lifelines

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Manual Lifelines Research

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1. Introduction to the Lifelines Research Workspace

In this user manual we will explain how to connect to and use the Lifelines Research Workspace. The Lifelines Research Workspace provides an integrated and secured research environment allowing researchers to access their requested Lifelines dataset. In addition, the Lifelines Research Workspace contains a number of tools to analyze the data and to store the results.

Using the Lifelines Research Workspace is like working on a normal computer using Windows 10. However, some actions are restricted because of dataset security measures, and can only be done by the Lifelines data manager on the researcher's request.

- As a researcher you are not permitted to export or import any data yourself.
- As a researcher you are not permitted to install applications yourself.

2. Installation Citrix Workspace App

The Lifelines Research Workspace requires the free Citrix Workspace App to be installed. This plugin is available for different desktop platforms (Windows, Linux, Mac).

Note: The installation of Citrix Receiver or Citrix Workspace has to be performed only once for each computer on which you want to use the Lifelines Research Workspace.

You can find the version you need at https://www.citrix.com/nl-nl/downloads/workspace-app/. Make sure to always choose the latest version of the Citrix Workspace App.

2.1. Downloading the Citrix Workspace App
In the example below Citrix Workspace App version 2202 for Windows is used. The same steps apply if you choose a Mac or Linux version.

^ Workspace app for Windows

^ Workspace app for Windows Current Release

Citrix Workspace app 2202 for Windows
Feb 7, 2022| NEW
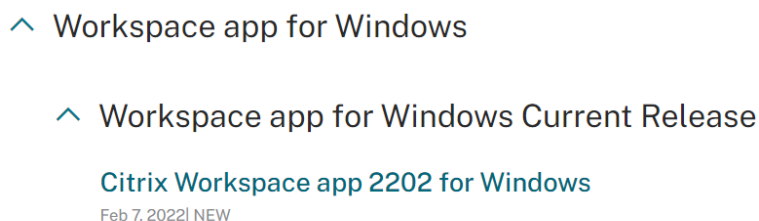
First, click on the version listed by the current release. In the next screen click on the download button. A .exe file will be downloaded.

Note: When asked if you allow the application to make changes to your device, choose "Yes".

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Open this installation file of the Citrix Workspace App and choose "Start/Starten".
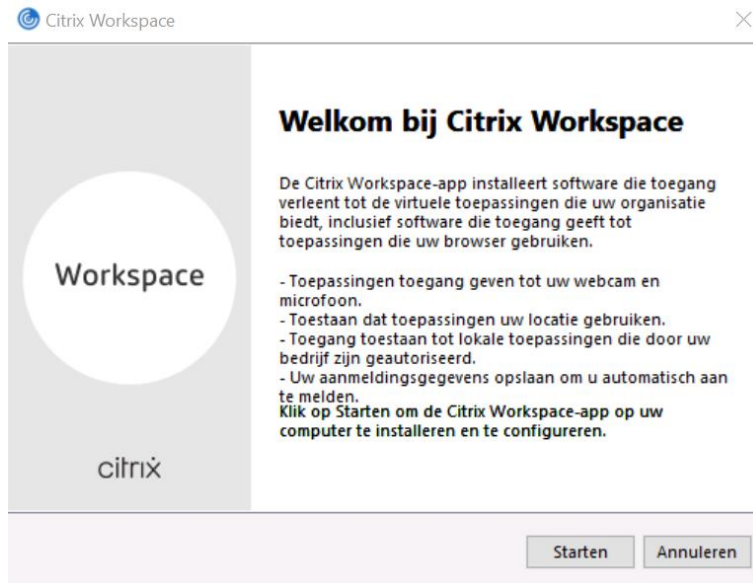
After downloading the plugin, follow the steps of the installation process to install the Citrix application. On the next screen you accept the agreements by checking the box and clicking on "Next/Volgende".
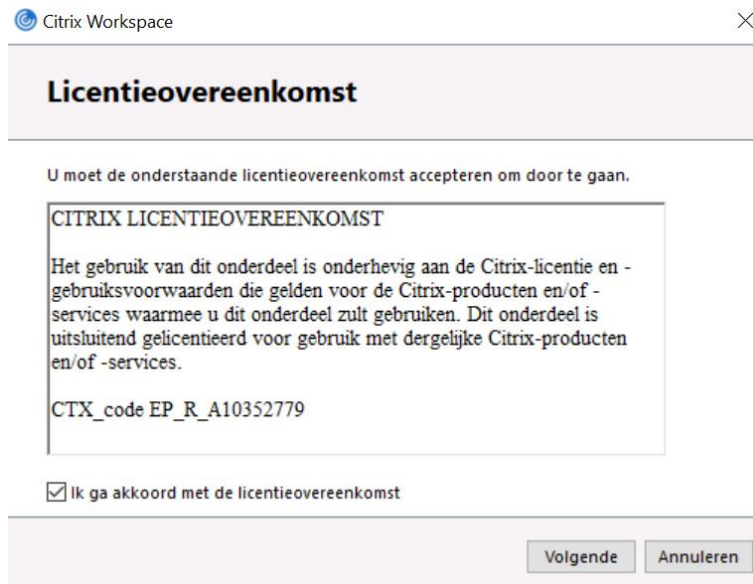
Now you reach the final screen to start the installation. Do not check the box to turn on app security. Clcik on "Install/Installeren" to start the installation. The installation of the Citrix Workspace App will now start. Once the installation is completed, click on "Finish/Voltooien".

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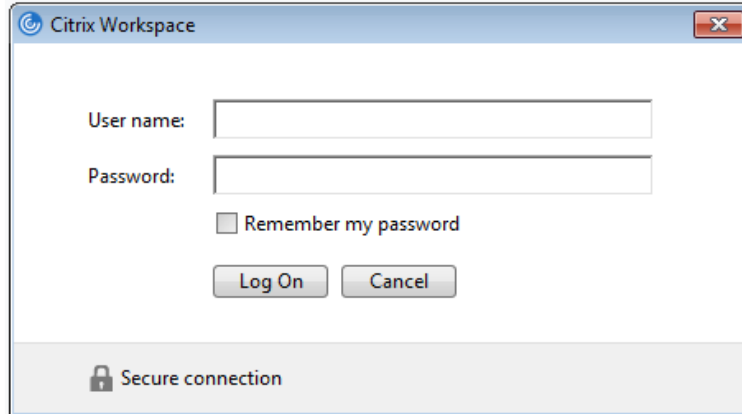### *2.2. Citrix Workspace App popup to add an account*

When the following window pops-up, you can click cancel. This is the Citrix Workspace asking if you want to add an account, this is not needed for the Lifelines Research Workspace.

### *2.3. Linking the .ica file to the Citrix Workspace App*

When the Citrix Workspace App is installed, but the file association is still missing, you can follow the steps below to link the downloaded .ica file with the Citrix Workspace App.

First open the properties of the .ica file with a right mouse click. Then click on "Change…" and next on "More apps". Finally, select "Look for another app on this PC".
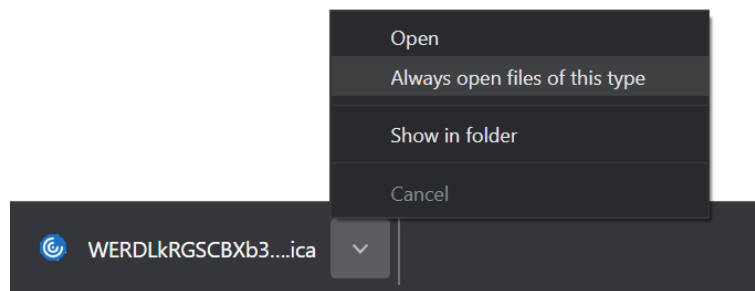
![lifelines logo]

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You are now able to go to the location where the Citrix Workspace App has been installed. For example "C:\Program Files (x86)\Citrix\ICA Client". At this location choose for "wfcrun32.exe".
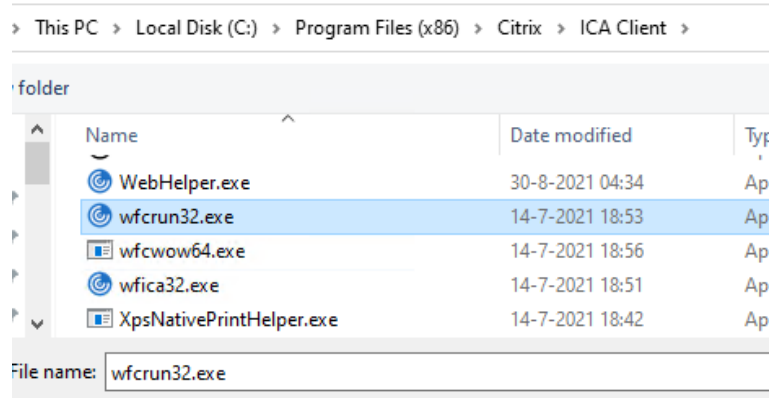
2.4. *Opening the Citrix Workspace App from your browser*

For some browsers the settings of the Citrix Workspace app/plug-ins might need to be amended after installation. For example for Mozilla Firefox, go to Settings > Add-ons > Plug-ins and if needed change the setting for both Citrix plug-ins to "Always Activate".

In other browsers it is possible to skip the download of the .ica file (which you need to activate) and immediately open the Lifelines Research Workspace. To do so, click on the arrow button of the .ica file in your browser (e.g. Microsoft Edge) and select "Always open files of this type".

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3. Login to the Lifelines Research Workspace

3.1. *Enter your username and password*

Open your web browser and enter one of the following URLs in the address bar: https://dfh.usor.nl or https://dfh.usor.nl/Citrix/DFHWeb/. You will be forwarded to a page where you have to select the organization you are working for. For Lifelines a large number of organizations have been added. In the print screen below, it is shown that you can search for your own organization in this list. Please select the organization from which you provided login details.
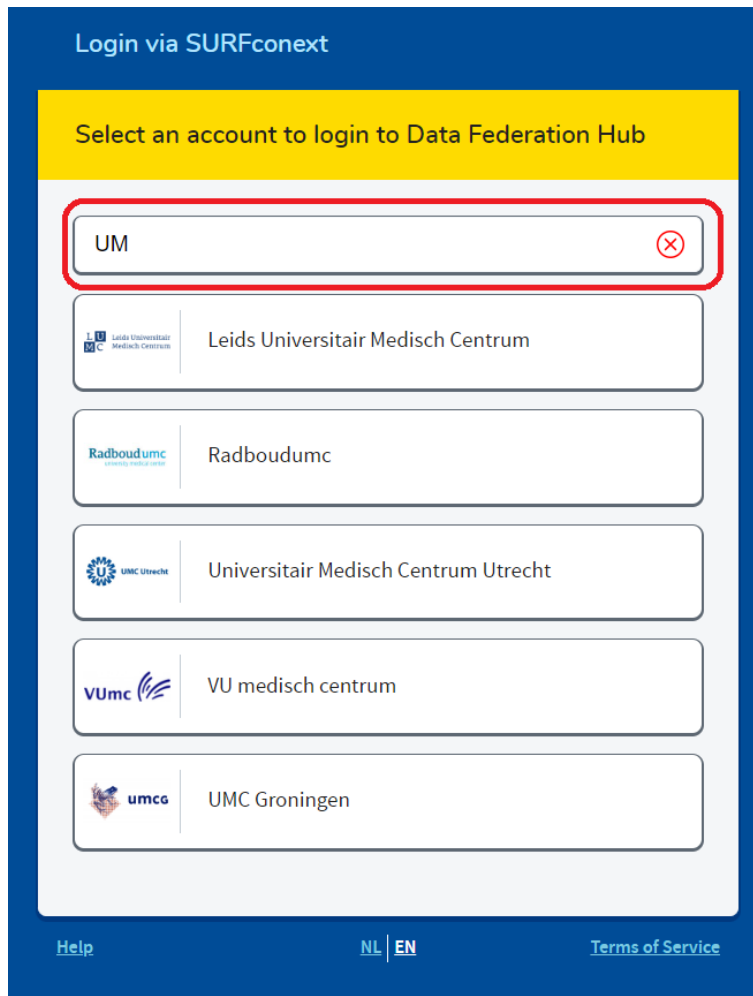
Note: if your organization is not listed, it might be possible to add your organization. Please contact one of the Lifelines data managers at data@lifelines.nl.

Tip: for quick access you can bookmark the login page in your web browser and/or create a shortcut of this bookmark on your desktop.

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After you select your organization you will be forwarded to the usual login screen of your organization. This can be an username (see example University of Groningen) or an email address (see example UMCG).

Example login using a username (University of Groningen)
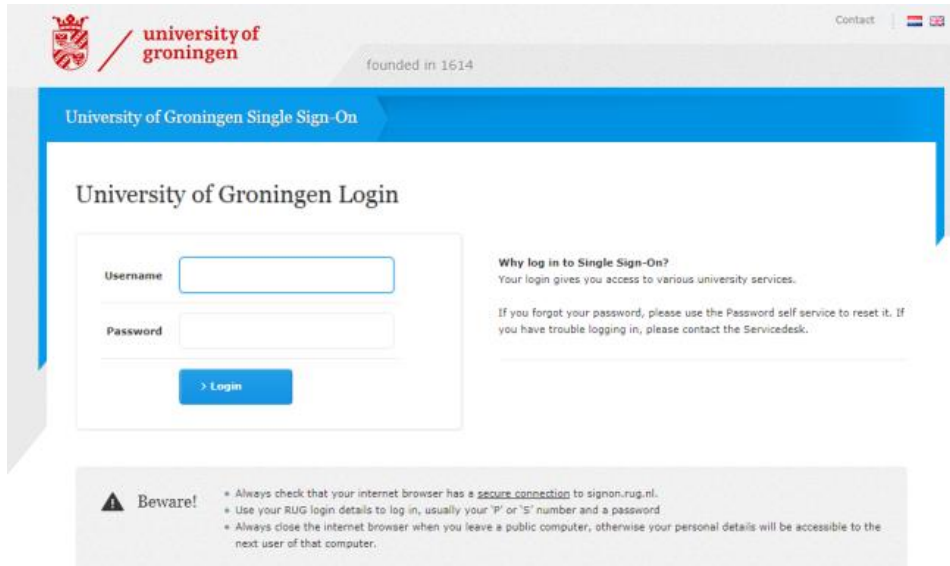
Example login using an email address (UMCG)

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Citrix Workspace App not detected

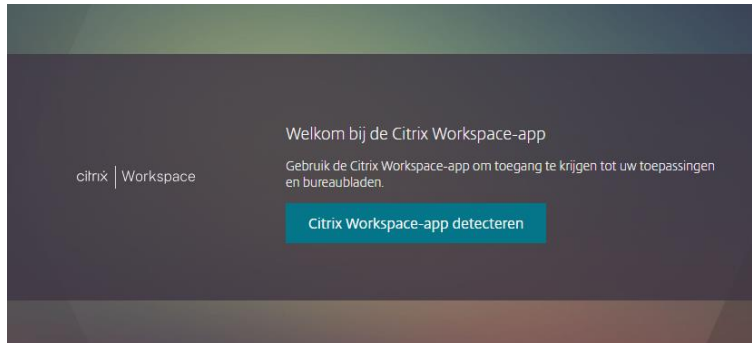Follow the steps listed below if the Citrix Workspace App is not detected the first time you login on the Lifelines Research Workspace.

1. In case you get the following screen, please click on 'Citrix Workspace-app detecteren' (detect Citrix Workspace App)

2. In case you get the following screen, please check the box 'Ik ga akkoord met de Citrix licentieovereenkomst' (I agree with the Citrix licence agreement). Then click on 'Al geïnstalleerd' or (Already installed).
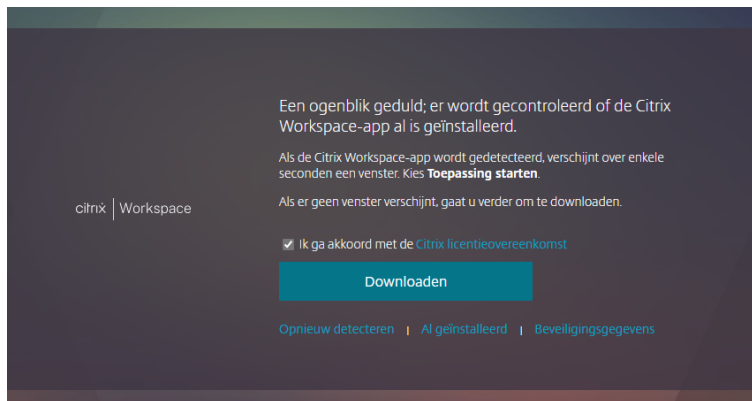
3. If Citrix Workspace App is still not detected you can install Citrix Workspace App again. Please check the same 'I agree' box as in step 2, and then click the large 'Downloaden' (Download) button. The Citrix Receiver .exe file will now be downloaded.

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3.2.   Choose your workspace

After a successful login you choose your Lifelines Research Workspace by selecting your study. When you work on different Lifelines projects, you will find different OV icons.

It is possible to open two (or more) projects at the same time, you can do this by closing your browser or starting another browser (both require you to restart the login procedure).

<u>Note:</u> please click on the workspace icon only once. Otherwise you will receive an error 'Invalid Nonce' after entering your SMS token.
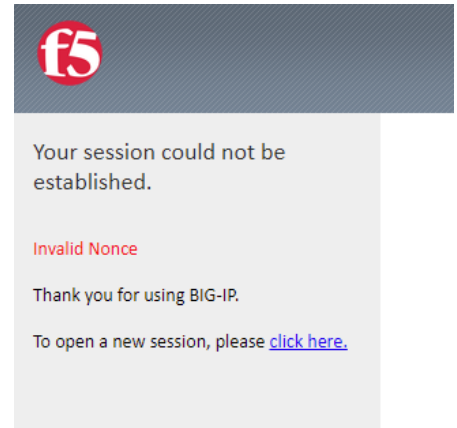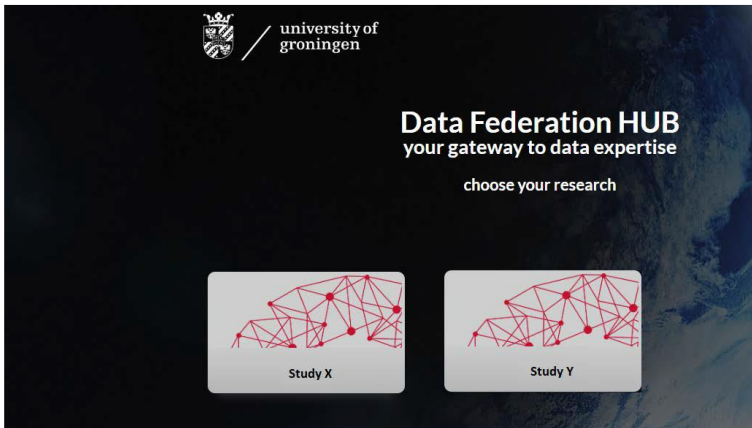
After selecting your study login, you will be prompted to enter your SMS token. You will receive this SMS token on the mobile phone number linked to your Lifelines Research Workspace account. Enter your SMS token and click on Submit.

<u>Important:</u> If you have trouble receiving the SMS token on your mobile phone, it is possible to receive the SMS token by email (see example below).
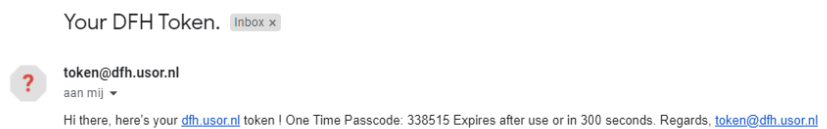
<u>Note:</u> It can take several seconds before you receive the SMS token.

Please inform one of the Lifelines data managers (data@lifelines.nl) if you change your mobile phone number as this change also has to be implemented for your Lifelines Research Workspace account.

3.3.   Launch the Lifelines Research Workspace

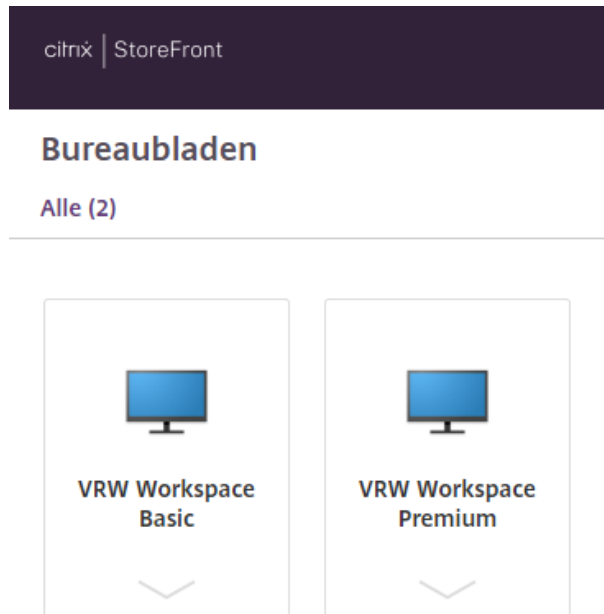After a successful SMS verification the Lifelines Research Workspace launch page will appear. Click on the 'VRW Workspace Premium' to start the Lifelines Research Workspace.

Note: The first time you login it might take some time before the Workspace is fully started.

Important: it is recommended to regularly start a new session for the Lifelines Research Workspace (e.g. once every week). This will ensure a clean, faster Workspace with the latest updates. An instruction on how to restart your workspace is given in section 6.2.

Chrome / Microsoft Edge

After you click on the 'VRW Workspace Premium' a download appears in the left corner of your Chrome browser (see below). Please double click on the download and the Lifelines Research Workspace will start. In section 2.4 it is explained how to start the Lifelines Research Workspace automatically.
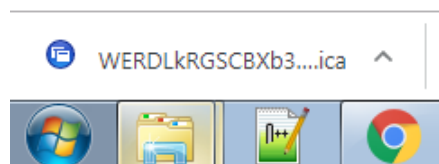
Internet Explorer/Mozilla Firefox

After you click on the 'VRW Workspace Premium' you might shortly see a download popup in the bottom of your internet browser. After a few seconds the Lifelines Research Workspace will start automatically.

4. Start using your Lifelines Research Workspace Account

You are now logged in and you can start using the Lifelines Research Workspace. The print screen below shows the workspace. Please click on the Windows Start button in the left corner to find a program or simply click the program icon on the Desktop. Programs are arranged in an alphabetical order. Program icons places on the Desktop will be saved and available for use next time you login.
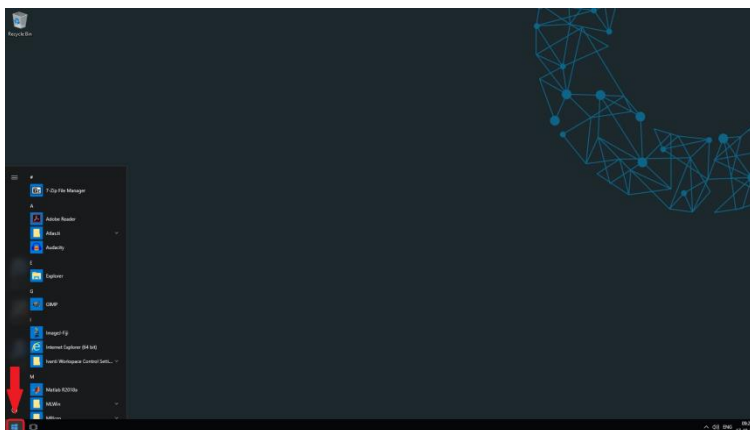
4.1. Using your Lifelines Research Workspace

When you select 'Explorer' in the Windows Start menu you will see three drives:
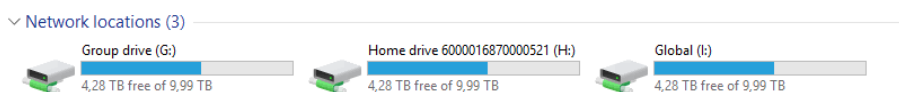
- **Group drive (G:)**
  On the group drive you will find a folder with your project code. In this folder Lifelines will put all your requested data ('PhenoData' folder). Additionally, you can find an 'Import' and 'Export' folder, which will be used for importing/exporting results and syntaxes. Finally, you will find a 'Scripts' folder which should be used to place scripts/syntaxes that are useful for Lifelines. You are free to make any additional folders for your own usage.
  Note: If there are several workspace users working on one project, the group drive can be accessed by all users.

- **Home drive (H:)**
  The home drive is your own drive that cannot be accessed by other Workspace users working on the same project, or Lifelines.
  Note: Because Lifelines has no access to this drive, data and documents stored on this drive will not be archived when the workspace is closed.

- **Global (I:)**
- The global drive is accessible for all researchers and Lifelines data managers. This drive is maintained by the Lifelines data managers. As a Workspace user you have read-only access. On the global drive you will find one folder called 'Lifelines', which provides you with information you may need (e.g. data descriptions, questionnaires, information on secondary and linked data). There is a subfolder called 'Programs' in which you will find all installed STATA and R packages. Additionally, you can find SPSS tips and tricks in this folder (e.g. a merge instruction).

4.2. Using applications

As stated before, you can find several programs for analyses on the workspace. The most common are RStudio, SPSS, and STATA (on request per Workspace user). An overview of all available programs on the workspace can be found in Appendix A at the end of this document.

4.2.1 STATA

The STATA packages have been installed in the folder "STATA-packages-installed" on the I: drive. To use the installed packages please type the following code before running your script:

```
sysdir set PLUS "I:\Lifelines\Programs\STATA-packages-installed"
```

To check whether your package was installed correctly you can use the following:

```
which PACKAGENAME
```

To see all installed STATA packages, use:

```
ado
```

If you need a STATA package that is not available on the workspace please contact the data managers on data@lifelines.nl. The data managers will install the STATA package for you in I:\Lifelines\Programs\STATA-packages-installed.

4.2.2 R packages

The Lifelines Research Workspace is disconnected from the internet due to security reasons, therefore you cannot automatically download and install packages within R from the internet. A large amount of R packages have been installed on the workspace. An overview of all installed can be found on the workspace on the following location: I:\Lifelines\Programs\R-packages\READ_ME_FIRST.

Using R packages

To use R packages type the following code at the beginning of your script:

```
.libPaths('I:\Lifelines\Programs\R-packages\library_XXX')
```

Where XXX refers to the first three letters of the current month

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This code 'tells' R where the package library is located (I: drive). After running the .libPaths() code, you can call your libraries by simple typing:

```
library(PACKAGENAME)
```

Note: The R package library will be updated monthly. Therefore, make sure you always use the first three letters of the current month in the .libPaths command in your script.

Information on the workspace
- An overview of all installed R packages can be found in an excel file
  (I:\Lifelines\Programs\R-packages\READ_ME_FIRST\R_packages_available_on_workspace.xlsx)
- Detailed information on how to use the R packages on the workspace is available in a README text file
  (I:\Lifelines\Programs\R-packages\READ_ME_FIRST\README_packages_R3.5.2.txt)

If you miss a specific package or version, please contact one of the Lifelines data managers (data@lifelines.nl).
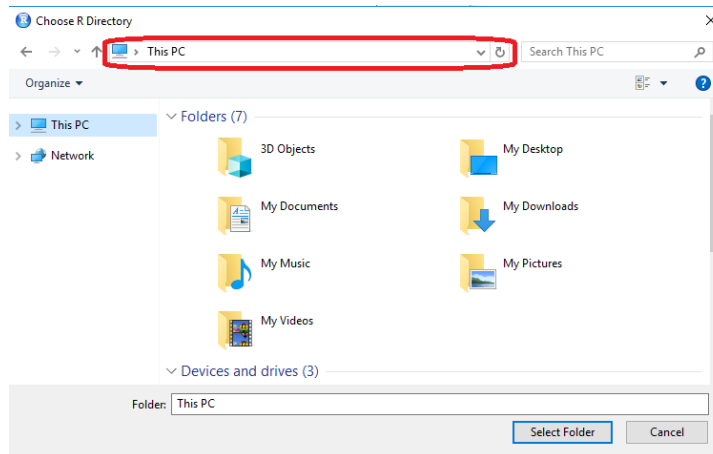
4.2.3 Set-up RStudio

When opening RStudio for the first time a popup appears asking you to 'Choose R Installation'. Select *Choose a specific version of R* and click on *Browse*.
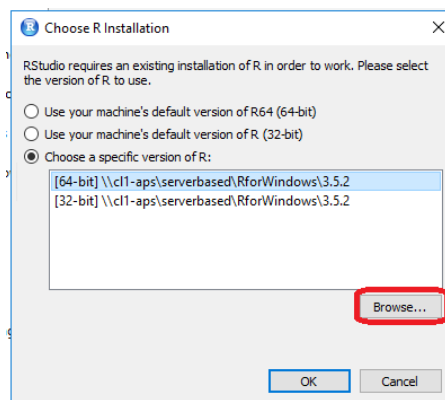
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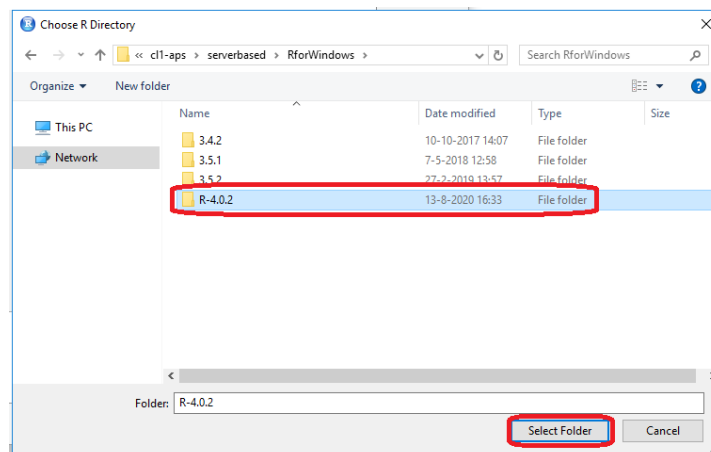A popup like Windows Explorer will appear. In the search bar it now says 'This pc'. Delete this and type the following:
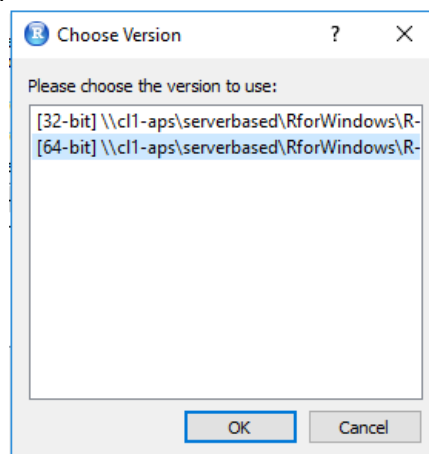
\\cl1-aps\serverbased\RforWindows

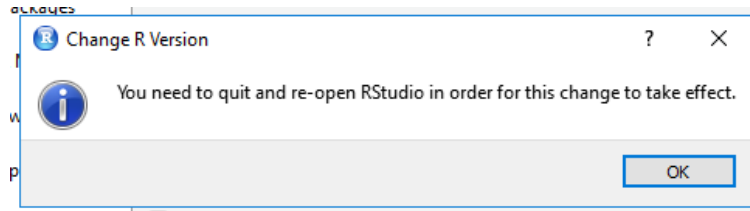You will see the folder structure as shown below. Select the most recent R-version and click on *Select Folder*.

7. A popup will appear asking you whether you would like to use the 64-bit of 32-bit version. Select the *64-bit version* and press *OK*.

Select *OK* again to use R. You will now receive a popup indicating that you have to restart RStudio in order to change R versions.

After restarting RStudio your console will mention the chosen R-version.

Every time you open your workspace the version of R will remain the same. If you want to use the older version of R, follow the instructions above and choose the older version.

4.3. *Export/Import file(s) from/to your Lifelines Research Workspace*

As a researcher you cannot export/import any data from/to your workspace due to security reasons.

Exporting file(s) from your Lifelines Research Workspace

Please store the file(s) to be exported in the 'Export' folder (G: drive) of your workspace. You can send a request for export of file(s) to one of the Lifelines data managers by email (data@lifelines.nl). During working hours exports will be evaluated within a few hours.

Please clearly specify your project folder on the G: drive and which file(s) should be exported. Failing to provide this information might delay your export.

Note: For security reasons it is not possible to export raw data out of your Lifelines Research Workspace. General rule: data can be exported when grouped and sample size is at least N=10.

Importing file(s) to your Lifelines Research Workspace

You can send a request for import of file(s) to one of the Lifelines data managers by email (data@lifelines.nl). You can attach the requested file(s) to your email.

Please clearly specify your project folder on the G: drive. We will address your import request as soon as possible.

5. Logging of or disconnecting from the Lifelines Research Workspace

A log off means exiting the Lifelines Research Workspace environment and closing all applications (like shutting down a regular computer). Alternatively, you can exit the workspace environment while keeping the application(s) running (like only turning the PC monitor off at a regular PC). This is useful for a process that takes a long time without user interaction, for example heavy processing in SPSS or RStudio.

### 5.1. Log off and close applications

Please click on the Windows Start button in the left corner, click on the person icon and then click on sign out (see below). This will shut down any open applications and log off the workspace environment completely. Any work that is not saved will be lost.

Important note: Please close your Lifelines Research Workspace session using the Log off option on a regular basis, if possible each time when you finish for the day! This guarantees the most optimal performance of your Lifelines Research Workspace.
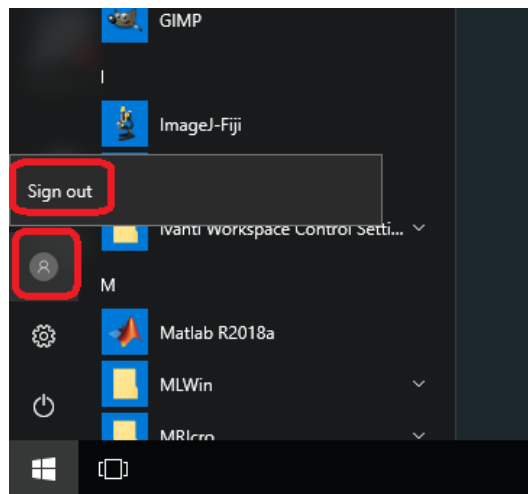
5.2. Disconnect and keep applications running

To disconnect your Lifelines Research Workspace please click the small arrow in top of your screen. You will then see several options including a 'Disconnect' button (see below). Click on this button and you will disconnect the workspace. Your current session will keep running in the background.
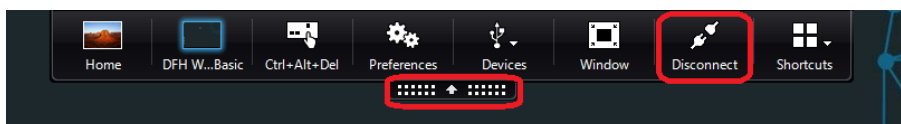

Important note: Whenever possible, please use the log off option described in the previous paragraph to log off from the Lifelines Research Workspace. The Disconnect option can be used when you need to keep your current session running, but please be aware that using this option can cause issues with the workspace (e.g. unresponsive workspace).

6. Technical problems and change of mobile phone number

6.1.   Frozen or stuck Lifelines Research Workspace

When your Lifelines Research Workspace is frozen or stuck in a syntax, first try to restart your workspace. You can do this yourself: (1) go to the launch page of the workspace (section 3.3) and click on the arrow below the Workspace icon. You will now see the option to restart your workspace; (2) click on 'Restart/Opnieuw starten' to restart your Lifelines Research Workspace.
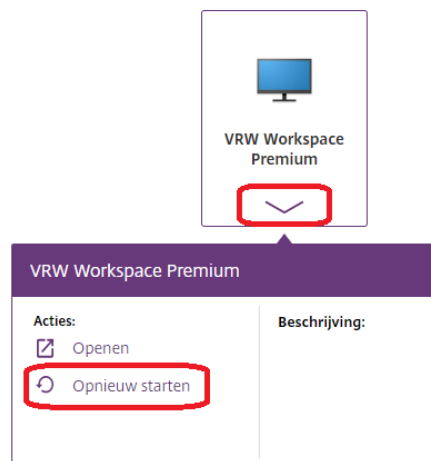
If your Lifelines Research Workspace is still unresponsive, or if you do not see any workspace icons on the launch page, please contact one of the Lifelines data managers by sending an email to data@lifelines.nl.

6.2.   Other issues with the Lifelines research workspace

Please contact one of the Lifelines data managers by sending an email to data@lifelines.nl if you are experiencing technical problems with your Lifelines Research Workspace.

Note: Not all issues can be solved by the Lifelines data managers. Sometimes we have to forward the question to the workspace operators. This will influence the time before the issue is resolved.

6.3.   Changing the mobile phone number connected to the Lifelines Research Workspace

If you want to change the mobile phone number connected to the Lifelines Research Workspace, contact one of the Lifelines data managers by sending an email to data@lifelines.nl.

Please note: We are able to change the mobile phone number for one workspace user. However, the user of the workspace, i.e. username and password, cannot be changed. If another user wants to continue with the research project, a new Lifelines research workspace needs to be requested. Please contact one of the Lifelines data managers by sending an email to data@lifelines.nl if you want to request an additional Lifelines Research Workspace.

7. Archiving the Lifelines Research Workspace

The Lifelines Research Workspace will be archived once the agreed access period has expired, as defined in the contract. If you expect that you need additional time for your analyses, please contact one of the Lifelines data managers (data@lifelines.nl).

As long as the Lifelines Research Workspace for a researcher is hosted, the dataset is directly accessible by the researcher. At the moment the Lifelines Research Workspace is archived, the dataset is only accessible by the Lifelines Data Manager. Please note only the Group (G:) drive will be archived (see 4.2).

8. Questions and feedback

Please feel free to contact us on data@lifelines.nl in case of any questions on use of the Lifelines Research Workspace. At Lifelines we continuously aim to improve our systems, so any feedback you have is welcomed.

Good luck with your research!

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9. Appendix A

The Lifelines Research Workspace comes with the following programs pre-installed:

- Acrobat Adobe Reader
- ASReml (on request by Workspace user)
- GIMP
- IBM SPSS Statistics
- Internet browsers without internet access
- Matlab
- Microsoft Excel
- Microsoft PowerPoint
- Microsoft Word
- MLWin
- Notepad++
- Paint
- Putty
- Python
- QGIS3
- R
- RStudio
- STATA (on request per Workspace user)

As mentioned before, as a researcher you cannot install applications yourself. Please contact one of the Lifelines data managers (data@lifelines.nl) if you have the need for additional software on your Lifelines Research Workspace. We will evaluate your request and inform you about the possibilities.