



# Tiger Bridge for Professional Services

Lab Guide

**Version: 1.0**

January 2024



## Table of Contents

Lab 1 – Initial Configuration.....	3
Exercise 1 – Logging in the Blue Lab Server.....	3
Exercise 2 – Downloading Tiger Bridge.....	6
Exercise 3 – Installing Tiger Bridge.....	9
Exercise 4 – Activating Tiger Bridge.....	12
Exercise 5 – Configuring Tiger Bridge Settings .....	13
Exercise 6 – Configuring Process Filtering.....	15
Lab 2 – Capacity Extension .....	16
Exercise 1 – Adding a Source.....	16
Exercise 2 – Replicating Data .....	19
Exercise 3 – Reclaiming Space Manually .....	22
Exercise 4 – Reclaiming Space Automatically.....	25
Exercise 5 – Archiving Data .....	27
Exercise 6 – Versioning on a File Level .....	29
Exercise 7 – Versioning on a Folder Level .....	32
Exercise 8 – Undeleting a File .....	33
Lab 3 – Disaster Recovery .....	35
Exercise 1 – Logging in the Orange Lab Server.....	35
Exercise 2 – Setting up Tiger Bridge on the Orange Lab Server.....	37
Exercise 3 – Syncing Data Manually .....	43
Lab 4 – Multi-Site Collaboration.....	46
Exercise 1 – Setting up Synchronization .....	46
Exercise 2 – Testing the Synchronization.....	48
Lab 5 – NAS Source .....	49
Exercise 1 – Setting up a NAS Source.....	49
Exercise 2 – Working with the Shared Files .....	53
Lab 6 – Partial Restore .....	55
Exercise 1 – Adding a New Source .....	55
Exercise 2 – Partially Restoring a File .....	57
Lab 7 – Maintenance and Troubleshooting.....	58
Exercise 1 – Checking Logs.....	58
Exercise 2 – Working with the Command Line Utility.....	59

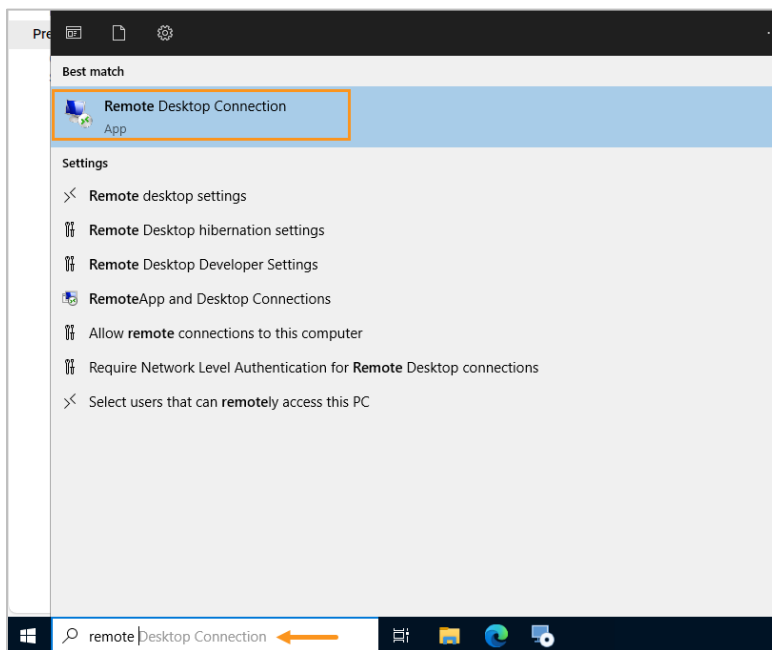
# Lab 1 – Initial Configuration

Before you can take advantage of all the advanced features Tiger Bridge supports, some initial configuration needs to be performed. It includes installing and activating the software and configuring some global settings.

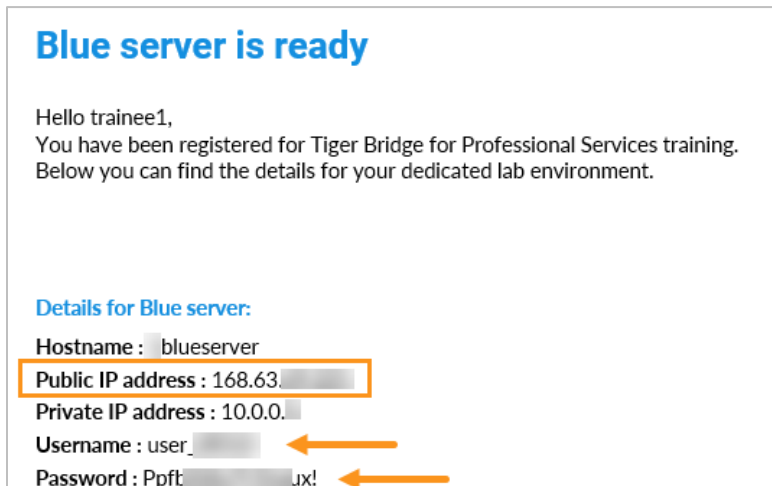
## Exercise 1 – Logging in the Blue Lab Server

You should have received two emails from [training@tiger-technology.com](mailto:training@tiger-technology.com) with information about the two servers you will be working with – the Blue one and the Orange one, together with some more details you will need throughout the lab.

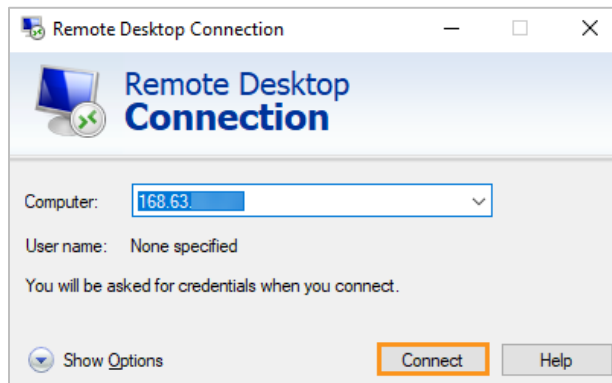
1. Open **Remote Desktop Connection** on your personal computer:



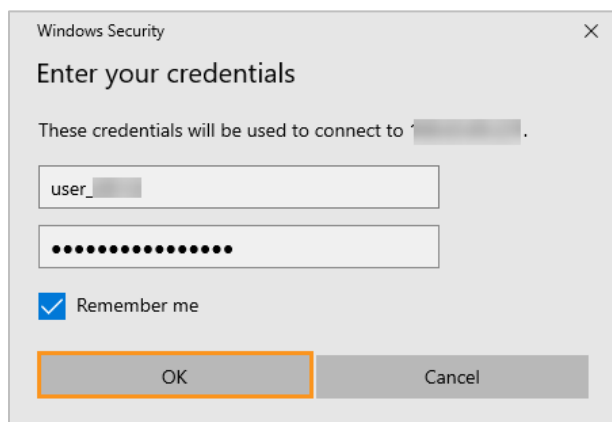
2. Get the **Public IP Address** and credentials of the Blue server from the respective email:



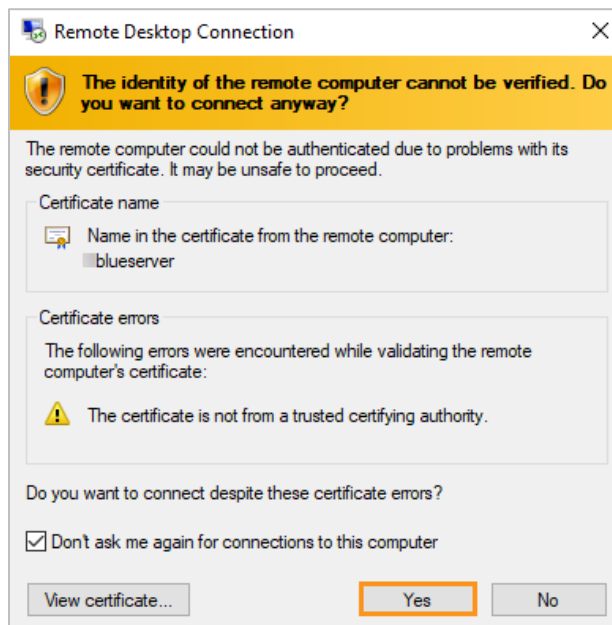
3. Enter the Public IP address in your Remote Desktop Connection and click **Connect**:



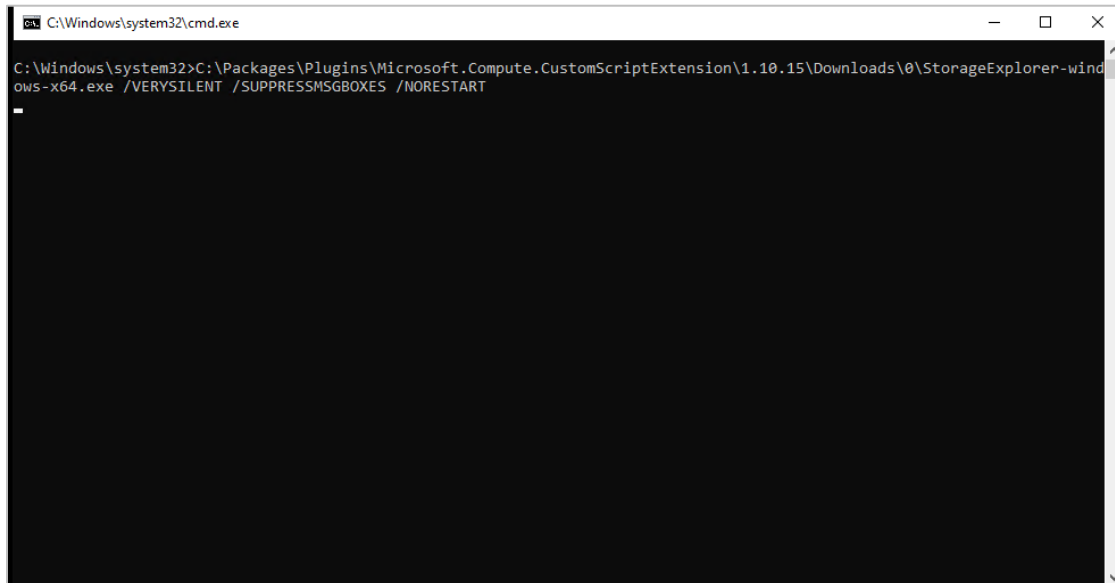
4. Then add the **credentials** and click **OK**:



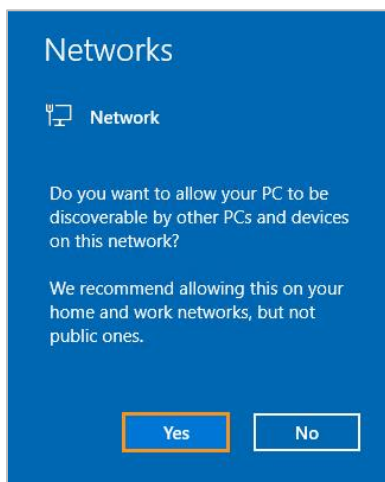
5. Click Yes to open the connection. Optionally, you can check the box for “Don't ask me again for connections to this computer”:



- The first time you login, a configuration script will start to set your environment up for the rest of your lab activities. Please wait patiently for about a minute or two until the setup completes. You will be seeing this window:



- A Networks menu might show up to the right, feel free to close it with the Yes button:

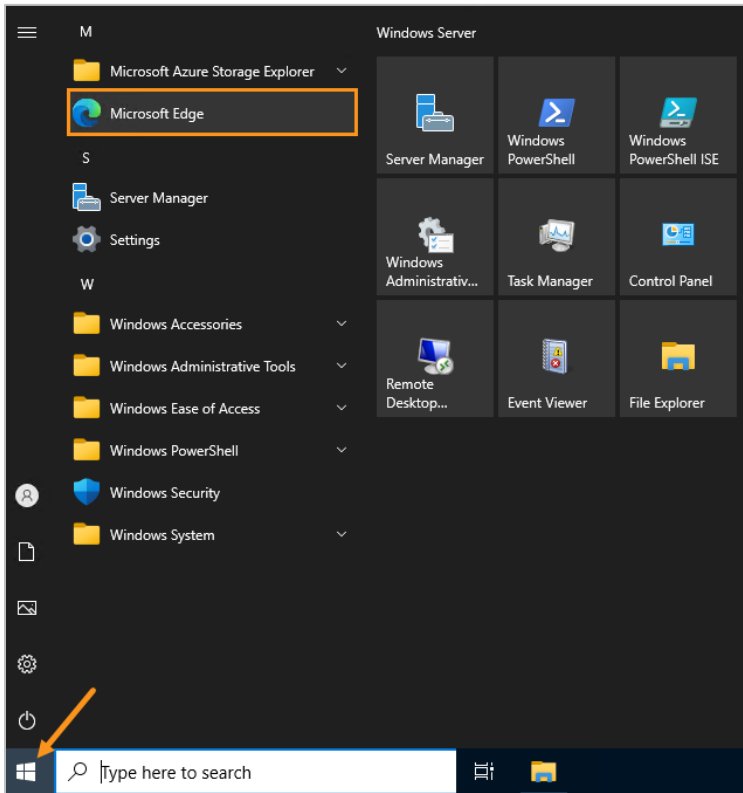


- Eventually, the Blue desktop should show up with some information about the server you are working with:

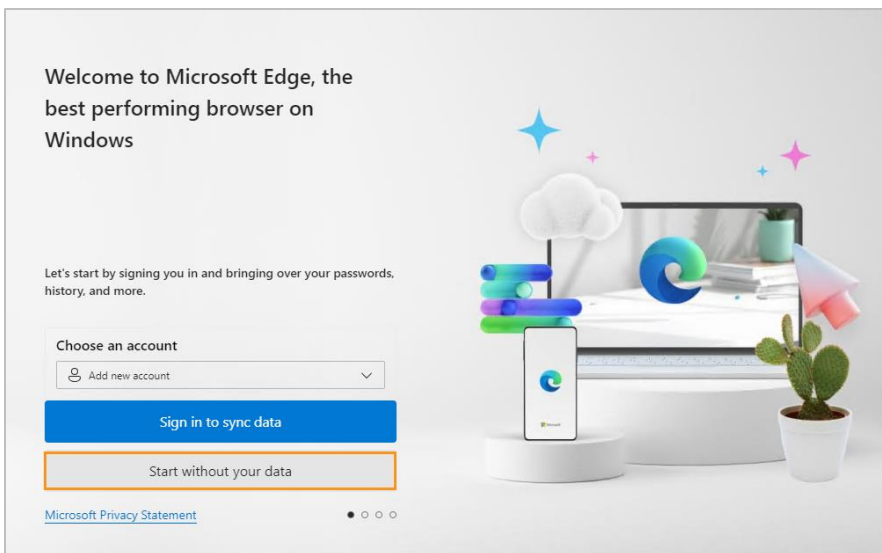


## Exercise 2 – Downloading Tiger Bridge

1. Click the Windows start button in the bottom left corner of the screen and then open **Microsoft Edge**:



2. When started for the first time, Edge has a wizard it makes you go through. Start without your data for both Microsoft and Google and confirm your choices when asked (there will be a few windows for you to click on, similar to the one that follows here):



3. Once you are done with the initial wizard, enter the URL of the Tiger Technology's Licensing Server: <https://license.tiger-technology.com>.

- The credentials for you to use for logging in can be found in the same Blue server email, copy them from there:

Storage account access key :  
IVPY2ey9XMNth3EmGwCsg5wQ0oNGgOJY74

Tiger Bridge activation username : TrainingProgramRes\_755b1: [redacted] dd7bc08

Tiger Bridge activation key : Pgh [redacted]

The server will be available until : 17.11 [redacted]

- Log in to the licensing server with the copied over credentials:

## Licensing Server

Login please

Welcome to Tiger Technology Licensing Server! This licensing server will allow you to easily manage licenses for your Tiger Technology products, as well as view reports about your account. To enter the licensing server you should authenticate yourself. To do this, enter your username and password in the corresponding fields, and then click Log In.


Username / Email  
TrainingProgramRes\_755b1 [redacted] dd7

Password  
\*\*\*\*\*

[Log in](#)

[Forgot password?](#)

- You will be asked to provide your contact information. Fill out the fields and click **Submit**:



Software Order **TrainingProgramRes\_755 [redacted] c08**

Order				Licenses
Product	Type	Date Created	Maintenance	Capacity Limit
Bridge 5.X	SaaS Trial	07-Dec-2023	17-Dec-2023	50 GB

**Reports**

- [License Information](#)
- [Usage](#)
- [Activation Report](#)

**Download**

- [Current Version](#)
- [Older Versions](#)
- [Documentation](#)

**Preference**

- [Contact Information](#)
- [Set Password](#)

## Contact Info

When the time comes Tiger Technology will use the information you provide here to notify you about an expiring support and maintenance contract. We may also contact you to share important updates related to a product life cycle or improvements that affect the stability of products from Tiger Technology you are using.

We will not share the information you provide here with third parties.

### Registration Form

- In order to use the license server you have to fill in the registration form below.
- Fields with \* are required.

First Name \*

Last Name \*

Company

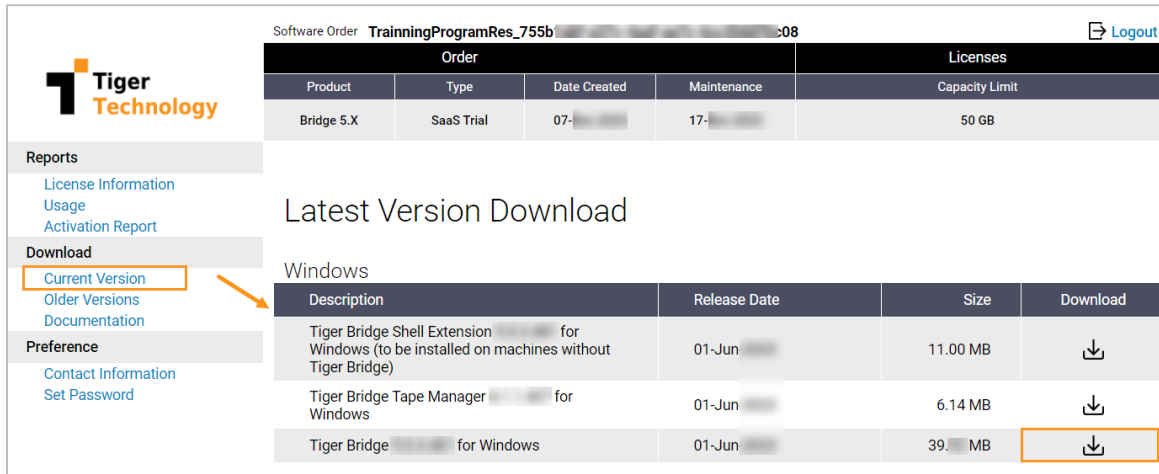
Country

Phone Number

E-mail \*

[Submit](#)

7. Click **Current Version** on the left. This will allow you to **download** the Tiger Bridge installation file:






The screenshot shows the Tiger Technology software management interface. At the top, it displays the software order ID: **TrainingProgramRes\_755b**. Below this is a table with two main sections: **Order** and **Licenses**.

Order				Licenses
Product	Type	Date Created	Maintenance	Capacity Limit
Bridge 5.X	SaaS Trial	07-	17-	50 GB

On the left sidebar, the **Download** section is active, with **Current Version** highlighted. An orange arrow points from this menu item to the **Windows** section of the main content area.

### Latest Version Download

#### Windows

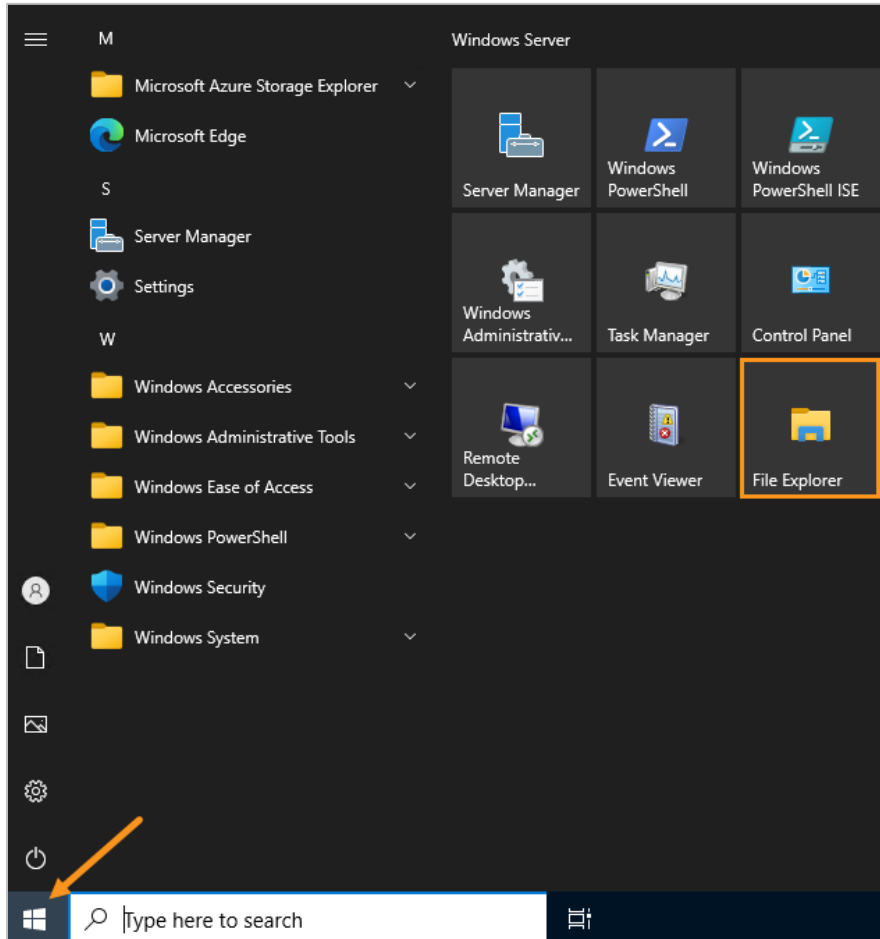
Description	Release Date	Size	Download
Tiger Bridge Shell Extension for Windows (to be installed on machines without Tiger Bridge)	01-Jun	11.00 MB	
Tiger Bridge Tape Manager for Windows	01-Jun	6.14 MB	
Tiger Bridge for Windows	01-Jun	39. MB	



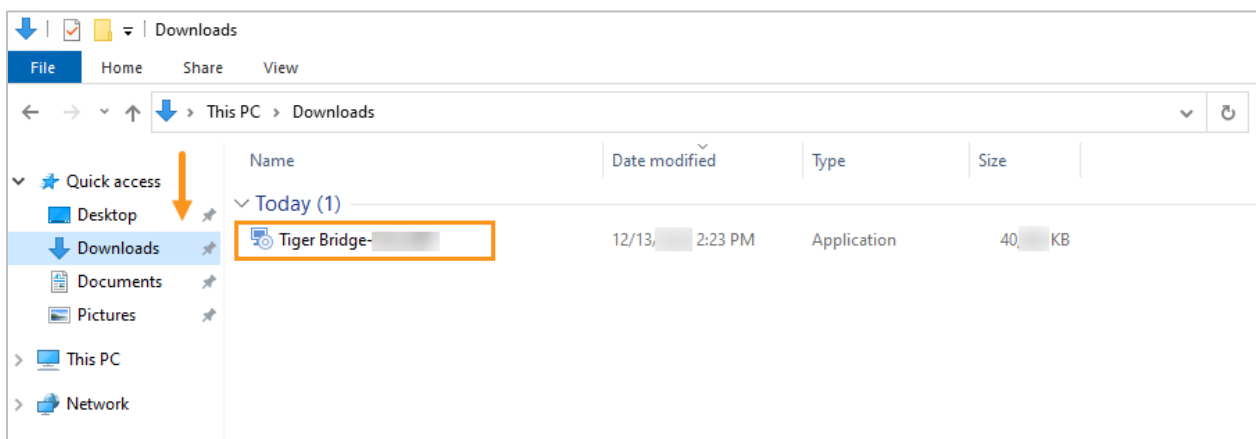
## Exercise 3 – Installing Tiger Bridge

Installing Tiger Bridge is a straightforward procedure. Follow the steps below:

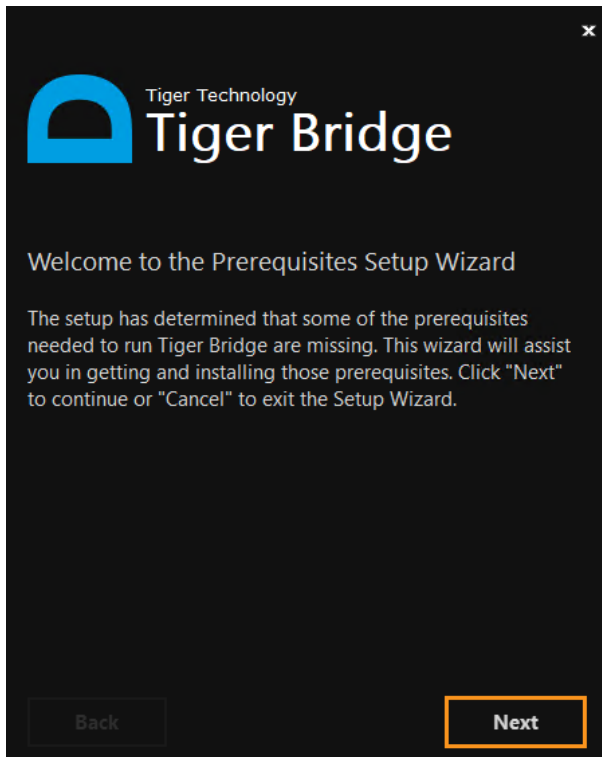
1. Once Tiger Bridge is downloaded, open your **File Explorer** so you can get to the downloaded file:



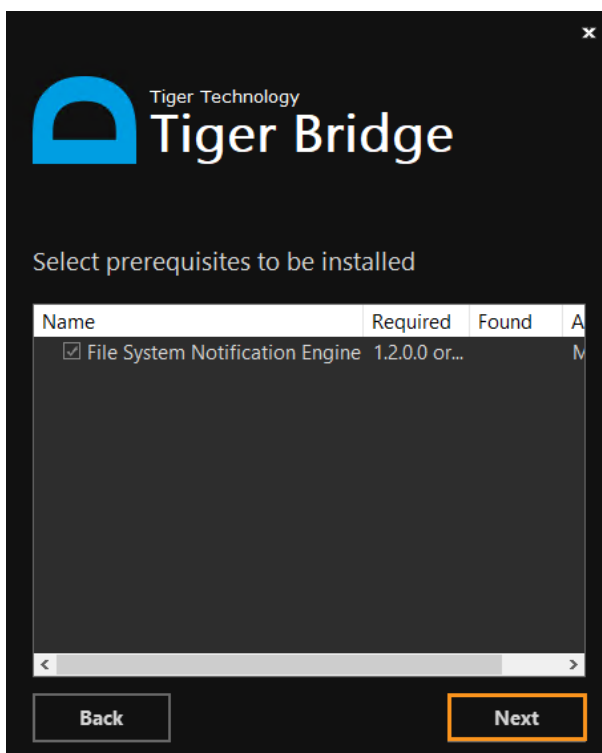
2. Go to the **Downloads** folder and double click the installation file:



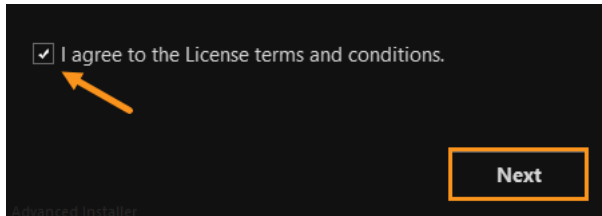
3. Click **Next** on the greeting message:



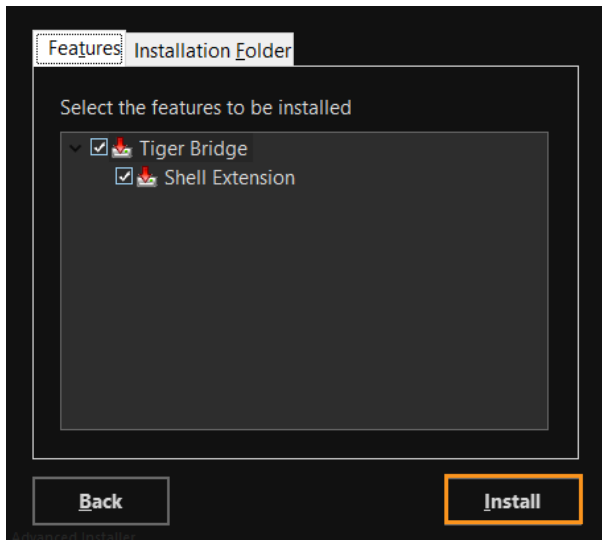
4. Click **Next** on the prerequisites to be installed:



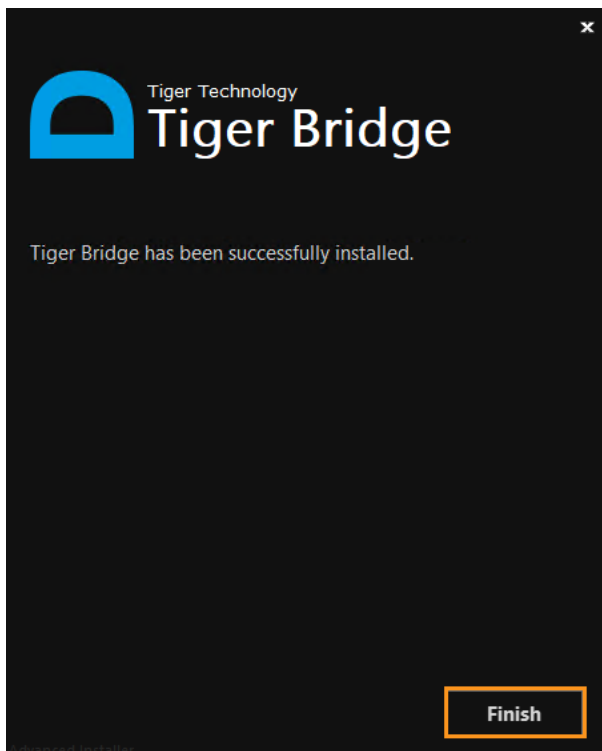
5. Check the box to agree to the terms and conditions and click **Next** on the setup screen:



6. Click **Install** to start the installation process (it will take a few minutes to complete):



7. Click **Finish** when the installation is over:

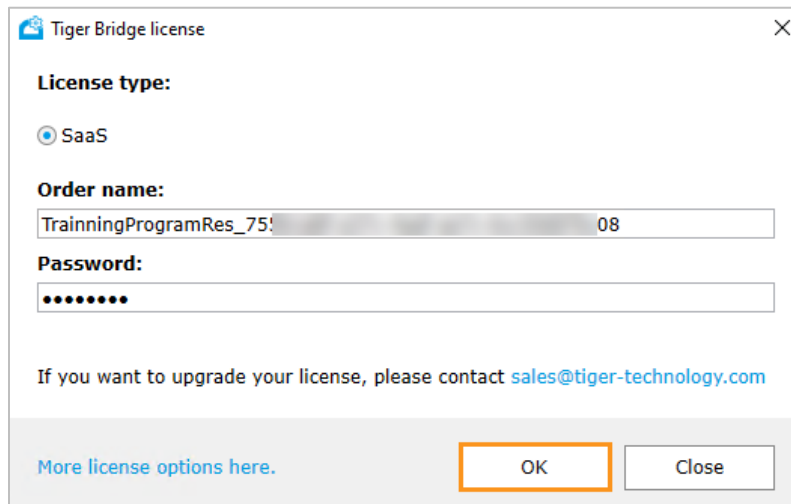
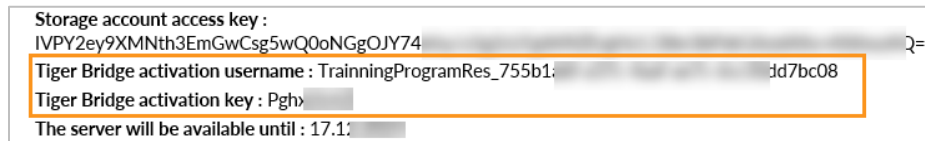


## Exercise 4 – Activating Tiger Bridge

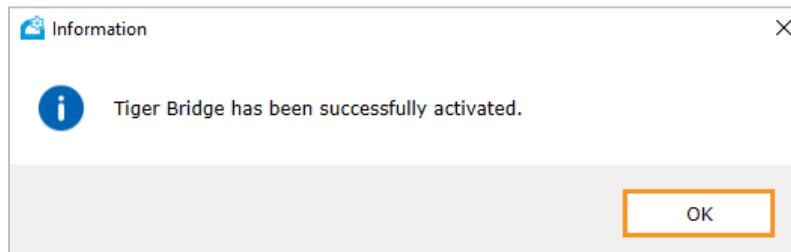
1. Open the Tiger Bridge Configuration tool from your Blue server's desktop:



2. Enter the same order name and password you used in Exercise 2 to log in to the Licensing server, as per the Blue server email:



3. A successful activation message should show up. Click OK:



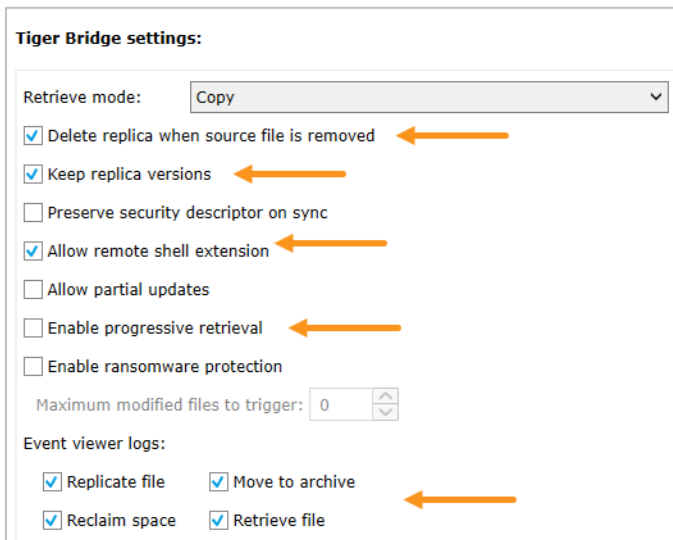
Information about the Activated services will show up on the right of the Tiger Bridge Configuration screen for your consideration.

## Exercise 5 – Configuring Tiger Bridge Settings

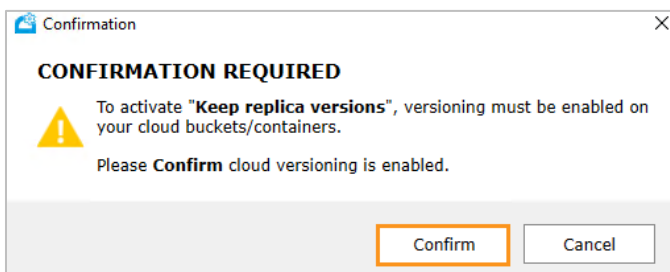
1. Go to the Settings menu and make sure the following settings are configured as follows:

- **Delete replica when source file is removed** should be ticked/enabled
- **Keep replica versions** should be ticked/enabled
- **Allow remote shell extension** should be ticked/enabled
- **Enable progressive retrieval** should **NOT** be ticked – it should be disabled

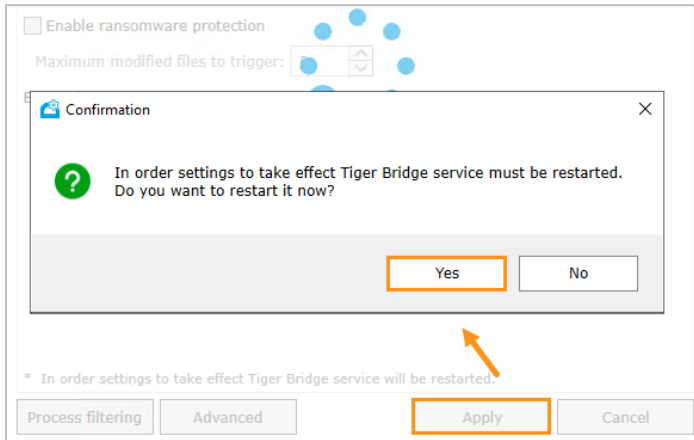
Additionally, enable all the Event viewer logs so you can check them out later



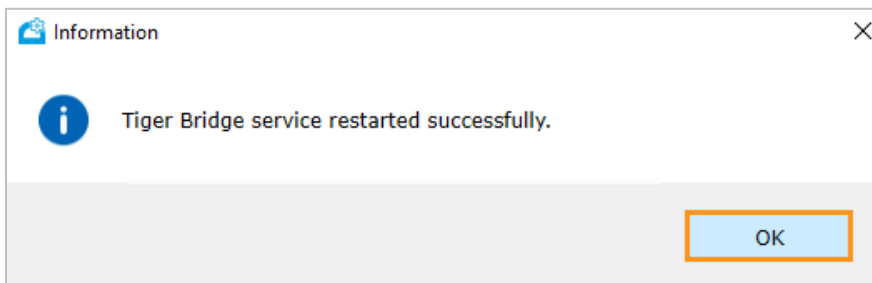
2. Enabling replica versions will make an additional confirmation message pop up. It warns you that for Tiger Bridge versions to work properly, Versioning needs to be enabled on the cloud target as well. Click **Confirm**.



3. Click Apply to save your changes and then Yes to allow Tiger Bridge to restart:



4. Click OK on the confirmation message:



## Exercise 6 – Configuring Process Filtering

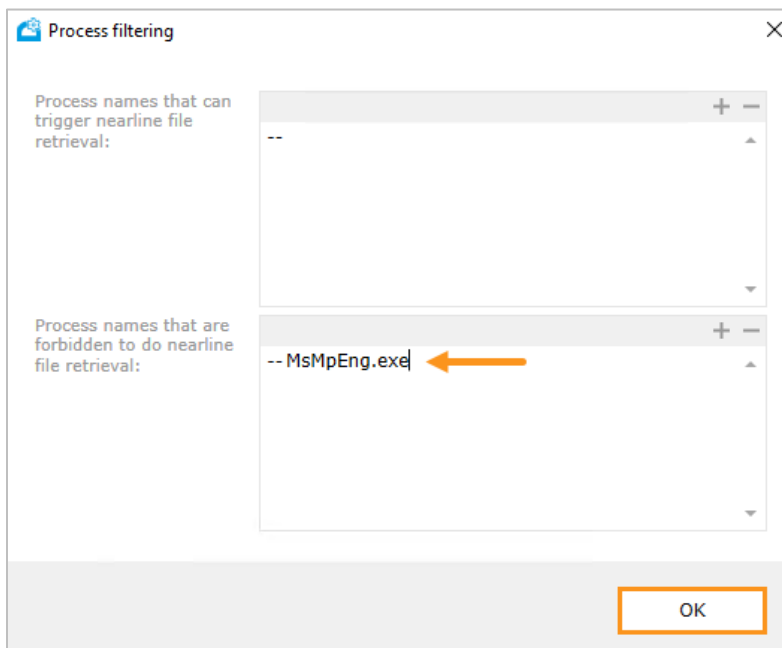
Process filtering can be used to make sure Antivirus or Backup programs do not trigger file retrievals with Tiger Bridge as to avoid unnecessary transfers and respectively high cloud expenses.

To configure process filtering:

1. Click the Process filtering button on the same Settings page:



2. Type in the Windows Defender process name in the Process names that are forbidden to do nearline file retrieval section – MsMpEng.exe, and click OK:



**Note:** Windows Defender is excluded from file retrieval operations by default, even if you do not configure Process filtering for it. However, be aware of the process so you can configure process filtering for other programs you may want to exclude.

3. Click **Apply** to save your changes again and allow it to restart its service as in thce previous exercise:



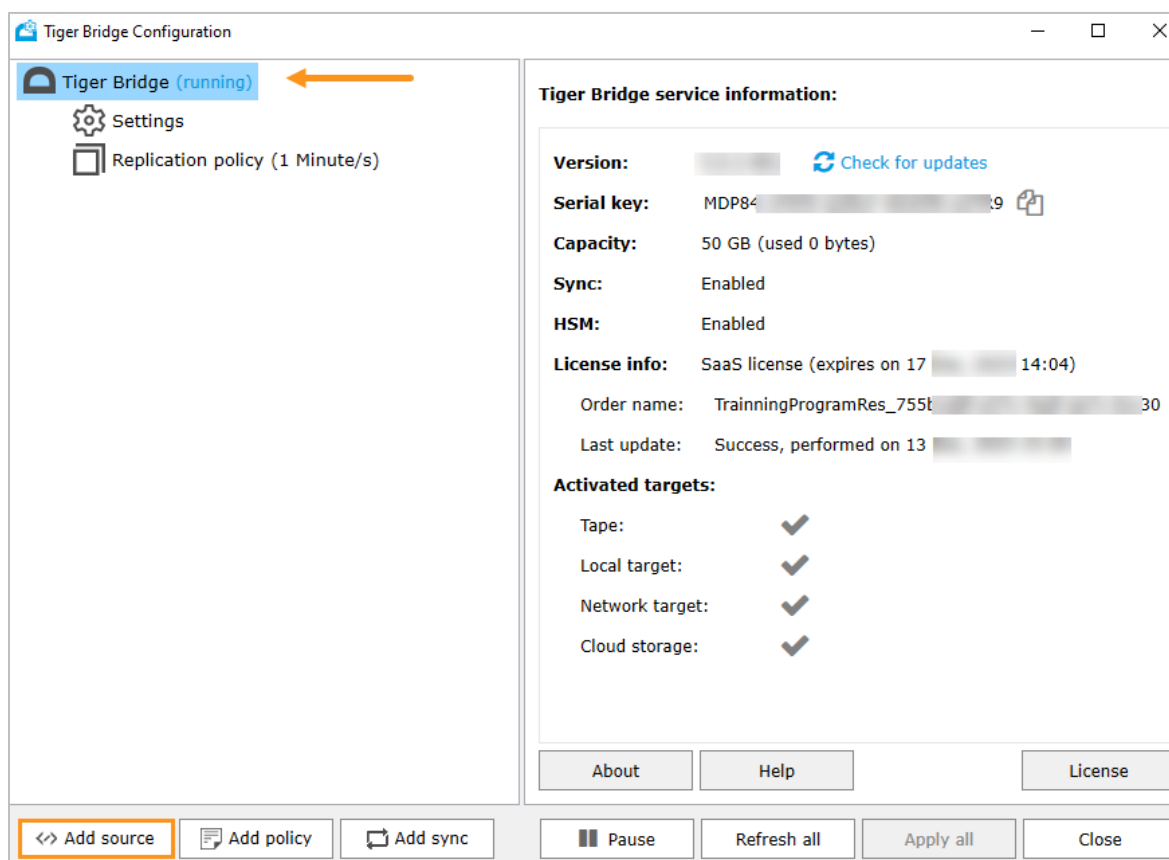
## Lab 2 – Capacity Extension

With the help of Tiger Bridge’s extension feature, a very limited in size local disk can serve as an interface to the infinite storage in the target cloud.

### Exercise 1 – Adding a Source

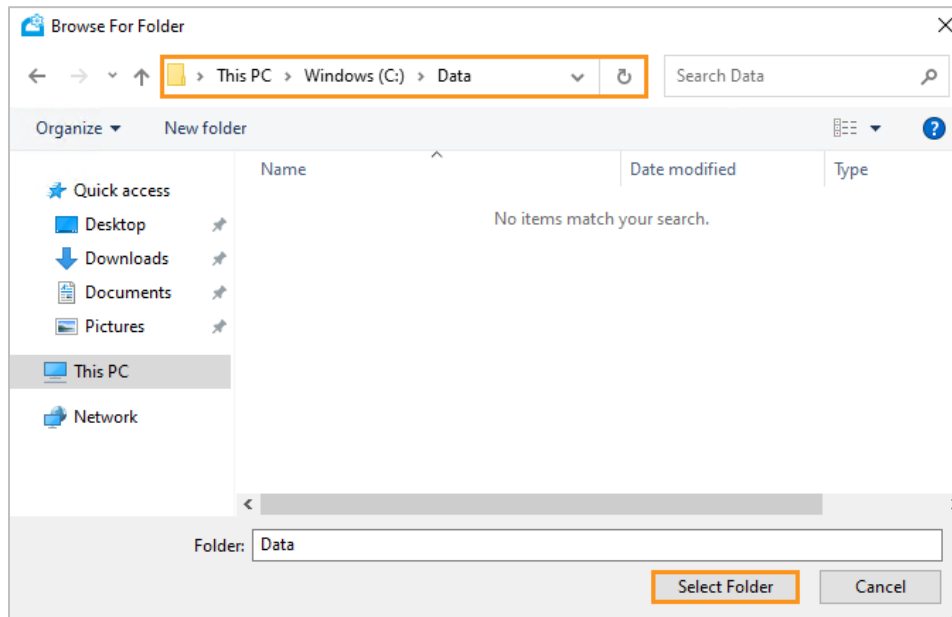
Adding a source in Tiger Bridge allows you to select a local drive or folder you would like to protect or extend with the help of the cloud. The process makes you configure the target cloud provider for the selected source as well.

1. Click the main Tiger Bridge menu on the left navigation and then click the **Add source** button bottom at the left corner of the Tiger Bridge Configuration screen:

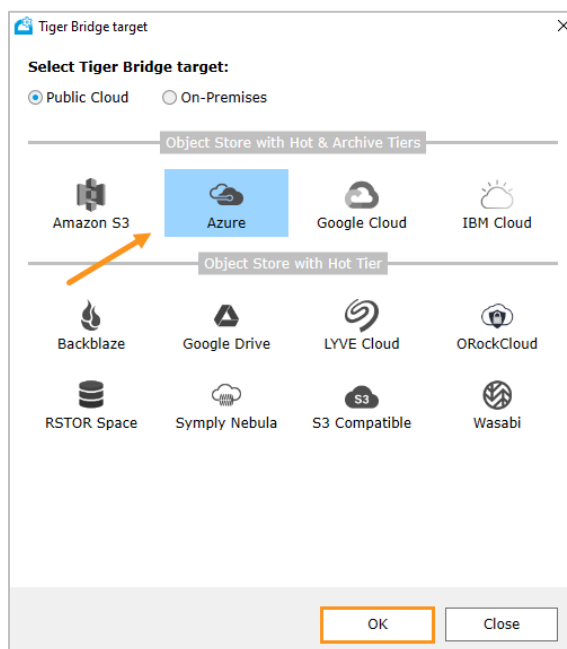




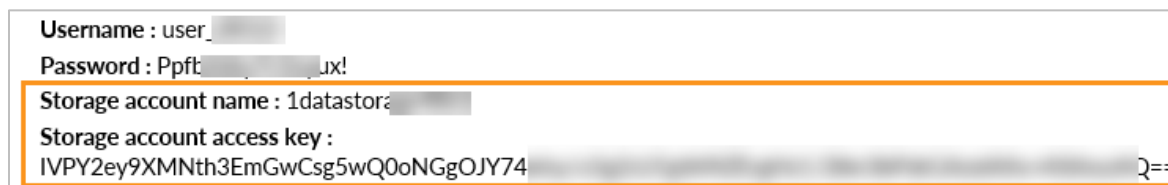
- Browse to the C:\Data directory and click the Select Folder button:



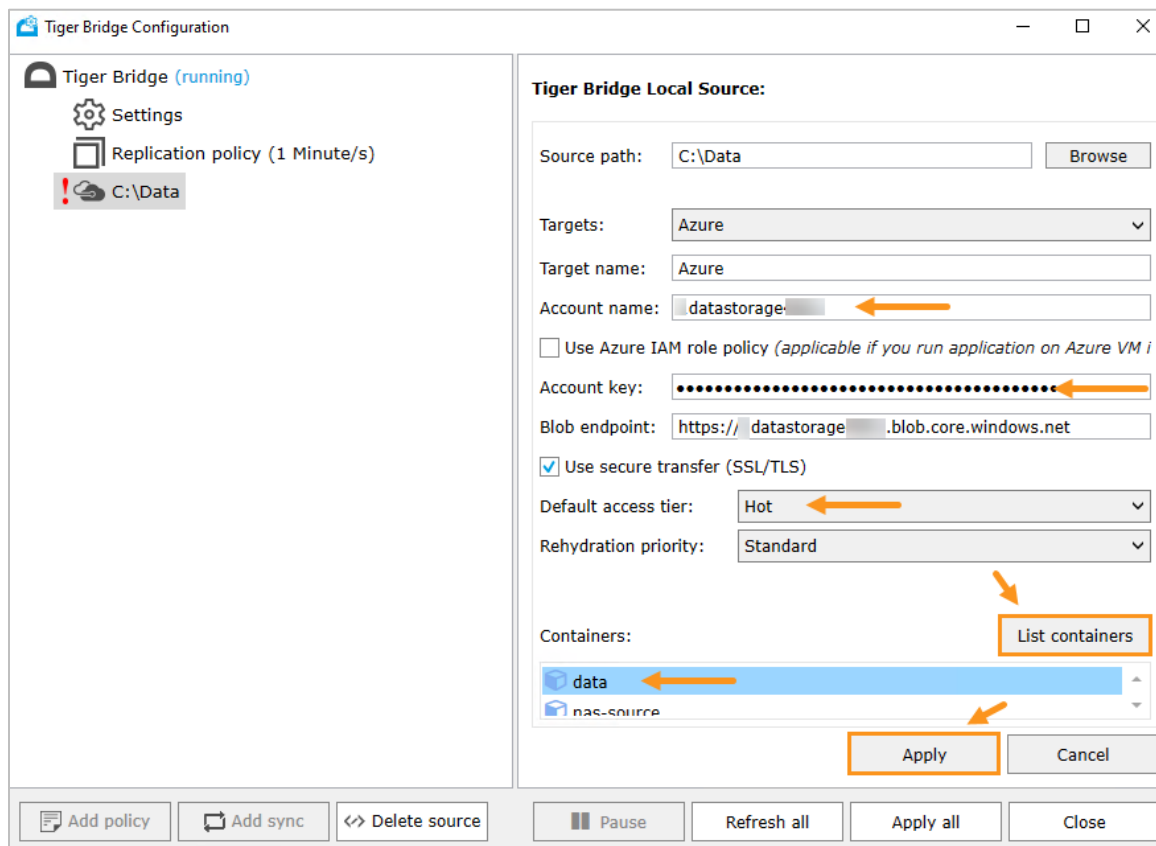
- On the Tiger Bridge target screen, select Azure and click OK:



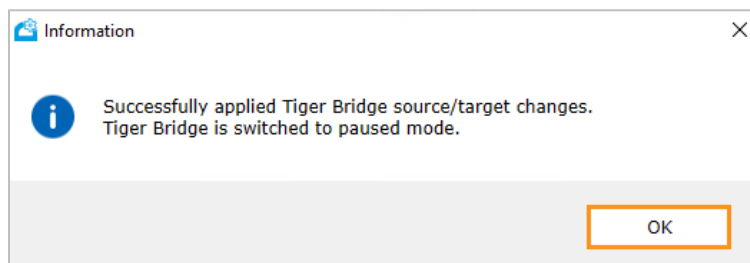
- Get the needed target information from your Blue server email:



5. Add the **account name** and **key** as per the email information, make sure the **Hot** tier is used for replication, click **List containers** and select the **data** one. Eventually, click **Apply** to save your target configuration:



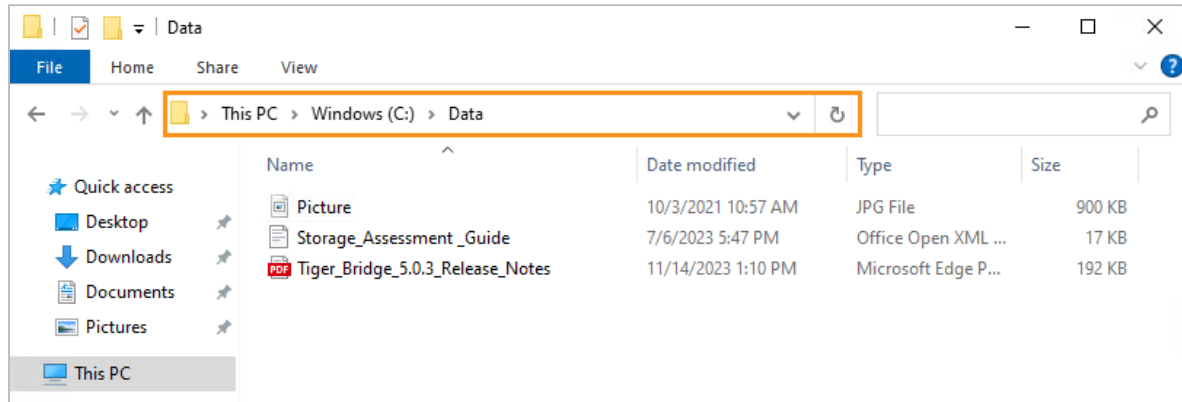
6. Click OK on the confirmation message:



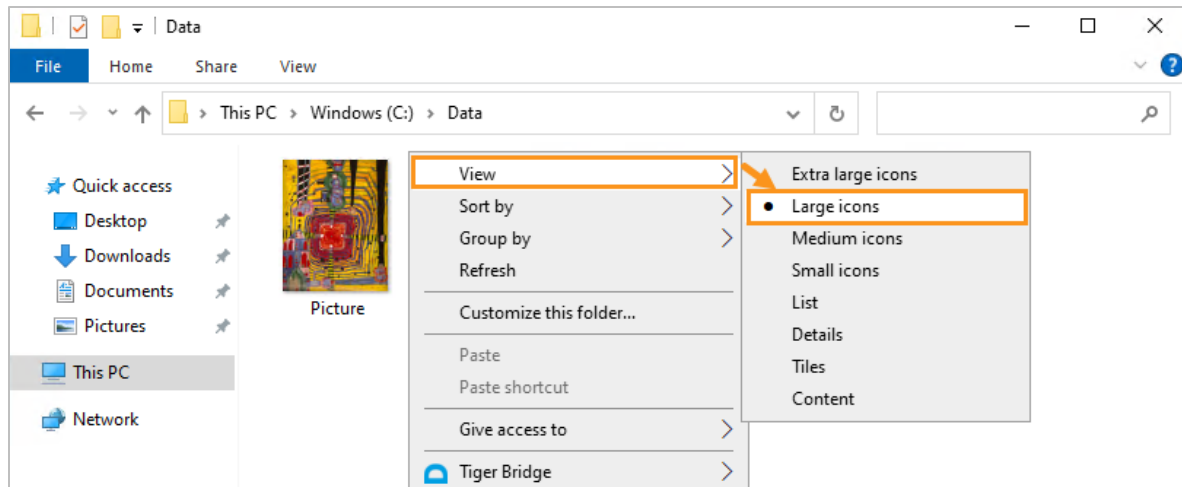
**Note:** as the message indicates, Tiger Bridge is left in a paused state after adding the source to let you configure all your policies before it starts replicating data.

## Exercise 2 – Replicating Data

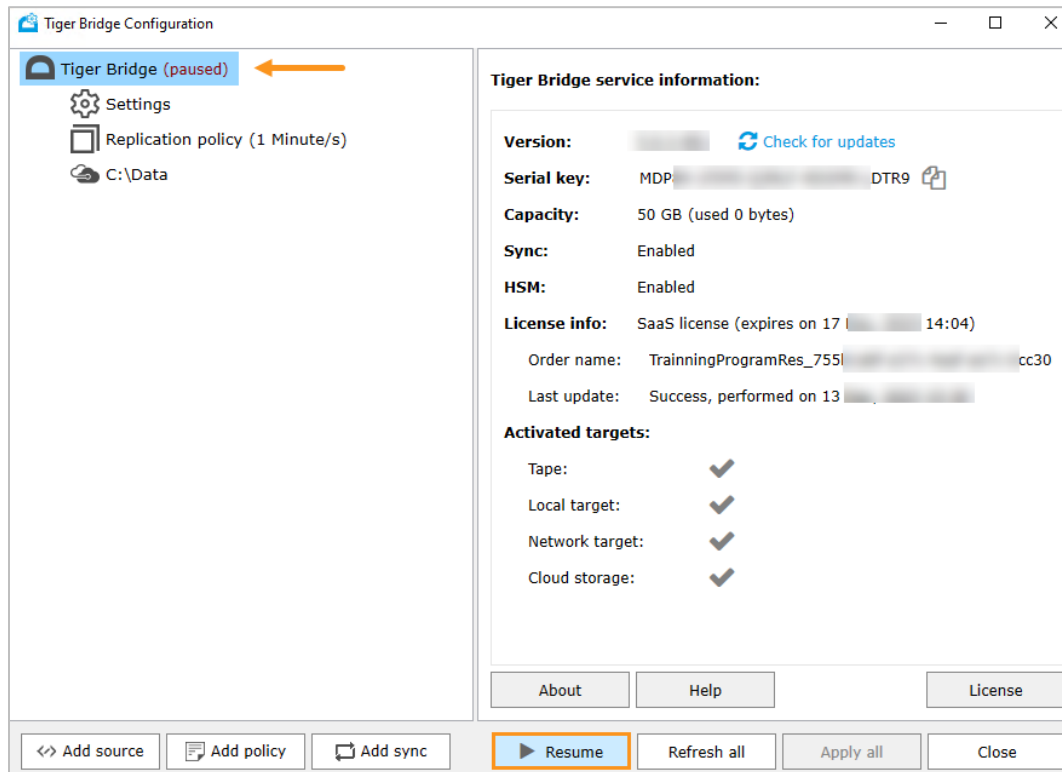
1. Open File explorer again and navigate to the same C:\Data folder that you configured as a source to check its contents:



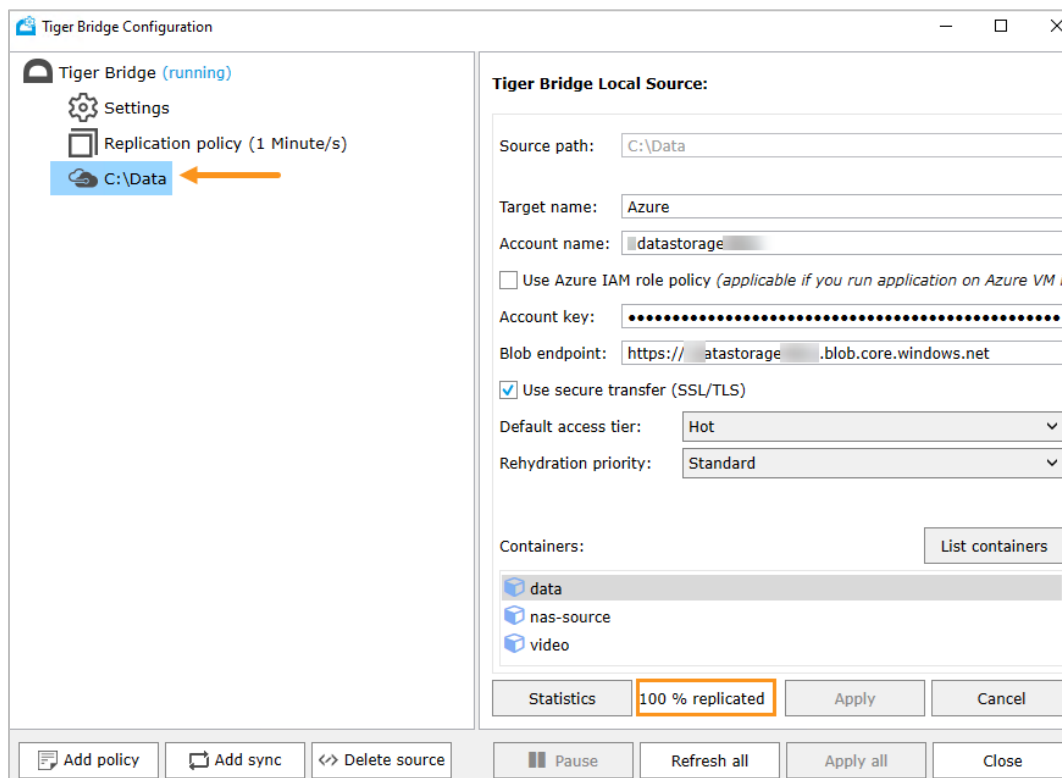
2. Right-click in the folder, go to the View menu and select Large icons. We would like to pay extra attention to them later:



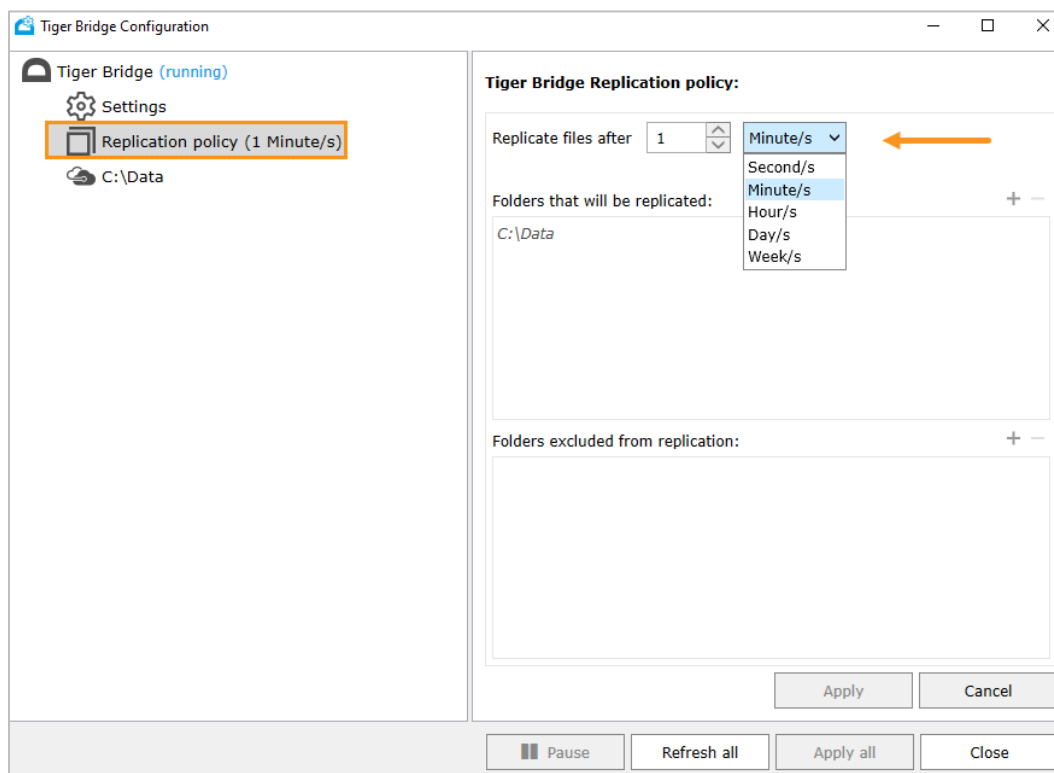
- Go back to the Configuration window, click on **Tiger Bridge** in the menu and then **Resume** its work:



- Click on the source and check the value next to the Statistics button. It should go to 100% in a minute (as per the policy). You can optionally also click the Statistics button for more detailed information about the replication process:



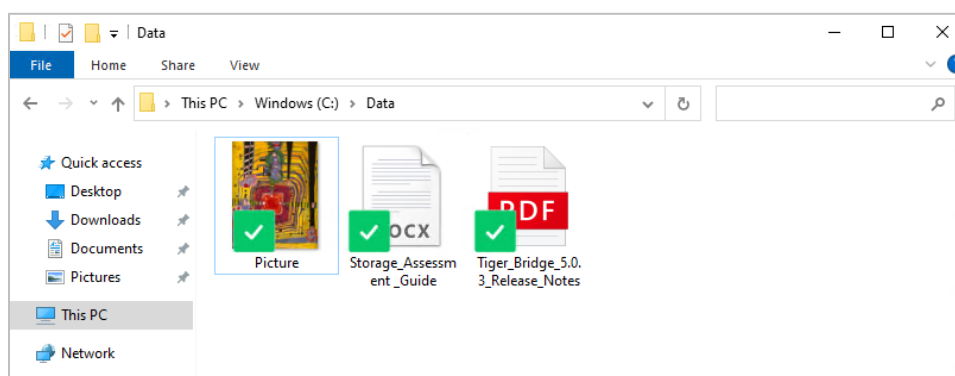
- The specific time interval needed for the replication to occur is getting configured in the Replication policy section from the tree menu on the left:



You can optionally change the value to a different time interval in seconds, minutes, hours, days or weeks. However, 1 minute interval should be ok for your lab purposes.

**Note:** This Replication policy is global for the entire Tiger Bridge configuration which could potentially include more than one source. Additionally, Tiger Bridge allows you to configure individual Replication policies per source and the replication policy configuration defined for an individual source takes precedence if not the same as the global replication policy configuration.

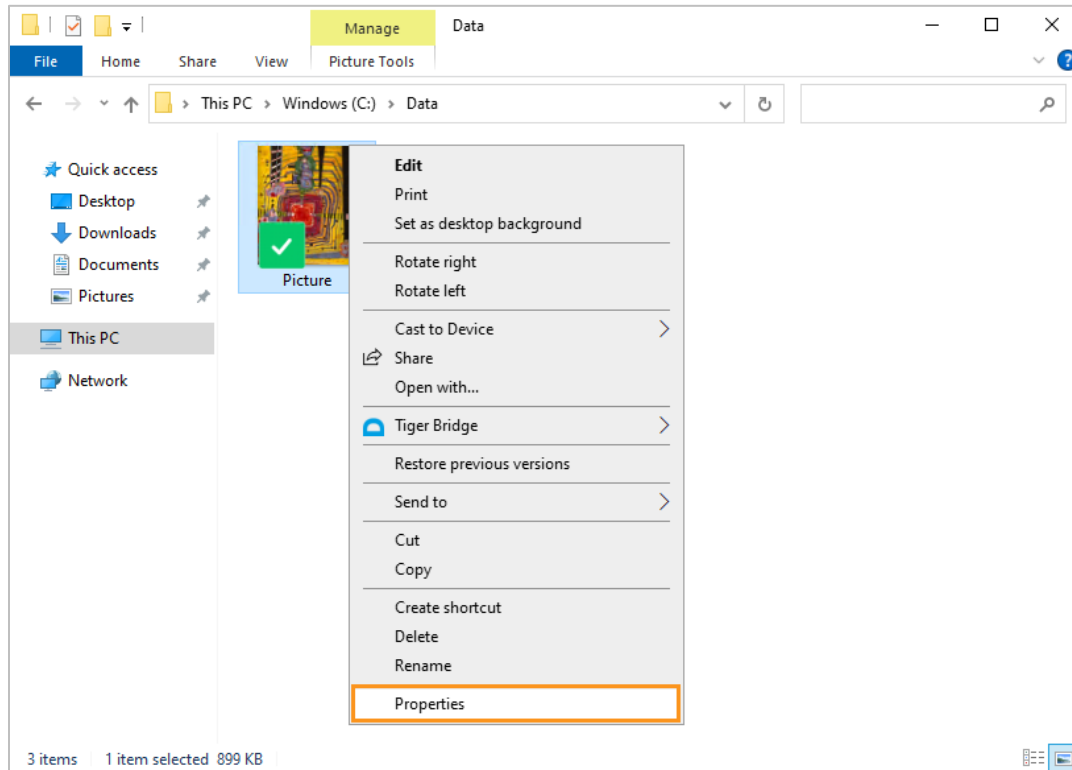
- Go back to File explorer and your C:\Data folder contents. Take a note of the green overlay icons on top of the files (**Note:** you may need to click F5 to refresh the folder contents for the overlay icons to appear):



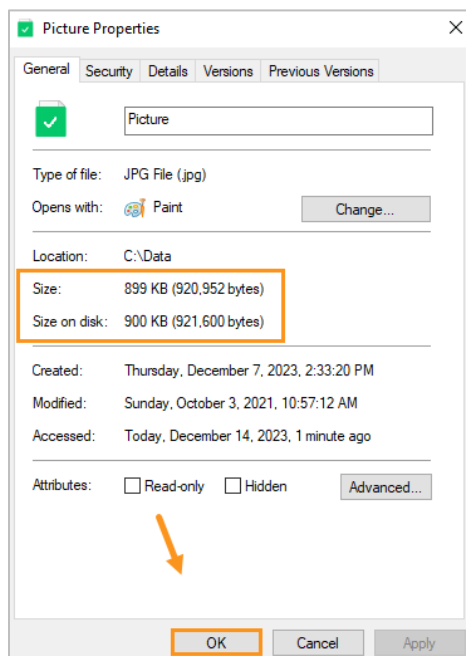
The green check on top of the files indicates successful replication. All these files are now also stored in the cloud target.

## Exercise 3 – Reclaiming Space Manually

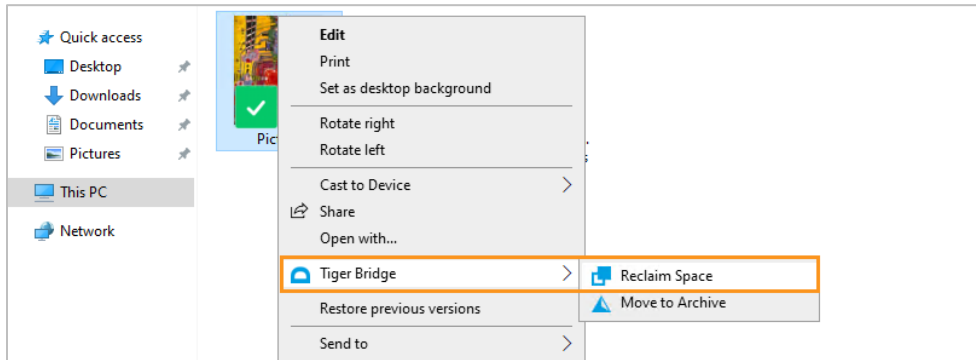
### 1. Right-click on the Picture and select **Properties**:



### 2. Note the **Size** and **Size on disk** values and then click **OK** to close the properties dialog:

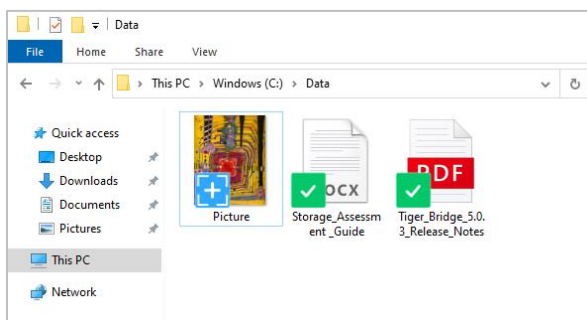


3. **Right-click** the same Picture, go to the **Tiger Bridge** menu and select **Reclaim Space**:

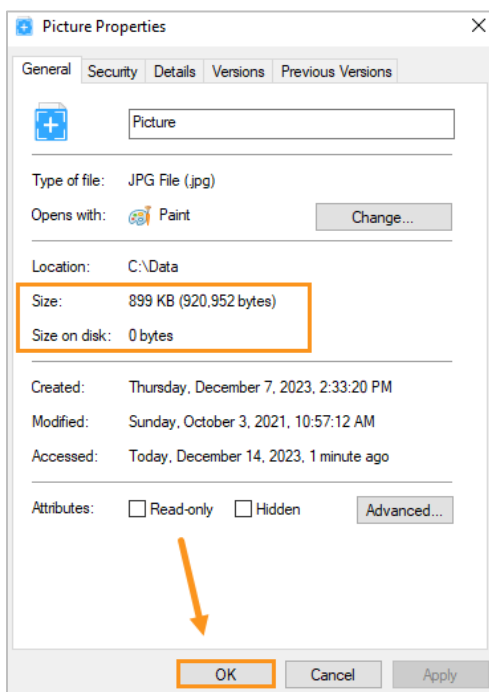


Note: You can perform this action on an individual file or on an entire folder, which may include subfolders.

4. Note how the **overlay** on top of the file changes after the space is reclaimed. It gives you a visual indication about which files do and which files do not occupy local space:



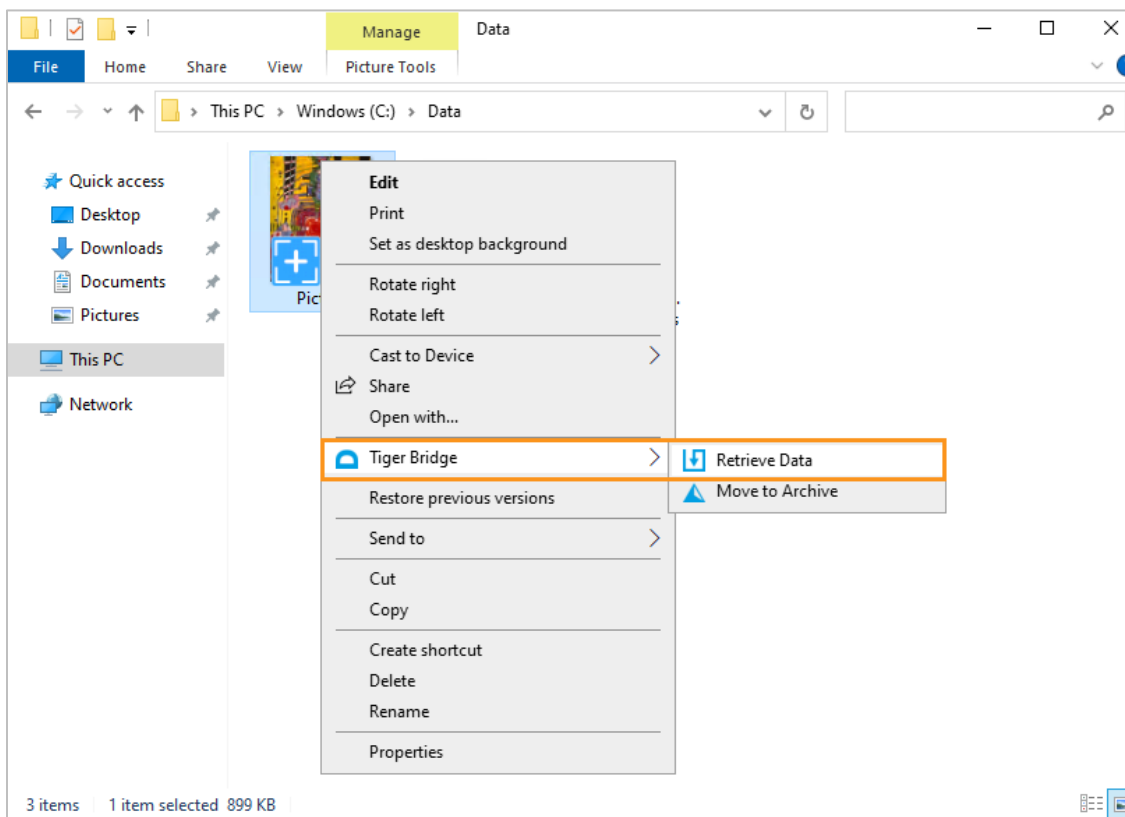
5. **Right-click** the same Picture and check its **Properties** again:



The size of the picture is still the same, it hasn't changed. However, the Size on this is now 0, indicating that this file is now only stored in the cloud target and is not occupying any space on the local storage, which is the ultimate goal of capacity extension. A relatively small local disk can provide an interface to an unlimited storage on the cloud target.

This procedure works not only on individual files but on whole folders as well.

(Do not perform now) If you want to get the data back a later point in time for whatever reason, you have the option to right-click the file or folder, go to the Tiger Bridge menu and select Retrieve Data.



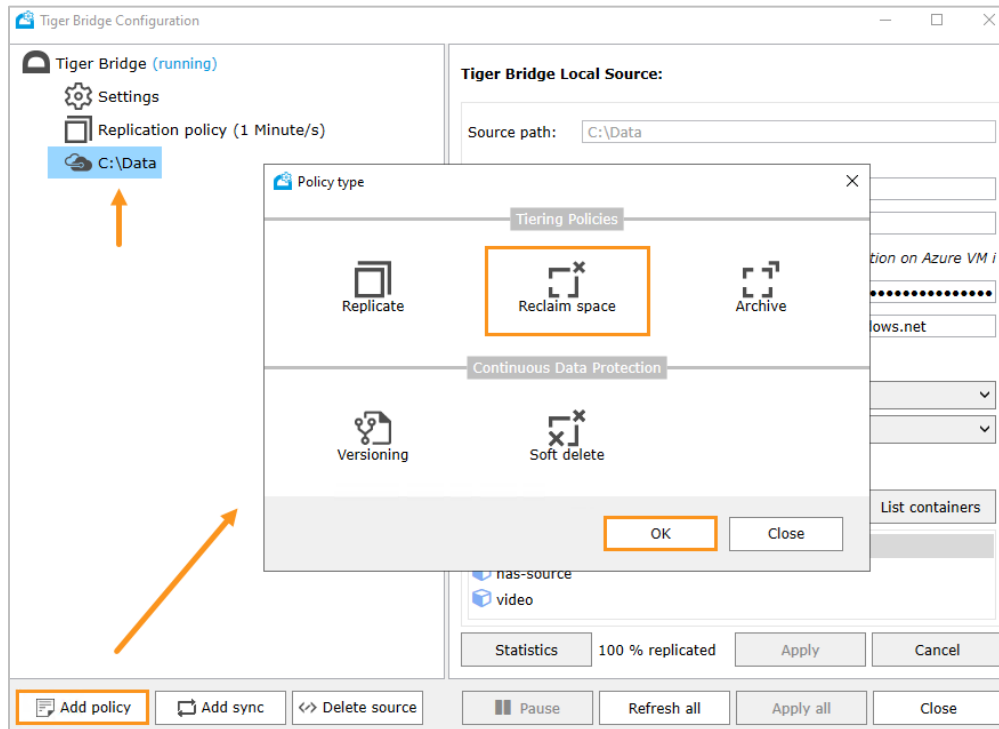
**(Do not execute now!)** Here, there is also an option to move the file (or potentially a folder) to an Archive tier if the target supports archiving. However, you do not need to do this manually. You will see how you can do that with a policy instead later in this guide.



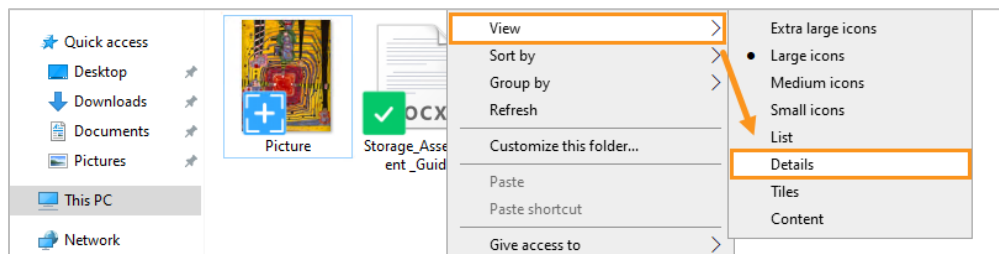
## Exercise 4 – Reclaiming Space Automatically

Tiger Bridge allows you to configure an automatic Reclaim space policy as well, which can trigger the reclaim procedure for certain files based on used local storage and/or last access date. When configuring the policy you will be able to specify your preference.

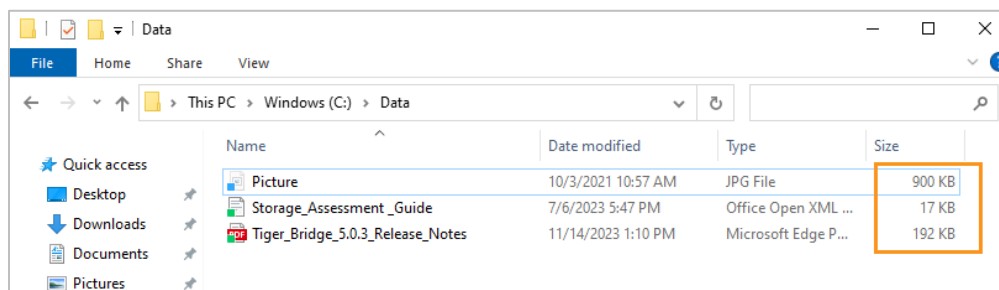
1. Select your source in the Tiger Bridge configuration window, then click on the **Add policy** button in the bottom left corner, select the **Reclaim space** policy type and click OK.



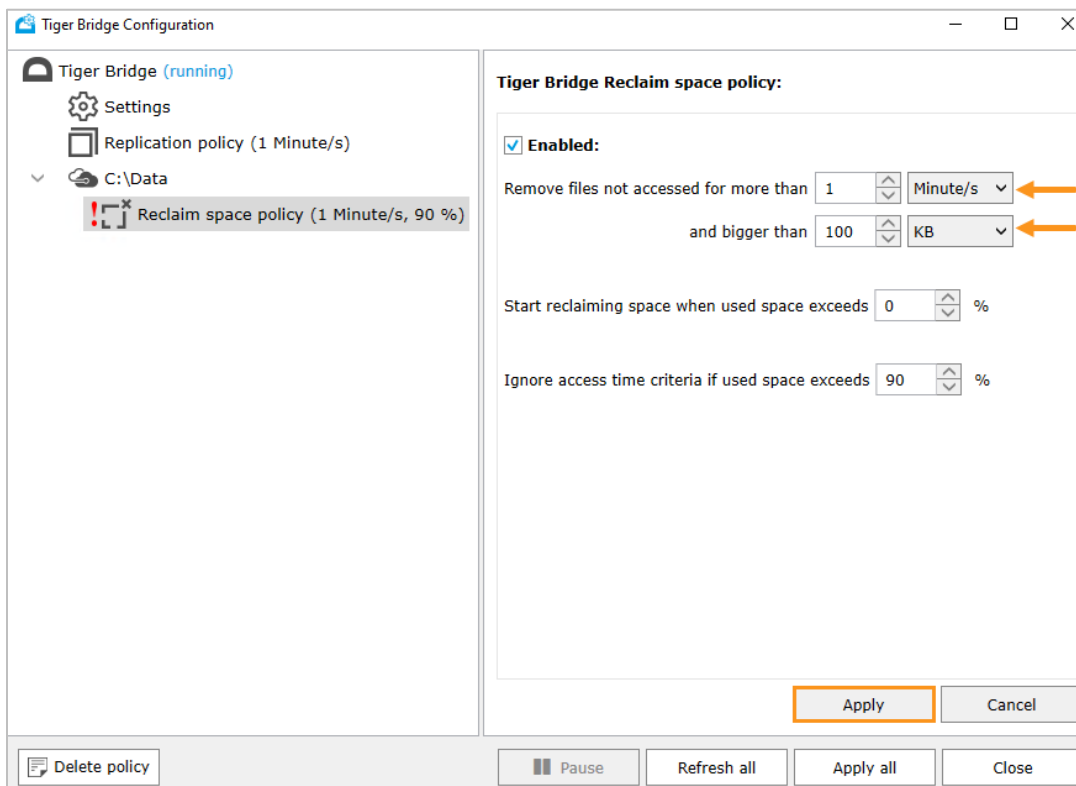
2. Go back to File explorer and switch the folder view to **Details**:



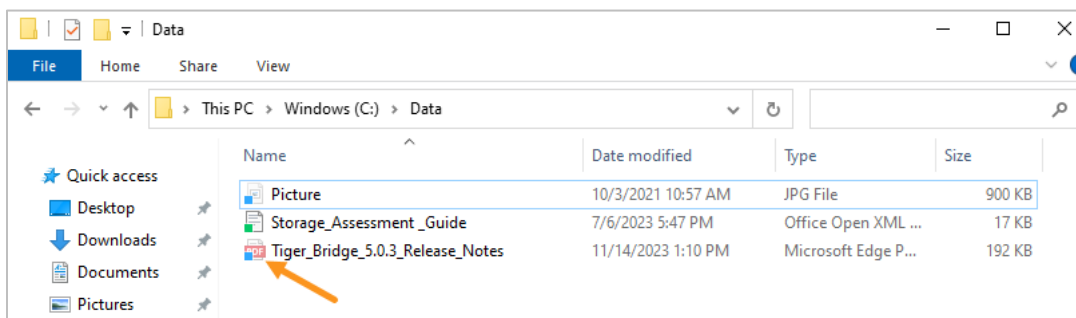
3. Note the sizes of the files:



- Go back to the Tiger Bridge configuration window and adjust the replication policy to remove the local copies of files **not accessed for more than 1 minute** and **bigger than 100 KB**. Then, click **Apply** and accept the confirmation message.



- If you check back the source folder contents, you will see that the space of a second file (bigger than 100 KB) is now reclaimed (the file has a blue overlay).



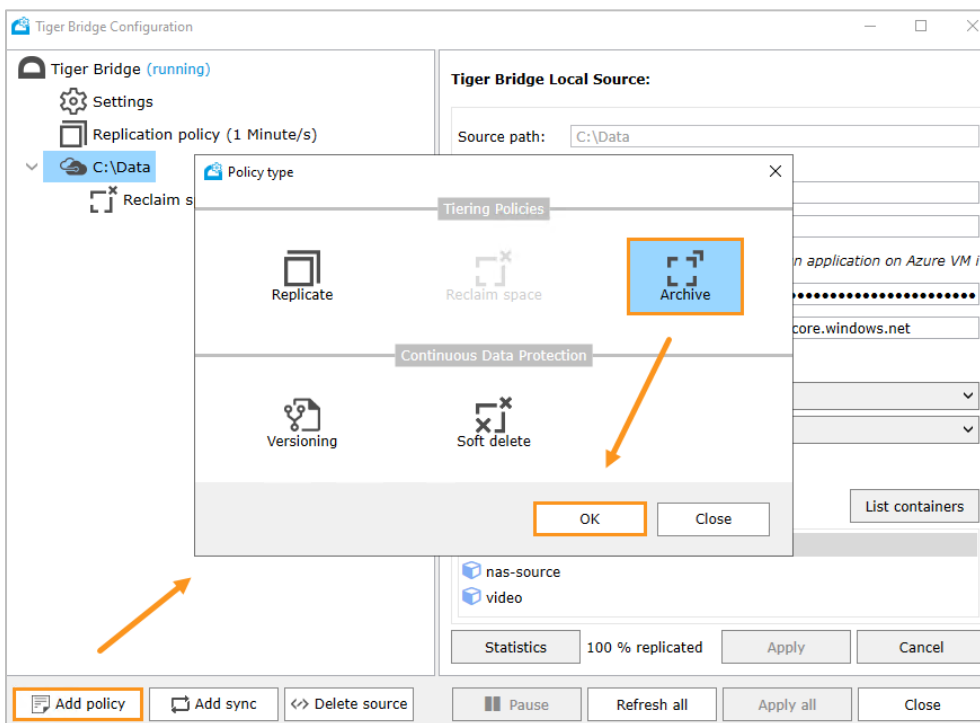
This happened automatically with the policy we just configured. The policy will keep on running, which means that if you go and create a new file, bigger than 100 KB and leave it for more than a minute, its space will also get reclaimed.

**Note:** The values we used for the policy are very aggressive and would normally not be used in a production environment. The settings we entered are for demonstrative purposes only. These policies should be configured carefully at your local site.

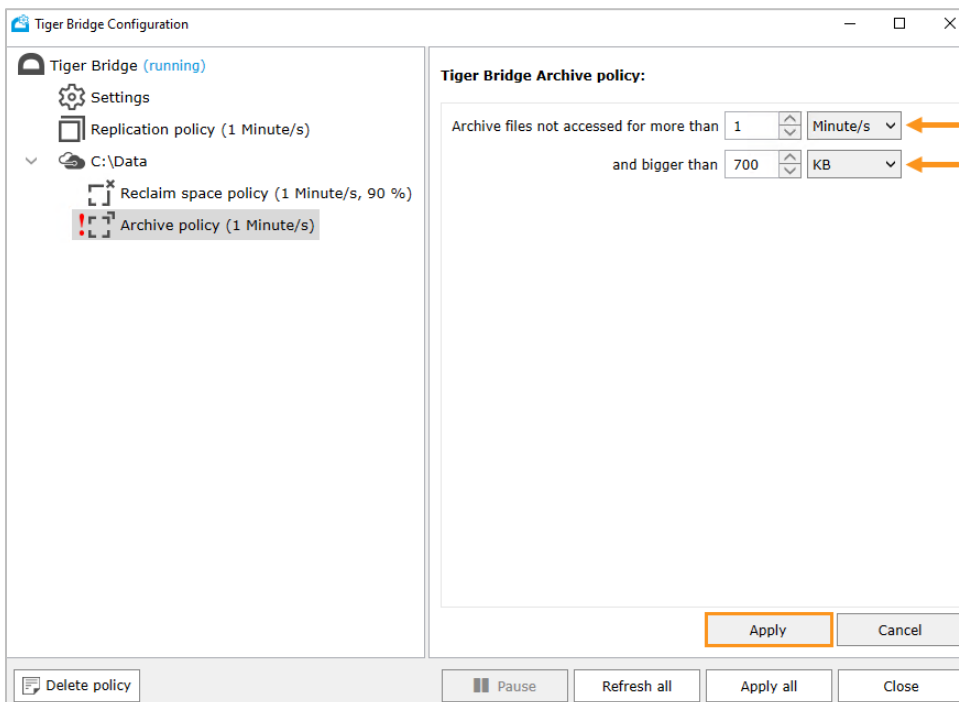
## Exercise 5 – Archiving Data

Tiger Bridge supports multiple cloud tiers. You can switch from one tier to another at any time and you can also have some sources configured to use one tier and other sources configured to use another one.

1. Select your source in the Tiger Bridge Configuration window, click to **Add policy**, select **Archive** and click **OK**.

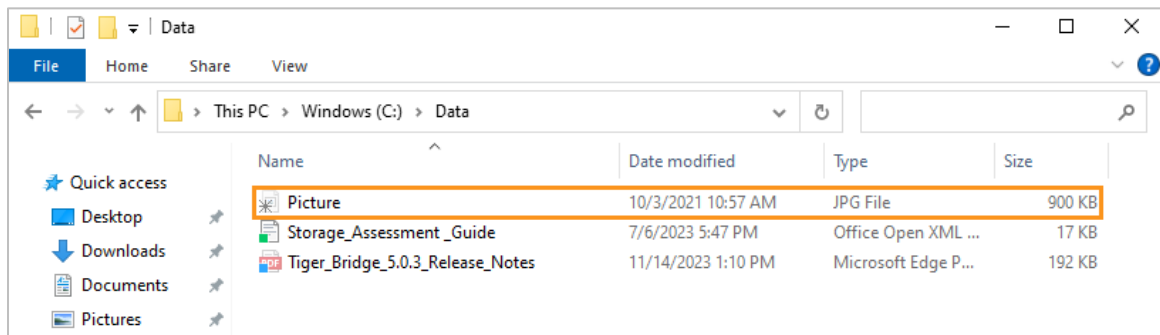


2. Configure the policy to archive files not accessed for more than 1 minute if they are bigger than 700 KB. Click **Apply** and then **OK** on the confirmation message.



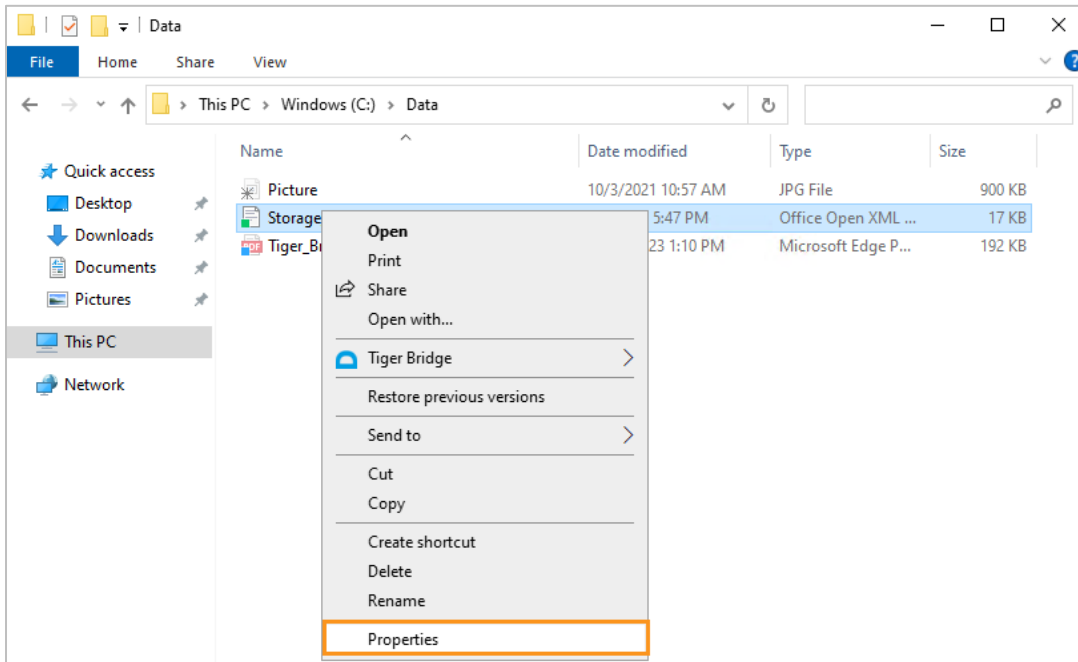
**Note:** Again, the settings we use for demonstrative purposes are very aggressive and NOT recommended for production usage. Adjust these settings carefully in your own environment.

3. In a minute, the overlay icon on the Picture file will change to a snowflake, which indicates the file is now in the Archive tier. The policy got triggered only for this file because it is the only one above 700 KB in size and has not been accessed in the configured time interval. Now you have three icons with different overlays – one, which is still locally available and has a green overlay; a second one, which is available on the cloud's immediate tier, with a blue overlay on top; and the third one, which is in the cloud's archive tier:

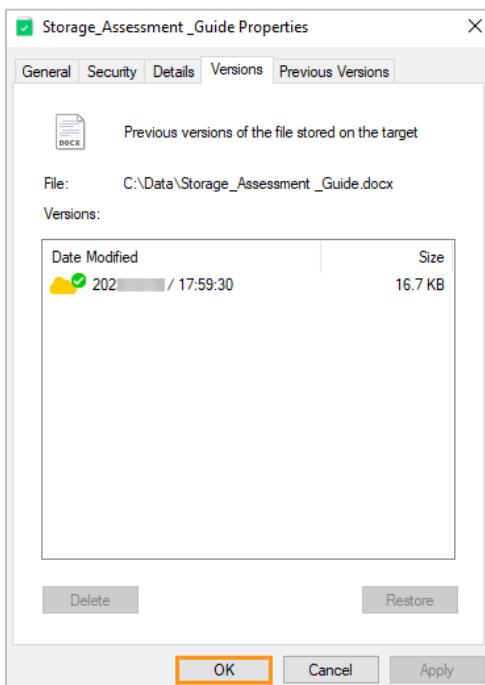


## Exercise 6 – Versioning on a File Level

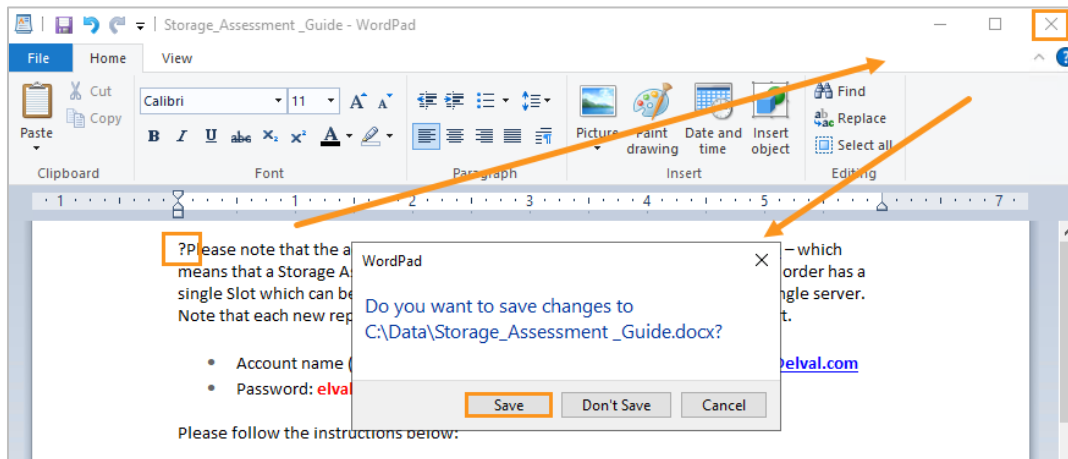
1. Right-click the Storage\_Assessment\_Guide in your source folder and go to its **Properties**:



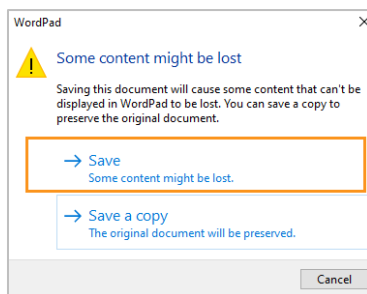
2. Go to the **Versions** tab to check how many versions on the target the file currently has. Should be just one. Click **OK**.



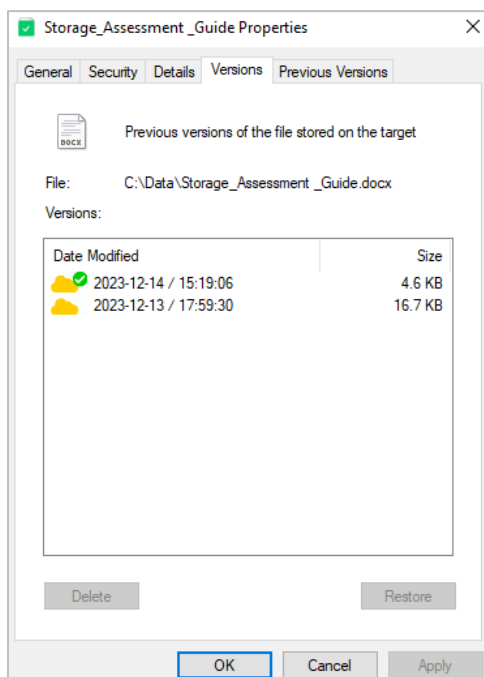
3. **Double-click** to open the Storage\_Assessment\_Guide in WordPad, **make a change** like adding one a question mark in the beginning of the text and then **close** and **save** the file:



4. Disregard the warning and just **Save**:



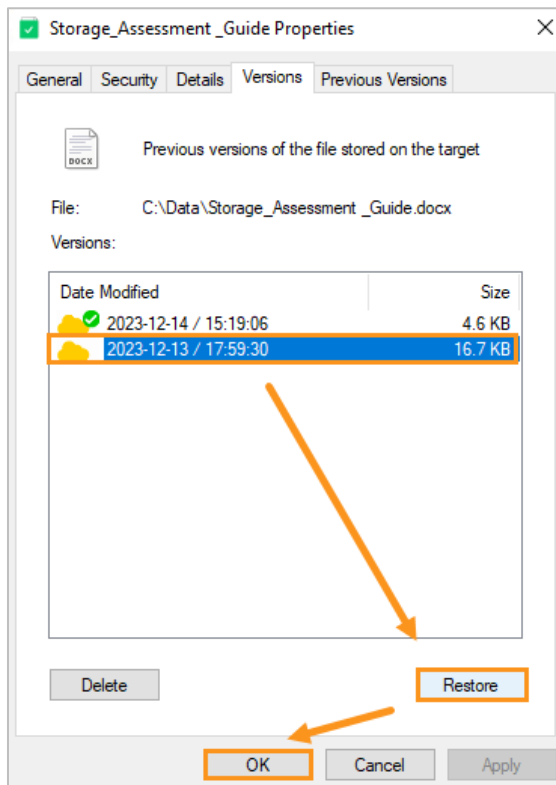
5. The icon on the file will lose its overlay for a little but in a minute, once it is replicated again, it will get its green color on again. Once that happens, **right-click** the file, go to **Properties** and check the **Versions** again. There should be a new version for you to see:



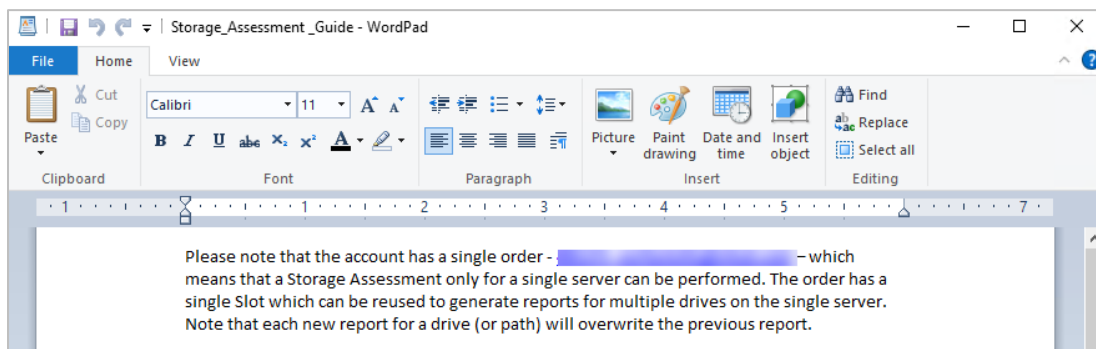
The latest and currently applied version is the one with the green checkbox on top. The color of the cloud in front might be blue as well, in case the version is kept in a Cold, instead of a Hot cloud tier.

Each edit operation on a file in the source folder is tracked as a version, because we enabled the Keep replica versions setting in the beginning.

6. **Click** the previous version of the file (the one without the green checkbox on top) and click **Restore**. Click **OK** on the confirmation message and then **OK** again on the Versions tab to close the Properties dialog.



7. **Double-click** to open the file once more and verify that the question mark or other change you made is no longer there:



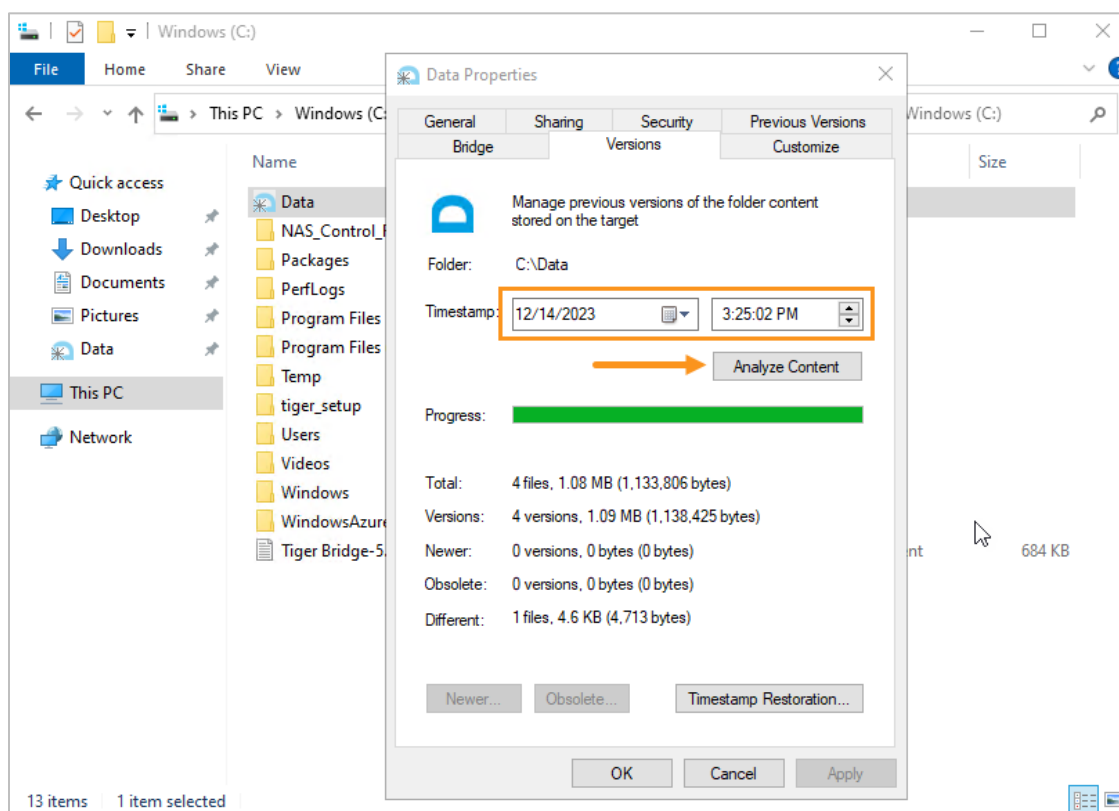
## Exercise 7 – Versioning on a Folder Level

Versioning on the folder level works in a little different way. It allows you to analyze the contents of the folder at a particular timestamp and shows you statistics about what has changed with a quick option to restore the whole folder, meaning all files inside to the selected timestamp.

1. Go one level up in File explorer, **right-click** the C:\Data folder you have configured as a source and go to its **Properties**.

In the versions tab, you can configure the **date and time** of interest. For example, if a virus has hit you during the night, you can select a timestamp of yesterday evening before the hit. This would allow you to restore all your files to their versions before the attack.

For our demo purposes, leave the current time and click the **Analyze Content** button.



Some statistical information will show below with the option to click Timestamp Restoration (you can optionally click the button).

If you select some time before the change you made to the file in the source folder, you would have 1 newer file in the statistical information.

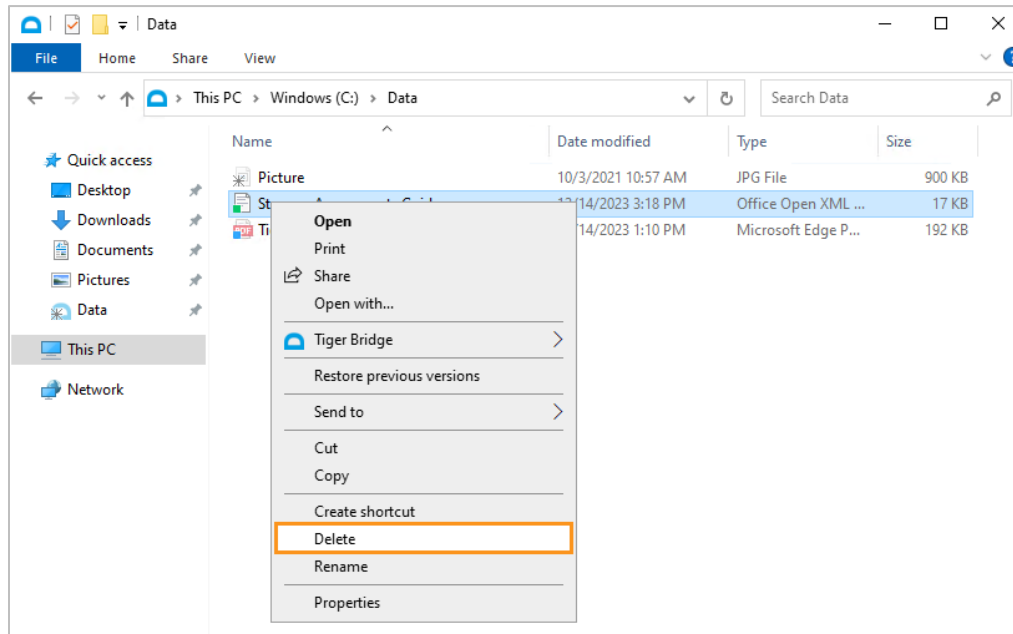
Click **OK** when you are done with the folder versions.



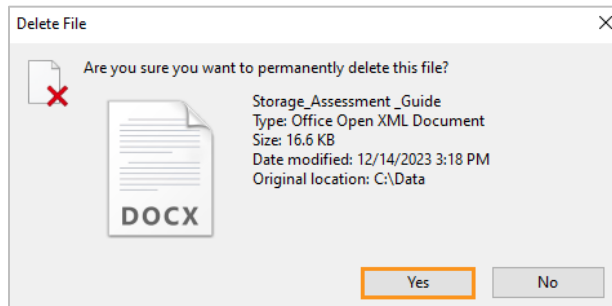
## Exercise 8 – Undeleting a File

Keeping versions with the help of Tiger Bridge and the cloud allows you to also revert back from an accidental or malicious files and folders deletion.

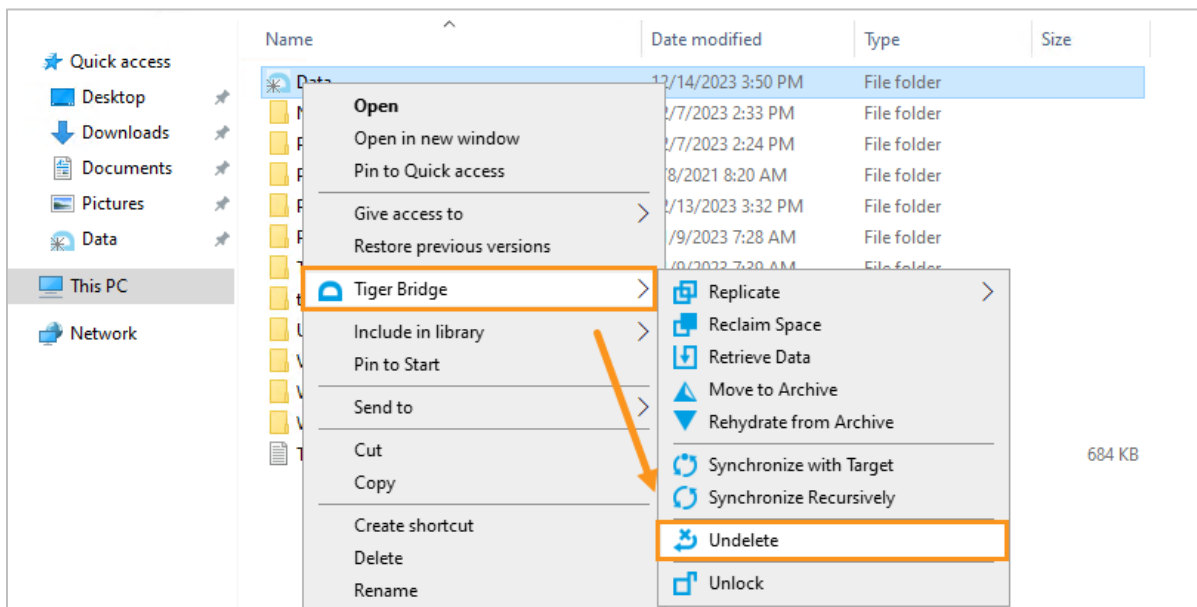
1. Go back into your source folder and delete the `Storage_Assessment_Guide`.



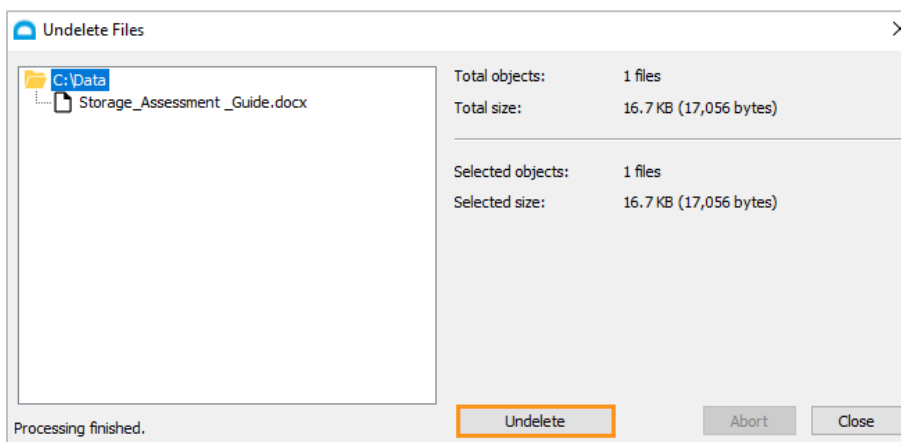
2. Make sure you empty the Recycle Bin too, so there is no way to recover the deleted file locally:



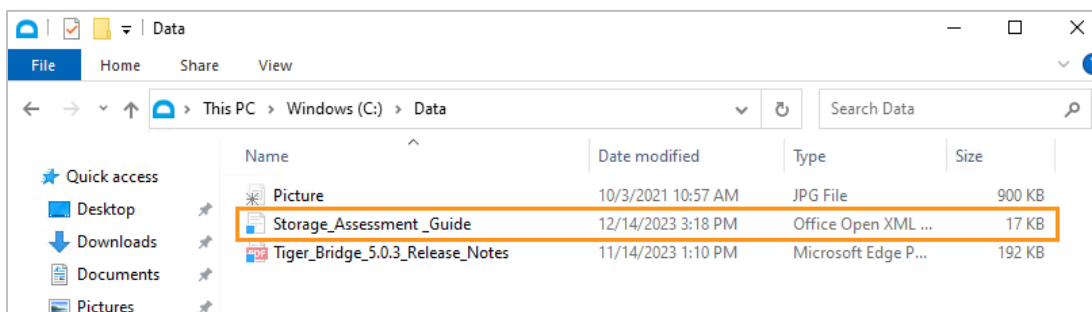
- Go one level up in your File explorer, right-click the C:\Data folder, go to the Tiger Bridge menu and click on Undelete:



- Click the **Undelete** message, then **OK** on the confirmation message and eventually **Close** the Undelete Files dialog:



- Go back to your source file to see that the file is back:



However, its overlay is now blue as it is only stored in the cloud target. If you want to bring the file back locally, you can right-click it and select Tiger Bridge -> Retrieve Data (not needed right now).

## Lab 3 – Disaster Recovery

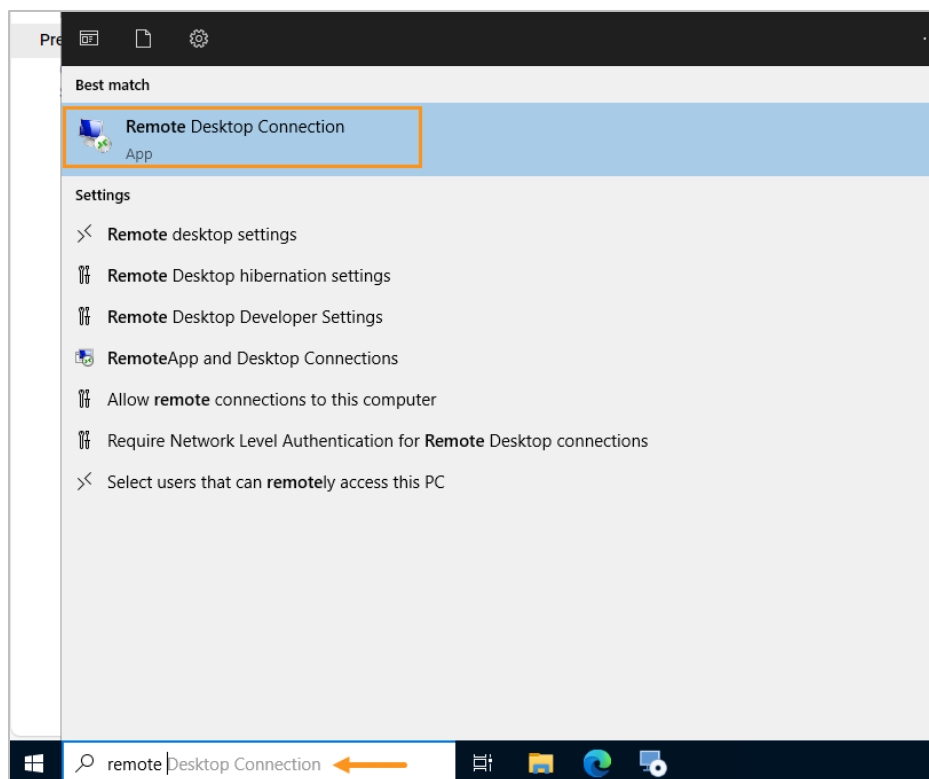
In this lab, you will try out the Tiger Bridge disaster recovery mechanism, which does not include synchronization between two machines. The synchronization options we will take a look at in the next lab.

For this lab, you will work with the second server you received email information about – the Orange server. Pay close attention to the instructions in this guide as to which operations should be performed on the orange server and which operations should be performed on the blue one.

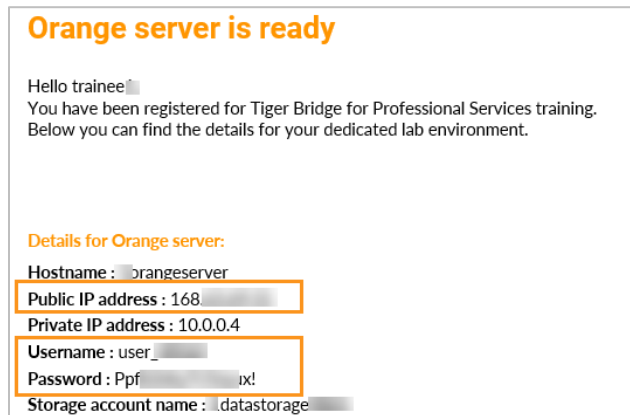
### Exercise 1 – Logging in the Orange Lab Server

You should have received an email from [training@tiger-technology.com](mailto:training@tiger-technology.com) with information about the two servers you will be working with – the Blue one and the Orange one, together with some more details you will need throughout the lab.

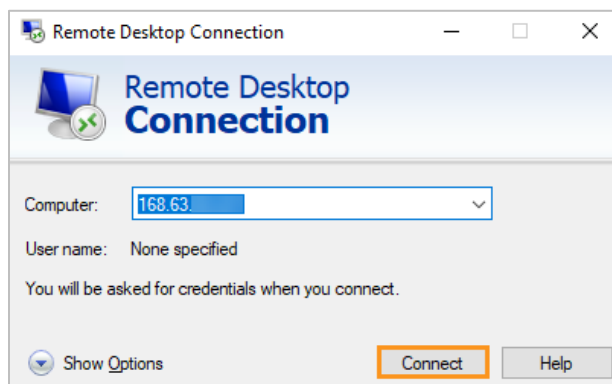
1. Open **Remote Desktop Connection** on your personal computer, **make sure you do not do that from the server you were working on so far**:



2. Get the **Public IP Address** and credentials of the Orange server from the respective email:



3. **Enter** the Public IP address in your Remote Desktop Connection and click **Connect**:



4. Then add the **credentials** and click **OK**.
5. Click Yes to open the connection. Optionally, you can check the box for “Don’t ask me again for connections to this computer”.
6. The first time you login, a configuration script will start to set your environment up for the rest of your lab activities. Please wait patiently for about a minute or two until the setup completes.
7. A Networks menu might show up to the right, feel free to close it with the Yes button.
8. Eventually, the Orange desktop should show up with some information about the server you are working with:



## Exercise 2 – Setting up Tiger Bridge on the Orange Lab Server

1. Click the Windows start button in the bottom left corner of the Orange server's screen and then open **Microsoft Edge**.
2. When started for the first time, Edge has a wizard it makes you go through. Start without your data for both Microsoft and Google and confirm your choices when asked.
3. Once you are done with the initial wizard, enter the URL of the Tiger Technology's Licensing Server: <https://license.tiger-technology.com>.
4. The credentials for you to use for logging in can be found in the **Blue** server email, copy them from there (there are no separate credentials for the Orange one):


**Storage account access key :**  
 IPVY2ey9XMNth3EmGwCsg5wQ0oNGgOJY74

**Tiger Bridge activation username :** TrainingProgramRes\_755b1; .....:d7bc08

**Tiger Bridge activation key :** Pgh>.....

The server will be available until : 17.11.....

5. **Log in** to the licensing server with the copied over credentials.
6. Click **Current Version** on the left. This will allow you to **download** the Tiger Bridge installation file again:



Software Order **TrainingProgramRes\_755b1; .....:08** Logout

Order				Licenses
Product	Type	Date Created	Maintenance	Capacity Limit
Bridge 5.X	SaaS Trial	07-.....	17-.....	50 GB

**Reports**

- [License Information](#)
- [Usage](#)
- [Activation Report](#)

**Download**

- Current Version
- [Older Versions](#)
- [Documentation](#)

**Preference**

- [Contact Information](#)
- [Set Password](#)

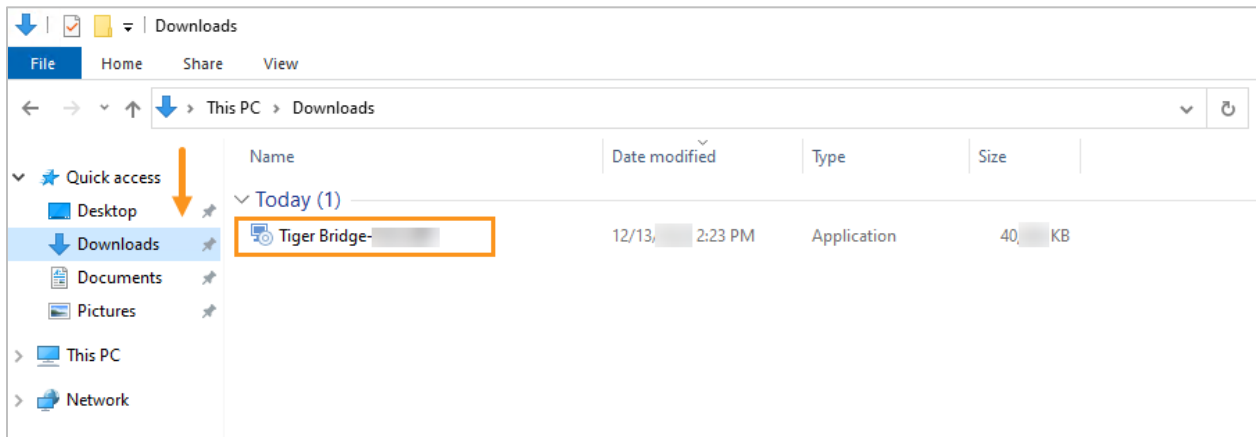
### Latest Version Download

Windows

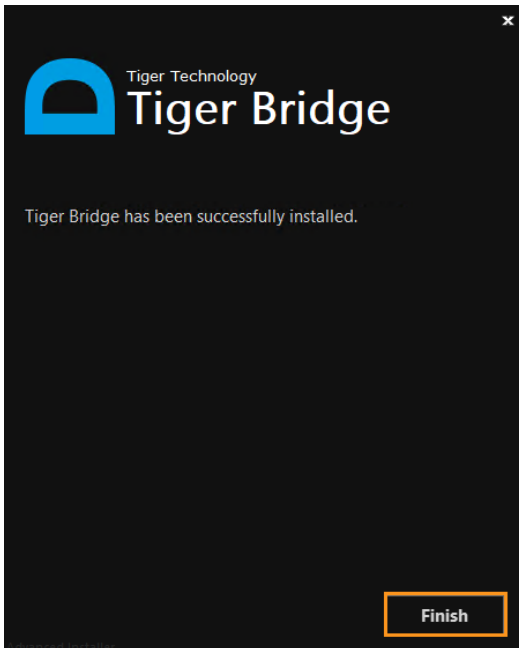
Description	Release Date	Size	Download
Tiger Bridge Shell Extension ..... for Windows (to be installed on machines without Tiger Bridge)	01-Jun-.....	11.00 MB	↓
Tiger Bridge Tape Manager ..... for Windows	01-Jun-.....	6.14 MB	↓
Tiger Bridge ..... for Windows	01-Jun-.....	39. MB	<span style="border: 1px solid orange; padding: 2px;">↓</span>

For installing Tiger Bridge, follow the same steps as in Lab 1, Exercise 3, to install Tiger Bridge on the Orange machine:

7. Since Tiger Bridge is already downloaded, open your **File Explorer** and go to **Downloads** so you can get to the downloaded file. Double-click it to start the installation:



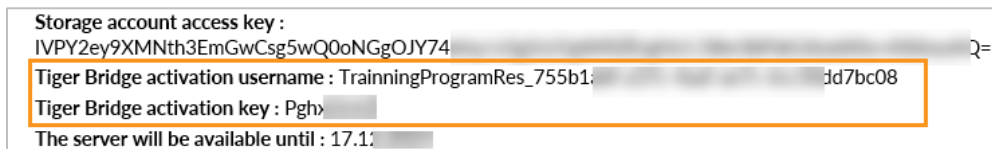
8. Click **Next** on the greeting message
9. Click **Next** on the prerequisites to be installed
10. Check the box to agree to the terms and conditions and click **Next** on the setup screen.
11. Click **Install** to start the installation process (it will take a few minutes to complete).
12. Click **Finish** when the installation is over:



13. Open the Tiger Bridge Configuration tool from your Orange server's desktop:



14. Enter the same order name and password you used in Exercise 2 to log in to the Licensing server, as per the Blue server email:

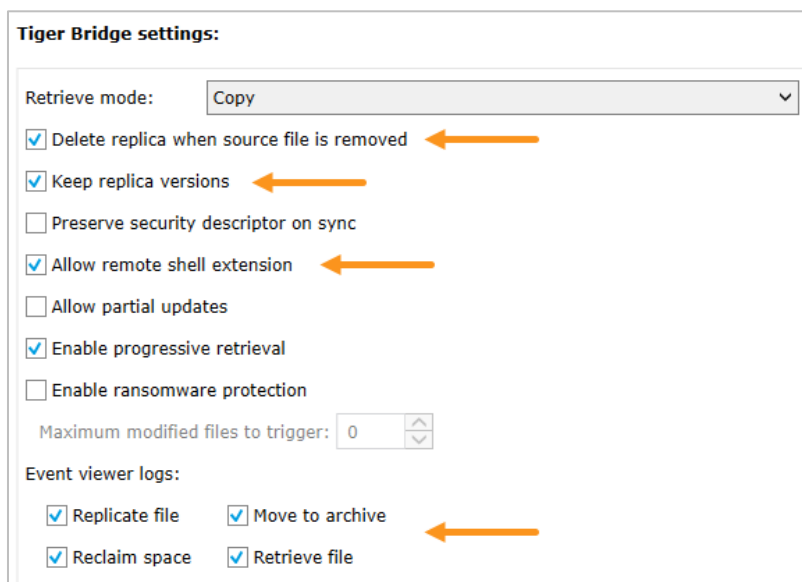


15. A successful activation message should show up. Click **OK**.

16. Go to the Settings menu on the Orange server and make sure the following settings are configured as follows:

- Delete replica when source file is removed should be ticked/enabled
- Keep replica versions should be ticked/enabled
- Allow remote shell extension should be ticked/enabled

Additionally, enable all the Event viewer logs so you can check them out later



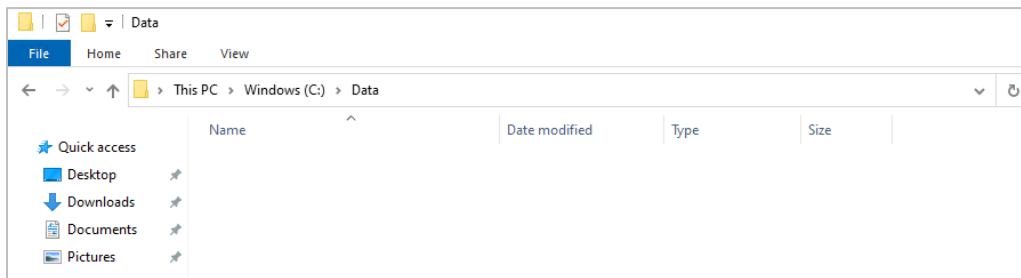
17. Enabling replica versions will make an additional confirmation message pop up. It warns you that for Tiger Bridge versions to work properly, Versioning needs to be enabled on the cloud target as well. Click **Confirm**.

18. Click **Apply** to save your changes and then Yes to allow Tiger Bridge to restart:

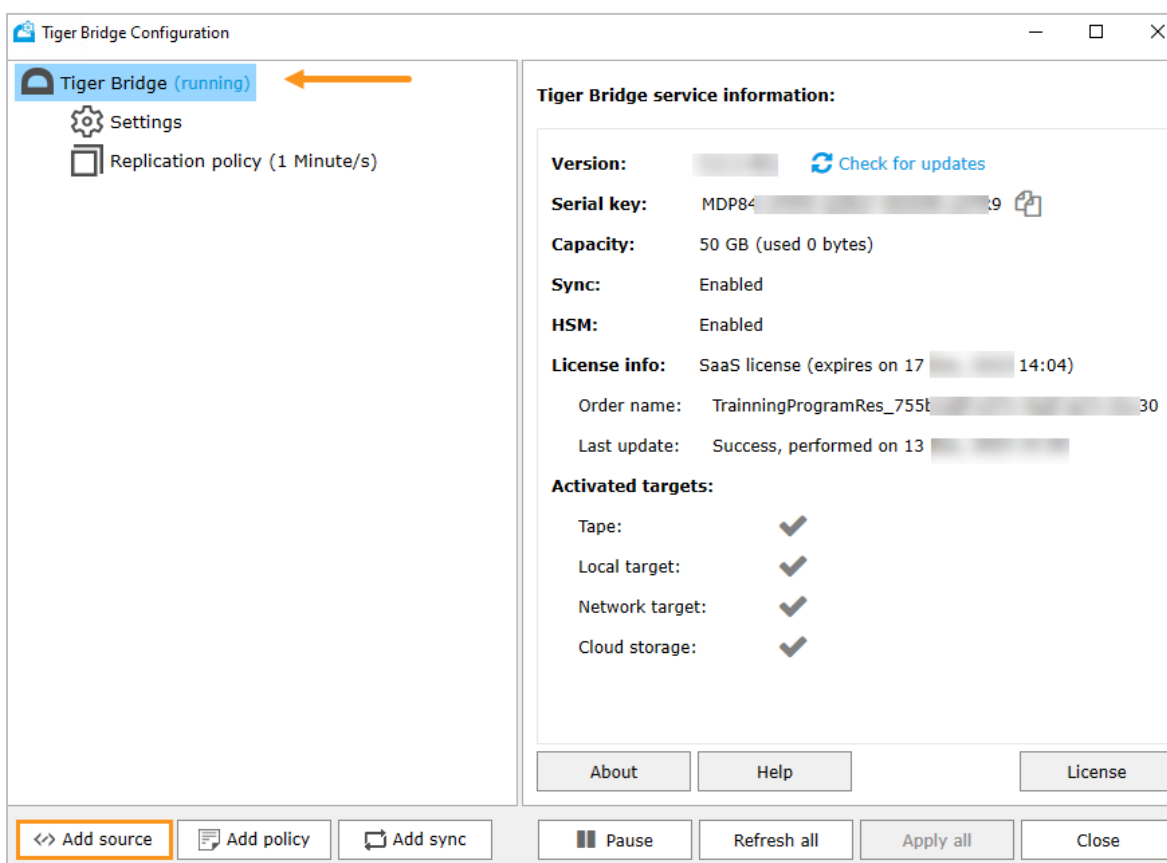
19. Click **OK** on the confirmation message.

Now it is time to add the same source you used on the Blue server:

- Before you start the configuration, open File explorer on the Orange server and navigate to the C:\Data folder. Verify it is currently empty with no files or folders inside:



- Click the main Tiger Bridge menu on the left navigation and then click the **Add source** button bottom at the left corner of the Tiger Bridge Configuration screen:





22. **Browse** to the C:\Data directory and click the **Select Folder** button.
23. On the Tiger Bridge target screen, select **Azure** and click **OK**.
24. **Get** the needed target information from your Blue server email:

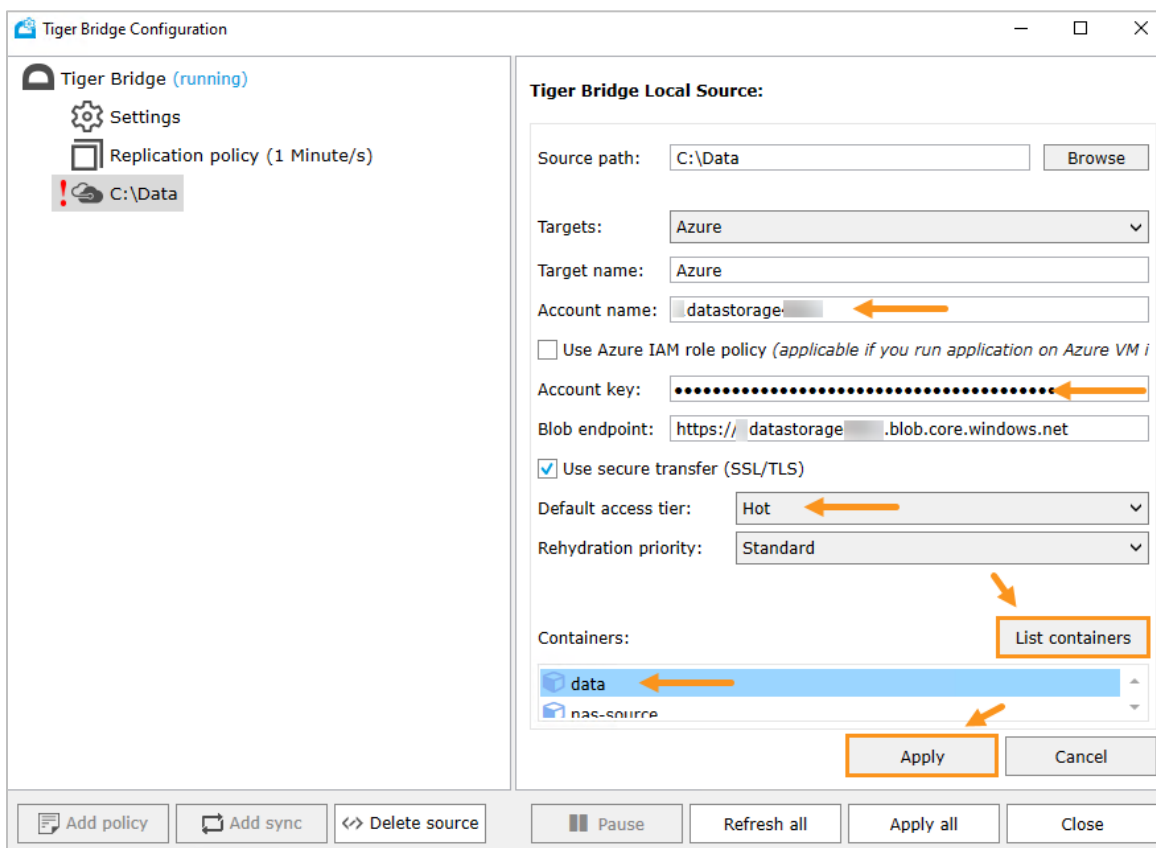
Username : user\_ [redacted]

Password : Ppft: [redacted]!x!

Storage account name : 1datastor[redacted]

Storage account access key :  
 IVPY2ey9XMNth3EmGwCsg5wQ0oNGgOJY74 [redacted]

25. Add the same **account name** and **key** you used on the Blue server as per the **Blue** email information, make sure the **Hot** tier is used for replication, click **List containers** and select the **data** one. Eventually, click **Apply** to save your target configuration:

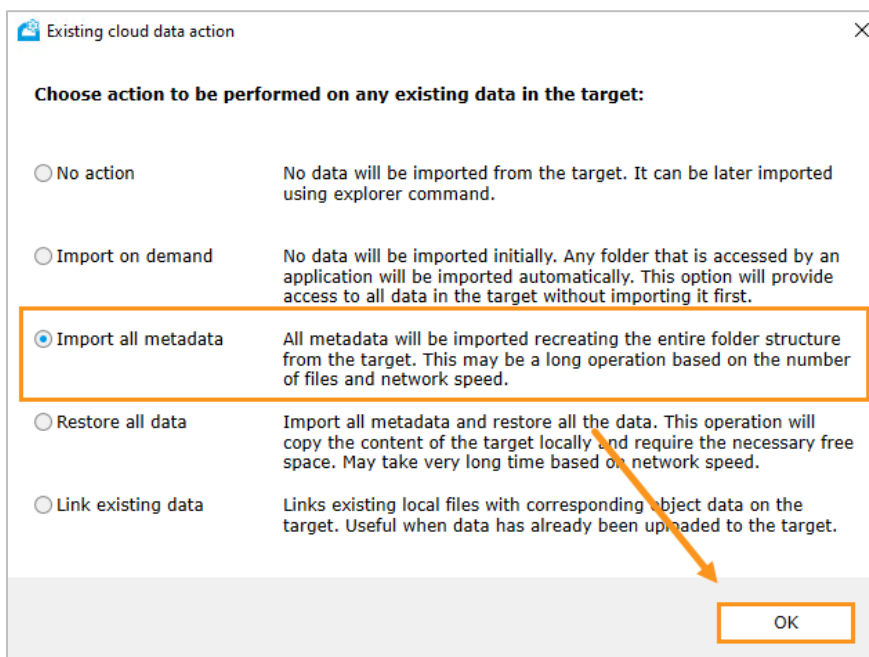


The screenshot shows the 'Tiger Bridge Configuration' window. On the left, there's a sidebar with 'Tiger Bridge (running)', 'Settings', 'Replication policy (1 Minute/s)', and 'C:\Data'. The main area is titled 'Tiger Bridge Local Source:'. It contains the following fields and controls:

- Source path: C:\Data (with a 'Browse' button)
- Targets: Azure (dropdown)
- Target name: Azure
- Account name: datastorage (with an orange arrow pointing to it)
- Use Azure IAM role policy (applicable if you run application on Azure VM i
- Account key: [redacted] (with an orange arrow pointing to it)
- Blob endpoint: https://datastorage[redacted].blob.core.windows.net
- Use secure transfer (SSL/TLS)
- Default access tier: Hot (dropdown, with an orange arrow pointing to it)
- Rehydration priority: Standard (dropdown)
- Containers: A list with 'data' selected (with an orange arrow pointing to it) and 'nas-source' below it. A 'List containers' button is highlighted with an orange box and an arrow pointing to it.
- 'Apply' and 'Cancel' buttons at the bottom right, with 'Apply' highlighted by an orange box and an arrow.

At the bottom of the window, there are several action buttons: 'Add policy', 'Add sync', 'Delete source', 'Pause', 'Refresh all', 'Apply all', and 'Close'.

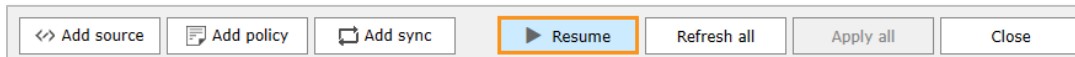
26. Select Import all metadata as a existing cloud data action:



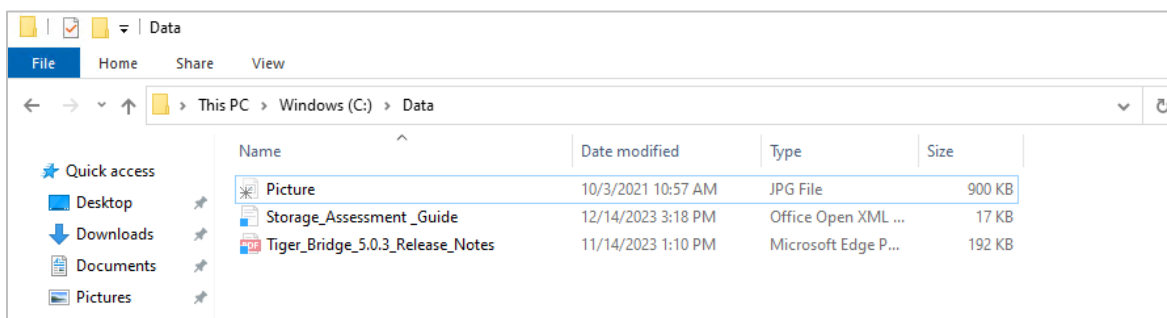
**Note:** Take a look at the other options' descriptions as well.

27. Click **OK** on the confirmation message. Tiger Bridge will be left in a paused state after that.

28. Click on **Tiger Bridge** in the menu and then **Resume** its work:



29. Go back to your source folder in File explorer and check to see the newly added files there:



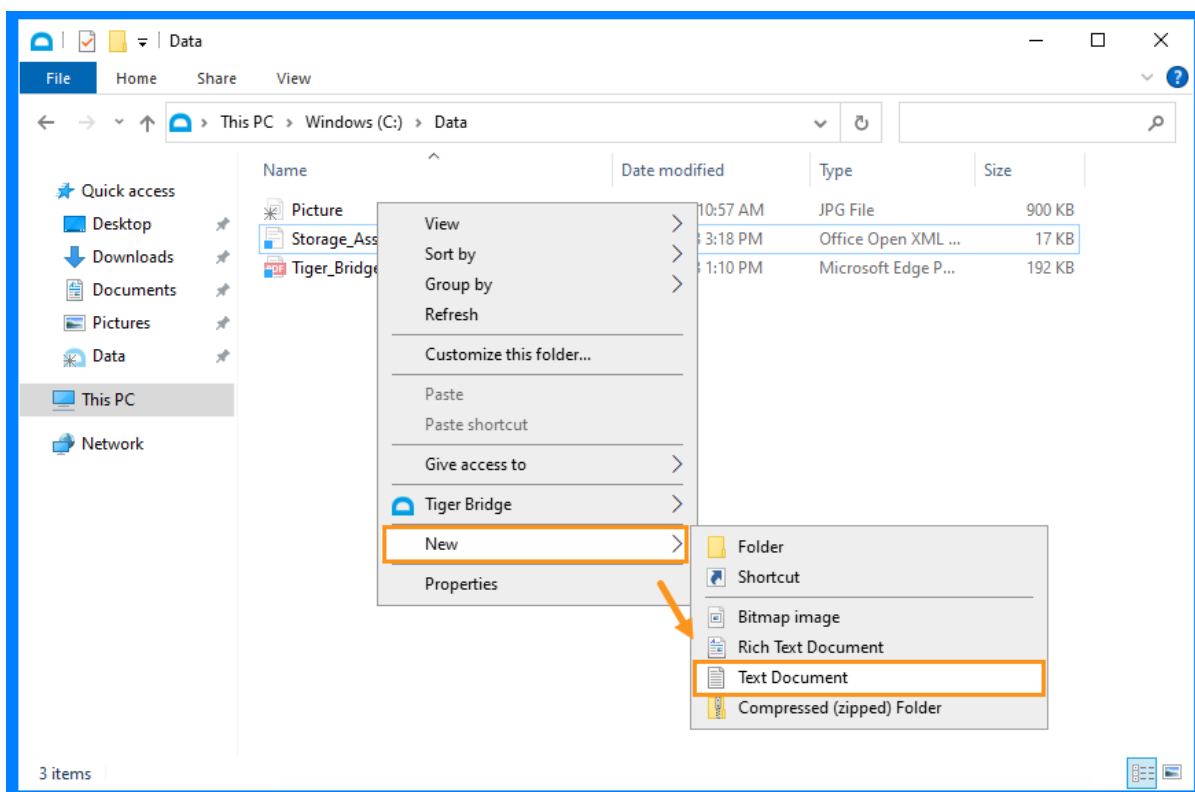
None of them occupies space on the local storage yet, only their metadata has been downloaded from the cloud target. The picture file is still located in the archive storage, as visible from its icon.

## Exercise 3 – Syncing Data Manually

The two machines currently have the exact same contents in their Tiger Bridge source folders. However, since synchronization has not been configured, if you make a change in the Blue machine now, that change won't show up on the Orange one.

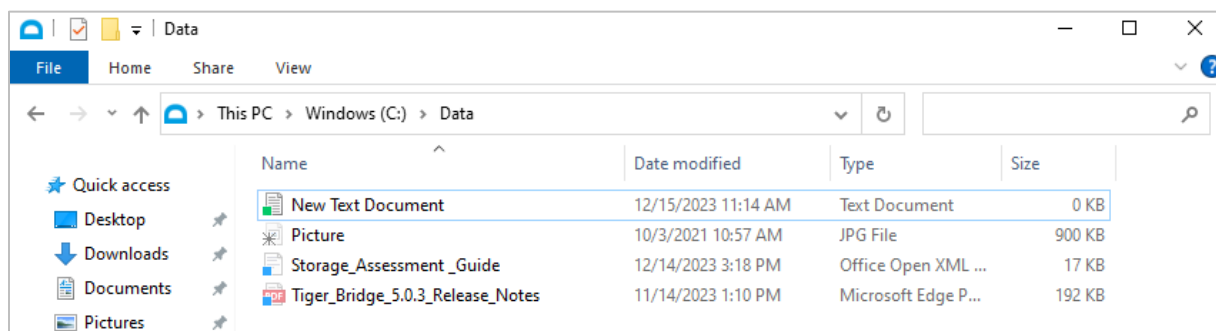
Let's give it a try.

1. On the Blue machine, right-click in your source directory, go to the New menu and click to create a Text Document

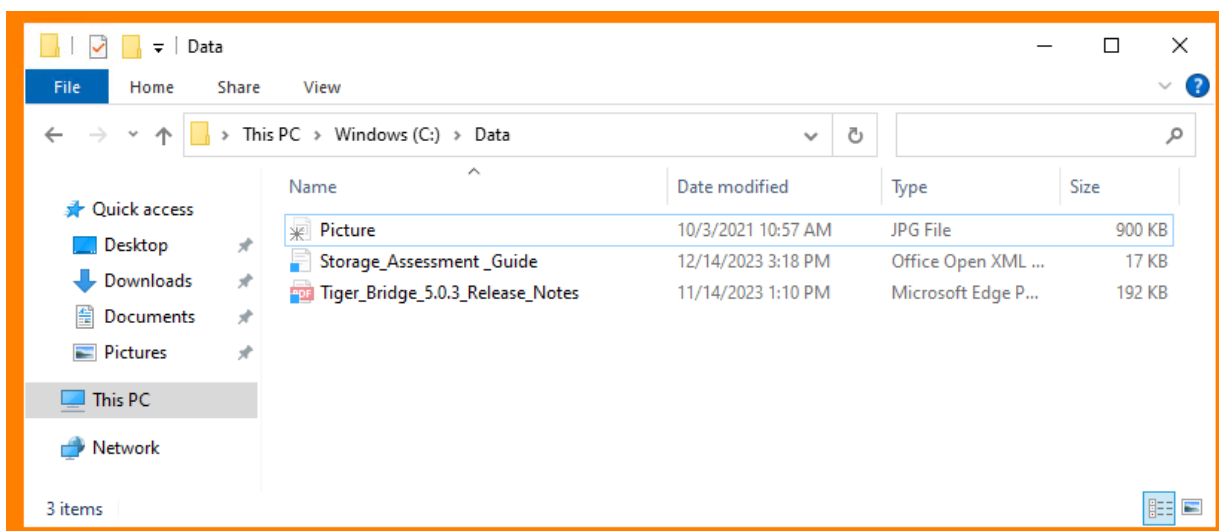


You can leave it with its default, New Text Document, name or you can give it one that you like.

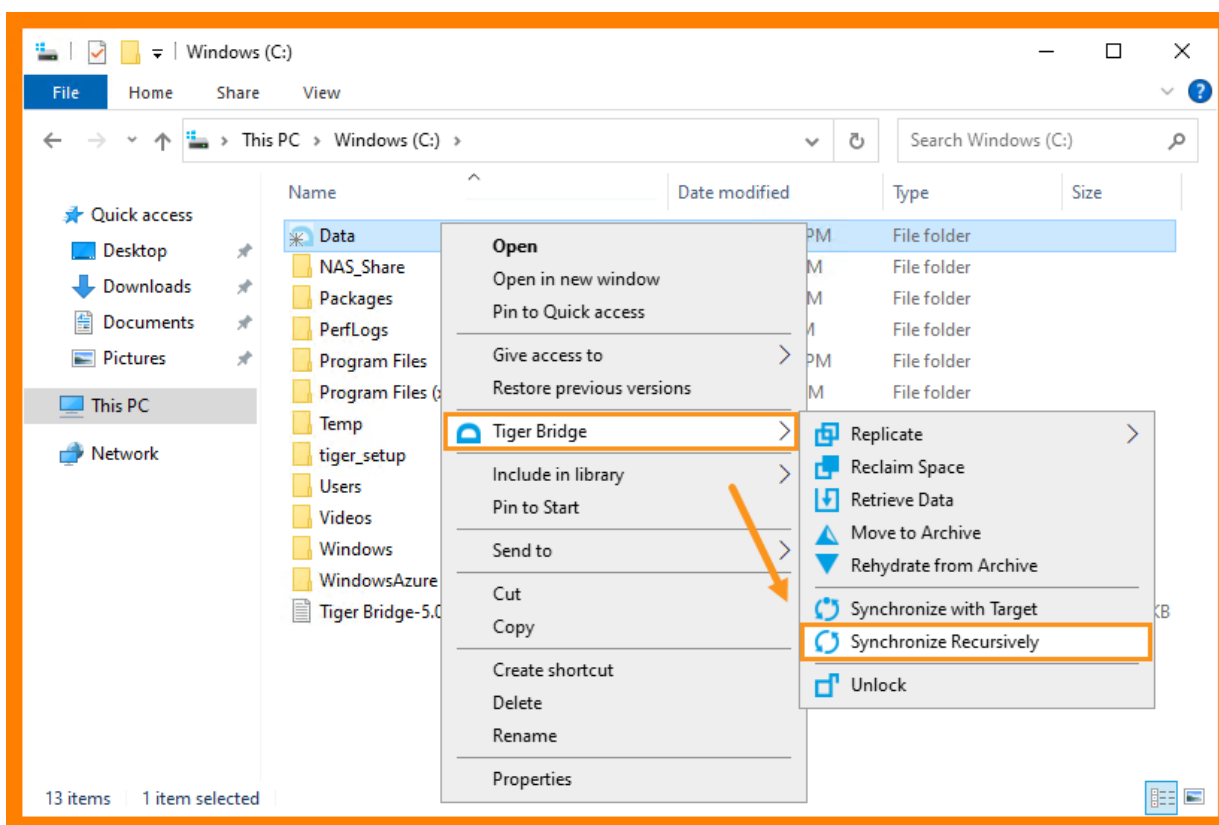
The file will show up in your source folder and, in a minute, it will get its green overlay as it will get replicated to the cloud:



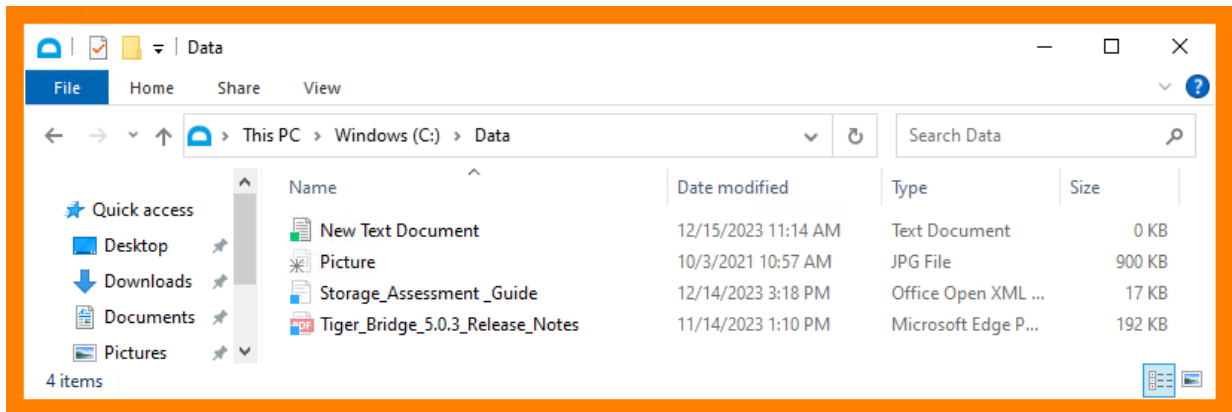
- Go back to the Orange machine and check its source folder. Even after waiting for a minute or two, you will not see the new document added there as there is no syncing mechanism configured between the two machines:



- Apart from the opportunity to create and configure a Sync policy between the machines, which we will learn more about later, Tiger Bridge allows you to manually sync the data in such a disconnected setup. For that, go one level up in the File explorer of the Orange machine, right-click the Data folder, go to the Tiger Bridge menu and click on Synchronize Recursively:



4. Get inside the Data folder again and you will now be able to see the newly added on the Blue machine file, now synchronized on the Orange machine as well:

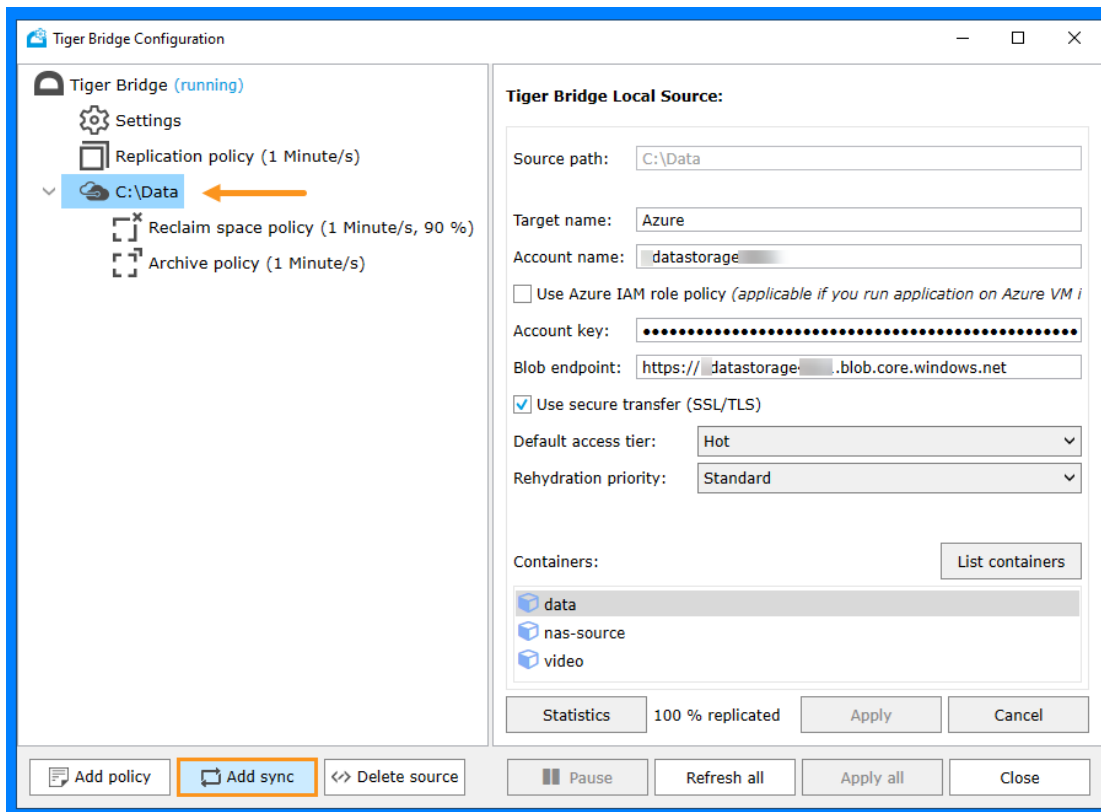


## Lab 4 – Multi-Site Collaboration

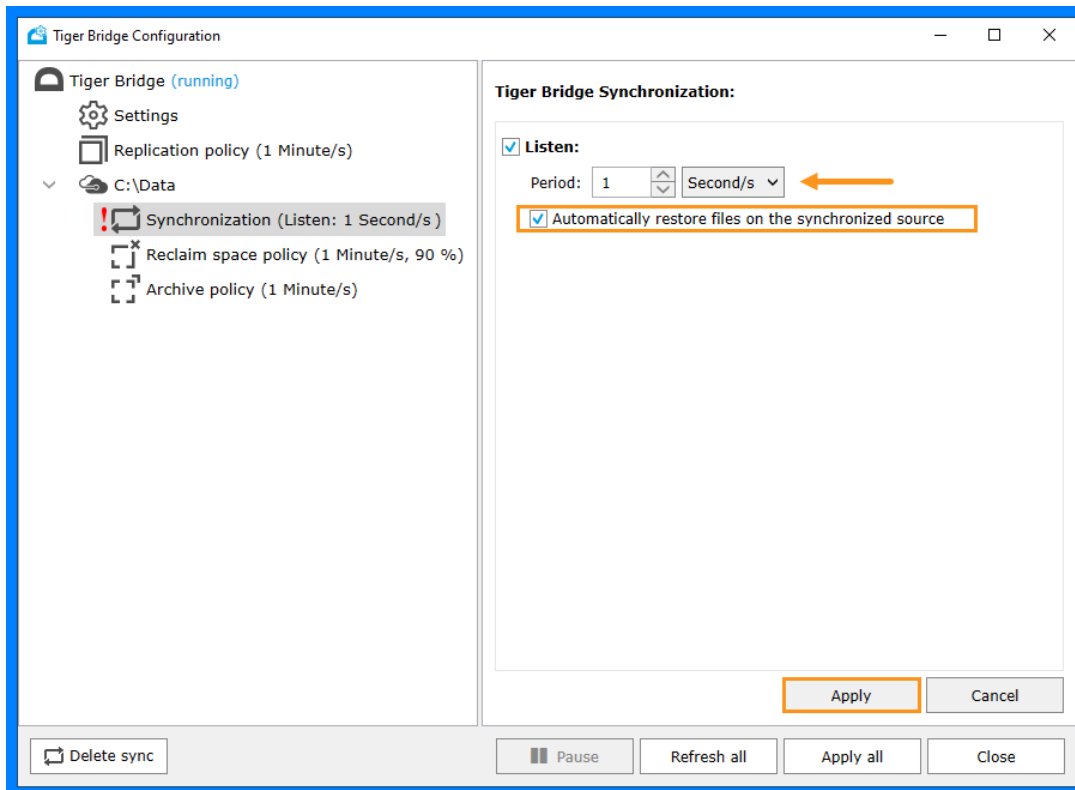
Tiger Bridge’s multi-site collaboration allows for two or more machines to maintain a constant synchronization through the cloud target, so that a change made on any of the machines can get automatically populated on the others.

### Exercise 1 – Setting up Synchronization

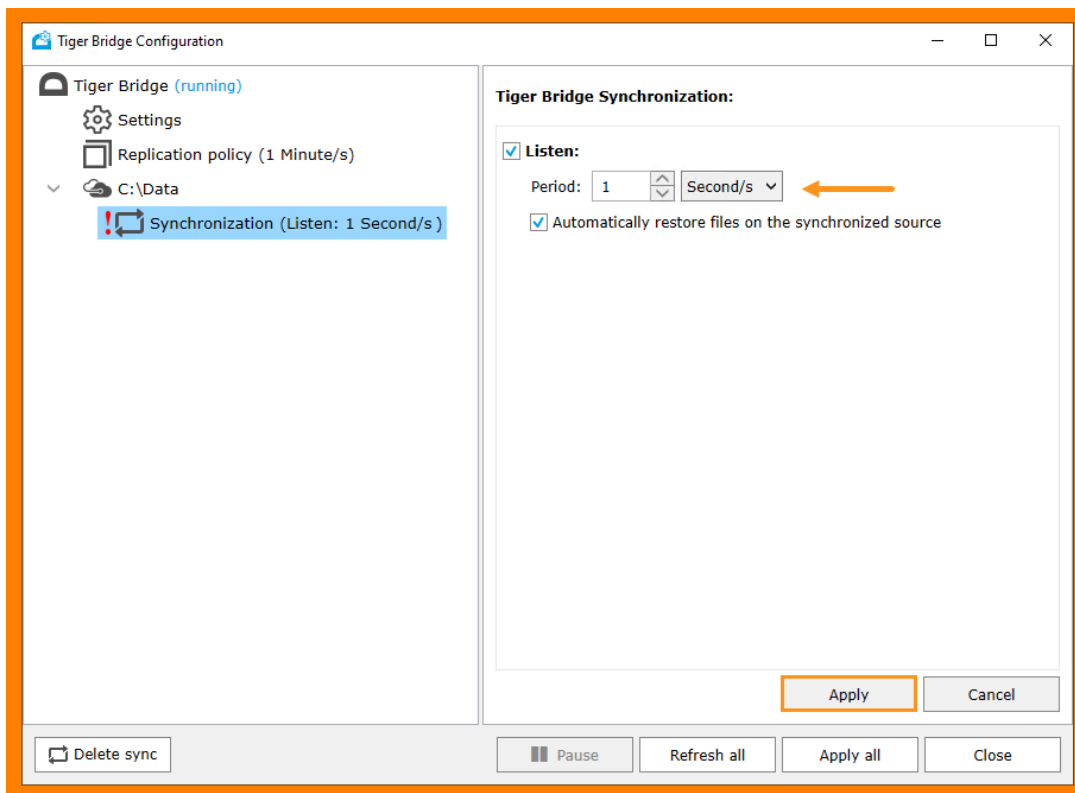
1. Go to the Tiger Bridge Configuration screen on the Blue server, select your source and click on the Add sync button at the bottom:



- Configure the listen period to **1 second** so that we can see the changes in almost real time, check the box for **Automatically restore files on the synchronized source** and then click **Apply**:



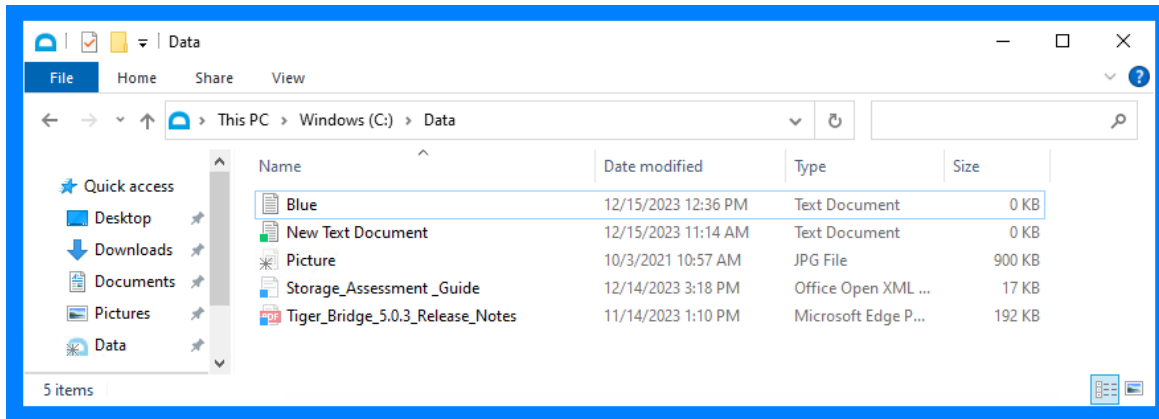
- Repeat the same two steps (Step 1. And Step 2.) on the Orange machine:



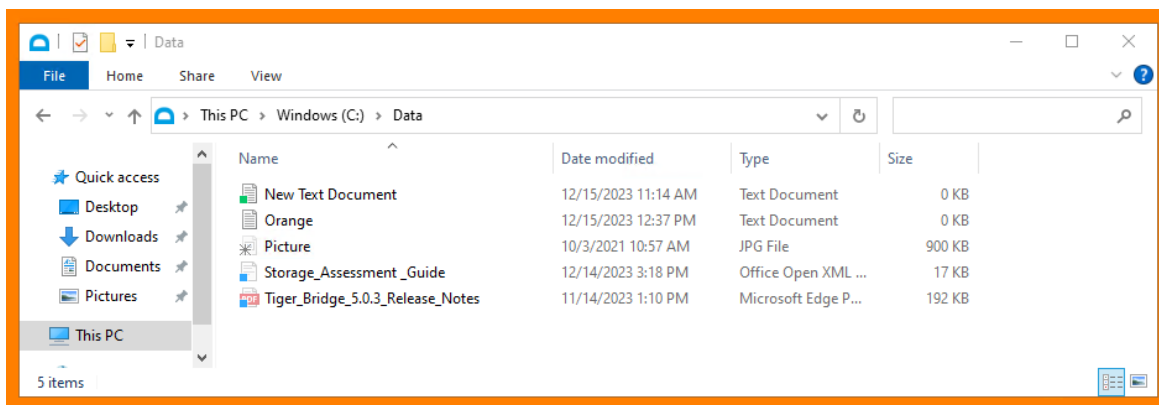
## Exercise 2 – Testing the Synchronization

Now that the two machines are in sync with one another, we can create a file on one of them, irrelevant is which, similar to what we did before, and the file should automatically show up in the other machines source folder.

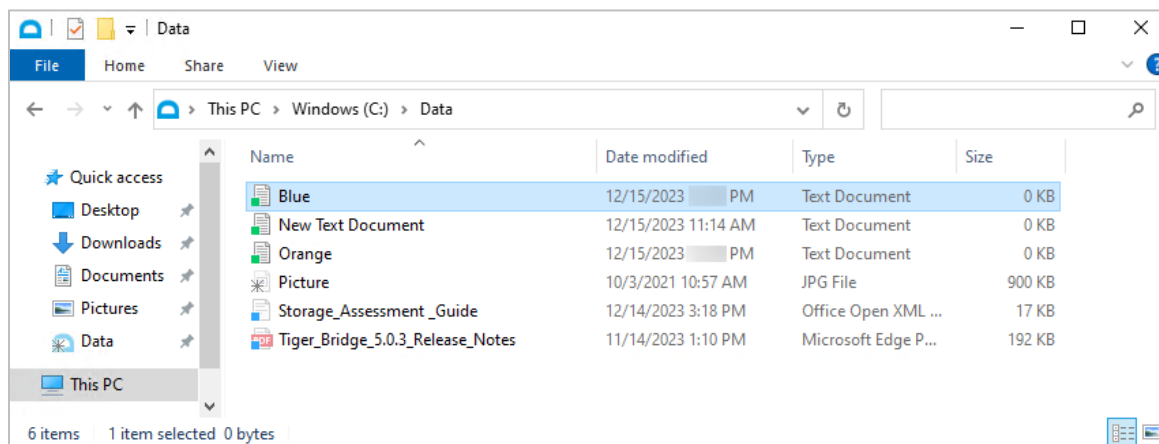
1. Create another new file on the Blue machine, you can name it Blue:



2. Switch to the Orange machine and create a new file there as well, name it Orange:



3. In a minute, the contents of the source folder on the two machines should be identical and you should see both the Orange and the Blue file on both of them, no matter where they were created:



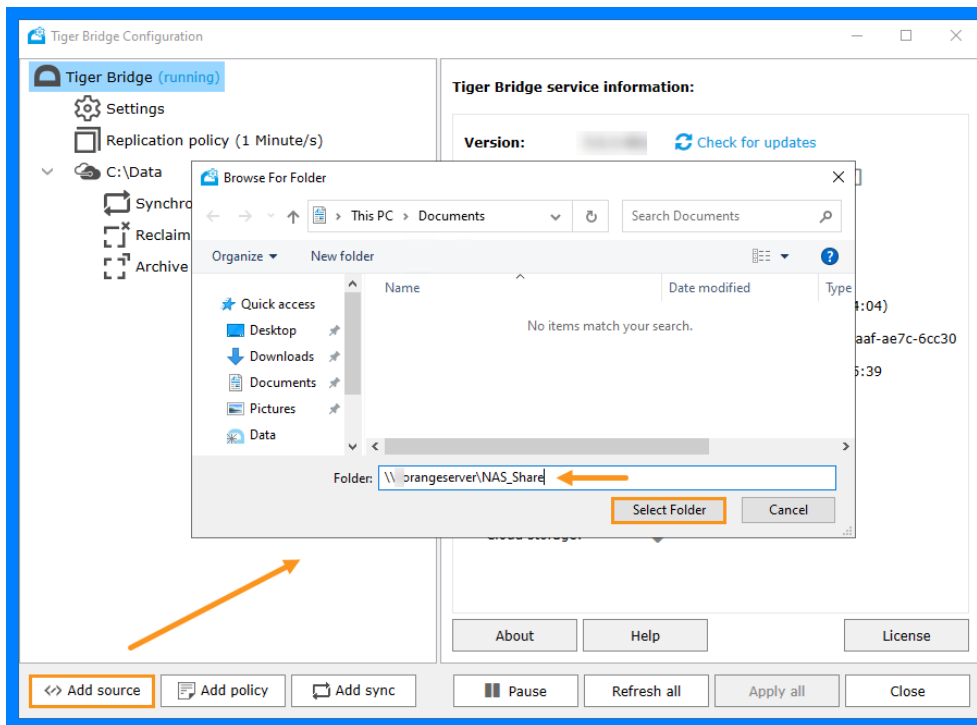


## Lab 5 – NAS Source

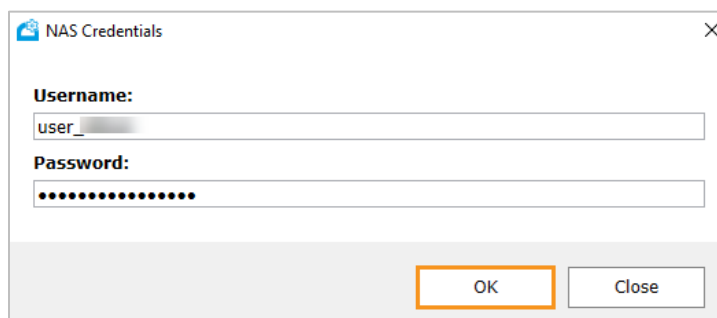
In this lab, you will set up a folder, shared over the network, as a source in Tiger Bridge. As you can see, we support a variety of options for both the source and the target configuration.

### Exercise 1 – Setting up a NAS Source

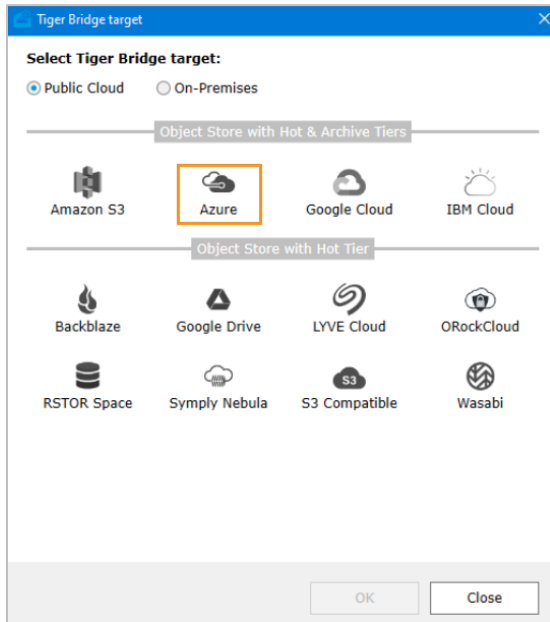
1. In the Tiger Bridge Configuration screen on the Blue server, click **Add source**, add in the following path: [\\Xorangeserver\NAS Share](#) (where **X** is the number of your particular Orange server, you can see it on the Orange server's desktop), and then click **Select Folder**:



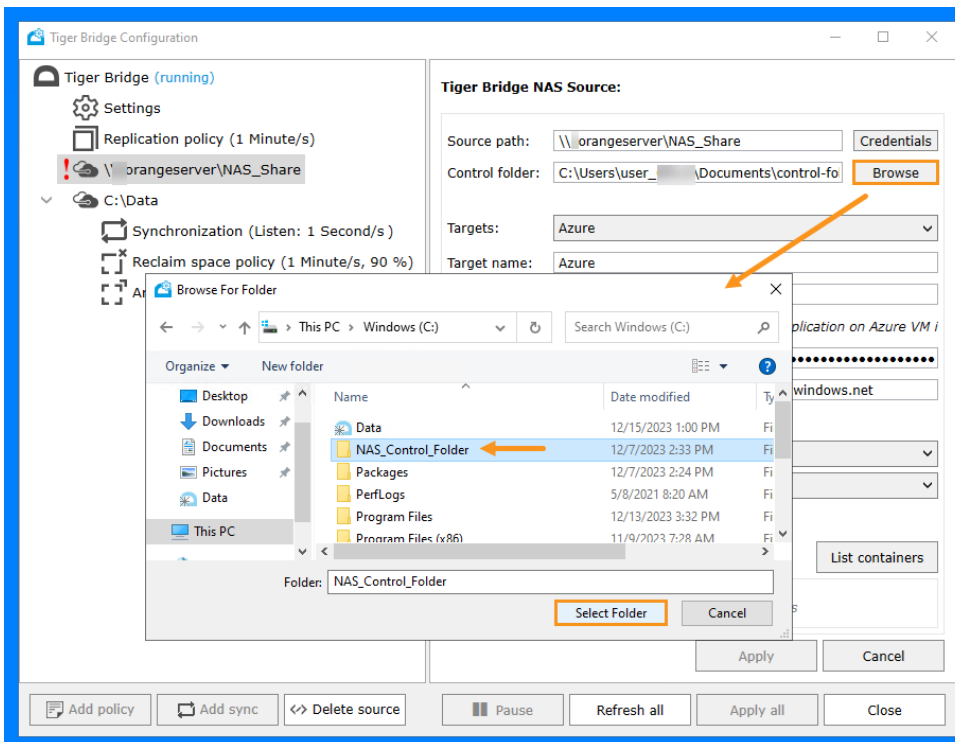
2. Put in the **credentials** you used for logging in the Orange server:



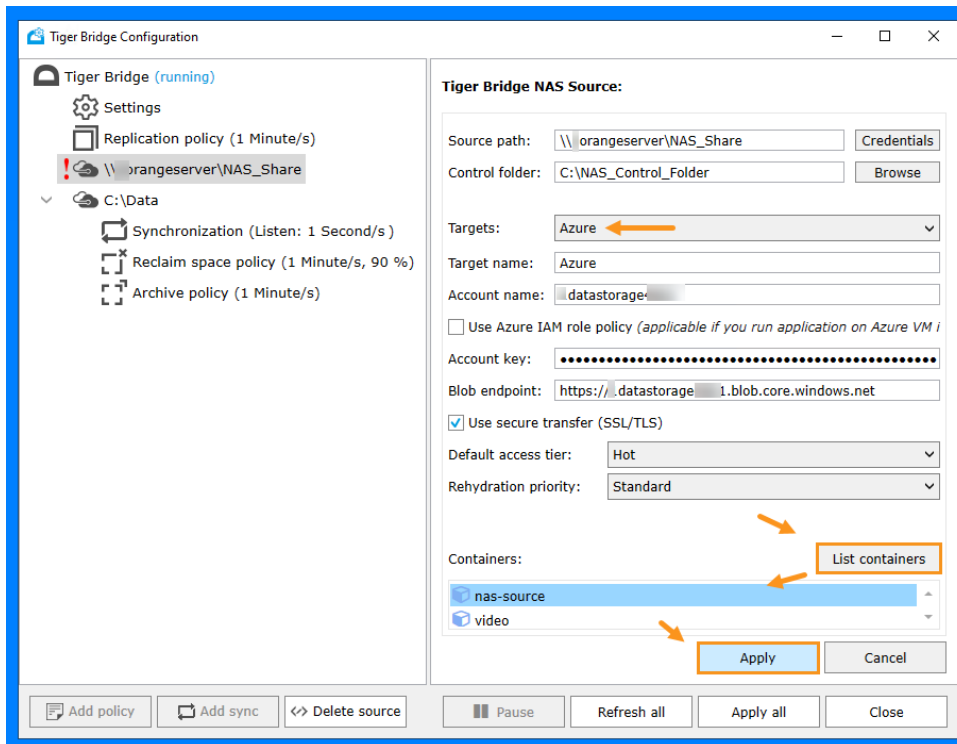
3. Select Azure as your target:



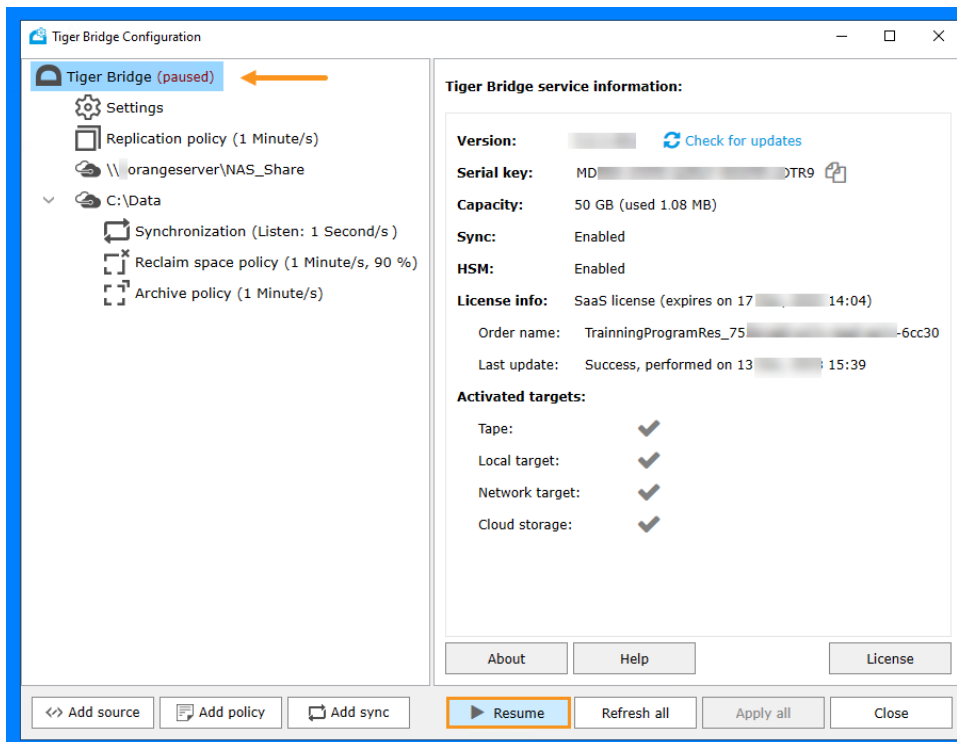
4. Click **Browse** to select the Control folder to be used, select the **C:\NAS\_Control\_Folder** and click **Select Folder** (if you do not select the folder yourself, the default path in the currently logged in user's Documents folder will be used):



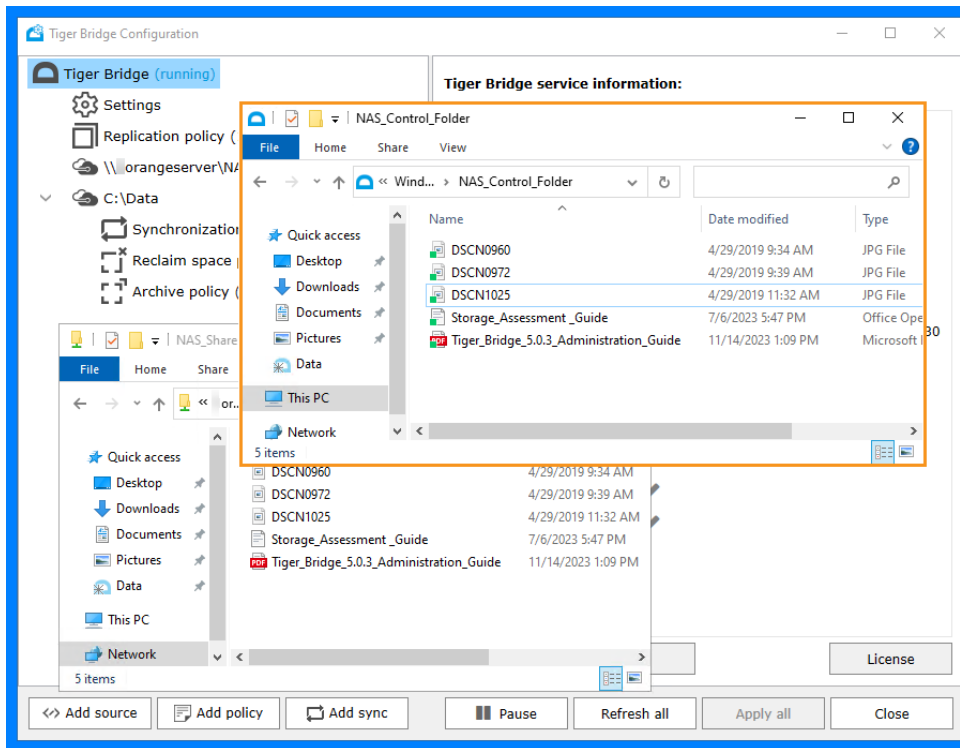
- For the **Target**, click the dropdown menu and select Azure. It will automatically populate the account name and account key that you entered previously. You will only need to click **List containers** and pick the **nas-source** one, it should be different than the one used for the other source. Eventually, click **Apply** and then **OK** on the confirmation message:



- Click on Tiger Bridge in the left-hand menu and then click to **Resume** its work:



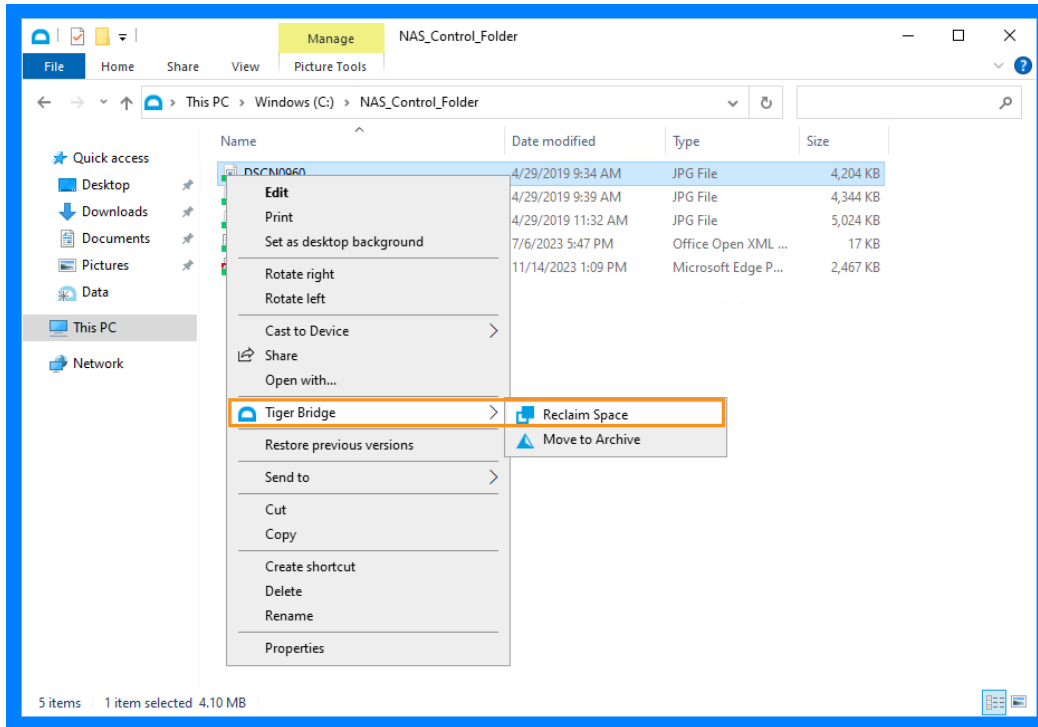
- Open the contents of both `\\Xorangeserver\NAS_Share` and `C:\NAS_Control_Folder` on the Blue server to compare the contents:



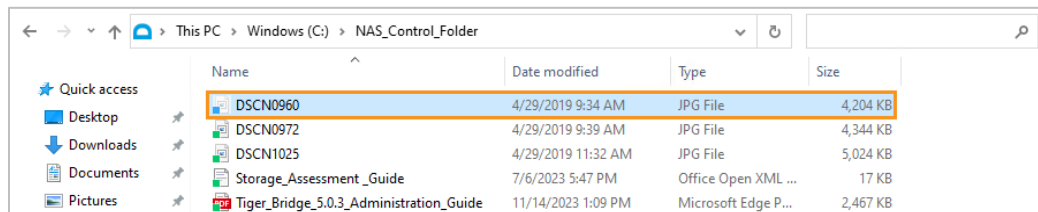
The files are the same. However, the ones in the control folder have icons, which allow you to interact with them from Tiger Bridge perspective.

## Exercise 2 – Working with the Shared Files

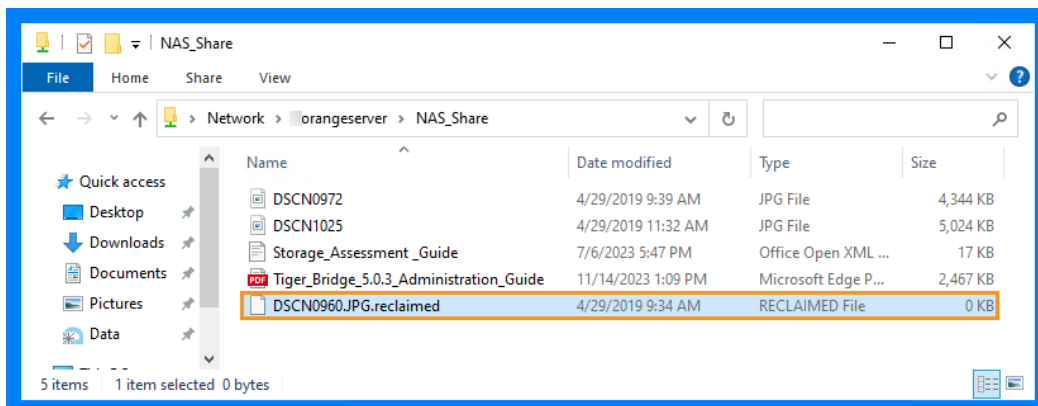
1. Right-click one of the files in the control folder, go to the **Tiger Bridge** menu and select **Reclaim Space**:



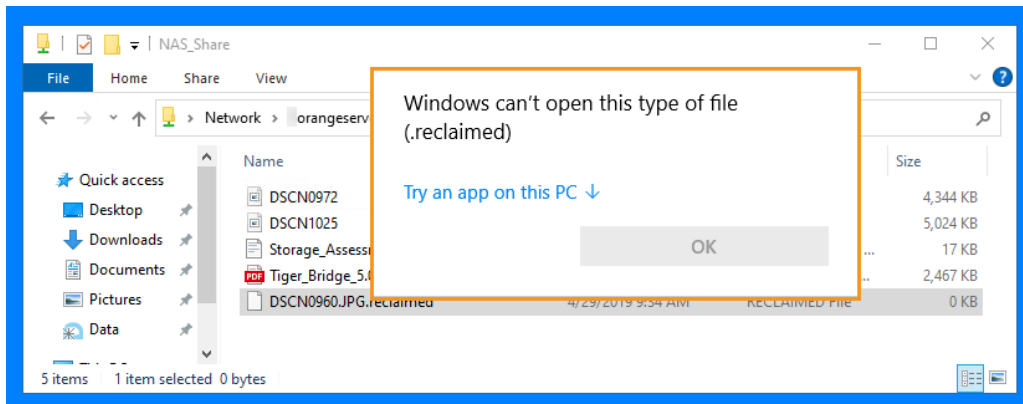
2. The icon will turn Blue as with a normal local file that you decide to reclaim the space of:



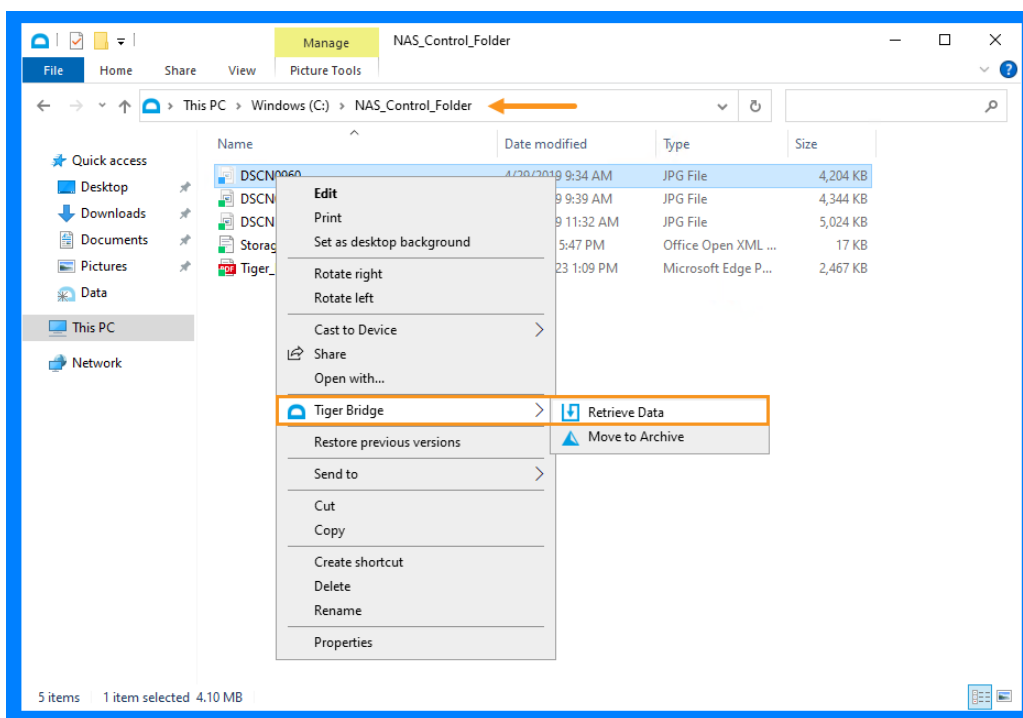
3. However, if you check the shared folder, you will see that this file is renamed and now have a .reclaimed extension:



4. If you try to open the file, you would get an error:



5. The only way to fix this would be from the control folder. You can **right-click** the file, go to the **Tiger Bridge** menu and select **Retrieve Data** (alternatively, you can double-click the same file):



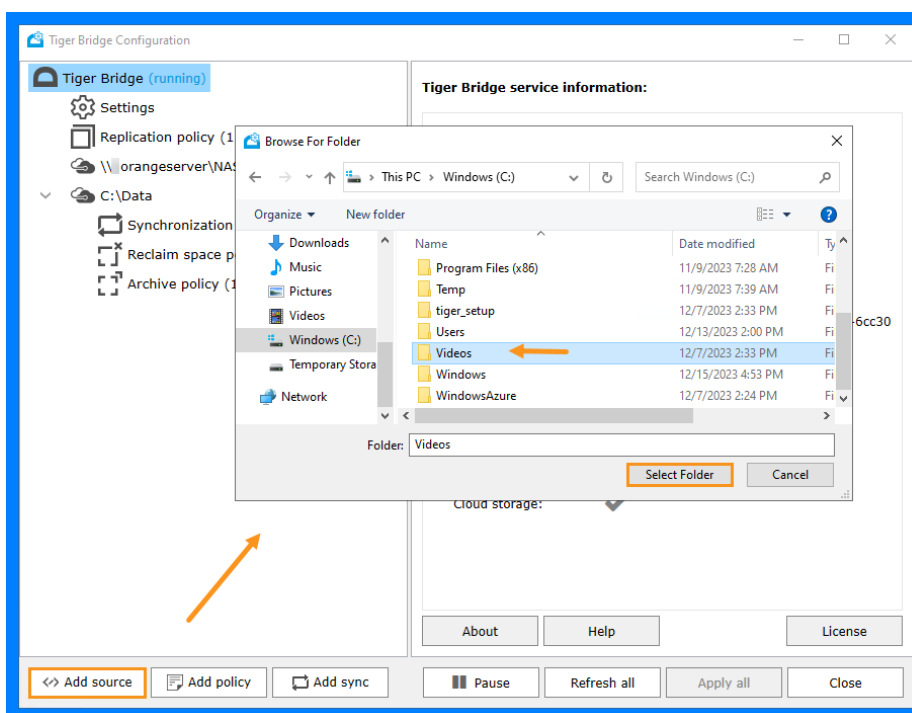
## Lab 6 – Partial Restore

The partial restoration functionality allows you to work with big files directly from the cloud target, without having to wait for their full restoration first. Tiger Bridge downloads just a small portion of the file to let you work with it almost instantly and can continue downloading the rest of the file in the background.

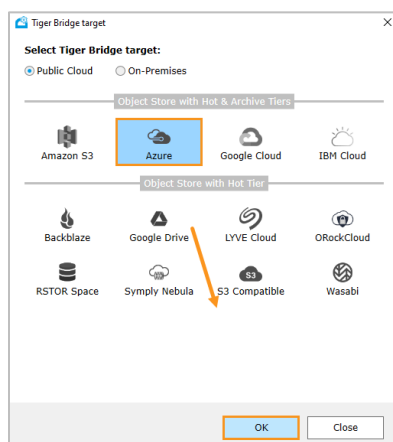
### Exercise 1 – Adding a New Source

You will use another source folder with another target container for this lab.

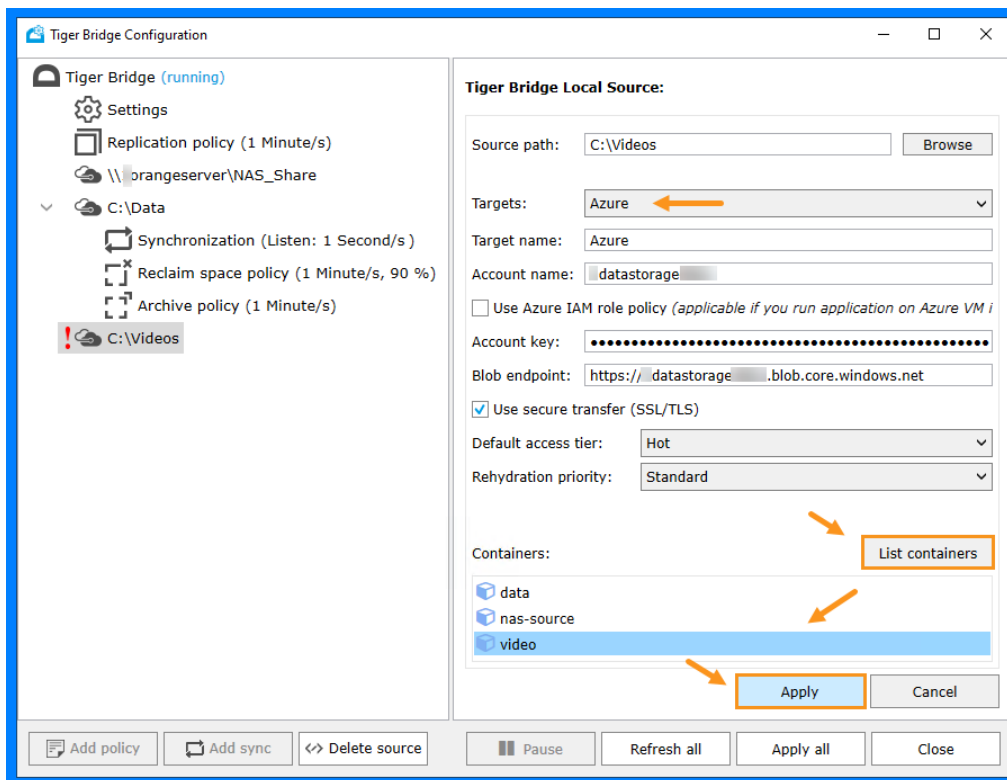
1. Go to the Tiger Bridge Configuration screen on the Blue server and click the **Add source** button. **Navigate** to the C:\Videos folder and click on **Select Folder**:



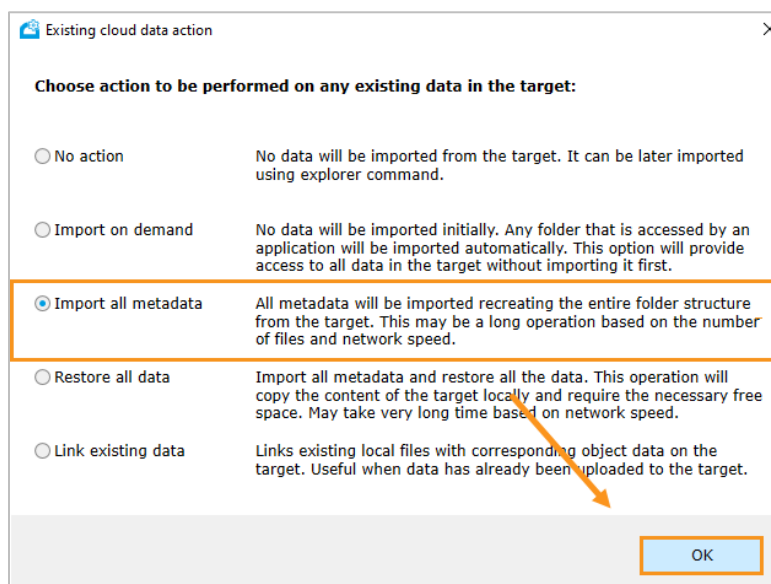
2. Select **Azure** as a target and click **OK**:



- From the **Target** dropdown menu, select Azure again so the details can be automatically populated. Then, click on **List containers** and select the video container. Eventually, click **Apply**:



- Choose **Import all metadata** as the action to be performed on existing data. Then, click **OK** and **OK** again on the confirmation message:



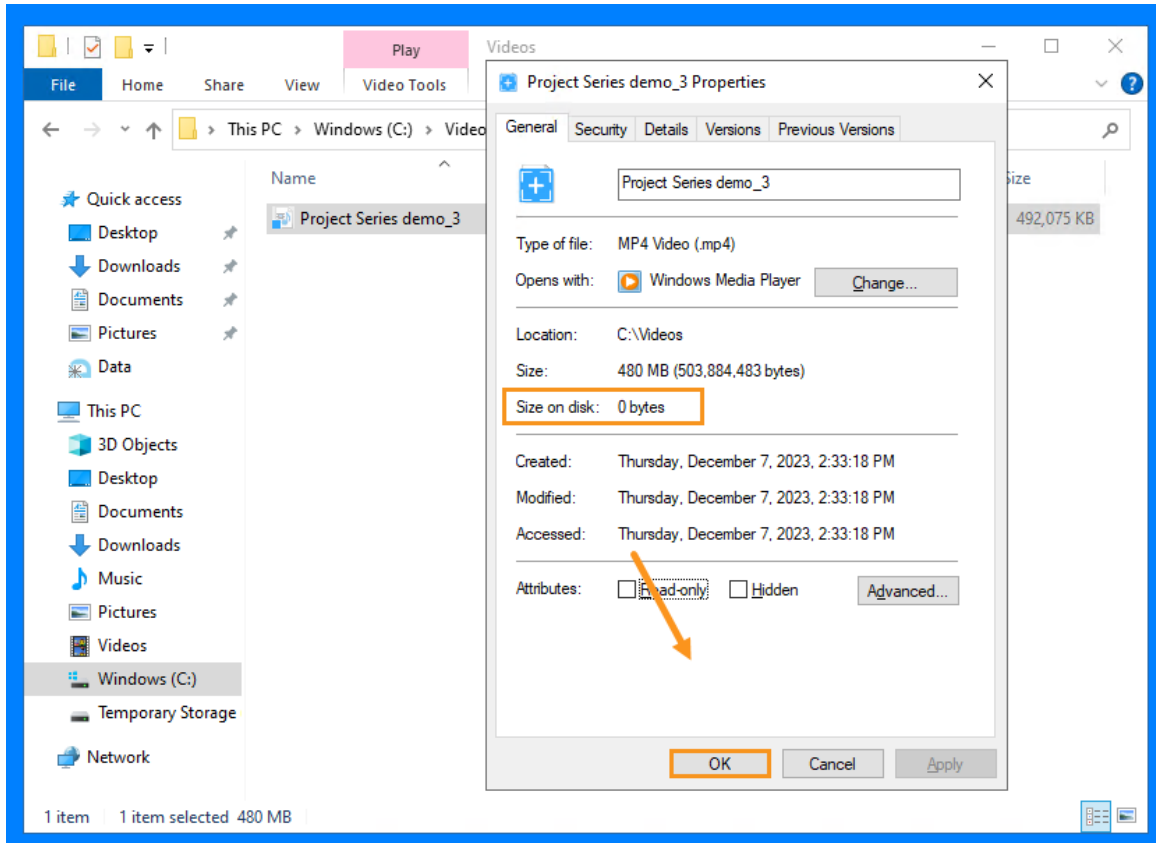
- After all the configuration is done, **Resume** the work of Tiger Bridge:





## Exercise 2 – Partially Restoring a File

1. In **File explorer** on the Blue server go to the new source folder – C:\Videos. You will find one file there. Take a note of the blue icon, this is just a stub file, which occupies no space on the local storage. Right-click it and go to its **Properties** to be sure. Then, click OK to close the properties window:



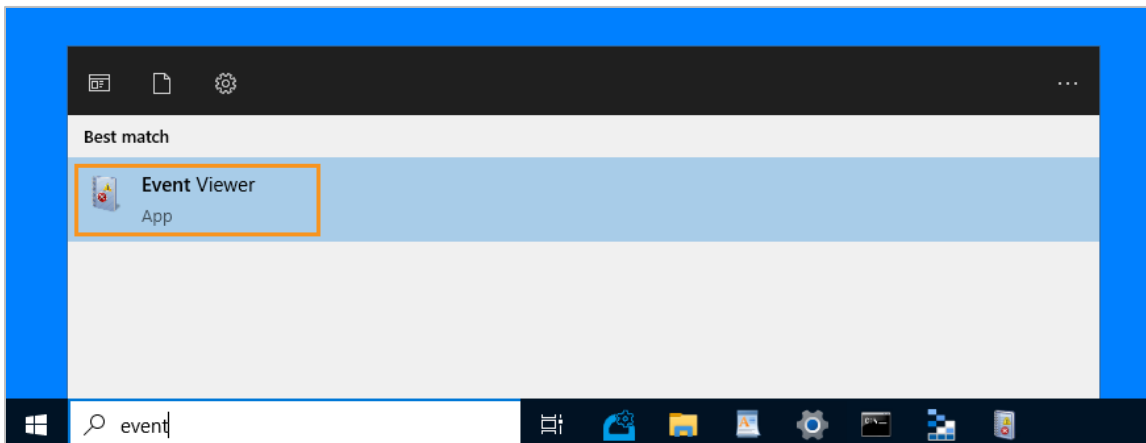
2. **Double-click** the file to play it and **close** the media player very soon after.
3. Go back to the **properties** of the file. You should be able to see that Tiger Bridge downloaded a part of the file, not the whole file.

# Lab 7 – Maintenance and Troubleshooting

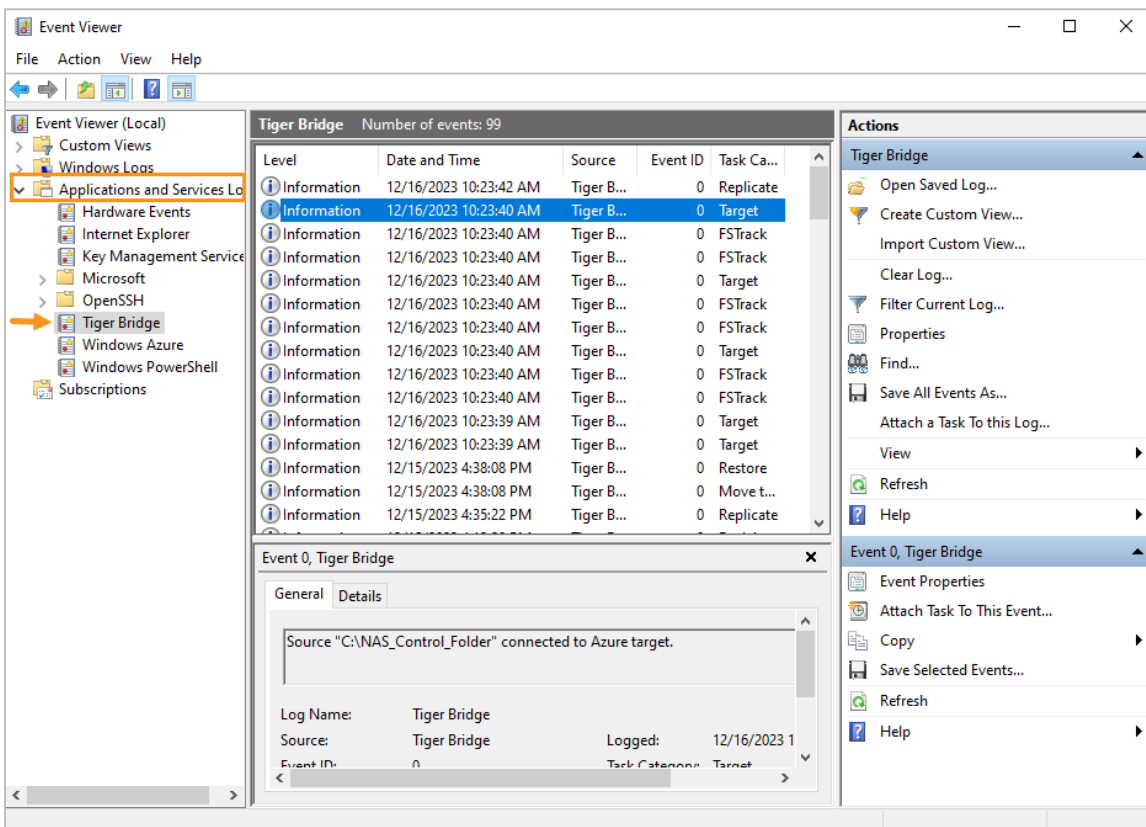
## Exercise 1 – Checking Logs

At any point in time, you can check the log entries that Tiger Bridge saves and can be seen in the Event Viewer.

1. Click the **Windows** button bottom left corner of the remote desktop connection and type in “event”. Then, Click on the **Event Viewer** app in the results section at the top:



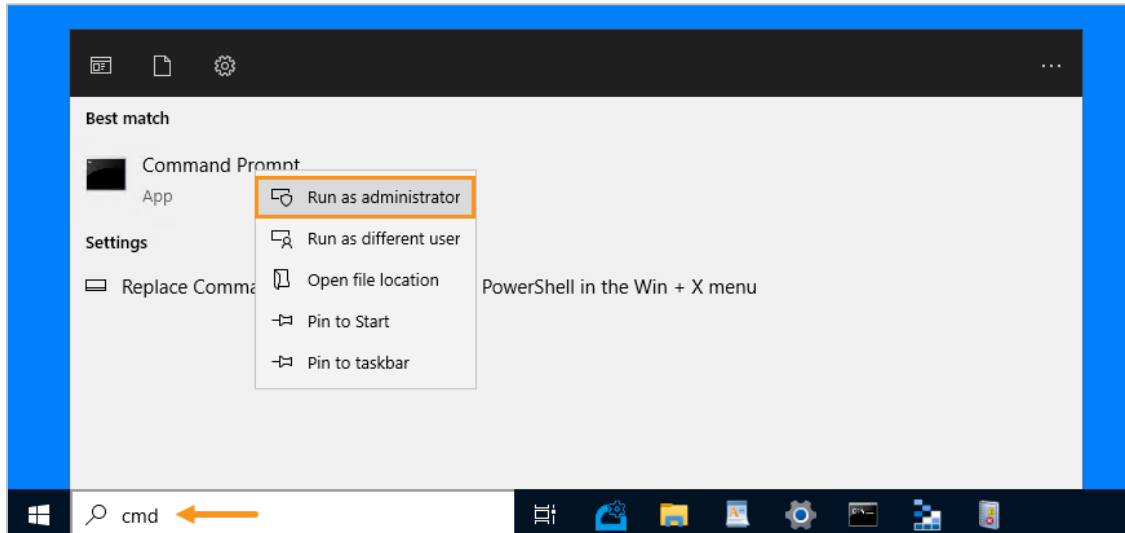
2. Expand Applications and Services Logs on the left and click on the Tiger Bridge category. Then you can click on some of the events and check their details to see what kind of information you can find there. Most of the events would normally be informational, but if there are problems with the work of Tiger Bridge, you may also find some warning and error entries as well:



## Exercise 2 – Working with the Command Line Utility

Tiger Bridge has a command line utility, which allows for checking running or completed operations and many others.

1. Click the Windows button bottom left corner of the remote desktop connection and type in “cmd”. Right-click the Command Prompt and select to **Run as administrator**:



2. Type **tiercli** in the command prompt and hit the **Enter** key to see the available commands:

```

Administrator: Command Prompt
Microsoft Windows [Version 10.0.20348.2159]
(c) Microsoft Corporation. All rights reserved.

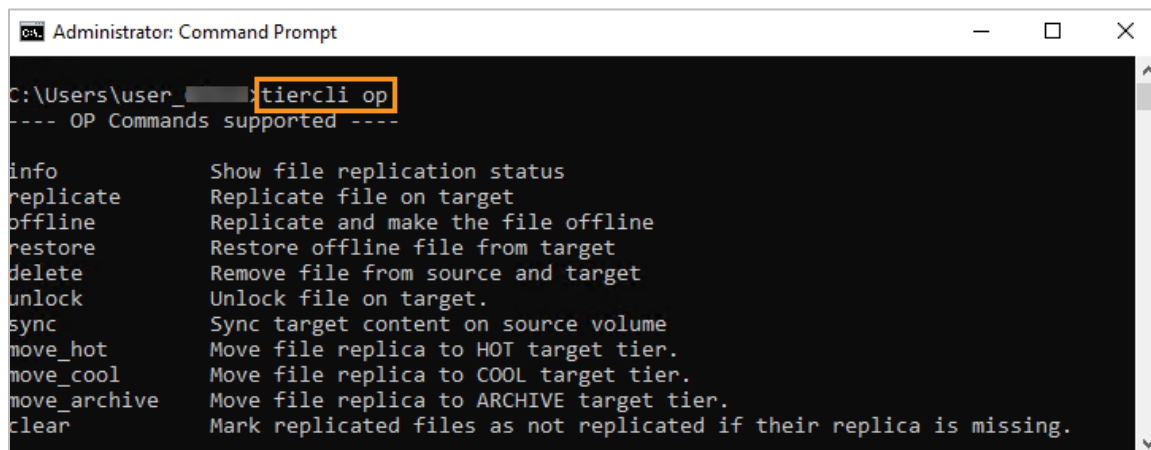
C:\Users\user_...> tiercli
---- Commands supported ----

config      Replication and tiering management
op          File, folder management
license     Product licensing
about       Show product information

C:\Users\user_...>

```

- Let's explore the op one further. Type in **tiercli op** and hit the **Enter** key again to see the available commands on this level:

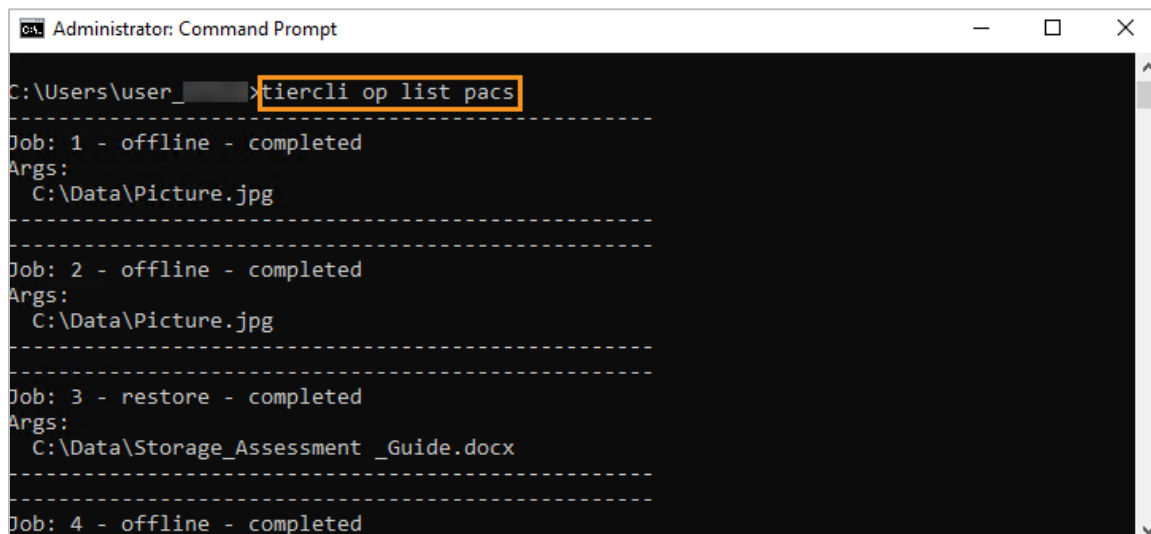


```

Administrator: Command Prompt
C:\Users\user_...> tiercli op
---- OP Commands supported ----

info          Show file replication status
replicate     Replicate file on target
offline      Replicate and make the file offline
restore      Restore offline file from target
delete       Remove file from source and target
unlock       Unlock file on target.
sync        Sync target content on source volume
move_hot     Move file replica to HOT target tier.
move_cool    Move file replica to COOL target tier.
move_archive Move file replica to ARCHIVE target tier.
clear       Mark replicated files as not replicated if their replica is missing.
  
```

- Feel free to explore the various available commands. As an example, you can run the **tiercli op list pacs** command, which will show you all running and completed Bridge operations:



```

Administrator: Command Prompt
C:\Users\user_...> tiercli op list pacs
-----
Job: 1 - offline - completed
Args:
  C:\Data\Picture.jpg
-----
Job: 2 - offline - completed
Args:
  C:\Data\Picture.jpg
-----
Job: 3 - restore - completed
Args:
  C:\Data\Storage_Assessment_Guide.docx
-----
Job: 4 - offline - completed
  
```

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## About Tiger Technology

Founded in 2003 and headquartered in Sofia, Bulgaria and Alpharetta, GA, USA, Tiger Technology specializes in the underlying technology of hybrid cloud workflows as well as data management software solutions designed to help customers of any size, scale and industry optimize their on-premises storage and enhance their workflows through cloud services. Tiger Technology solutions are admin-friendly, non-disruptive, transparent, and highly cost-effective.

Tiger Technology brings over 15 years of expertise in developing high-performance storage solutions for the most demanding workflows, which includes cross-platform NAS/SAN file system sharing, storage, user, project, and media management.

Throughout the years and the multitude of changes in IT and the digital landscape, Tiger Technology has chosen the path of growth and continual improvement, but it has never lost sight of what it all starts with - data. The company's current focus is enabling "on-premises-first" hybrid cloud workflows.

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