



RESEARCH DATA CENTRE (FDZ)
of the German Federal Employment Agency (BA)
at the Institute for Employment Research (IAB)

Manuals for Remote Data Access and On-Site Use at the FDZ of the BA at the IAB

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1 Introduction

This document (from here on: [manuals](#)) is a collection of various FDZ manuals that must be adhered to when using our data access channels, as well as several instructions to assist you in doing so. Here you will find the following information:

- What does the project directory look like in the FDZ IT infrastructure? (see Section [2.1](#))
- How can I use programme packages and external aggregated data sets? (see Section [2.2](#))
- How can I test my scripts outside the FDZ? (see section Section [2.3](#))
- How should the scripts be designed? (see Chapter [3](#))
- How does remote execution work with JoSuA? (see Chapter [4](#))
- How does on-site use at one of the FDZ locations work? What do I have to consider in advance of an on-site visit? (see Chapter [5](#))
- How does remote data processing via remote desktop work? (see Chapter [6](#))
- How do I receive my results? (see Chapter [7](#))
- What do I have to consider when publishing results? (see Chapter [8](#))
- What should I bear in mind if I want to use software other than Stata? (see Chapter [9](#))
- How do I operate JoSuA? (see Chapter [10](#))
- What can I do to fix problems in JoSuA myself? (see Section [10.10](#))
- How do I access the remote desktop environment and how do I use it? (see Chapter [11](#))

In addition to this document, it is mandatory to adhere to the "[Guidelines for the Design of Evaluation Programmes and Analysis Results](#)" (from here on: 'guidelines'). This is the key document that shows you the guidelines we set for the development of evaluation programmes/scripts and how to generate results that comply with data protection regulations. Please also always use the [Stata-templates for evaluation programmes](#) (from here on: 'FDZ templates') provided by us for the steps of data preparation, description, analysis and results output, in which the [guidelines](#) are implemented as examples.

Furthermore, "FDZ Datenreporte", frequencies and test data are available on the FDZ website for all data products. Further working tools and publications on how to work with FDZ data can be found at '[Key working Tools of the FDZ](#)'.

Please use these documents and working tools not only before you start analysing the data, but also as a reference when problems arise. Please always keep in mind that the FDZ serves well over 1,000 users and relies on your cooperation to maintain its service in a reasonable amount of time. Please contact us (iab.fdz@iab.de) in case of problems only if you cannot find help in our documents. In case of problems with JoSuA, please always check our website first to see if there are general problems with the service or if you can find help in the [JoSuA FAQs](#).

2 Basics

2.1 Project directories on the FDZ servers

Each research project receives its own directory (**fdzXXXX**) per FDZ data set. Different FDZ data products cannot be used together or merged at the individual observation level, even if they are used in the same project. If you are using more than one FDZ data product, you can check which FDZ data product is stored in which project directory. To do this, you can create overview lists of the available files for each project directory during remote execution. You can find an example in the FDZ templates (**master.do**).

Each project directory contains the subdirectories listed in Table 1. Creating any other directories or subdirectories is not allowed.

Table 1: Subdirectories in the project directory

Table 2.1: Subdirectories in the project directory

Name	Description	Access
orig	All requested original data is provided in this directory. This folder may also contain external aggregate data (see Section 2.2.3). You have read-only permission for this directory.	The data in the directories orig and data can also be accessed by programs via JoSuA .
data	All user-generated data sets are stored here. A maximum of 30 GB is allowed per directory. If you exceed this maximum, the memory requirement must be reduced. You can find an example of this in the FDZ-Templates .	The data in the directories orig and data can also be accessed by programs via JoSuA .
prog	This folder contains all scripts (e.g. Stata do-files, R-scripts, .m-files) for the on-site use (do-files) as well as supplementary files (e.g. ado-files, R packages).	Scripts and Output-Files are not automatically synchronised between JoSuA and the project directory .

Name	Description	Access
log	This folder contains all the result files of the on-site use, including graphs.	Scripts and Output-Files are not automatically synchronised between JoSuA and the project directory .
doc	This folder is used to take notes during your on-site stay. These documents are only available during your stay and cannot be released.	

If you use remote data processing via remote desktop in your project, your project directory will contain additional subdirectories. These are described in Chapter 6.

2.2 Further resources

2.2.1 Ado-files (Stata)

It is not possible to download ado-files from the internet to our on-site workstations. The FDZ provides the packages of the Statistical Software Components (SSC) Archive (originally hosted at the Boston College Department of Economics (BOCODE) and provided by RePEc) in its network (see the list at https://doku.iab.de/fdz/access/stata_ado.pdf).

- You can access those packages within the FDZ IT infrastructure. Please use the command below to install the packages. It copies the corresponding files into your **prog** directory:

```
fdzinstall packagename
```

This command copies all relevant files to the prog directory of the respective project. The command should only be used once per project directory, as repeated executions can lead to involuntary updates of the ados. The packages are then available in the prog directory and are automatically integrated into Stata. The installation and use of the ado-files in the prog folder are equally available in the guest stay and via JoSuA.

- The ado-file collection provided in the FDZ guest network is updated regularly. Files copied by users to prog directories are not updated by the FDZ. To copy any newer version of an ado package into the prog directory, the command

```
fdzinstall packagename
```

command must be executed again. The previous version of the ado file will then be replaced.

To revert to the previous version in the event of any problems caused by updates, `fdzinstall` offers the `repo()` option, which can be used to call up a previous version of the ado file collection. A list of available versions can be found here (https://doku.iab.de/fdz/access/stata_ado.pdf).

- If you intend to use ado-files, which are not part of the SSC archive or for which a new version is not yet available at the FDZ, please upload your files to JoSuA (text files only, such as .ado, .do, ...). Ado-files need to be uploaded once in the Projects tab (see Section 10.4) in *Resources*. Afterwards they are available for remote execution in JoSuA. Ado-files uploaded here can then also be downloaded and thus used during your on-site visit and in the remote desktop environment.
- If you want to use ado-files, which cannot be uploaded via *Resources* (e.g. because they contain .mlib or .plugin files), please send them to the FDZ mailbox at least three working days prior to your on-site visit. These ado-files will also be stored in the **prog** folder.
- Unfortunately, .mo files cannot be checked. Please create such files in the guest network of the FDZ. For ado-files, there are usually do-files that define the objects and have "function" or "fun" in their names. .mo files can be generated via JoSuA (independent of the mode) in your project directory as follows:
 - Create/modify the do-file that creates the .mo file; please note:
 - * saving the created object with a command like this: `mata mosave xyz(), replace dir(\$localprog/x)`
 - * Here, *xyz* stands for the name of the created object. The letter after "**\$localprog/**" stands for a possible subfolder in the **prog** folder in your project directory where the ado-file expects the .mo file (e.g. "*\$localprog/x*" for a file "*xyz.mo*").
 - * Create the necessary subfolder in your **prog** folder before saving the .mo file with this command:
`capture mkdir \$localprog/x`
 - Execute the relevant do-file, e.g. by starting it in a **master.do** via JoSuA.
 - If you want to create the .mo files during an on-site visit please use `$prog/x` instead of `$localprog/x`.

2.2.2 R-packages

R-packages cannot be downloaded from the internet or uploaded via JoSuA. If you require R-packages that are not available on the guest network, please contact the FDZ by email.

2.2.3 Linking external aggregated data

- Data from external sources that does not contain any personal or establishment references (e.g. the proportion of agricultural land in the total area of a district, the distance between the capital of a country of origin and Berlin, or the daily lunar calendar) is harmless and can always be merged.
- The linkage of individual observations relating to persons or establishments is not possible and permitted!
- External variables at an aggregate level (e.g. unemployment rates by districts) may be merged to your dataset if they comply with the FDZ data protection guidelines. Each aggregate value must be based on at least **three** individual observations (in the example, at least three unemployed persons and three non-unemployed persons). This is generally the case for aggregate values from official statistical sources.
- In this aggregate data set, variables have to be included indicating the respective number of observations underlying each variable or cell. Please specify absolute frequencies only (e.g. number of men and number of women instead of the share of women). Relative frequencies do not readily allow checking compliance with data protection. The calculation of share values should only be done within the FDZ environment.
- The aggregate data set **must** be submitted as a **Stata data set** to the FDZ (iab.fdz@iab.de), together with a description of the data set (including variable descriptions, the aggregation level, and a source citation). Please compress the aggregated data set with the command **compress** before sending it to the FDZ. Data sets sent as Excel file cannot be made available. It is also not allowed to submit aggregate data within scripts.
- After inspection and approval by the FDZ, the external data sets will be made available in the **orig** folder. Please coordinate the linkage of aggregate data with the FDZ staff early on. The provision of external aggregated data in your project folder can take up to **3 working days** after a successful approval.
- If you need data sets from the FDZ's working tools, please write an e-mail with the names of the desired data sets to the FDZ mailbox. We will then provide the data sets in your **orig** folder within three working days. The available FDZ working tools can be found on our website at '[Key working Tools of the FDZ](#)'.

2.3 Setting up a test environment at your own workplace

For the development and testing of scripts, we recommend setting up a test environment at your own workstation in order to best prepare for working via remote execution with JoSuA or on-site. In the following, you will learn how to set up a such a test environment outside the

FDZ infrastructure that corresponds to the project directory on the FDZ servers. If you also use remote desktop access, you may be able to skip this section.

2.3.1 Setting up a project directory

- Create a directory „**fdz[your projectnumber]**” on your PC.
- Within this directory, create the folders **orig**, **prog**, **data** and **log**.
- Do *not* create any subfolders.
- For JoSuA and on-site use, the path globals are defined automatically. For your own test environment, however, you have to define the globals **\$orig**, **\$data**, **\$prog**, **\$log** and, if applicable, **adopath** before running **master.do**. Do not write the global definitions into **master.do** but into a file called **profile.do** (see [FDZ templates](#)). This file is automatically executed by Stata and does not have to be called by **master.do**. You could, for instance, save the file in the current working directory (see also <http://www.stata.com/help.cgi?profile>). Please do **not** upload the file **profile.do** to **JoSuA**.
- In case you use more than one data product in your project, please create a project directory for each data set as described above. Please note that users cannot transfer (copy or move) data between project directories at the FDZ.

2.3.2 Downloading and preparing the test data

- We provide test data for most of the data sets offered by the FDZ. These have the same data structure as the original data, but cannot be used for analysis. Please note the information on the respective test data on our website.
- Save the test data in the **orig** folder.
- Many data products of the FDZ contain sensitive variables, which you have to request separately. In principle, all sensitive variables are included in the test data. Therefore, you need to modify the test data in advance, according to the sensitive variables that you have requested (see FDZ template **prepare_test_environment.do**).
- There are no test data for expansion modules. You can create these additional data sets by following the descriptions of the data set in the data report. For this purpose, you may have to fill variables with random numbers (see FDZ template **prepare_test_environment.do**).

2.3.3 Usage of FDZ template

- You can download the [FDZ templates](#) from the FDZ website. They are only available in Stata format. In case it is not possible to execute individual calculations using Stata, please follow the basic structure of these templates using other software (e.g. R).
- Save the scripts in the **prog** folder.
- These FDZ templates were developed using the SIAB test data. You can try out your test environment setup and the FDZ templates by downloading the [SIAB test data](#) from our website. For other data sets, you have to adjust the scripts accordingly.
- For more information on how to use the FDZ templates to prepare for working with the test data at your own workplace and as a basis for designing your own scripts, see the [FDZ templates zip archive](#).

2.3.4 Programme packages and external aggregate data

- To test merging and analysing external aggregate data in your test environment at home, please save the external data in the **orig** folder.
- If you want to use programme packages, save them in the **prog** folder (see Section [2.2.1](#)).¹

2.3.5 Testing scripts before on-site visits and remote execution with JoSuA

- Check your programmes prior to submission for remote execution with JoSuA or before an on-site visit using test data provided on the FDZ website.
- Run **master.do** in your test environment.
- Please note that the file sizes of the test data correspond only to a part of the original data. The original data and prepared data sets are significantly larger and programmes run accordingly longer.
- After successful testing, upload your programmes **unchanged** to JoSuA in Internal Use Mode.

¹Stata looks for ado-files in multiple directories by default. In order to avoid that ado-files are included during the test at home and then are not available during remote data access or on-site use, the search path in the test environment should be restricted to **\$prog** (see FDZ template **profile.do**).

3 Design of the scripts

The design of the scripts or programme files is central to a smooth and fast processing of data protection reviews by the FDZ team. It is therefore essential that all users adhere to these [guidelines](#) in order to receive released log files and graphs in due course.

You can find detailed explanations in the work aid "[guidelines](#)".

Furthermore, users should use the **FDZ templates** as starting point for their programmes. You can find the [FDZ templates](#) on our website.

Please note that scripts must not contain any data. Therefore, please refrain from copying results, establishment or personal ID's into your scripts. External data must be sent to the FDZ as a Stata data set (see Section [2.2.3](#)).

When naming script files, please use only the following characters: 0-9, a-z, A-Z, -, _.

4 Data usage with JoSuA (Job Submission Application)

Controlled remote execution is essential for the use of most FDZ data products. Contracts for on-site use or remote desktop access always include the use of (indirect) controlled remote execution. Please refer to your data use agreement to see which data access mode is available in your project. For all access modes, the FDZ uses the web-based application JoSuA (Job Submission Application):

- As part of **controlled remote execution**, JoSuA is used to upload scripts to be executed, to inspect preliminary results, and to download reviewed and released results.
- For **on-site visits**, you upload scripts you created at your own workplace to JoSuA (via "*Transfer*") in advance. After review by FDZ, you can download these scripts from the local network at the FDZ and then further edit them during your on-site visit. At the end of an on-site visit, you can upload scripts to JoSuA that you created or changed. After review, these files are available for remote execution and you can further edit them at your own workplace. The results of your on-site visit will be provided exclusively via controlled remote execution. Further information on on-site visits and the use of JoSuA in the context of on-site visits can be found in Chapter 5.
- In the context of remote data access via **remote desktop**, JoSuA is used to transfer scripts, as in the case of on-site visits. JoSuA is also required to validate the preliminary results created during direct remote access (see Section 6.3).

4.1 Basic information on the use of JoSuA

- The FDZ uses JoSuA for:
 - controlled remote data execution (see Section 10.5),
 - the transfer of scripts¹ before and after on-site use (see Section 10.7) and
 - the upload of ado-files (see Section 2.2.1 and Section 10.4).

¹Although only Stata can currently be used within the framework of controlled remote data execution via JoSuA, JoSuA can still be used to transfer scripts from other statistical packages (such as R or Octave).

- Access data:
 - You will receive your user name for JoSuA and the first part of your password by e-mail.
 - The second part of the password will be sent to you by mail.
 - Please note that you will receive your own user name for on-site use or remote desktop access (see Section 5.2 and Section 6.1). The corresponding initial password is identical to the one for JoSuA.²
- Controlled remote data execution with JoSuA:
 - Using JoSuA, you can access data sets in the folders **orig** and **data**. Please consider the programming advice provided in the [FDZ templates](#).
 - Scripts and Output-Files (e.g. log-files, graphs) are not stored by JoSuA in the folders **prog** and **log** but in a separate folder. However, files saved in data while using JoSuA are written to the data folder. Conversely, the files stored in the folders **prog** and **log** during on-site visits/remote desktop access are not available in JoSuA.
 - All **ado-files** in the **prog** folder of your project directory at the FDZ are already included automatically.
- External aggregate data cannot be uploaded via JoSuA, but must be sent to the FDZ by email. Detailed information on the procedure can be found in Section 2.2.3.

The usage of JoSuA is described in detail in Chapter 10.

You can also find current answers to frequently asked questions about JoSuA on the FDZ website in the [JoSuA FAQs](#). There you will also find a video tutorial to help you get started using JoSuA.

4.2 Internal Use Mode and Presentation / Publication Mode

Two modes of usage are available in JoSuA:

1) Internal Use

- The Internal Use Mode should be used for data editing, preparation of on-site visits and testing of scripts. Please use the Internal Use Mode for your analyses until you need interim or final results for a presentation or a publication.

²Any password changes in JoSuA will not be synchronised with the accounts for on-site use or remote desktop.

- Be sure to check the runnability of your programmes in your test environment beforehand.
- The results are for "internal" use only, i.e. they are only used to develop your scripts.
- Uploaded jobs will start automatically. The results are available via on-screen display but cannot be downloaded.
- The results visible to you have undergone an automatic script-based review and censored if necessary.
- The Internal Use mode is intended solely for reviewing purposes to further develop your scripts. Any other use of the results is prohibited. The results must not be transcribed, photographed, printed, copied or extracted otherwise. It is also prohibited to grant access to third parties who are not named in the project's data use agreement. Please **NEVER** submit results that were created in Internal Use mode, or any other output that has not been approved by the FDZ team! Submitting unapproved results – even to the FDZ – constitutes a breach of contract. If you have any questions about an Internal Use job, please send us the project and job number only.
- Please note that to ensure data privacy in Internal Use Mode, some commands are blocked.³ Exceptions are not possible. In these cases, you have the option to obtain manually reviewed results by selecting Presentation / Publication Mode.
- It is not allowed to perform reverse calculations to identify any deleted values. Results of the Internal Use Mode will therefore not be available once a Presentation / Publication job is submitted within the same project.

2) Presentation / Publication

- In this mode, downloadable log-files and graphs are produced.
- This mode is to be selected whenever (and only if) results are about to be published in a paper or a presentation.
- Be sure to check whether your programs run smoothly without causing errors and comply with our guidelines in the Internal Use Mode.
- Restrict the results to those you need for publication or presentation. Only upload the scripts that generate the results necessary for the respective presentation or publication. Put comment indicators around any commands whose results you do not need. All data sets previously created in Internal Use mode can be accessed, i.e. processing steps do not need to be run again.
- Please make sure that no commands like „nostop" are included in your programmes that avoid programme aborts.

³Currently the command list is censored in Internal Use Mode. The FDZ may censor further commands in the future.

- Make sure to display your results in accordance with our [guidelines](#). In our guidelines, you can find information on the output of tables, graphs and aggregated data sets.
- Look at the [FDZ template](#) for efficient programming and output display. This way, you can make sure that the programs are efficient and the FDZ staff can swiftly review – and release – your output.

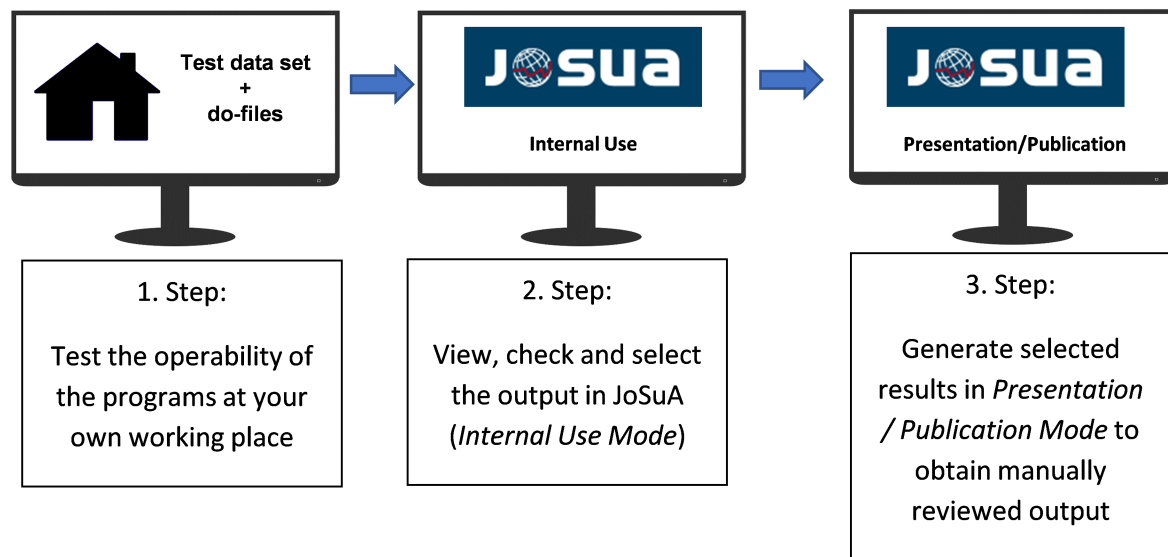
Detailed instructions on how to use JoSuA and advice on job aborts in JoSuA can be found in Chapter [10](#).

4.3 Workflow for controlled remote data execution with JoSuA

See Figure 1 for a general overview of the workflow.

- The scripts you upload to JoSuA must be fully executable. The FDZ does not carry out error corrections. Therefore, always test your programmes beforehand using your test environment (see Section [2.3](#)) or (if available) in the remote desktop.
- Please make sure that the [guidelines](#) are implemented in your scripts.
- If you need **ado-files** in JoSuA, please follow the instructions in Section [2.2.1](#) of our manuals. All ado files in the **prog** folder of your project directory at the FDZ are already included automatically.
- Please note the technical restrictions regarding the number and size of programme and result files as well as our memory limitations (see Section [10.8](#)). As a general rule, we ask you not to occupy working memory unnecessarily, as there is a risk that your job and the jobs of other users will abort or be slowed down considerably if the computing servers are heavily utilised.
- Always upload your programmes in Internal Use Mode first, in order to view, check and select the results. Also make sure that the results you want to generate later in Presentation / Publication Mode comply with data protection requirements (see [guidelines](#)).
- Your programmes will be started with the latest Stata version available at the FDZ.
- Before uploading the next programme, please wait until the results of your previous job have been released. The FDZ reserves the right to cancel parallel jobs without prior consultation with the users if they affect the jobs of other users. The number of jobs that can be uploaded per day/week in Internal Use Mode and Presentation / Publication Mode can be found on the [FDZ website](#). Jobs that are terminated directly due to incorrect programming are also counted against this limit.
- Your results will be made available depending on the server load, the computing strain, and the required reviewing effort.

Figure 4.1: Figure 1: Procedure controlled remote data execution with JoSuA



5 On-site visits

The FDZ recommends for all projects on-site visits at least before using JoSuA for the first time (or alternatively the remote desktop, see Chapter 6), especially when analysing complex data sets like SIAB, the Linked Employer-Employee data of the IAB (LIAB) or other linked data products. In doing so, you can become familiar with the data quicker and more conveniently and carry out the often time-consuming data preparation.

5.1 Preparation for on-site use

- After concluding a data use agreement, you will receive your account details via e-mail, with half of the initial password submitted via letter. If further projects are added later, the initial password will always remain that of the first project. Please note that you will receive a separate identification for JoSuA (see Section 4.1). However, the associated password is identical to the initial password for on-site use.
- For on-site use at the FDZ or an external site, please make an **appointment** in advance. Keep in mind that the capacity of guest workstations is limited and not every requested appointment can be approved. Also, the booking modalities can vary depending on the location. You can find more information about this on our website ([contact details](#)).
- To use **programs** on-site that were prepared off-site, upload all do-files to JoSuA through the “*Transfer*” feature **at least three business days** prior to your on-site visit.
- The reviewed and released scripts can then be downloaded from JoSuA at your on-site workstation. You can save them in the **prog** folder of your project directory at the FDZ.
- When uploading, please limit yourself to evaluation programmes that are new or have been changed since your last on-site visit. Transferring unchanged programmes creates unnecessary review work for the FDZ staff. Scripts provided by the FDZ for data preparation are stored in the guest network and do not need to be uploaded via transfers. These include all programme files from FDZ method reports, the FDZ Stata templates, the panel tool for the IAB-Establishment Panel, the do-files from Dauth et al. (2023) and other working tools.
- You have to send external **aggregate data** to the FDZ via email **at least three business days** prior to your on-site visit. Please state the date of the planned visit in the

email. If you have not received a confirmation of receipt within two working days, please let us know. Please note the section on external aggregate data (Section 2.2.3).

- If you want to use **ado-files** on site, please see section Section 2.2.1.

5.2 During your on-site visit

- For the initial on-site login, please use your initial password that you received split in two parts by letter and email (see Section 5.1).
- Please change your password after the initial login. Instructions can be found as part of our working tools (under **Vorgaben_Guidelines „Shortguide Password”**).
- **FDZ Working Tools:**
 - At your on-site workstation, you have access to a general directory („**Working_Tools**”). There you can find:
 - * FDZ data reports
 - * further working tools and central method reports incl. corresponding files (datasets and scripts)
 - * the manuals, our [guidelines](#) and the [FDZ templates](#)
 - * the ado repository
 - You can copy the files made available there into your own directory (into the folders prog, data and doc).
 - Please also find our working tools on our website under '[Key working Tools of the FDZ](#)'.
- Data sets that you created via controlled remote data execution and stored in the folder **data** are available during on-site use. Data sets that were created exclusively via remote desktop access must be generated again during the on-site visit.

5.3 How to obtain the approved results after on-site use

At the end of your on-site visit:

- Please upload your scripts to JoSuA through *Transfer* at the end of your on-site visit. Otherwise, your programmes will not be available for further editing at your own workplace or for remote data execution. You will find a link to JoSuA on the desktop of the Stata server when still on-site.

- When transferring scripts, please limit yourself to those that are new or have been modified during your on-site visit. Transferring unmodified programmes creates unnecessary review work for the FDZ staff.
- Results generated during the on-site visit will not be released. In case you immediately need results for publication or presentation purposes, please **additionally** upload the scripts in Presentation / Publication Mode during your on-site visit. Make sure that master.do and all programme files for the Presentation / Publication Mode are fully executable without causing errors.
- This means, that you need to upload your scripts both through the *Transfer* and *Submission* in Presentation / Publication Mode if you wish to obtain both your scripts and results. However, under “Transfers” you can also upload new or modified scripts that are not part of the job started in Presentation/Publication mode.
- All uploaded scripts and, if applicable, their results are available for download in JoSuA after a data protection review. Please note that transmission of scripts by the FDZ after your visit is not possible.
- Please log out correctly from the server at the end of your stay (see Handbook On-site Use in the Guest Network).

6 Remote data access via remote desktop

If you have selected the remote desktop for your data access, this can be used as an alternative or in addition to the on-site visit to prepare your analyses for JoSuA. The use of the remote desktop from your own office is analogous to access during the on-site visit in many ways, so this section is limited to differences compared to Chapter 5 and points that need to be considered in addition.

6.1 Preparations for the remote desktop

- A **technical user manual** for the remote desktop can be found in Chapter 11.
- Please note that you will receive your own user name for using the remote desktop, which is different from the one for JoSuA and on-site use (see Section 4.1 and Section 5.1). The corresponding password is identical to the initial password for on-site use.
- To log in to remote desktop for the first time, please use your initial password, which you received in split form by letter and e-mail.
- Please change your password after logging in for the first time. The instructions for changing your password can be found as a shortcut on the desktop and in the Working Tools (under **Vorgaben_Guidelines "Shortguide Password"**).
- If the remote desktop is available, your project directory not only contains the folders **prog**, **orig**, ..., but also the twin folders **prog_remote**, **orig_remote**, ..., respectively.
- While you are using the remote desktop, you only have access to the **__remote** folders; when using JoSuA or during an on-site visit, you only have access to the folders without **__remote** in the name.
- This makes no difference when programming your scripts, please continue to use the globals specified in the templates and instructions. The assignment is automatic.
- The twin folders are not synchronised by us.
- If you want to use scripts that you have developed outside the FDZ guest network in the remote desktop, you must upload them to JoSuA ("*Transfers*"), download them again in the remote desktop environment after they have been checked by the FDZ and save them in the **prog_remote** folder of your project directory.

- The provision of Ado-Files is carried out according to section [Section 2.2.1](#)
- External data sets are provided in parallel in **orig** and **orig_remote** by default.

6.2 Working with the remote desktop

- For data protection reasons, sensitive variables are further anonymised in the FDZ data products provided for working in remote desktop. A list of the affected variables can be found in the respective data reports.
- Further anonymisation only takes place at the most disaggregated level. For example, the district of residence is altered, while the federal state of residence remains unchanged.
- Results generated in remote desktop that are based on sensitive variables should therefore be regarded as provisional. We recommend regularly validating important programme steps and results using JoSuA's Internal Use mode.
- If you have not requested any sensitive characteristics, **orig** and **orig_remote** are identical.
- Data protection rules apply analogue to the on-site visit: Data and results may not be copied (photographed, printed or extracted otherwise). It is also prohibited to grant access to third parties who are not named in the project's data use agreement. Any use of these results other than for the further development of your programme files constitutes a breach of contract.
- Please log off correctly from the FDZ guest network server when you have finished working with the remote desktop and avoid open sessions that you will not be working on for a longer period of time. Other researchers will thank you for the performance gain!

6.3 Validation and export of results

- Results generated in remote desktop are not released and may need to be validated.
- Please use the Internal Use mode in JoSuA for validation. To do this, upload all relevant scripts from the remote desktop under "Submission" and check the results when the job is finished.
- Intermediate data sets must be created again the first time they are used via JoSuA, as JoSuA cannot access **data_remote**. Please plan for this in good time if the creation of this interim data is very time-consuming.

- Ado-files that you have installed in the remote desktop via "fdzinstall" must be installed once again in JoSuA.
- If you want to transfer scripts between the on-site use and the remote desktop interface, upload them in JoSuA using the "Transfers" function. They will be available for download once they have been checked.
- The export of results is carried out as usual via the Presentation / Publication mode of JoSuA (see section 4.2). Even when working in remote desktop, please always check first whether your programmes are fully executable by running them in Internal Use mode.

7 Transmission of results

Results are almost exclusively reviewed and released within the submission of jobs in the Presentation / Publication Mode in JoSuA. The only exceptions are generated aggregated data sets. The data privacy review or results from the Presentation / Publication Mode can take up to **5 working days**.

Some technical and organisational information on the transmission of results is given below. For more information on limitations regarding the number and size of results files per job in JoSuA, see section 10.8. For detailed guidance, see the [guidelines](#).

7.1 Data protection guidelines

Results to be reviewed by the FDZ must not contain data based on fewer than **20 observations**. Exceptions for which the FDZ makes a manual deletion of individual values must be justified in the scripts. The users of the FDZ are therefore requested to design their results, which are to be approved and released by the FDZ, accordingly so that they are quickly comprehensible and no manual deletions are necessary. To this end, users must adhere to the [guidelines](#). The FDZ supports you with [Stata templates](#), which contain examples of documentation and programming that complies with current data protection regulations.

Please read the [guidelines](#) before you start with your analyses within the FDZ infrastructure. Use the [FDZ templates](#) to design your programme files.

7.2 Permitted output formats

- Log-Files:
 - Stata result files' format must be either “.log” or “.txt”.
 - Results written in separate files outside of log files created by Stata cannot be provided. They must be included in the log file again (see example in the [FDZ templates](#)). For disclosure review, all results have to be printed in an easily understandable format using a Stata command right in front of the included text.
- Graphs:

- Stata graphs (.gph) can only be transmitted if they are generated with the "**asis**" option. The formats eps, svg and png are also allowed. Keep in mind that the formats eps and svg produce vector graphics, which are scalable as you desire and are therefore especially useful with detailed graphs.
 - In Internal Use Mode, only the format **png** can be processed.
 - Save the graphs in the folder **log**.
 - Implement the [guidelines](#) when creating graphs.
 - Examples for the creation of graphs that complies with the FDZ guidelines can be found in the FDZ template **jd05_graphs.do**.
- User-Generated Aggregate Data Sets:
 - If you wish to receive aggregate data sets as result file, please consult with us in advance about the procedure as well as about content and structure of the data set.
 - The generation of the aggregated data should take place during on-site use if possible, so that you can check the results in detail in advance. After finishing the aggregate data, please upload the data-generating programme in JoSuA through the Presentation / Publication Mode. Please mention in the comment field that you want the aggregated data and the respective file name. Always save the data set in the **data** folder.
 - The [guidelines](#) apply to the documentation of aggregated data sets. Further notes and examples on the design of aggregates that comply with the FDZ guidelines can be found in the FDZ template **jd06_export_aggregate.do**.
 - Please note that for each project, such a data set can be forwarded **only once**, so take your time deciding what needs to be included. This also applies if you want to have an aggregate data set transferred to a different FDZ project folder in order to merge it with other data sets. The FDZ will transmit these data sets via email. Transfers to other project directories are also carried out by FDZ staff.

8 Publication of results

The data and documentation must be properly cited in publications according to the specifications on the FDZ website:

- Since 2018, all FDZ data products are assigned a DOI (Digital Object Identifier). The DOI as well as exact citation specifications can be found on the respective page of the data product on our website.
- For older data products without a DOI, you can find the [citation specifications](#) at the FDZ website.

Please also send a specimen copy of your published article to the FDZ, ideally in digital form.

9 Special arrangements for other software

- By default, the FDZ only offers analyses with Stata, both on-site and via remote data access. In exceptional cases, however, other software (e.g. GNU-Octave or R) can be made available. If you require other software, please contact the FDZ well in advance.
- When using software other than Stata, the general rule is that all data preparation and analysis steps which are possible in Stata should be executed in Stata.
- Also use master and log files for the special software analyses. The corresponding programming templates are available from the FDZ on request.
- When using software other than Stata, the guidelines for the design of the programme files also apply (see Chapter 3). Excluded from this is only the rule that no manual deletions are made by the FDZ team. As it is not possible for users to check the results in advance, the FDZ team will make manual deletions as an exception.
- Since it is not possible to use special software via JoSuA, scripts for **controlled remote data execution** must be sent **by e-mail** to iab.fdz@iab.de. Please consider the following details:
 - In order to process your orders, we need you to state the project specifications in the subject line of every email (see Box 1)
 - Newly submitted files will overwrite existing files if they have the same file name.
 - Please already point out in the subject line under *Other* what must be taken into consideration when working with the programs (e.g. “GNU-Octave”).
 - Please note that we will send back requests unprocessed if relevant information is missing from the subject line or the format requirements have not been complied with.
 - Please do not send in a new programme before you have received your previous results for this project. Also, please do not use JoSuA in the Presentation / Publication Mode in this period.
- Before on-site visits:
 - Programme files that you want to use on-site can be uploaded to JoSuA via *Transfers*.

- After on-site visits:
 - After on-site use, the FDZ team will not return the results generated during the stay but instead run the corresponding scripts again. Therefore, please make sure that master file and the other programme files are fully executable.
 - If you wish to receive results after your on-site use period, please send an email to the FDZ mailbox (see Box 1). Add “*after on-site use*” to the subject line and specify in the email the date of the on-site use period and the output files you would like us to send you.
 - We will then run your master file and provide you with the reviewed results generated by your programmes.
 - Scripts that you have created or edited during your on-site visit can be uploaded to JoSuA via “Transfers”.
- Working with special software **cannot** be offered in remote desktop. Results generated in remote desktop must be validated regularly in JoSuA (see Section 6.3), but JoSuA does not support special software.

Below is an example for a subject line of email for remote data execution using other software

Project number – required memory – expected running time – end date of contract
– Other (yyyy-mm-dd = date in year-month-day format)

fdz####, # GB, # hours/days, yyyy-mm-dd, [Other]

Examples:

fdz0041, 3 GB, 14 h, 2025-01-31, R

fdz0041, 3 GB, 14 h, 2025-01-31, after on-site use on 2025-01-30, GNU-Octave

10 JoSuA manual

In the following sections you will learn how to log in to JoSuA, how to navigate through the JoSuA web interface, submit jobs and subsequently access the results. In addition, you will find advice on what to do in case of potential problems with JoSuA.

You can also find current answers to frequently asked questions about JoSuA on the FDZ website in the [JoSuA FAQs](#). There you will also find a video tutorial to help you get started using JoSuA.

10.1 Login

- Go to <https://josua.iab.de/>. JoSuA cannot be used with Internet Explorer.
- At the login window, enter the username and the password that was provided to you by the FDZ (see Section 4.1). Each user receives an account for JoSuA after concluding a data use agreement. If several project directories are assigned to one person, this account applies to all project accesses.¹
- In case you have not received your login data yet or you forgot it, please contact the FDZ (iab.fdz@iab.de).
- Sharing the password with others is strongly prohibited, not even within a project.

10.2 Start

After you have successfully logged in, the welcome page will appear. Its main menu consists of several tabs: *Home*, *Projects*, *Submission*, and *Transfers*, which will be described in more detail below, with *Home* as the pre-selected default. In the right upper corner, you can change your password or log out.

¹In case your project includes other researchers, every user receives an account for his/her own.

10.3 Home

The *Home* tab, shown in Figure 2, provides a list of your latest jobs, their status and whether the job has run successfully.

One of the following status information, which represents the current status of your job within the workflow, will be visible here:

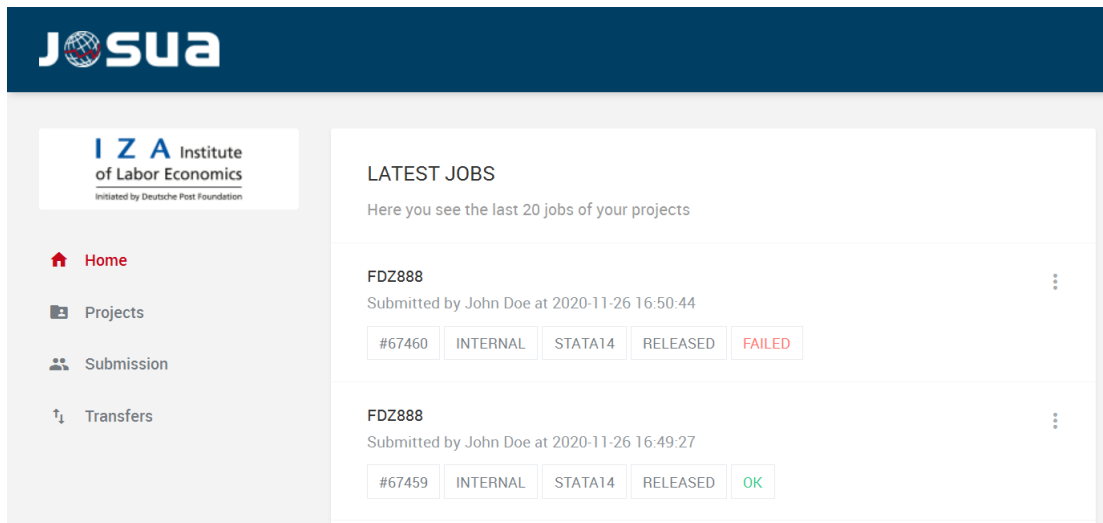
- “running”: The job is currently being executed.
- “censoring”: The job is censoring (Presentation/Publication Mode) or the png files are being created (Internal Use Mode - see also Section 10.10.2).
- “released”: The job has been released.

The following additional status information may appear in the last field of the list:

- “success”: The job has run successfully.
- “failed”: The job has been interrupted. In exceptional cases, the status “failed” appears although the job has run through successfully.
- “aborted”: The job was stopped before completion by the users themselves.

Simply click on the three vertical dots on the right to display details about the selected job.

Figure 10.1: Figure 2: Home Tab

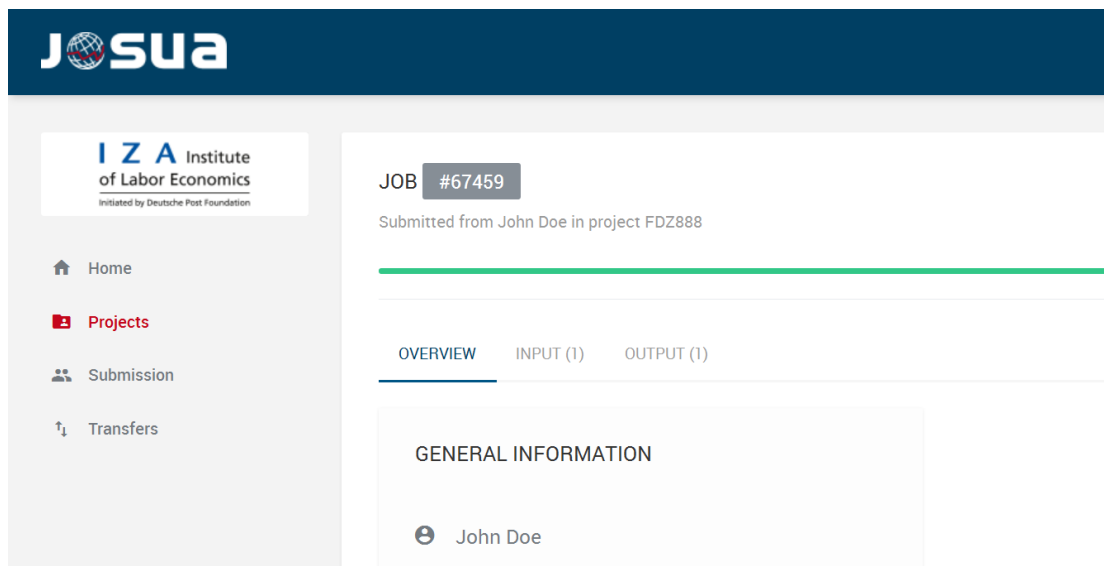


Beside some general information about your job (see Figure 3), in the job details you can find all submitted input files (in *Input*) and output files (in *Output*) that belong to this job.

Currently, you can create a maximum of **20 result files** for each job. All log-files (including any file lists) and graphics are counted. Log-files are automatically truncated when a file size of **2 MB** per file or all result files of the job together exceed **8 MB**. The presentation of the results depends on the mode in which the job was submitted.

- Input (uploaded do-files):
 - All uploaded scripts for this job are listed here.
- Output (result files):
 - *Internal Use:* You can look at the results of your job by clicking on the respective output-file (log-file or graph) or on the icon on the right. Navigate through the preview window by clicking on the buttons in the bottom right corner. Please note that the results are only accessible as long as no new job in the Presentation / Publication Mode is uploaded in the same project.
 - *Presentation / Publication:* After your output has undergone manual data privacy control by the FDZ staff, all output files that have been accepted can be downloaded here. Please note that the link will not appear until this data privacy check is complete. To download your files, simply click on the respective filename or on the arrow on the right and save it to your computer.

Figure 10.2: Figure 3: Details of the selected job



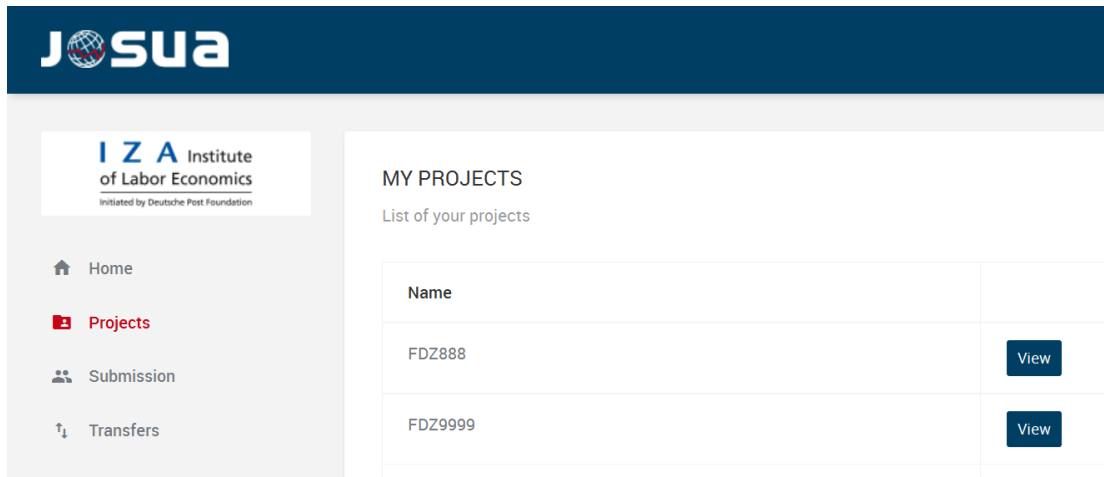
10.4 Projects: Projekt List

In the *Projects* tab, you can view all your current projects (see Figure 4).

Clicking on “*View*” will open the details for the respective project. Within this dialog, there are three tabs:

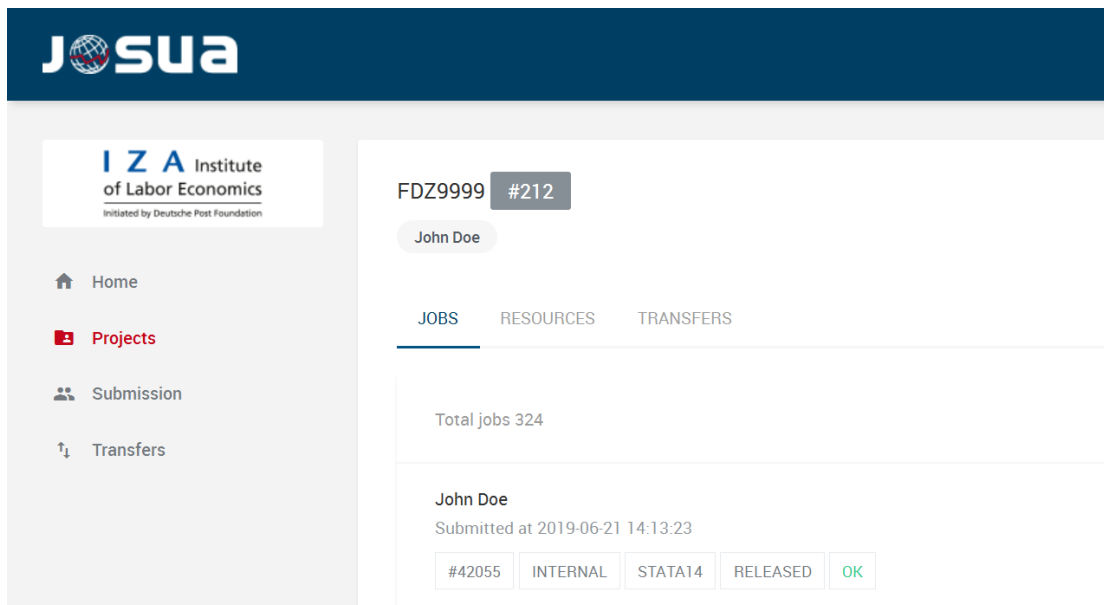
- **Jobs:** Here you will find a list of the jobs of all users within the selected project (see Figure 5). In addition to general information, you can click on the three vertical dots on the right to access the same options that you find under *Home* (see Section 10.3).
- **Resources:** This tab is used to submit and store additional command libraries, e.g. Stata ado packages. Only upload ado-files for your project here (see Figure 6) if they cannot be installed via the `fdzinstall` command from the packages available at the FDZ from the SSC archive (see Section 2.2.1)! All users of a project can add files that all authorised members can use for their jobs. If other project members already uploaded ado files, you can see them here. To add new files simply select “+” and drag and drop the desired file into the window or click in the window to browse and select the file on your hard disk. Please note that it is only possible to upload single files. If a file with the same name already exists, it will be overwritten (especially to be taken into account with changing versions of ado-files). Please note that only pure text files can be uploaded via Resources. Uploading other formats (such as .mlib or .plugin) is not possible (see Section 2.2.1). After a successful upload, the ado-file appears in the list, carrying the status “*new*”. As soon as the ado-file has been released after a data protection review, its status changes to “*accepted*” and it is permanently available in the project for use within JoSuA. If the ado-file could not be released, its status switches to “*dropped*”. In order to make ado packages that were uploaded via *resources* available for on-site use as well, they must be downloaded once during your visit and saved in the **prog** folder.
- **Transfers:** Here you will find a list of all the scripts that you have uploaded for transfer to this project before or after an on-site visit (see Figure 7). After the scripts have been reviewed by the FDZ staff (*censored*), you can download the files for further processing at home or via remote data execution by simply clicking on the file’s name or the arrow on the right-hand side. You can also upload new scripts by clicking on “+”. For detailed information on *transfers*, see Section 10.7.

Figure 10.3: Figure 4: Projects Tab



Name	
FDZ888	View
FDZ9999	View

Figure 10.4: Figure 5: Project Information



FDZ9999 #212

John Doe

JOBS RESOURCES TRANSFERS

Total jobs 324

John Doe
Submitted at 2019-06-21 14:13:23

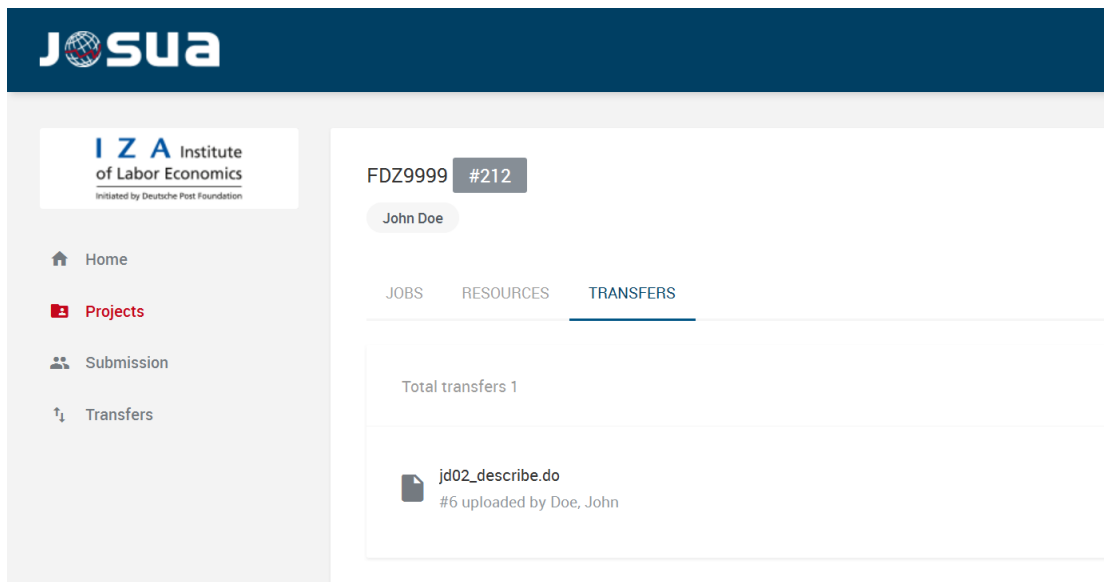
#42055 INTERNAL STATA14 RELEASED OK

Figure 10.5: Figure 6: Resources (Ado-Files)



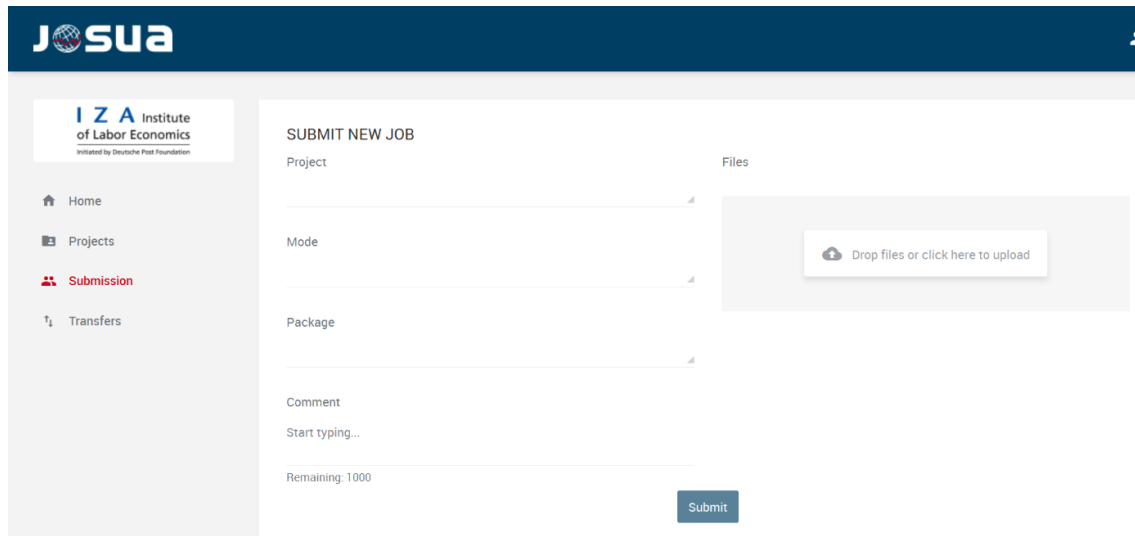
The screenshot shows the JOSUA web application interface. The header is dark blue with the JOSUA logo. The left sidebar is light gray and contains the IZA Institute of Labor Economics logo and navigation links: Home, Projects (highlighted in red), Submission, and Transfers. The main content area is white and displays the user profile 'John Doe' with the identifier 'FDZ9999 #212'. Below the profile, there are three tabs: JOBS, RESOURCES (highlighted in blue), and TRANSFERS. Under the RESOURCES tab, it shows 'Total resources 1' and a single resource entry: 'pantob.ado' with a file icon, noted as '#1 uploaded by Doe, John'.

Figure 10.6: Figure 7: Transfers



The screenshot shows the same JOSUA web application interface, but with the 'TRANSFERS' tab selected. The user profile 'John Doe' and identifier 'FDZ9999 #212' remain at the top. The tabs JOBS, RESOURCES, and TRANSFERS (highlighted in blue) are visible. Under the TRANSFERS tab, it shows 'Total transfers 1' and a single transfer entry: 'jd02_describe.do' with a file icon, noted as '#6 uploaded by Doe, John'.

Figure 10.7: Figure 8: Job Submission



The screenshot shows the JOSUA web interface for job submission. On the left is a sidebar with the IZA Institute of Labor Economics logo and navigation links: Home, Projects, Submission (highlighted in red), and Transfers. The main content area is titled 'SUBMIT NEW JOB' and contains several input fields: 'Project' (a dropdown menu), 'Mode' (a dropdown menu), and 'Package' (a dropdown menu). Below these is a 'Comment' section with a text area and a character count 'Remaining: 1000'. To the right of the input fields is a large box for file uploads with the text 'Drop files or click here to upload'. At the bottom right is a blue 'Submit' button.

10.5 Submission: Uploading Jobs

You can submit jobs by uploading scripts to the *Submission* tab (see Figure 8). All jobs you wish to submit must contain one file named **master.do**. All scripts that need to be executed have to be uploaded for each job. When naming script files, please use only the following characters: 0-9, a-z, A-Z, -, _.

Please select the project in the drop-down menu on the left side, for which you want to upload the job (e. g., fdz2020). In the second drop-down menu, you can choose whether your job will run in Internal Use or Presentation / Publication Mode (see Chapter 4). In the third drop-down menu, you can choose the software package, which should be used.

You can post an additional comment in the box below in order to provide any relevant details or explanations regarding your job. Please do not use special characters and limit your comment to 1,000 characters.

Afterwards, please drag and drop your scripts to the window on the right or click into the window to browse and select your scripts on your hard disk. Please do not upload more than 20 files per job, including the master file. The uploaded files are listed above the *Browse* button. You can check the list or remove single files. Once you are finished uploading your scripts, click *Submit* to send your job.

Please note that once you have uploaded a job in the Presentation / Publication Mode, you cannot upload any other jobs in the Presentation / Publication Mode until it is released. In the Internal Use Mode, it is theoretically possible to run multiple jobs in parallel. Also, while a job is running in Presentation / Publication Mode, additional jobs can be started in Internal

Use Mode. However, we recommend to only use these possibilities in exceptional cases, e.g. if a job runs in Presentation / Publication Mode for several days. Thus, please upload a new job only after the previous job has successfully run.

10.6 Aborting Jobs

If a running job is to be stopped, you can do this yourself. Your jobs are listed in the *Home* tab. On the right side of the corresponding job there is a multifunction button with three vertical dots. This opens the context menu of the job. There is another similar button in the upper right corner, which lets you call a **Stop Job** action. Simply click this button, confirm the safety note, and the job will be aborted immediately. Following this, the job will now display the status "*aborted*". Jobs that were uploaded in Presentation/Publication Mode are not automatically deleted, but are ready to be checked and released by the FDZ. The FDZ then deletes these jobs manually. This means that no further jobs can be uploaded in Presentation / Publication Mode until they are finally deleted.

10.7 Transfers: Transfer of scripts before or after an on-site visit

You can upload scripts which you prepared at home for an on-site visit through the tab *Transfers* (see Figure 9). This applies not only to Stata do-files but also to scripts from other programmes such as R or Octave. In case you need the scripts you generated during your on-site visit for further developing at home or remote data execution, please upload them through the "*Transfers*" feature, too. Do not upload ado-files or other programme packages via "*Transfers*" (see Section 2.2.1).

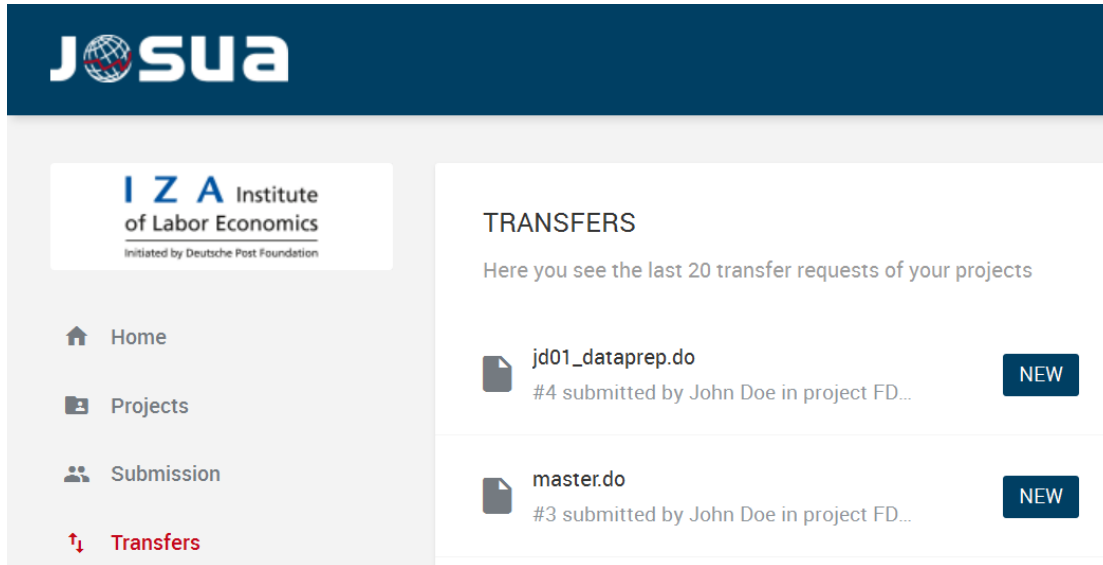
Drag and drop the desired scripts to the window on the right or click in the window, to select scripts from your hard disk. Alternatively, you can also choose the *Projects* tab -> View -> TRANSFERS -> "+". Please note that JoSuA only accepts upload / drag & drop of single files here, in contrast to uploading files under "*Submission*". However, it is possible to upload multiple files in one archive file (.zip, .7z).

After uploading, the script appears in the list with the status 'new'. Once the script has been approved after a data privacy check, the status changes to "accepted". The scripts are now available for download. If the FDZ deletes parts of the scripts, the files are given the status 'censored'. Usually, you will find a note about the deletions at the beginning of the script. In some cases, files are given the status 'censored' even though no deletions have been made. This is due to technical reasons. Under the *Transfers* tab, you can see all scripts that have already been transferred. You also have the option of downloading scripts that have been approved by the FDZ team. To do this, click on the script name or the arrow on the right-hand side.

For an archive file to be released, all of its contents must comply with data protection laws; otherwise, the entire archive will be deleted. Please note that when creating an archive file on a computer running macOS, system files/metadata are automatically created. These must be deleted by you before you upload the archive file to JoSuA. A deletion of the system files, which are not visible for yourself, can be done with the following command from the command line:

```
> zip -r data.zip . -x ".*" -x "__MACOSX"
```

Figure 10.8: Figure 9: Transfer of Scripts



10.8 Technical restrictions in JoSuA

There are some restrictions when using JoSuA, which are summarized again below:

- A **maximum of 20 scripts** per job can be uploaded under "*Submission*", including the master file.
- A **maximum of 20 result files** can be output per job. This includes also graphs and any file list.²
- Maximum size of a result file: **2 MB**. If a log file is too large, the file is truncated and a corresponding note is written in the log file. If a graph file is too large, it is deleted and the deletion is documented in a log file named "lost-files.log".
- Maximum size of all result files per job together: **8 MB**

²In Internal Use Mode, the limit refers to the number of files before converting them to the preview images.

- Per project the subdirectory **data** is limited to the size of **30 GB**
- A maximum of **30 GB of working memory** is available. Jobs that require more working memory at runtime are automatically terminated.
- Only a limited number of jobs can be uploaded per day per project in Internal Use Mode or in Presentation / Publication Mode. The currently valid limits can be found on the [FDZ website](#).

10.9 In case of job terminations with JoSuA

Should your Job terminate with the status “*failed*”, please check on your own the following aspects:

- If a job terminates in Presentation / Publication Mode, please refer to the error message in the last log-file or any master.log, as well as any user comments from the FDZ,, which you can use to figure out the problem.
- Check your programs for programming errors.
- Please make sure that your programs meet our guidelines for data use, especially the path specifications.
- Check the FAQ regarding JoSuA for indications on the cause of the error and possible solutions.

Only if these actions do not yield a satisfactory solution, please contact us. When doing so, please provide the following information:

- Project number and job number in JoSuA
- Detailed description of the problem (e.g. the exact wording of an error message)

NEVER transmit results that were created in Internal Use Mode or other outputs not approved by the FDZ staff! The transmission of non-approved results – even to the FDZ – must be considered a breach of contract.

In exceptional cases, the status “*failed*” appears, although the job has run through successfully.

10.10 Troubleshooting in JoSuA

In the following, common errors and their fixes are described

If you have any questions, please contact the Research Data Center (iab.fdz@iab.de). Please always include your FDZ project number (**fdzXXXX**) and, if applicable, the **job ID** from JoSuA.

10.10.1 Files cannot be uploaded

Under *Transfers* and *Resources*, files can only be uploaded individually (unlike under *Submission*). When transferring scripts before / after an on-site use (*Transfers*), however, you can pack the individual files beforehand (.zip, .7z).

10.10.2 Release of results in Internal Use Mode takes unusually long time (status "censoring")

Usually the release of results in Internal Use Mode is done within a few minutes. However, if JoSuA is heavily used, it may take several hours. Please wait at least 6 hours before contacting the FDZ.

10.10.3 Missing result files

After releasing the results, not all your result files generated within the job are available under *Output*. There can be various reasons for this:

- Entire files were not released due to the data protection review. In this case, you will usually find information about the deletions in the comments or directly in your log-files.
- More than 20 result files were generated per job. This also includes each individual graphic and any file list. JoSuA then only outputs a maximum of 20 (randomly selected) result files.
- The maximum size of 2 MB per result file was exceeded. If a log file is too large, the file is truncated and a corresponding note is written in the log file. If a graph file is too large, it is deleted and the deletion is documented in a log file "lost-files.log".
- (*In Internal Use Mode only*): There was an error during the conversion to png files. In this case, please contact the FDZ stating the project number and the job ID.

10.10.4 Error indication in the log-file "File not found"

This error indication occurs when the data path is not specified with the intended globals **\$prog**, **\$data**, **\$orig** or **\$log**. Please use the above-mentioned globals at every path specification because otherwise JoSuA cannot find the data files. Please be advised not to use German *Umlaute*, blanks or special characters in file names.

10.10.5 Log-file master.log / Error message "Log-file already open"

JoSuA automatically creates a log file called master.log. Please don't create another master.log in your program. Use the command `cap log close` to close the present log file and subsequently open a new log file. For naming conventions please see the [guidelines](#).

10.10.6 Error message "File not ok (suspicious mismatch between file suffix and actual file type)"

This error message appears when opening a log-file in Stata's smcl format. Please create text-only log files. Use the commands `"log using "$log\logfile.log", replace"` or `"log using "$log\logfile", text replace"`.

10.10.7 Error message "Error!"

The error appears when the combined size of generated output files exceeds 8 MB. Please modify your programs and make sure that less output is generated.

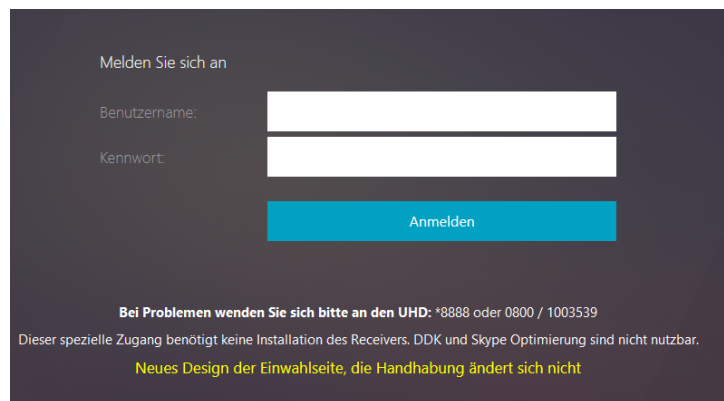
11 Remote desktop manual

The following sections describe how to log in to the remote desktop, navigate the screen, log out or disconnect access, and change the password.

11.1 Login remote desktop access

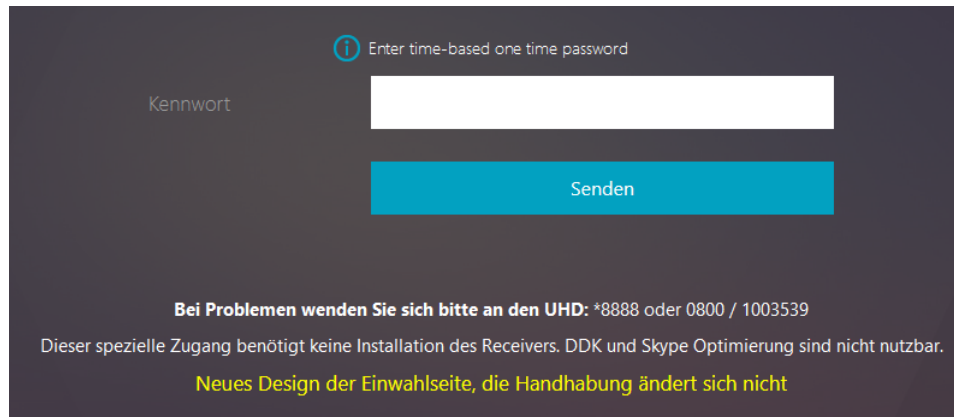
- Open the website <https://vdi.arbeitsagentur.de/> with a current browser.
- In the login window (see Figure 10), please enter your remote desktop user name with the suffix @dst.baintern.de in the field 'Benutzername' (e.g. for the project fdz9999 and the user John Doe this is likely: fdz9999dj001@dst.baintern.de).
- Please enter your project-related password for on-site use in the field 'Kennwort' (password).
- If you have not yet received your access data or have forgotten it, please contact the FDZ (iab.fdz@iab.de).
- Passing on the password to third parties is not permitted, not even within a project.

Figure 11.1: Figure 10: Login remote desktop access



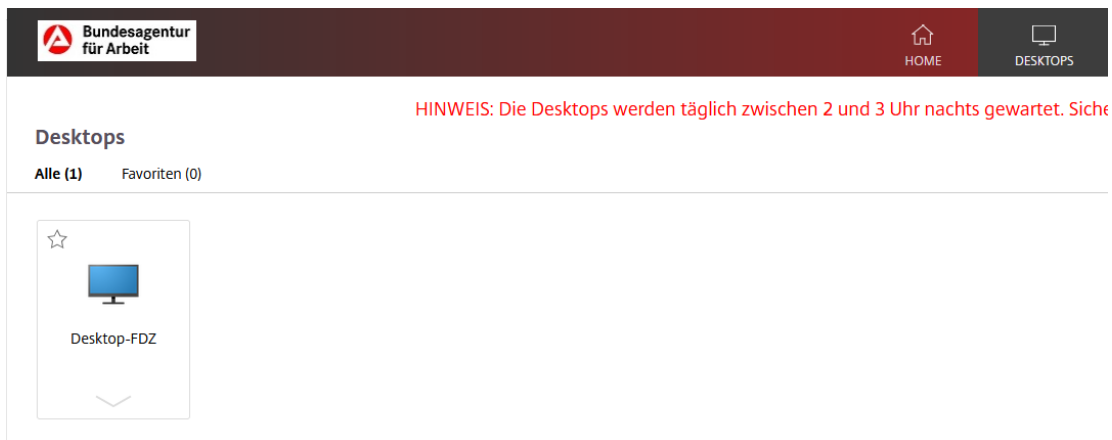
- A new page will open (see Figure 11). Enter the six-digit security number currently generated by your smartphone's TOTP generator in the input field under 'Enter time-based one-time password'.

Figure 11.2: Figure 11: Input ‘Enter time-based one time password’



- A new page will open (see Figure 12). Please click on the blue monitor symbol on the left side. Depending on your browser and its settings, you may have to double-click on an automatically downloaded file.

Figure 11.3: Figure 12: Connection to the desktop FDZ



- Please be patient while the connection to the server is being established.

11.2 Additional navigation elements

Once the connection has been established, the following navigation elements are available to you:

- Behind the semicircle in the middle at the top there is a multifunction button (see Figure 13).

Figure 11.4: Figure 13: Multifunction button



- This can be expanded and minimised again by clicking on it (see Figure 14).

Figure 11.5: Figure 14: Expansion and minimisation of the multifunction button



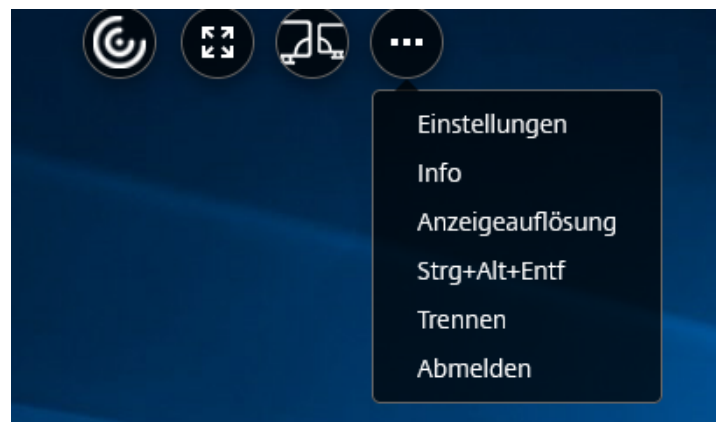
- The full screen function is located behind the second button from the left (see Figure 15).

Figure 11.6: Figure 15: The full screen function



- Further functions can be found behind the button with the three dots (see Figure 16).

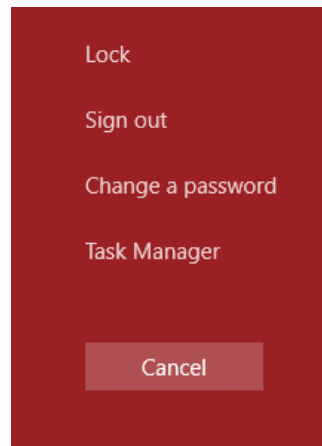
Figure 11.7: Figure 16: Further functions



- If you click Ctrl+Alt+Del on the keyboard, this will only affect your computer.

- If you wish to execute the key combination Ctrl+Alt+Del here on the server, please use the corresponding button (Strg+Alt+Entf).
- If you press the Ctrl+Alt+Del button, a menu opens (see Figure 17) in which you can:
 - change your password,
 - log out (Sign out) and
 - lock the session.

Figure 11.8: Figure 17: Menu of the Ctrl+Alt+Del button



11.3 Disconnect or log off?

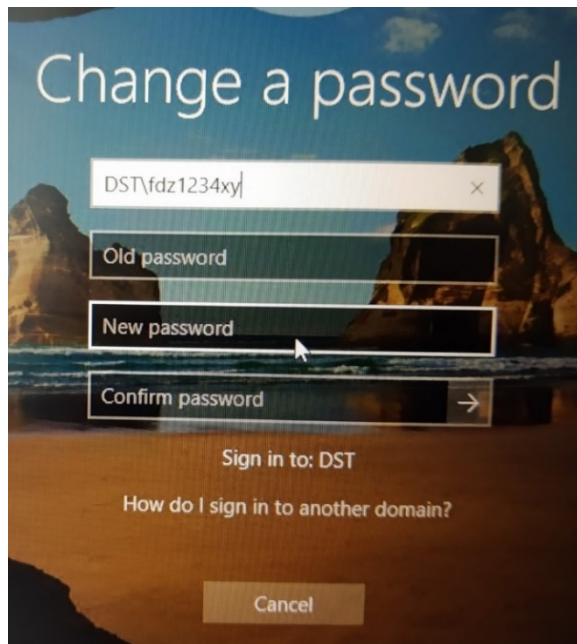
- You can use the three dots on the multifunction button to disconnect from the server and log out (see Figure 16).
- When you "Disconnect (Trennen)", the connection to the server is terminated, but all processes running on the server (e.g. Stata analyses) are continued. Please use this option if your analysis programmes are still running.
- When you "log out (Abmelden)", your session is shut down. All running processes are stopped. Please log out when your Stata analysis programmes have finished so as not to consume resources unnecessarily. Other researchers will thank you for the performance gain!

11.4 Change password

In the following we show you how to change your password. However, this only changes the password of the remote desktop account and **not** the password of your JoSuA account or on-site account!

- Please log in to your project first (see Figure 10 to Figure 12).
- Open the multifunction button (top centre) by clicking on the ‘semi-circle symbol’ (see Figure 13).
- It is important that you activate the full-screen view! (see Figure 15).
- Click on the ‘three dots symbol’ in the open multifunction button (see Figure 16) and click on the ‘Ctrl+Alt+Del’ (Strg+Alt+Entf) button.
- A menu will open, please click on ‘Change a password’ (see Figure 17).
- This will take you to a page where you can change your password (see Figure 18). Enter your user name in the first field (fdz number number number number number letter surname letter first name further numbers, e.g. fdz9999dj001).
- Please enter your old password in the second field and your new password in the third field, which you then confirm again in the fourth field.

Figure 11.9: Figure 18: Changing the password



- You will then receive a message from the system that your password has been changed. Complete the process by clicking 'OK'. You will be returned to your desktop.
- If necessary, repeat this procedure for all your active projects. Please note: You do not have to change the project to do this, you can change all the passwords of your other projects from any of your projects. To do this, enter the name of the corresponding user account.

11.4.1 Password conventions

Your password must meet the following requirements:

- Your password must be at least 12 characters long.
- Your password must contain three of the following four types of characters: Upper case, lower case, number, special character.

11.4.2 Account Lock

- Please note that your account will be locked after six incorrect password entries.
- If you have blocked your account, please let us know (iab.fdz@iab.de) and we will unblock your account.