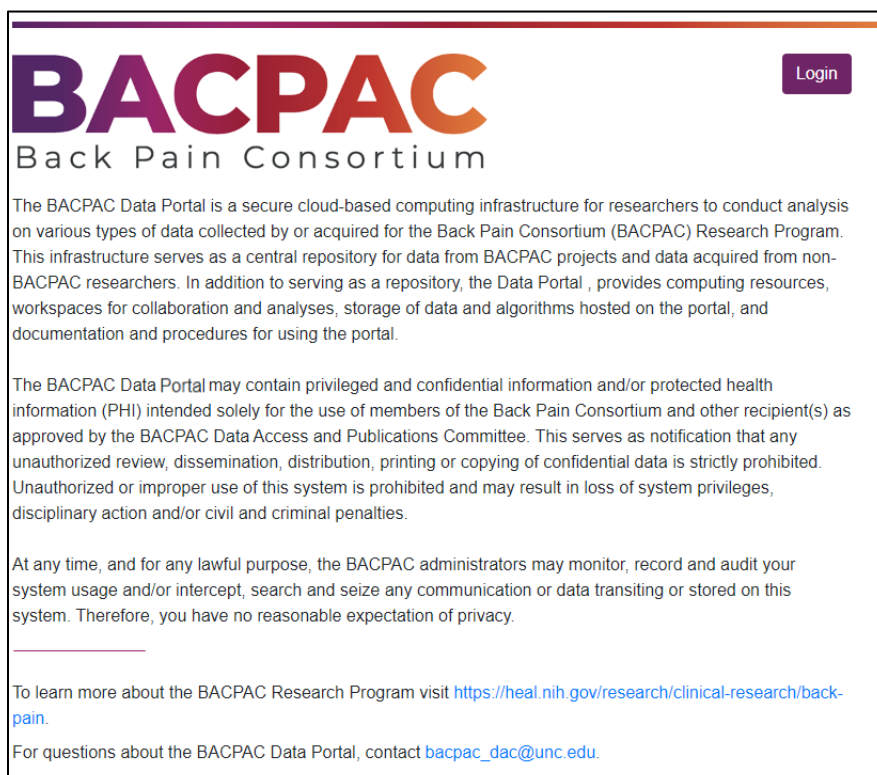
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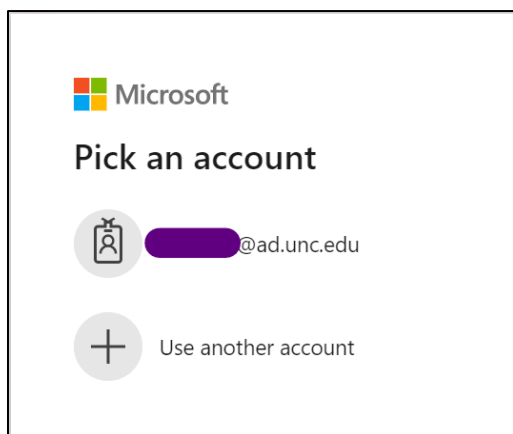
1. BACPAC Data Portal Overview

To access the BACPAC Data Portal, navigate to: <https://www.bacpacresearch.org/>.

The following page will be displayed. Follow the steps below to log into the BACPAC Data Portal.



- a. Click the login button.
- b. On the Microsoft login screen (see image below), choose the account you use to login to the BACPAC Research Consortium MS Teams site:



- c. You will be re-directed to your organization's login page. Once you complete the login process, the Home page of the BACPAC Data Portal will display.

1.1. Home

The Home page presents a summary of resources that you have access to. We will examine each of these resources using options on the left-hand menu.

BACPAC
Back Pain Consortium

Home
Computing Console
Projects
Browse Assets
My Workspace
Submit Asset

Home

Windows / 2 Core / 8 GB
TST-WIN-26 is Stopped

Start Delete

Status Last Updated: 2/1/2021 4:19:38 PM UTC ([update now](#))

Linux / 2 Core / 8 GB
TST-LIN-26 is Running
micam @10.y.y.y

Stop Restart Delete

Status Last Updated: 2/1/2021 4:38:42 PM UTC ([update now](#))

My Projects

Name	Sites
Theoretical Model	UNC

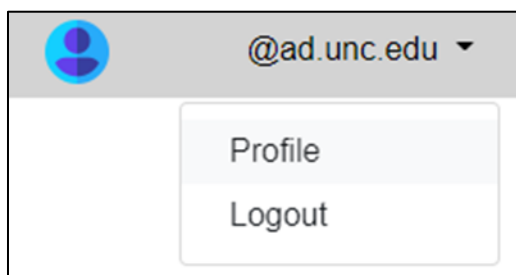
workspace

Collaborating Projects

Name	Owner	Sites
Clinician Treatment Preference Questionnaire	Ward, Patrick at UNC	UNC

workspace

- To access information about your account, click your name in the top right-hand corner of the screen.





- b. Select "Profile" to display a screen similar to this:

My Account

Name	Bryan, Hope E
E-mail	@ad.unc.edu
Site	UNC
Member Since	2020-09-18

Computing Console Login Credentials



Username	hopeb	@bacpacresearch.oi	
Password		

1.2. Browse Assets

The Browse Assets page lists datasets and program code which are available for use in the portal. All datasets are read-only. These datasets are sometimes referred to as "canonical data". These datasets cannot be modified by users in the portal.

The screenshot shows the 'Browse Assets' interface. At the top, there are search filters: a text input with '-test01', a dropdown for 'Any Asset Type', a dropdown for 'Any Access', a dropdown for 'Any Site', and a dropdown for 'Any Request State'. Below these are 'Reset' and 'Search' buttons. The main area displays a list of three assets, each with an icon (a database cylinder for data, a code editor for code), a green checkmark, and the following details:

Asset Name	ID	Description	by	Request State
20210317-1124-test01	20210317-1124-test01	Description: 20210317-1124-test01	UNC 2021-03-17	Accepted
20210317-1058-test01	20210317-1058-test01	Description: 20210317-1058-test01	UNC 2021-03-17	Accepted
20210317-1057-test01	20210317-1057-test01	Description: 20210317-1057-test01	UNC 2021-03-17	Accepted

This page shows identifying information about the asset (Note: the icon indicates whether the asset is data  or code ) , the dataset name and description, the site which owns the asset and the access you have.

Your access to the asset is shown. It can be:

- None – meaning you do not have access to the asset and cannot use the asset for analysis.
- Site – meaning you have access to use the asset because it was produced by your research site.
- Submission – meaning you have access to use the asset because you submitted the asset to the BACPAC Data Portal for your research site.
- Project – meaning you have access to use the asset because you were granted access via the request process.

The asset request state or status is also shown to the right. It can be:

- Awaiting Submission – A new "Large File" asset submission was initiated, but the submission has not been marked as "Complete" by the submitter.
- Pending Approval – A new asset has been submitted to the BACPAC Data Portal and is under DAC review.
- Accepted – The asset and any new versions of the asset have been fully reviewed and approved by the DAC for use on the BACPAC Data Portal. Accepted assets are available to approved users from within their virtual machines.
- Awaiting Version Submission – The submission of a new version for an existing asset was initiated via the "Large File" submission mechanism, but the new version submission has not been marked as "Complete" by the submitter. Previously approved

versions of the asset are still available for use by approved users from within their virtual machines.


- Pending Version Approval – A new version of an existing asset has been submitted to the BACPAC Data Portal and is under DAC review. Previously approved versions of the asset are still available for use by approved users from within their virtual machines.


Any datasets to which you have access will be included in drives mapped on the virtual machines you create in the portal.


Note the search boxes at the top of the page. You can filter the display of assets on the page by asset type, your access status, the [research] site who owns the asset, asset status/request state, or by an ad-hoc search string.

You can request access to data through the data access and publication request process in the BACPAC Research Consortium General channel on Microsoft Teams. At the top of the General channel, the tab called "BACPAC Data Access and Publication Request Submission" includes instructions on how to submit a request and a link to download the request form.

From the "Browse Assets" page, users can click on a specific asset to view more details about the asset, including initial date created, the user who submitted the initial asset, the asset description, associated projects, and the asset version history.


Browse -> Simulated BACPAC Minimum Dataset 

 You have access to this asset

Name	Simulated BACPAC Minimum Dataset		
Identifier	min-data-sim		
Status	 Accepted		
Site	UNC		
Type	Data		
Created	2021-02-12		
Submitter	McCumber, Micah <	unc.edu>	
Description	BACPAC Minimum Dataset documentation and datasets.		

My Projects With Access

Name	Role
Clinician Treatment Preference Questionnaire	Collaborator

Versions 

Version	Rationale	Date of Snapshot	Windows Mount Path	Linux Mount Path
1	Testing PRO folder upload.	2021-02-12	c:\mnt\containers\canonical\UNC\min-data-sim.	/mnt/containers/canonical/UNC/min-data-sim

Advanced Search

Advanced Search criteria can be specified by clicking the “Advanced Criteria” Button. This allows users to search “meta-data” associated with each data set. Although this meta-data varies from set to set, typically searchable are things like the columns in the data set and their unique values and ranges.

Advanced Criteria

Condition Set 1

greater

greater than: Search for assets for which a property or column value is greater than a number. Supported property types: NUMERIC.

+ Criteria

+ Condition Set

[Click here for search instructions](#)


Reset

Search


Click the “+ Condition Set” link to add more conditions. All conditions must be true for a data set to match.


Selecting a predicate will bring up documentation as to the behavior of the predicate.

Submitting a New Version of an Approved Asset

New versions of an approved asset are submitted via the detailed asset page, NOT from the "Submit Asset" page. To submit a new version, the submitter will click the  next to "Versions" and complete the displayed form.

Browse -> Simulated BACPAC Minimum Dataset

 You have access to this asset

Name	Simulated BACPAC Minimum Dataset		
Identifier	min-data-sim		
Status	 Accepted		
Site	UNC		
Type	Data		
Created	2021-02-12		
Submitter	McCumber, Micah <	@ad.unc.edu>	
Description	BACPAC Minimum Dataset documentation and datasets.		

My Projects With Access

Name	Role
Clinician Treatment Preference Questionnaire	Collaborator

Versions

Upload Type

Choose 'Large File' if your asset is greater in size than 1 GB or your asset contains multiple files to upload.

Archive File

A single file containing the asset data.

Date of Snapshot

Date the asset was extracted from source (e.g., date the submitted data were extracted from the study database).


Rationale

Description of why a new version of the asset is being submitted to the data portal.

☒ Standard

☐ Large File

Choose file

mm/dd/yyyy 

Version	Rationale	Date of Snapshot	Windows Mount Path	Linux Mount Path
1	Testing PRO folder upload.	2021-02-12	c:\mnt\containers\canonical\UNC\min-data-sim.	/mnt/containers/canonical/UNC/min-data-sim

The form and process are similar to submitting a new asset (section 1.6), but the asset name and description are not required as those were assigned at the time of the initial submission. Standard uploads are submitted by completing the fields in the form shown above. The Large File uploads of a new version of an asset are initiated by completing this form. Once the form is complete, click the "Submit" button. For "Large File" submissions, additional instructions will appear at the top of the screen with a unique link to submit your file(s) using Microsoft Azure Storage Explorer (see section 2).

1.3. My Workspace

The BACPAC Data Portal allocates a workspace for each user.


Browse User Workspace

My Personal Workspace

Mount Info



This workspace will be mounted in Windows VMs at C:\mnt and in Linux VMs at /mnt/.





Contents



Reminder: Users are expressly prohibited from downloading study data from the BACPAC Data Portal. This includes any and all patient-level data regardless of whether the data has been deidentified by the user. Users are permitted to download program code and summary results (e.g., summary tables, graphical displays, etc.) from the BACPAC Data Portal. By requesting access to the BACPAC Data Portal, users agree to adhere to this policy. Any violations of this policy may result in permanent revocation of a user's access.

Location: (root)





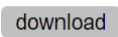
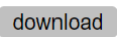

Name	Size	Last Modified	
 nnnn	-	9/28/2020 3:29:18 PM UTC	
 project 1	-	9/29/2020 12:29:24 PM UTC	
 DacClient.java	3.2 KB	9/29/2020 12:28:48 PM UTC	

The User Workspace comprises read / write file space accessible only to the user.

The workspace can be used for analysis output, logs, code, documents, or other files a user requires.

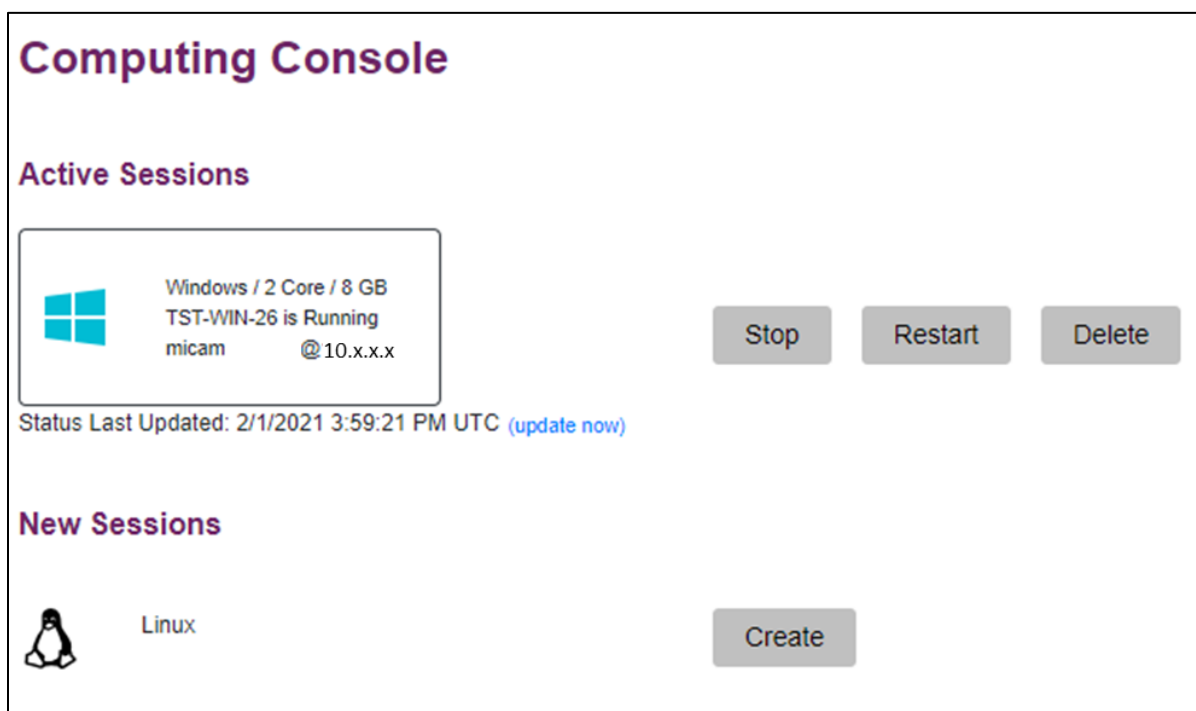
However, **it is forbidden to download study data from the BACPAC Data Portal**. This warning is prominently displayed on the User Workspace page. While the portal cannot prevent the download of study data, all file downloads are logged. The logs are scanned and the portal administrators are notified of any suspicious or prohibited activity.

From the user workspace page, you can create new directories and upload or download files.

- Click the  icon to add a new folder.
- Click the  icon to upload a file.
- Click the  icon to download a file. The  icon is displayed only for files, not for directories.
- To go into a directory to display its files, click the directory name.
- To navigate up the directory structure, click the "Location" links: 

1.4. Computing Console

The "Computing Console" page allows you to create, manage and access virtual machines (VMs) for data analysis.



Virtual machines will be in one of several states:

- Not yet created
- Creating
- Running
- Stopping
- Stopped

To create a new VM, click the "Create" button. **The creation process may take several minutes.** Refresh the page; when it is created its status will be "Running".

Active (running) sessions can be stopped, restarted or deleted.


- Stopping a VM keeps the VM instance but stops it from consuming resources.
- Restarting the VM starts a stopped VM and prepares it for your use.
- Deleting a VM stops the running VM and removes it from your account. To use it again you will have to create it again.


In the example screenshot above, a Windows VM has been created and is running and ready to be used for analysis. A Linux VM is not yet created.

It is good practice to **stop a VM once analysis programs are finished and you have logged out of the session**. This saves resources and reduces cost.

The VMs you create are accessible to you only. Once created, they exist until you delete them. Click the box describing the Windows VM. A detailed view of the running Windows VM is shown.

Computing Console -> Windows VM

Status: Running 



Windows / 2 Core / 8 GB
TST-WIN-26 is Running
micam @10.x.x.x

Stop

Restart

Delete

Status Last Updated: 2/1/2021 3:59:21 PM UTC ([update now](#))

Virtual Machine Connection Instructions

Windows Virtual Desktop

Connect




[Instructions](#)

IP Address10.x.x.x

Remote Desktop

micam

.....



Workspace Instructions

Your personal workspace and project workspaces will be available (for read and write) at C:\mnt in your VM.

The "Workspace Instructions" at the bottom of the detailed VM page provides the mount location of your personal and project workspaces to which you have access. In addition to these, you will have read access to any canonical data you have been granted.

- You have access to any data from your research site.
- You also have access to any canonical data used for projects on which you collaborate.

To run data analyses, connect to the VM, open a remote desktop or command line session and you will have access to the software installed on the VM.

- If you have problems accessing a running VM, stop the VM and restart it.
- If that does not solve the problem, delete the VM and recreate it.

Step-by-step instructions for logging into Windows and Linux VMs are provided in section 2.

Instructions for using the Linux and Windows VMs, including accessing data, using provided software, and writing and sharing output results and code are provided in section 4.

1.5. Projects

The Projects page lists all the projects you are working on, both your own and those on which you are collaborating with other researchers.

Projects

My Projects

Name	Sites	
Cleveland Clinic Covid Clinical Trial (CCCC)	UNC	workspace

Collaborating Projects

Name	Owner	Sites	
BACPAC Test Project-1	Chowdary, Sunchu at UNC	UNC	workspace
UNC Asthma Study	Carl Smalley at UNC	UNC	workspace
African Swallow Project	Carl Smalley at UNC	UNC, 3Cloud	workspace

Each project has an associated workspace where files related to the project can be written.

Click on "Project Name" to display the project details.

Projects -> UNC Asthma Study

UNC Asthma Study
M Psioda
2020-09-29

Owner
Carl Smalley ([@ad.unc.edu](#))

Description
New study on 200 asthma drugs.

Collaborators

Name	E-mail Address	Site
Bryan, Hope	@ad.unc.edu	UNC

Assets

Name	Site	Identifier
test_data	UNC	test_data


Click on the "Workspace" button associated with a project to display the project details.

UNC Asthma Study -> Browse Workspace

Mount Info



This workspace will be mounted in Windows VMs at C:\mnt and in Linux VMs at /mnt/.


Contents



Reminder: Users are expressly prohibited from downloading study data from the BACPAC Data Portal. This includes any and all patient-level data regardless of whether the data has been deidentified by the user. Users are permitted to download program code and summary results (e.g., summary tables, graphical displays, etc.) from the BACPAC Data Portal. By requesting access to the BACPAC Data Portal, users agree to adhere to this policy. Any violations of this policy may result in permanent revocation of a user's access.

Location: (root)



Name	Size	Last Modified	
 file.zip	66.6 KB	10/21/2020 3:45:18 PM UTC	download

From the Project Workspace page, you can view, upload and download files associated with the project. Unlike User Workspaces, which are restricted to the single user, Project Workspaces can be used by all researchers collaborating on a project. This is the mechanism by which you share results, code and other project artifacts.

Note the warning on this page: **You are prohibited from downloading study data from the BACPAC Data Portal.** While it is possible to output an entire canonical dataset to a project or user workspace where it can be downloaded, that violates the portal user agreement. Such downloads will be recorded in the system logs so any violation will be detected.

1.6. Submit Asset (*New Assets Only*)

Some users have the ability to submit assets to the BACPAC Data Portal. Assets comprise study (canonical) data and code useful in BACPAC study data analysis.

To submit a **NEW** asset, complete the form displayed below. The fields have short explanations that describe the information needed.

Standard uploads are limited to small, single files (e.g., an R program or single datafile with no documentation). Most asset submissions will be "Large File" uploads, which include all submissions with a single file greater than 1 GB or submissions with two or more files.

Once the form is complete, click the "Submit" button. For "Large File" submissions, additional instructions will appear at the top of the screen with a unique link to submit your file(s) using Microsoft Azure Storage Explorer (see section 2).

Submit Asset

Upload Type
Choose 'Large File' if your asset is greater in size than 1 GB or your asset contains multiple files to upload.

☒ Standard
☐ Large File

Asset Type

☐ Data
☐ Code

Archive File
A single file containing the asset data.

Asset Name
A human readable name. Spaces and punctuation are allowed.

Asset Identifier
A concise identifier used to refer to the asset within file paths. Uppercase, spaces, and punctuation are NOT allowed except for – (e.g., if the asset name is "UNC Survey Results 1" a good asset identifier may be "unc-survey-results-1").

Description
Visible by all data portal users. Include what's here, why it exists, and links to more information.

Rationale
Description of why the asset is being submitted to the data portal.

Once an asset is submitted and approved it will appear on the "Browse Assets" page as "Accepted". New versions of an approved asset can be submitted from the detailed asset page accessed via the "Browse Assets" page.

2. Submitting Assets using Large File Upload

In order to upload large files (e.g., any file which are larger than 1GB or any collection of files), BACPAC users should utilize the "Large File" upload feature of the BACPAC Data Portal.

New assets are submitted from the "Submit Asset" page (see section 1.6) and new versions of an existing asset are submitted from the "Browse Assets" > detailed asset page (see section 2). From both of these pages, users can select "Large File" as the upload type.

Note: Prior to utilizing the large asset upload feature, please download "[Azure Storage Explorer](#)" and contact the BACPAC DAC [bacpac_dac@unc.edu] to provide your IP address.

- a. Select the "**Large File**" radio button and fill out the remainder of the submission form.

Submit Asset

Upload Type
Choose 'Large File' if your asset is greater in size than 1 GB or your asset contains multiple files to upload.

☐ Standard
☒ Large File

Asset Type
☒ Data
☐ Code


Archive File
A single file containing the asset data.
Please use Storage Explorer to upload your file(s) after submitting this form.

Asset Name
A human readable name. Spaces and punctuation are allowed.

Asset Identifier
A concise identifier used to refer to the asset within file paths. Uppercase, spaces, and punctuation are NOT allowed except for – (e.g., if the asset name is "UNC Survey Results 1" a good asset identifier may be "unc-survey-results-1").

Description
Visible by all data portal users. Include what's here, why it exists, and links to more information.


Rationale
Description of why the asset is being submitted to the data portal.


- b. After clicking on "**Submit**", you will be presented with a link (i.e., SAS URI) at the top of the page, copy the entire SAS URI (e.g., from "https://..." onward) by clicking , the copy icon.

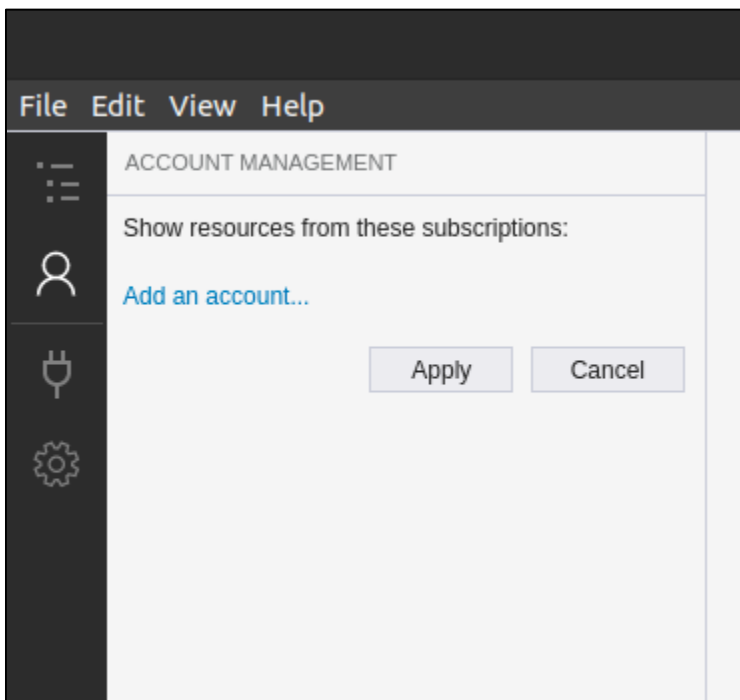
Submit Asset

Asset form has been successfully submitted.

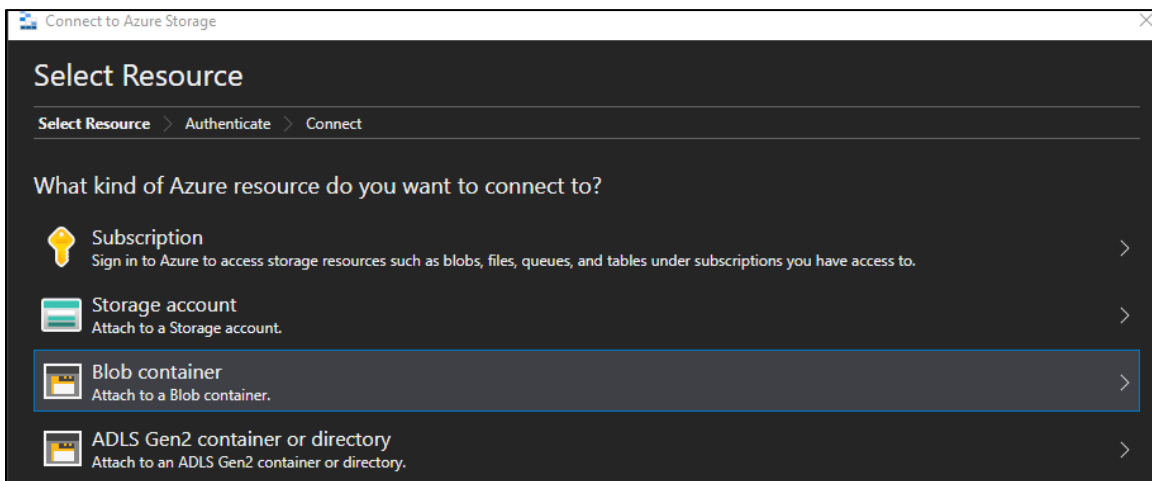
In order to complete the submission of the asset, please complete the following:

1. Open Storage Explorer and connect to the location:<https://bplargefileuploadst.blob.core.windows.net/202103231414-lu001?sv=2020-04-08&spr=https&se=2021-03-24T18%3A14%3A00Z&sig=8g%3D> 
2. Upload the files or folders that you wish to submit as a part of this asset
3. Confirm all submitted files and folders were successfully uploaded via Storage Explorer
4. Return to the BACPAC Data Portal > Browse Assets Page, select the [asset](#) and click 'Complete' to send the asset for final submission

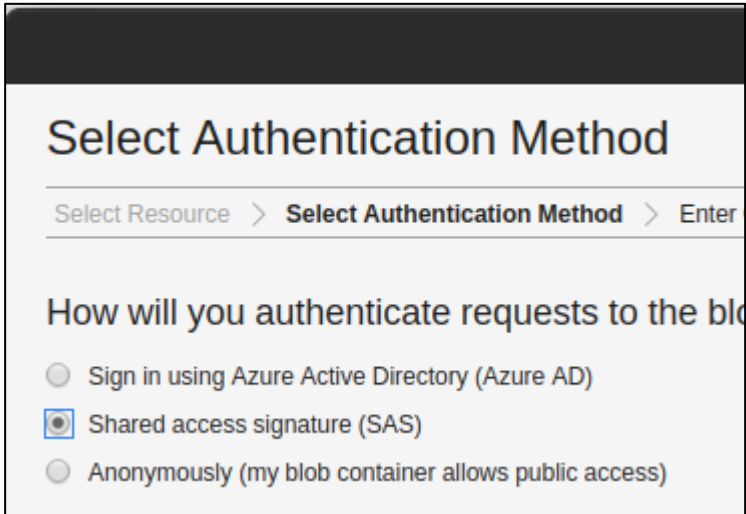
- c. Open Azure Storage Explorer, click , the "Open Connect Dialog" icon, on the left-hand side.



- d. In the resulting pop-up select "Blob container" as shown below.

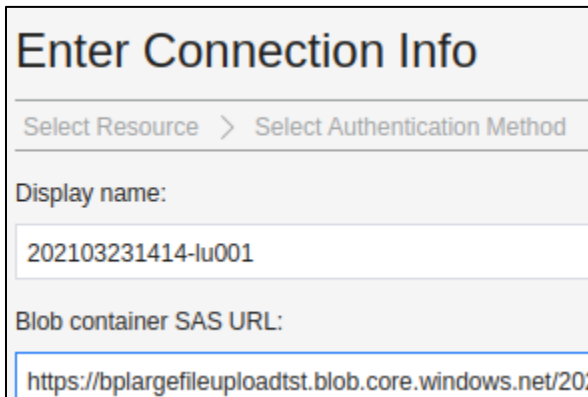


- e. In the resulting pop-up ("Select Authentication Method") select the "Shared access signature (SAS)" radio button.



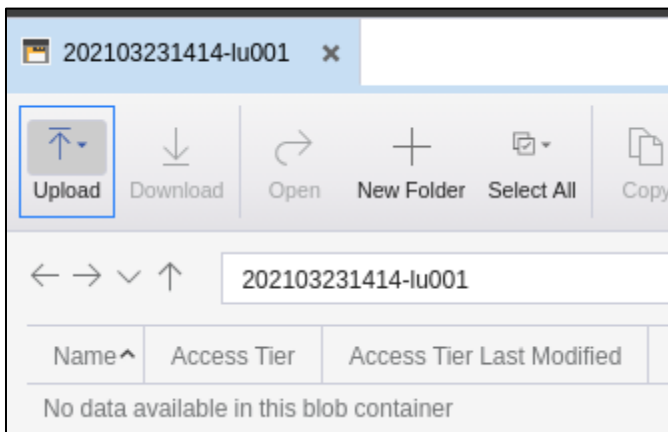
The dialog box is titled "Select Authentication Method". It has a breadcrumb trail: "Select Resource > Select Authentication Method > Enter". Below the title, it asks "How will you authenticate requests to the blob?". There are three radio button options: "Sign in using Azure Active Directory (Azure AD)", "Shared access signature (SAS)" (which is selected), and "Anonymously (my blob container allows public access)".

- f. Paste the SAS URI copied from the BACPAC Data Portal page in step b in the "Blob container SAS URL" box in the resulting pop up and click "**Next**".



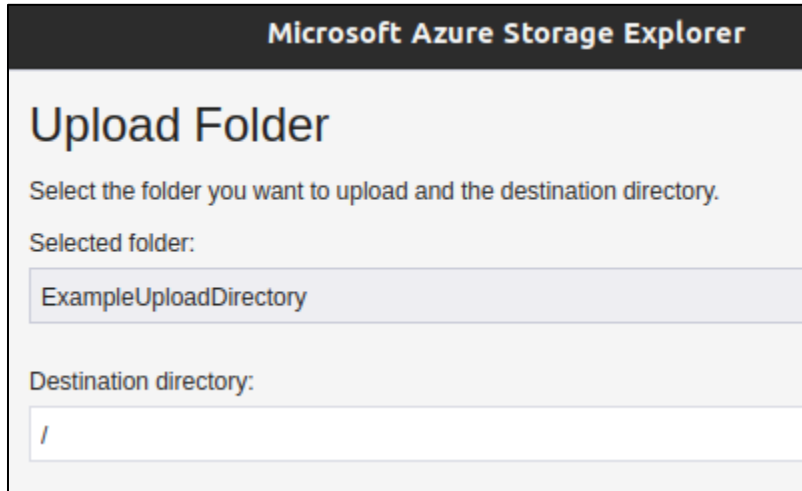
The dialog box is titled "Enter Connection Info". It has a breadcrumb trail: "Select Resource > Select Authentication Method". It contains two text input fields. The first is labeled "Display name:" and contains the text "202103231414-lu001". The second is labeled "Blob container SAS URL:" and contains the text "https://bplargefileuploadtst.blob.core.windows.net/202103231414-lu001".

- g. Click the "**Upload**" icon.



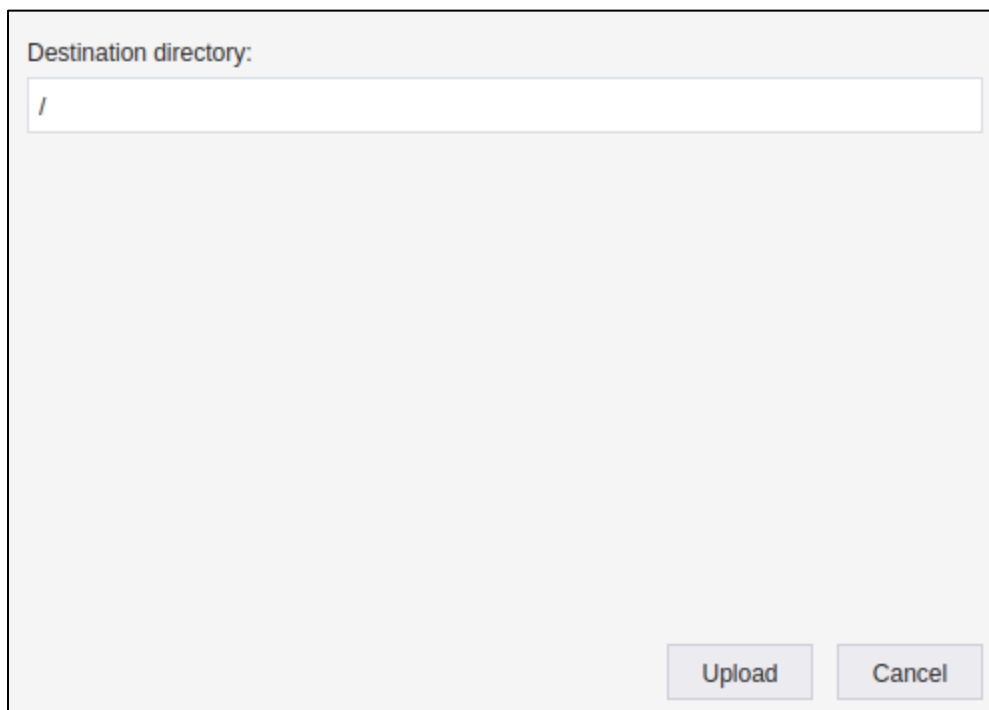
The image shows a File Explorer window with a single tab titled "202103231414-lu001". The ribbon at the top has several icons: "Upload" (highlighted with a blue box), "Download", "Open", "New Folder", "Select All", and "Copy". Below the ribbon is a navigation pane with a search bar containing "202103231414-lu001". The main area shows a table with columns "Name", "Access Tier", and "Access Tier Last Modified". The table is empty, and a message at the bottom states "No data available in this blob container".

- h. Select the folder or file that you would like to upload.



The screenshot shows the 'Microsoft Azure Storage Explorer' application window. The title bar is dark with the text 'Microsoft Azure Storage Explorer' in white. The main content area has a light gray background. At the top, the text 'Upload Folder' is displayed in a large, bold, black font. Below this, a smaller black font reads 'Select the folder you want to upload and the destination directory.' Underneath, the text 'Selected folder:' is followed by a text input field containing the text 'ExampleUploadDirectory'. Below that, the text 'Destination directory:' is followed by a text input field containing a single forward slash '/'. The dialog box has a standard Windows-style border.

- i. Select "**Upload**" at the bottom of the dialog box (**do NOT** adjust any other fields after selecting the folder to upload).



This screenshot is a close-up of the 'Upload Folder' dialog box. It shows the 'Destination directory:' label and the text input field containing '/'. Below the input field is a large, empty rectangular area. At the bottom right of the dialog box, there are two buttons: 'Upload' and 'Cancel'. The 'Upload' button is highlighted with a light blue border, indicating it is the focus of the instruction.

- j. Once the transfer has completed you must return to the BACPAC Data Portal and mark your asset upload as "Complete". *Note: This step is necessary in order to notify BACPAC staff that your asset is ready for review and approval; you may continue to upload related files or folders for this asset until you have marked the upload as completed*

(1)

Asset form has been successfully submitted.

1. Open Storage Explorer and connect to the location: <https://bplargefileuploadst.blob.core.windows.net/202103231414-lu001?sv=2020-04-08&spr=https&se=2021-03-24T18%3A14%3A00Z&sig=8g%3D>
2. Upload the files or folders that you wish to submit as a part of this asset
3. Confirm all submitted files and folders were successfully uploaded via Storage Explorer
4. Return to the BACPAC Data Portal > Browse Assets Page, select the **asset** and click 'Complete' to send the asset for final submission

(2)



Description: Collection of directories and files

The latest version of the asset is currently awaiting final submission. Once you have uploaded all files, click the button 'Mark Complete' to send your submission for review. If you need a new submission link, click the button 'New Submission Link'.

[Request New Link](#)

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3. Creating and Logging into Windows and Linux VMs

It is helpful to understand user accounts in the BACPAC Data Portal. Each user has two accounts; the first to log in to the BACPAC Data Portal and the second to access and log in to the virtual machines (VMs).

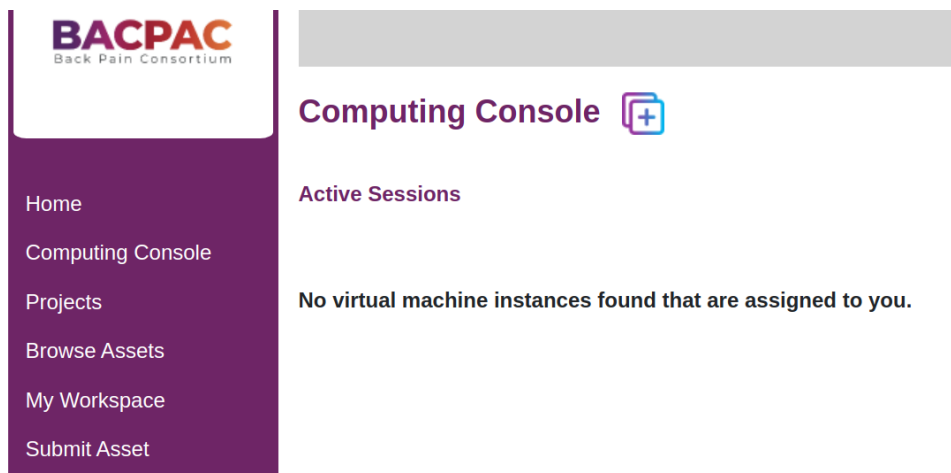
1. The account used to log in to the portal is the account to which the invitation to access the BACPAC Data Portal was sent. Most often, this will be the account you use to access MS Teams.
2. The account to access and log in to the VMs is provided when you create a VM within the BACPAC Data Portal. This second account is only used when accessing VMs from the portal. The account has the format:

user first name + last initial + 5 digits @ *bacpacresearch.org*

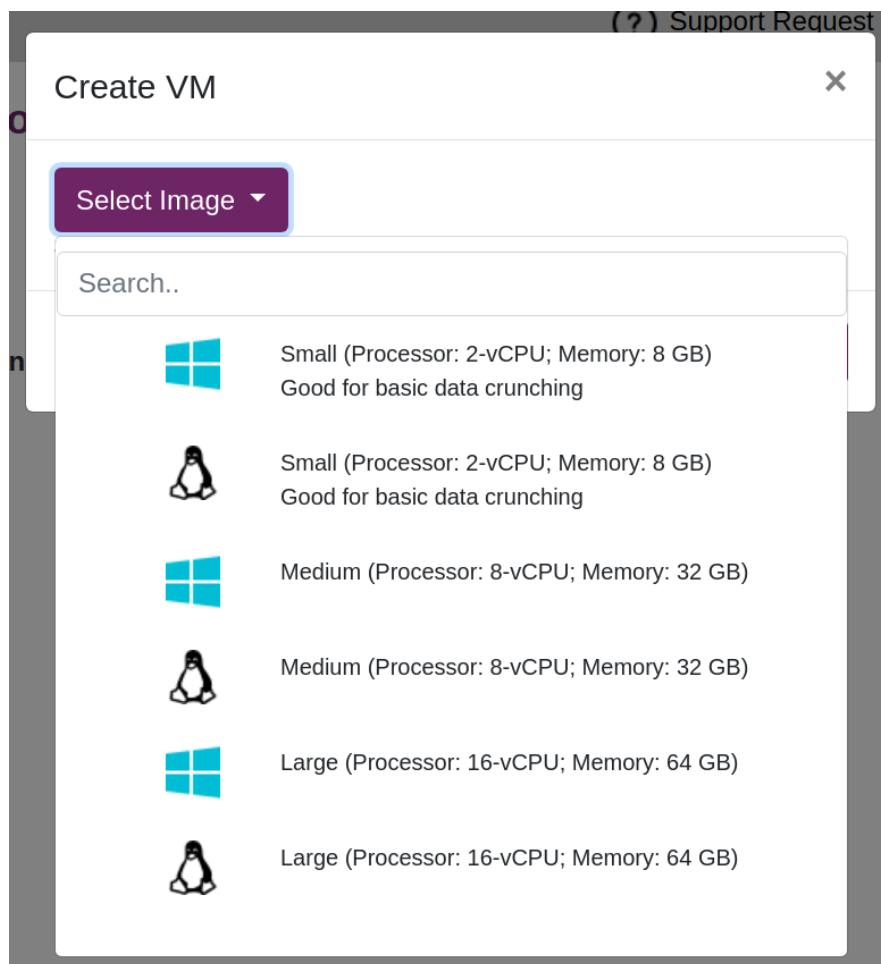
You will login to the VM using your assigned user name, which is the first part of the *bacpacresearch.org* account (user first name + last initial + 5 digits).

3.1. Creating Virtual Machines

Users have the option of creating Linux or Windows virtual machines in three sizes and may run up to 3 machines simultaneously. Initially, the user will have no machines when they visit their Computing Console page:



To create a virtual machine, click the “+” icon next to the text Computing Console. This will open a menu from which you can select your virtual machine type and size:



After selecting a machine and confirming, you will be directed to a page reporting the machine's status. After a few minutes it should (upon refresh) show something like this (for a Linux virtual machine).

The screenshot displays the BACPAC Computing Console interface. On the left is a purple sidebar with navigation links: Home, Computing Console, Projects, Browse Assets, My Workspace, and Submit Asset. The main content area is titled 'Computing Console -> Linux VM'. It shows the VM status as 'Running' with a green checkmark. Below this is a box containing the Linux penguin icon and text: 'Linux / 2 Core / 8 GB', 'PRD-LIN-19-S is Running', and 'vincentt51822@10.2.4.5'. To the right of this box are three buttons: 'Stop', 'Restart', and 'Delete'. Below the box, it says 'Status Last Updated: 2/14/2022 7:44:08 PM UTC' with a link to '(update now)'. A section titled 'Virtual Machine Connection Instructions' follows, showing 'Windows Virtual Desktop' with a 'Connect' button and a link to 'Instructions'. Below this, the 'IP Address' is listed as '10.2.4.5'. The 'SSH' section shows a text input field with 'vincentt51822', a password field with masked characters, and icons for copying and toggling password visibility.

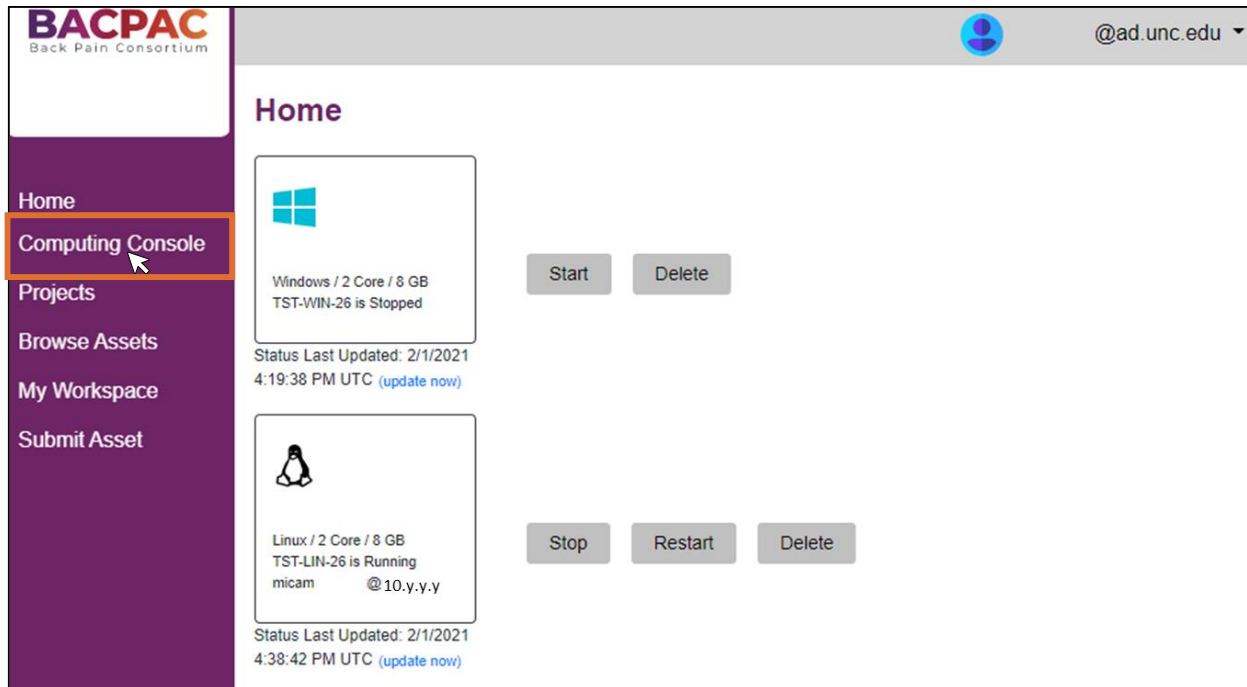
Virtual machines have a running cost. After you are finished with one, you can return to this page and press the “stop” button to shut the machine down until it is needed. The “delete” button will permanently delete the machine along with all the data on it (except that in your personal space, see Section 1.3).

3.2. Accessing a VM

All VMs must be accessed by first logging into the BACPAC Data Portal. Once in the portal, users will need to connect to a VM and enter their *bacpacresearch.org* credentials two times to successfully accessing their VM.

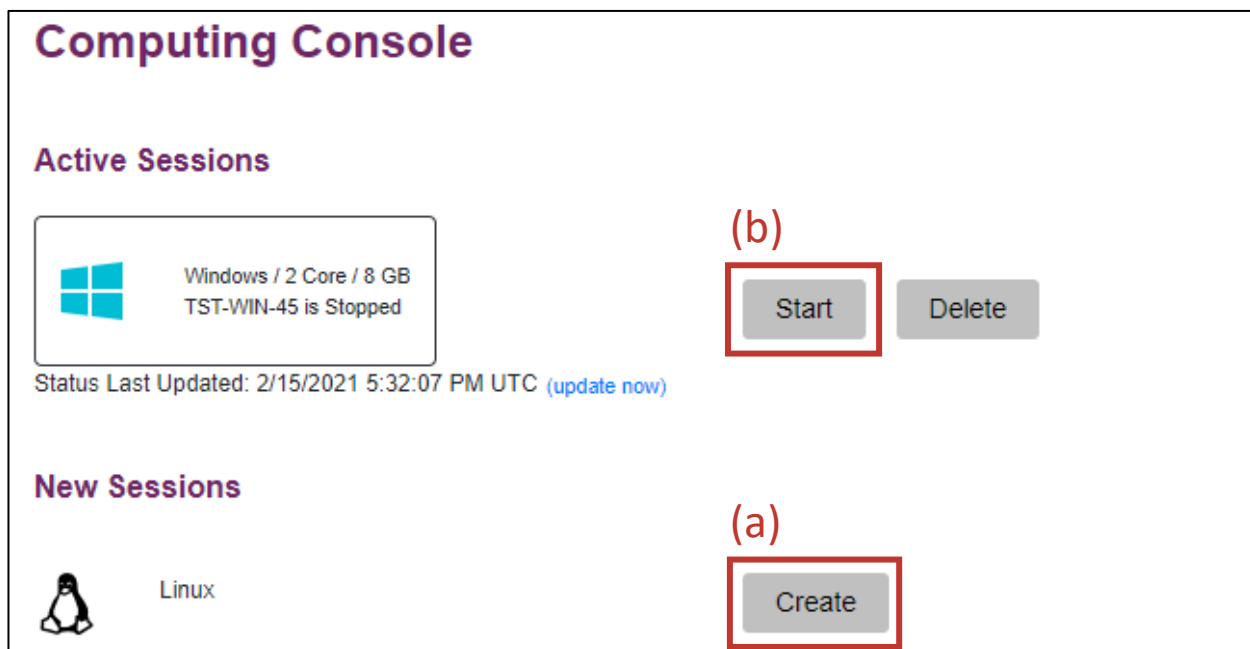
1. The first login is to access the Windows Virtual Desktop.
2. The second login is to access the user's specific VM.

Step A. Navigate to the Computing Console page to connect to a VM.



Once on the Computing Console page, you will need to confirm you have an active and running VM.

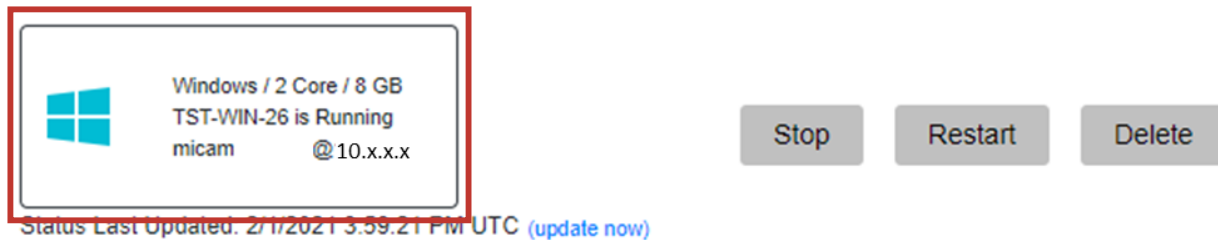
- (a) If you do not currently have an active session for your VM, then you need to click "Create" to start a new session as shown for the Linux VM below.
- (b) If you have an active session for your VM that is stopped, then you need to click "Start" as shown for the Windows VM below.



Step B. When you have an active VM that is running, then you will click the VM box to go to the detailed VM page as shown for the Windows VM below.

Computing Console

Active Sessions

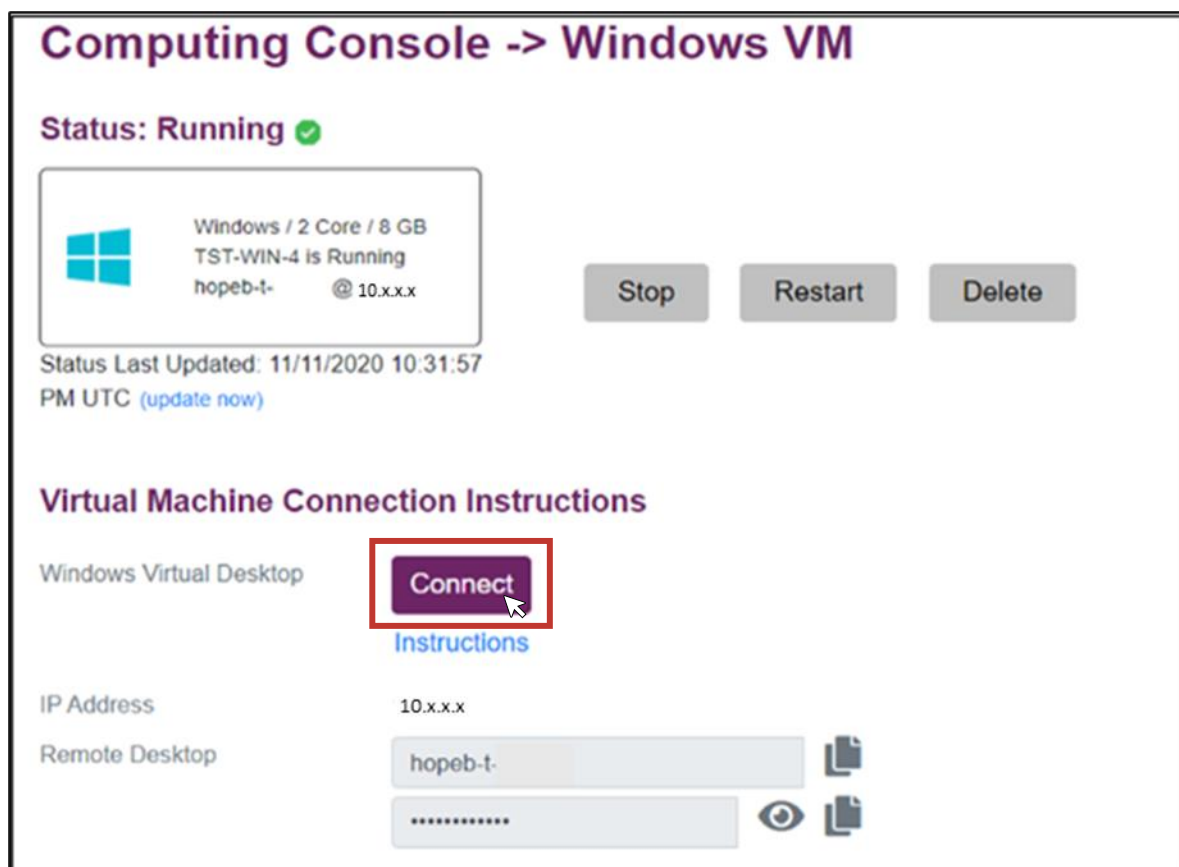


Windows / 2 Core / 8 GB
TST-WIN-26 is Running
micam @10.x.x.x

Stop Restart Delete

Status Last Updated: 2/1/2021 3:59:21 PM UTC ([update now](#))

Step C. To access a VM click "Connect" from the Computing Console -> Windows VM or Computing Console -> Linux VM pages.



Computing Console -> Windows VM

Status: Running ✓

Windows / 2 Core / 8 GB
TST-WIN-4 is Running
hopeb-t- @ 10.x.x.x

Stop Restart Delete

Status Last Updated: 11/11/2020 10:31:57 PM UTC ([update now](#))

Virtual Machine Connection Instructions

Windows Virtual Desktop

[Connect](#)

[Instructions](#)

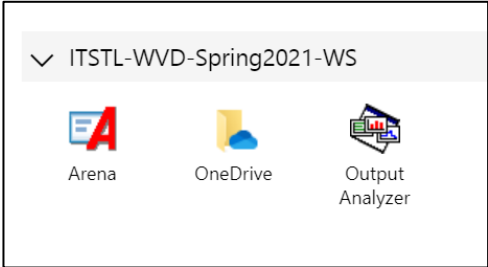
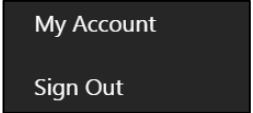
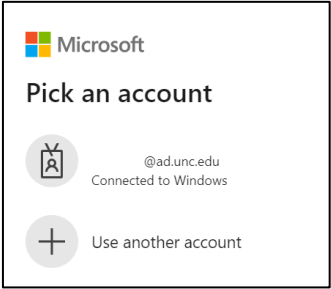
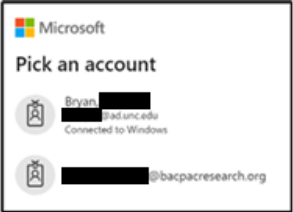
IP Address 10.x.x.x

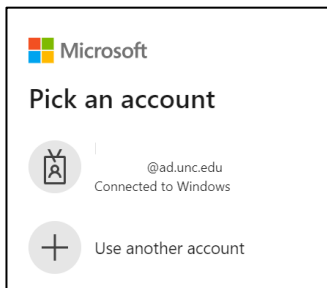
Remote Desktop

hopeb-t- [password field]

[Eye icon] [Copy icon]

A new browser tab will open. In the new browser tab, you will see one of several screens. In the table below, find the screen you see and follow the associated instructions.

	Screen	Instructions
Option 1	<p>It looks like your system administrator hasn't set up any resources for [REDACTED]@ad.unc.edu yet. Please choose a different account or try again. If you believe you have received this message in error, please contact your system administrator.</p> <p>OR</p> 	<p>O1. If you see the Option 1 screen, follow the steps below:</p> <p>O1.1. Step 1: In the upper right corner of the screen, click your name and choose "Sign Out" from the menu.</p>  <p>O1.2. Step 2: Close the browser tab and then continue to the steps below. You do not have to choose an account if a list is shown.</p> <p>O1.3. Step 3: Return to the Computing Console -> VM page and click "Connect".</p> <p>O1.3.a. If you see a screen similar to the one below WITHOUT your account ending in <i>bacpacresearch.org</i>, follow the steps outlined for Option 2 (starting at O2.1).</p>  <p>O1.3.b. If you see a screen similar to the one below WITH your account ending in <i>bacpacresearch.org</i> displayed, then follow the steps outlined for Option 3 (starting at O3.1).</p> 



O2. If you see the Option 2 screen, follow the steps below:

O2.1. Step 1: If you do not see the account ending in *bacpacresearch.org*, then select "Use another account".

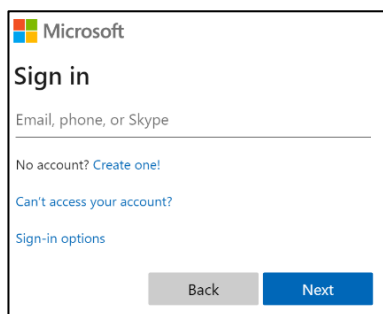
O2.2. Step 2: Enter your user name.

O2.2.a. In a separate browser tab, go to the BACPAC Data Portal page.

O2.2.b. In the top right-hand corner of the BACPAC Data Portal page, click your portal account then click "Profile" in the dropdown beside your user name.

O2.2.c. The profile page lists the user name and password you will use for the VM login account. Copy the user name.

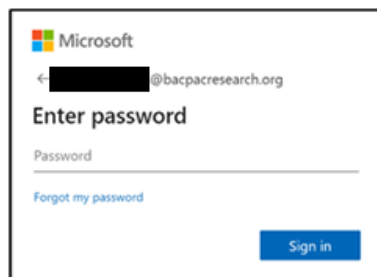
O2.2.d. Go back to the VM browser tab and paste the user name into the account sign in page and click "Next":



O2.3. Step 3: Enter your password.

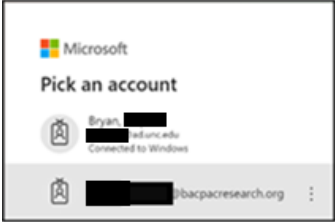
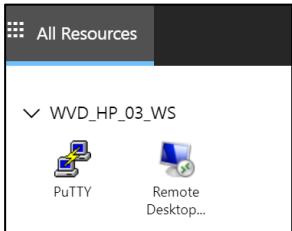
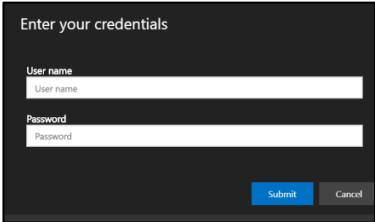
O2.3.a. Return to the portal profile page and copy the second field (i.e., the password).

O2.3.b. Paste the password into the sign-in screen.



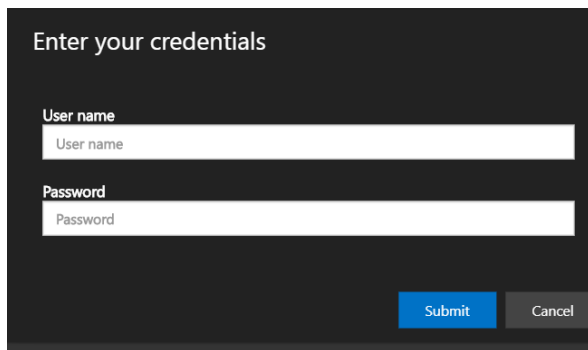
O2.4. Step 4: Click "Sign in".

O2.5. Step 5: Follow the steps outlined for Option 4 (section O4).

Option 3		<p>O3. If you see the Option 3 screen, follow the steps below:</p> <p>O3.1. Step 1: If you see your account ending in <i>bacpacresearch.org</i>, select that account.</p> <p>O3.2. Step 2: Go to the Computing Console VM page where you clicked the "Connect" button, there are two fields labeled "Remote Desktop".</p> <p>O3.3. Step 3: The first field is your user name. Copy and paste the second field value into the Password field.</p> <p>O3.4. Step 4: Click "Sign in".</p> <p>O3.5. Step 5: Follow the steps outlined for Option 4 (section O4).</p>
Option 4		<p>O4. If you see the Option 4 screen:</p> <p>Click on "PuTTY" for command line access to Linux Compute OR Click on "Remote Desktop for Windows or Linux GUI".</p> <p>Continue to Section 3.3. Windows Virtual Desktop (WVD).</p>
Option 5		<p>O5. If you see the Option 5 screen:</p> <p>Continue to Section 3.3. Windows Virtual Desktop (WVD).</p>

3.3. Windows Virtual Desktop (WVD)

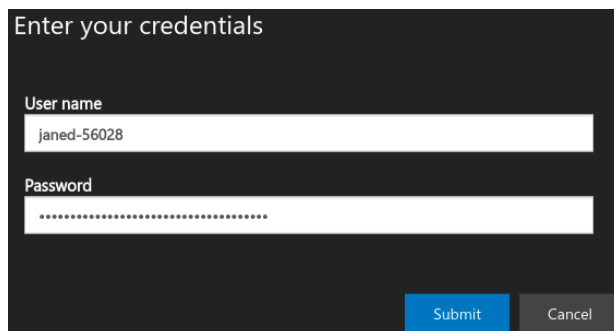
This is the Windows Virtual Desktop (WVD) login screen which will allow you to access your Linux and Windows VMs.



The image shows a dark-themed login window titled "Enter your credentials". It contains two input fields: "User name" and "Password". Both fields are currently empty. At the bottom right, there are two buttons: "Submit" (in blue) and "Cancel" (in grey).

From this screen, do the following:

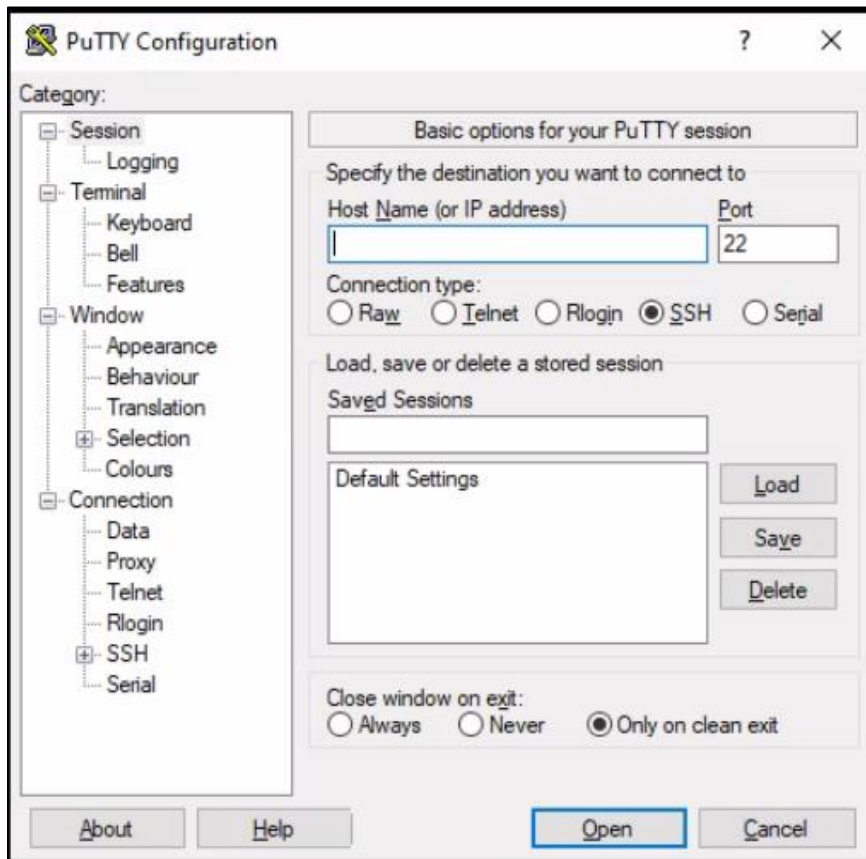
- a. Click on the BACPAC Data Portal tab in the browser.
- b. On the Computing Console VM page where you clicked the "Connect" button, there are two fields labeled "Remote Desktop". Copy and paste the first into the "User name" field in the dialogue shown above. "User name" will have the format FirstNameLastInitial-12345.
- c. Return to the BACPAC Data Portal tab in the browser to copy and paste the second into the "Password" field in the dialogue box.
- d. Click "Submit".



The image shows the same WVD login window, but now the fields are populated. The "User name" field contains the text "janed-56028". The "Password" field is filled with a series of dots, indicating that the password has been entered. The "Submit" and "Cancel" buttons remain at the bottom right.

3.4. Putty (Linux VM)

If you have chosen to connect to a Linux VM using "Putty", the configuration screen will be shown:



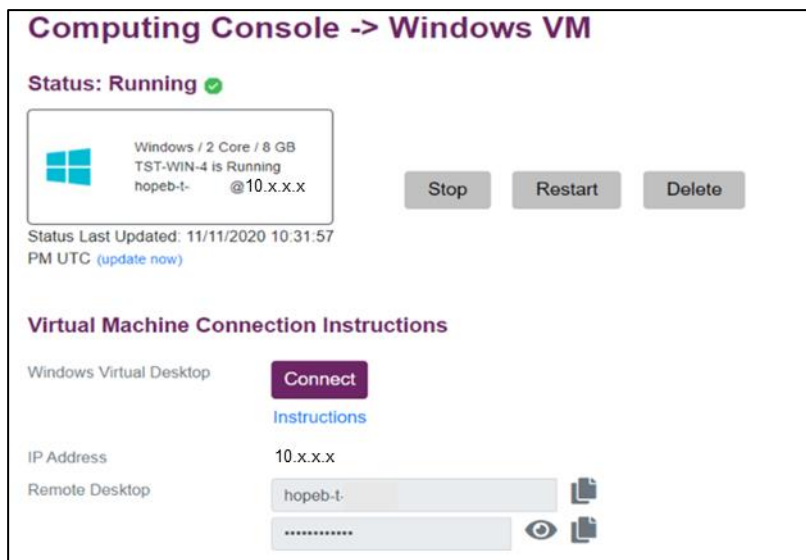
- Click the browser tab to go back to the BACPAC Data Portal page displaying the Computing Console.
- Locate the IP address for the Linux VM and enter it into the "Host Name or IP address" field. **Note: You cannot use copy / paste to enter the IP address.**
- Click "Open" and the Linux VM computer console will display.

3.5. Remote Desktop (Windows VM)

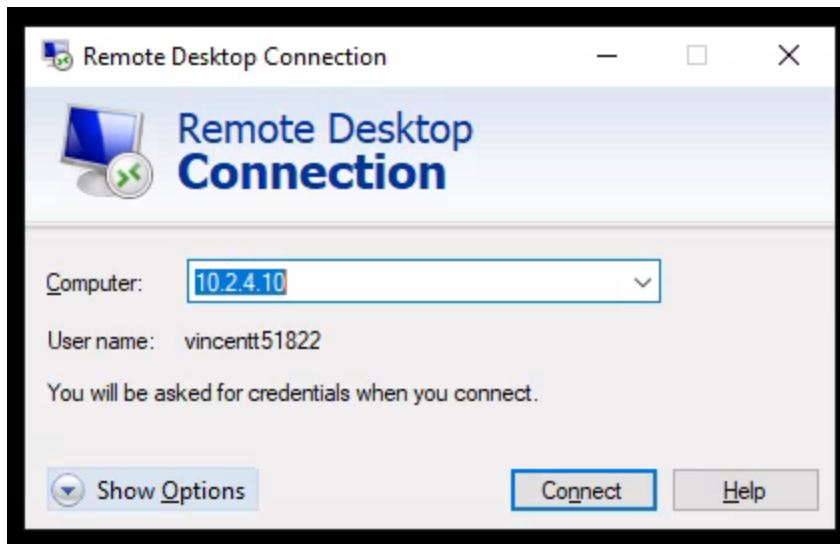
If you have chosen to connect to a Windows VM using "Remote Desktop", you will see this screen:



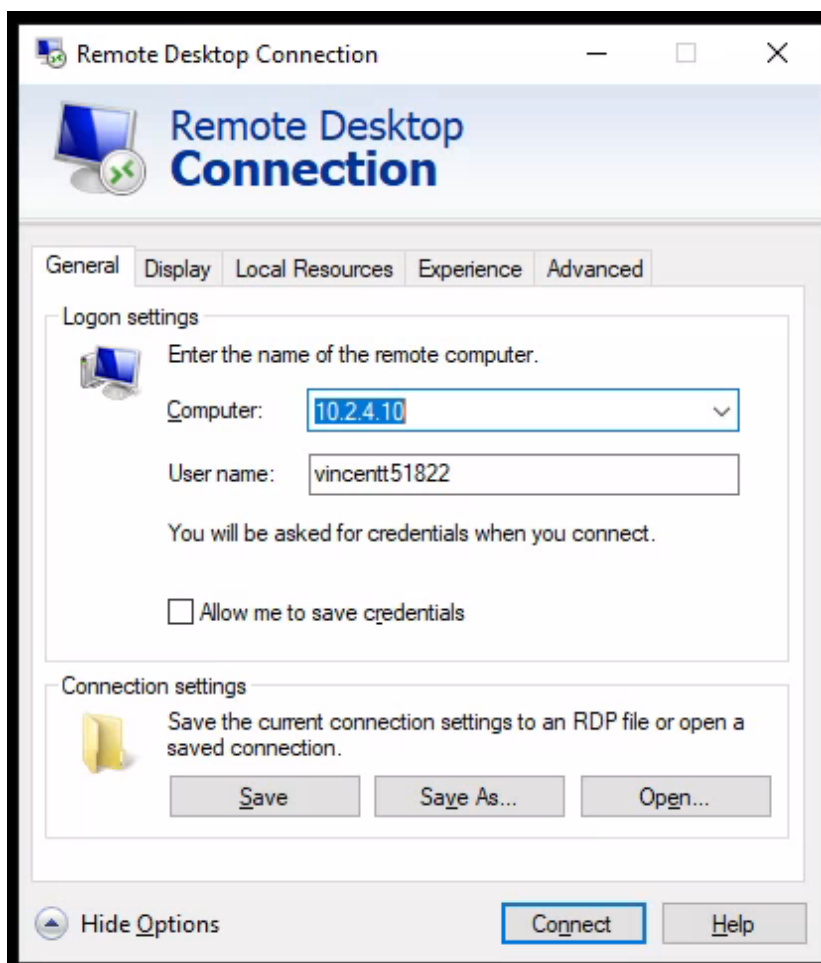
- a. Click the browser tab to go back to the BACPAC Data Portal page displaying the Computing Console.



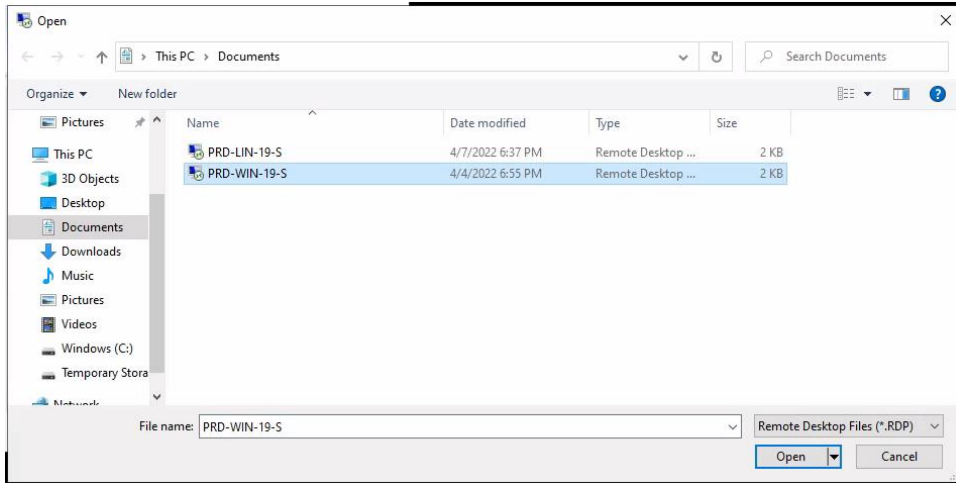
- b. Click the "Show Options" button on the bottom left of the Remote Desktop Connection Window.



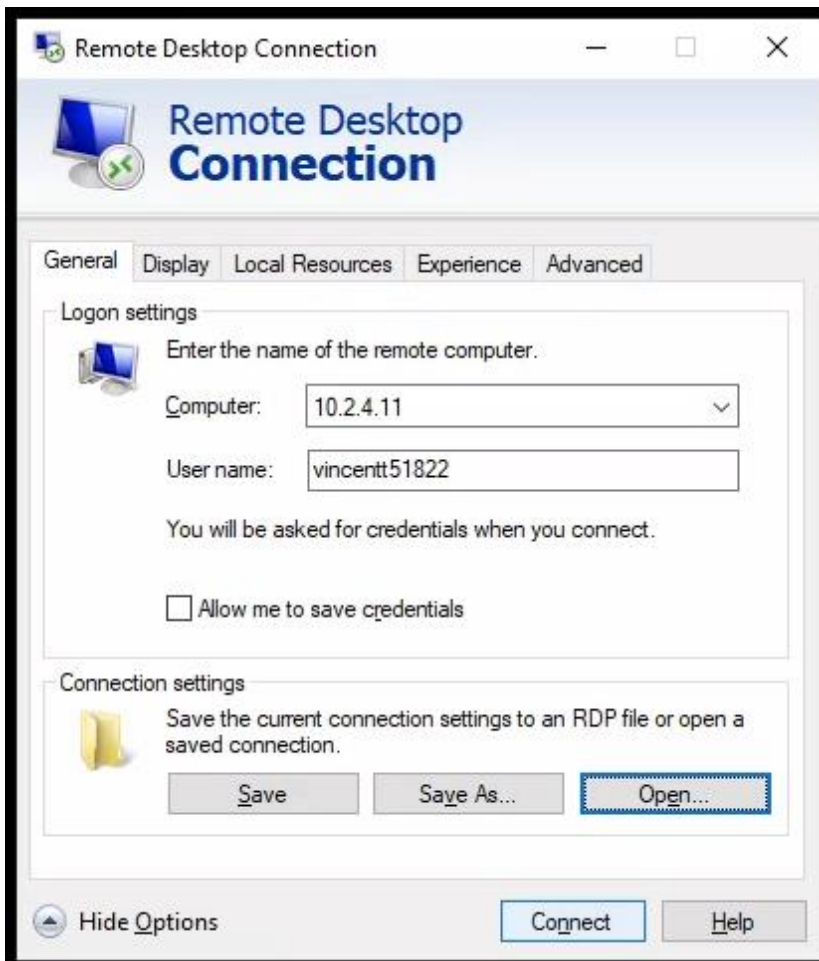
- c. Then click “Open,” which will allow you to select a profile:



- d. Select the profile corresponding to your VM OS and Size (here the **WIN-19-S**) means a small Windows VM. The click “Open”. This will configure the connection for that VM.



- e. Click “Connect”



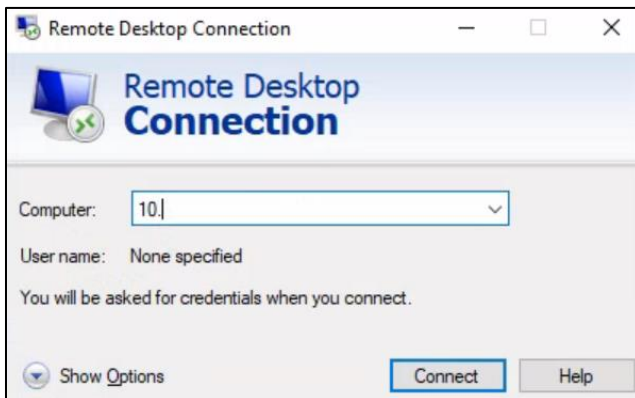
- f. When you see this screen click "Yes" and the Windows VM desktop will display.



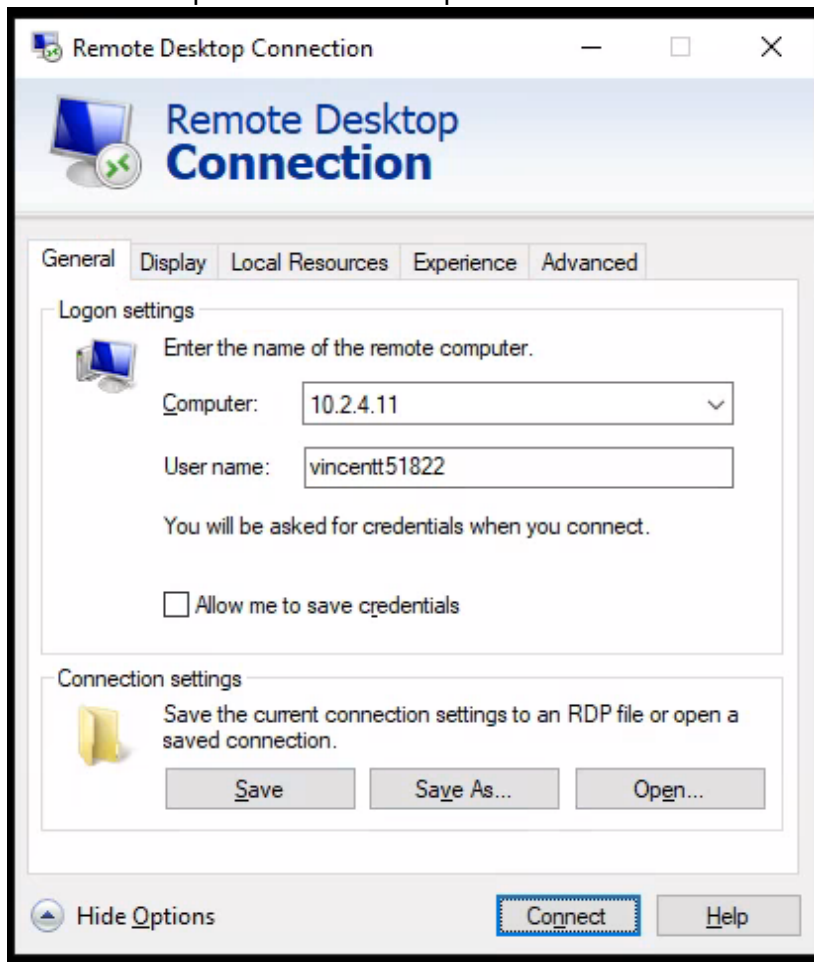
Note: For newly created VMs, it may take a few minutes for the desktop to load.

3.6. Remote Desktop (Linux GUI VM)

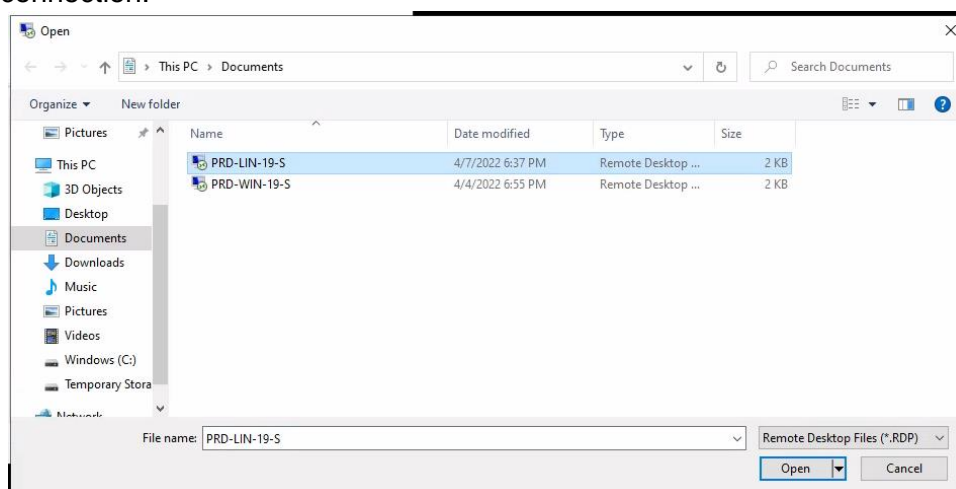
If you have chosen to connect to a Linux VM using "Remote Desktop", you will see this screen:



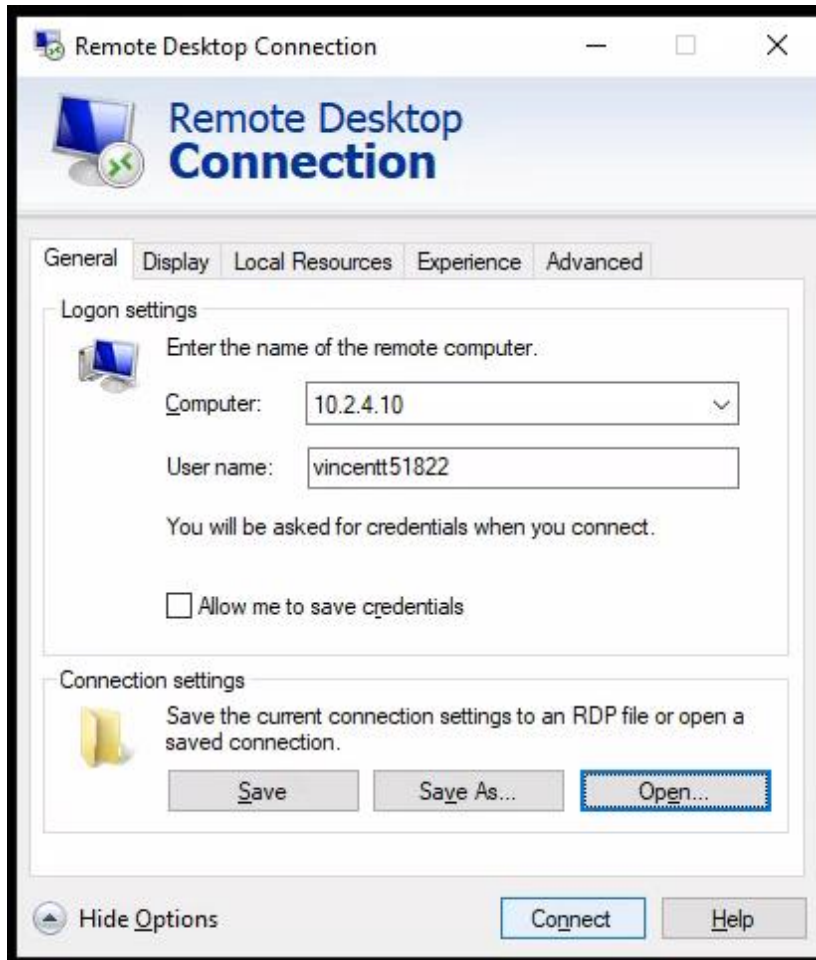
- a. Click “Show Options” and then “Open”



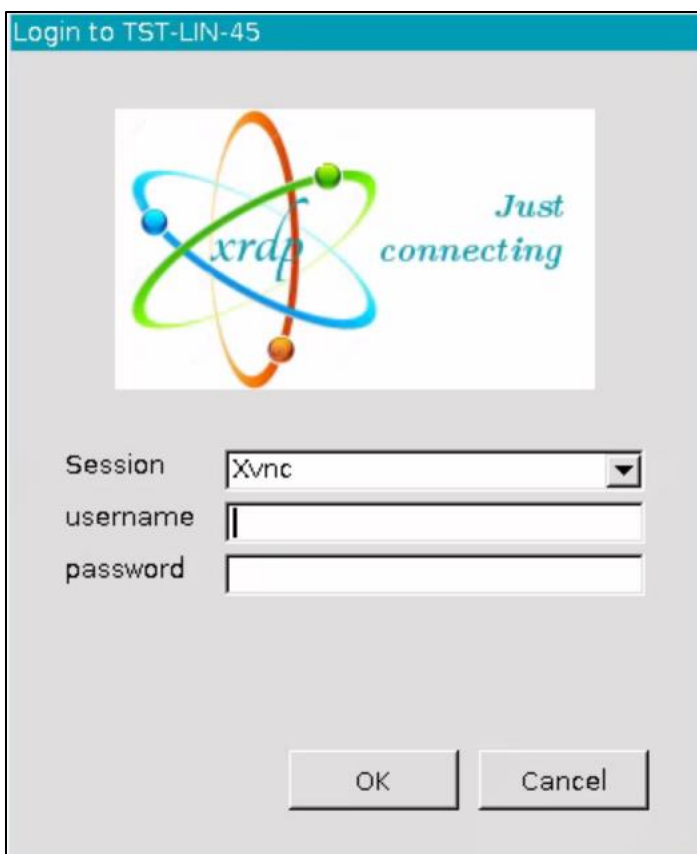
- b. Select the profile appropriate to your VM. In this case “PRD-LIN-19-S” indicates a small linux VM. After selecting the appropriate VM profile, click “Open” to configure the connection.




- c. Then click “Connect”



- d.
- e. After you click "Connect", you will then see this screen:



- f. Click the browser tab to go back to the BACPAC Portal page displaying the Computing Console.
- g. Enter your user name found on the Compute Console page into the "username" field shown above.

IP Address	10.y.y.y
SSH	<div>micahm</div> <div>.....</div> <div>  </div>

- h. View the password on the Compute Console page and manually type it in the Linux login screen shown above. **Note: you cannot use copy / paste for this field.**
- i. Click "OK" and the Linux VM desktop will display.

3.7 Using the Native Client

On Windows a substantially better user experience is available if you use the Native AVD Client available at <https://tinyurl.com/dataportalclient>. Once you have installed and opened the client, click "Add" near the top right corner of the application, then click "Workspace." Now use your Virtual Machine username and password. Then follow the instructions above.

4. Using the Windows and Linux VMs

4.1. General VM Usage Guidelines and Etiquette

Always stop VMs when not in use.

You may delete a VM when it is no longer needed or when a security update requires a new VM be utilized. When a VM is deleted, all work not saved in the personal or project storage locations will be lost.

4.2. Software

VM's are pre-populated with statistical software including SAS, R, and Python. Other software is available by request. While most of the internet is blocked on the VMs, cran and pypi should be accessible so you can install R and Python libraries. It is also possible to upload software and libraries directly to the VM via your personal or project space.

4.3. Accessing Canonical Data

All data is located under the /mnt hierarchy on linux and C:/mnt on windows.

4.4. Output and Code Storage

Personal Storage Space

The BACPAC Data Portal allocates a workspace for each user. The User Workspace comprises read / write file space accessible only to the user. No other users have access to the User's personal workspace. The workspace can be used for analysis output, logs, code, documents, or other files a user requires.

It is forbidden to download study data from the BACPAC Data Portal. This warning is prominently displayed on the User Workspace page. While the BACPAC Data Portal cannot prevent the download of study data, all file downloads are logged. The logs are scanned, and the portal administrators are notified of any suspicious or prohibited activity.

Project Storage Space

Unlike User's Personal Workspaces, which are restricted to the single user, Project Workspaces can be used by all researchers collaborating on a project. This is the mechanism by which you share results, code and other project artifacts. A project is created based on approved BACPAC Data Access and Publications requests.

Note the warning on this page: You are prohibited from downloading study data from the BACPAC Data Portal. While it is possible to output an entire canonical dataset to a project or user workspace where it can be downloaded, that violates the portal user agreement. Such downloads will be recorded in the system logs so any violation will be detected.

5. FAQs and Troubleshooting Solutions



NIH HEAL Initiative and Helping to End Addiction Long-term are service marks of the U.S. Department of Health and Human Services.