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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. Creating an Onegini account

For researchers who do not have a University of Groningen (RuG), University Medical Center Groningen (UMCG), or SURFContext account, we provide the possibility to login on the Lifelines Research Workspace using a so-called ‘Onegini’ account. You have to create your own Onegini account before you are able to login on the Lifelines Research Workspace. Below we will provide a step by step manual to create your Onegini account.

Note: Your Onegini account has to be processed before you can login on the Lifelines Research Workspace. Therefore, it is recommended to create the Onegini account one day before you would like to start working on the Lifelines Research Workspace. In case you are unable to login on the Lifelines Research Workspace one day after you have created your own Onegini account, please inform the Lifelines data managers by sending an email to data@lifelines.nl.

2.1. Go to Onegini website

The first step to create a Onegini account is going to the Onegini website: https://www.onegini.me (see picture on the next page). On this website you will see several social media accounts. If you indicated that you would like to logon to the Lifelines Research Workspace using a social media account please select the one you communicated to Lifelines and follow the steps described in section 2.2 Onegini social account. In case you specified a specific email address to login on the Lifelines Research Workspace please click on ‘here’ below the social media symbols and follow the steps described in section 2.3 Onegini email account.
2.2. **Onegini social account**

Please click on the social media symbol you would like to use for your Onegini account. After you selected your social media preference, you will be asked to login on this account. For this manual, we will use LinkedIn as an example. Please enter your LinkedIn login details.

**Important:** The email address and telephone number linked to your social media account (in this case LinkedIn) should be the same as the email address you provided Lifelines.

**Note:** Your social media account will only be used for verification. No information will be exchanged with your social media account.
After you logged in on your social media account you will be asked to complete a registration form with some additional information. Please fill in all fields of the registration form and make sure you also check the ‘I agree with the Terms of Use’ box. Afterwards, click on ‘Create’ to create your own Onegini account.

When there are no issues in the registration form you will enter your own Onegini dashboard. You have now completed the first step of the creation of your Onegini account. Please continue with the actions listed in section 2.4 Setting up your Onegini account.

2.3. **Onegini email account**
As mentioned before, to create your Onegini account using an email address you have to click on ‘here’ on the Onegini landing page.

After you have clicked on ‘here’ you will enter the page shown below. On this page you click on ‘Register here’ to create your own Onegini account.
Please fill in all fields of the registration form and make sure you also check the ‘I agree with the Terms of Use’ box. Afterwards, click on ‘Create’ to create your own Onegini account.

Important: The email address and telephone number you enter in this form needs to match the email address and telephone number you provided to Lifelines.

When there are no issues in the registration form you will enter your own Onegini dashboard. You have now completed the first step of the creation of your Onegini account. Please continue with the actions listed in next section.
2.4. **Setting up your Onegini account**

You have now reached your own Onegini dashboard (shown below). To confirm your account please start by clicking on ‘Personal info’. Doing so will confirm your mobile phone.

You will receive a SMS code on your mobile phone which you need to fill in to verify your mobile phone number (see screen below). Please enter the code you received and click on ‘Submit’.

Next, you will be asked to enter a 5 digit PIN code that you can use to manage your Onegini account. Enter your own PIN code and click on ‘Continue’. You have now confirmed your mobile phone number. Additionally, you need to confirm your email address. To do this, please click on the ‘Verify email address’ button in the email you have received on your email account (you did receive a welcome email as well).
In case you have selected a social media account, you will now have a pop-up on your screen requesting you to select the social account you used to register at Onegini. Again, please select the social media icon.

The setup of your Onegini account has now been finished and you can continue the steps described in Chapter 3 to login on the Lifelines Research Workspace.

**Note:** As mentioned before, it might take some time before your Onegini account is processed and linked to the Lifelines Research Workspace. In case you are unable to login on the Lifelines Research Workspace one day after you created your Onegini account, please notify one of the Lifelines data managers by sending an email to data@lifelines.nl.
**Optional: register an authenticator to your Onegini account**

You can also register an authenticator to your Onegini account. You can use this authenticator when you need to use your Onegini account. To do this, please go to the ‘Security’ tab at your Onegini dashboard.

Then click on ‘Enable’ at ‘Authenticator app *’. You will be asked to scan the authenticator code, where after the authenticator will be registered to your account.

**Activate authenticator app usage**

To activate the use of the Authenticator app, please follow the steps below:

1. Pair your authenticator app with your Onegini account by entering this info:

   ![QR code](image)

   I can't scan the bar code

   Step 2: enter the verification code generated by the Authenticator app and press activate.

   Verification Code

   The code cannot be empty

   [Cancel]  [Activate]

**Optional: changing your preferred security method**

Going back to the security page you will see all different security methods registered to your Onegini account. In the case below, the authenticator app is identified as the default security method. If you prefer you can change the default security method to your preferred security method.
3. Installation Citrix Receiver plugin

The Lifelines Research Workspace requires the free Citrix Receiver plugin 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 receiver you need at [https://www.citrix.com/downloads/citrix-receiver/](https://www.citrix.com/downloads/citrix-receiver/). After downloading the plugin, follow the steps of the installation process to install the Citrix application.

**Add 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.

![Citrix Workspace](image)

**Allow the Citrix plugin pop-up in 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”.

4. Login to the Lifelines Research Workspace

4.1. **Enter your username and password**

Open your web browser and enter one of the following URLs in the address bar: [https://dfh.usor.nl](https://dfh.usor.nl) or [https://dfh.usor.nl/Citrix/DFHWeb/](https://dfh.usor.nl/Citrix/DFHWeb/). You will be forwarded to a page where you have to select the organization you are working for, in this case the University of Groningen or University Medical Centre Groningen (see Figure). Please select ‘Social ID | Onegini’ to continue.
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.

**Step 1:** After you select your organization you will be forwarded to the Onegini login screen. (In case you are logged in on your Onegini account, you will skip this step)

**Step 2:** Login on the selected account. The example below shows the LinkedIn login page. (In case you are logged in on your Onegini account, you will skip this step)
**Step 3:** Give permission to exchange information. The first time you login, you will be asked to exchange information (only email address). Please select ‘Continue’.

![Permission to exchange Information](image)

Note: After this step you might go to your Onegini dashboard. If this is the case, please follow the login steps from the beginning of section 4.1 *Enter your username and password*.

**Step 4:** Confirm that you want to connect with the Data Federation Hub. Please select ‘Yes, proceed to Data Federation Hub | RUG’. Similar to step 3, you only have to confirm this the first time you login.

![Data Federation Hub](image)
Citrix Receiver not detected

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

1. In case you get the following screen, please click on ‘Receiver detecteren’ (detect Citrix Receiver).

![Image of Citrix Receiver screen with 'Receiver detecteren' button]

2. In case you get the following screen, please check the box ‘Ik ga akkoord met de Citrix licentieovereenkomst’ (I agree with the Citrix license agreement). Then click on ‘Al geïnstalleerd’ or (Already installed).

![Image of Citrix Receiver screen with 'Al geïnstalleerd' option]

3. If Citrix Receiver is still not detected you can install Citrix Receiver 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.
4.2. **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).

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.

**Note:** It can take several seconds before you receive the SMS token.

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

After a successful SMS verification the Lifelines Research Workspace launch page will appear. Click on the ‘DFH Workspace Basic’ to start the Lifelines Research Workspace (or ‘DFH Workspace premium’).

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

**Chrome**

After you click on the ‘DFH Workspace Basic’ 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.

**Internet Explorer/Mozilla Firefox**

After you click on the ‘DFH Workspace Basic’ 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.
5. Start using the Lifelines Research Workspace

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.

![Workspace Screenshot](image)

5.1. Using the 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 several researchers are working on one project, the group drive can be accessed by all researchers working on this project.

- **Home drive (H:)**
  
  The home drive is your own drive that cannot be accessed by other researchers, 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 researcher 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, syntaxes from other researchers). Additionally, there is a subfolder called ‘Programs’ in which you will find all installed STATA and R packages, and a SPSS25 merge instruction.

5.2. **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). An overview of all available programs on the workspace can be found in Appendix A at the end of this document.

**STATA**
If you need a STATA package that is not available on the workspace (I:\Lifelines\Programs\STATA-packages) please contact the data managers on data@lifelines.nl and we will install the additional STATA package for you.

**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

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
  (C:\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
  (C:\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).

### 5.3. 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.
6. 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.

6.1. 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.

6.2. 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).
7. Technical problems and change of mobile phone number

7.1. 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 ‘Details’. You will now see the option to restart your workspace; (2) click on ‘Restart’ 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.

7.2. 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.

7.3. 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.
8. 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.

9. 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!
10. Appendix A

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

- Acrobat Adobe Reader
- GIMP
- IBM SPSS Statistics
- Java
- Matlab
- Microsoft Excel
- Microsoft PowerPoint
- Microsoft Word
- MLWin
- Notepad++
- Paint
- Putty
- R
- RStudio
- STATA
- Windows Internet Explorer (no internet access)

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.