INDEPTH-ENAP SURVEY IMPLEMENTATION GUIDELINES

INTRODUCTION

This document is an instruction guide for setting up the INDEPTH-ENAP Survey Solutions system to support the data collection for the surveys at the participating Health and Demographic Surveillance Sites (HDSS).

OVERVIEW OF THE SURVEY SOLUTIONS APP

In order to have a fully functional system, you are advised to follow this guide step by step. Before we go into the details of how to set up a functional Survey Solutions system, you will need to ensure that you have some minimum software and hardware requirements place.

SYSTEM REQUIREMENTS

A. SERVER

For this study, three options are available for the server setup and support.

1. The World Bank cloud server (This is freely available on request).
2. The London School of Hygiene & Tropical Medicine will provide a server to support the HDSS during the data collection and management. This option is available if the HDSS does not have a server or if it has one that does not meet the minimum requirements for the survey solutions software to run.
3. The HDSS can also use its own existing server if it meets the minimum requirements

See below the minimum requirements for own the server and setup.

1.   PRE-INSTALLATION AND READINESS CHECK:

1.1. Please check that your server meets these physical prerequisites before opting to use your own server:

- **CPU and RAM**: 4 cores CPU, 8GB RAM and 50GB free space as minimum requirement. To achieve maximum performance, ensure you have better hardware. The World Bank technical support team recommends quadrupling the basic minimum requirements specified above (for RAM and drive), or having at least Intel Xeon E5-2670 v2 (Ivy Bridge) Processors, 8GB RAM, 50-100 GB SSD Drive.
- You should ensure that your server is dedicated to the project and not competing with other projects for server resources.
- You should ensure that you have in place a stable Internet access for 24 hours and 7 days a week that is fast and reliable for immediate synchronization and backup.
- You should have a Server back-up is in place. This can be either a physical external or virtual drive. You should also have a schedule for the data back-up.

1.2. Please check that SERVER ENVIRONMENT meets the Server Environment prerequisites:

- Properly cooled
- Physically and digitally secured

- Reliably powered 24/7
- Technical on-site support available

1.3 Please check that the SERVER SOFTWARE meet the Software prerequisites (installed and configured prior to Survey Solution installation):

- Windows Server 2012R2 or above
- Microsoft IIS (included in OS)
- Microsoft .Net Framework 4.6.1 or above
- PostgreSQL version 9.4 minimal, or above

1.4 Antivirus/firewall/integrated security package software installed. Firewalls, anti-virus, and integrated security packages need to be configured to permit Survey Solutions server component to communicate with other devices exchanging data with it. Below are a couple of suggestions:

- Instructions for Windows Server 2012 Firewall
- Avast Internet Security
- Comodo Internet Security
- Kaspersky Internet Security
- McAfee Internet Security
- Norton Internet Security
- ZoneAlarm Pro Firewall

2   INSTALLATION:

2.1 Data base installation (**step 1**)

Before running 5.21 **SurveySolutions.exe** installation setup, please make sure that you have installed and running an instance of PostgreSQL, and other software specified above (1.3 and 1.4).

The PostgreSQL can be downloaded here: https://www.bigsql.org/postgresql/installers.jsp/ . Both versions 9.6.3 and 9.5.7 are compatible with SS. Please refrain from installing v.10, as it is in the beta phase.

During the process, you will set the port on which server will be running as well as a password for built-in user (postgres by default).

2.2 Application installation

There are two options: manual local server installation (step 2a) or assisted installation by World Bank Survey Solution technical team (step 2b). Both options are described below:

Step 2a – manual local server installation

Survey Solution installation file can be found at: https://download.mysurvey.solutions/

Please make sure that you have downloaded (or upgraded) to the latest released version of the Survey Solution, which is **5.21.0**. You may experience some technical issues with the older version **5.20.0**, so please update to the most recent one (**5.21.0**).

During installation it will ask you to specify two parameters: **Installation location** – choose any or keep the default (C:\Program Files) and **PostgreSQL connection parameters** (default values will be already there) – here specify the required port and password from **step 1** (Data base installation).
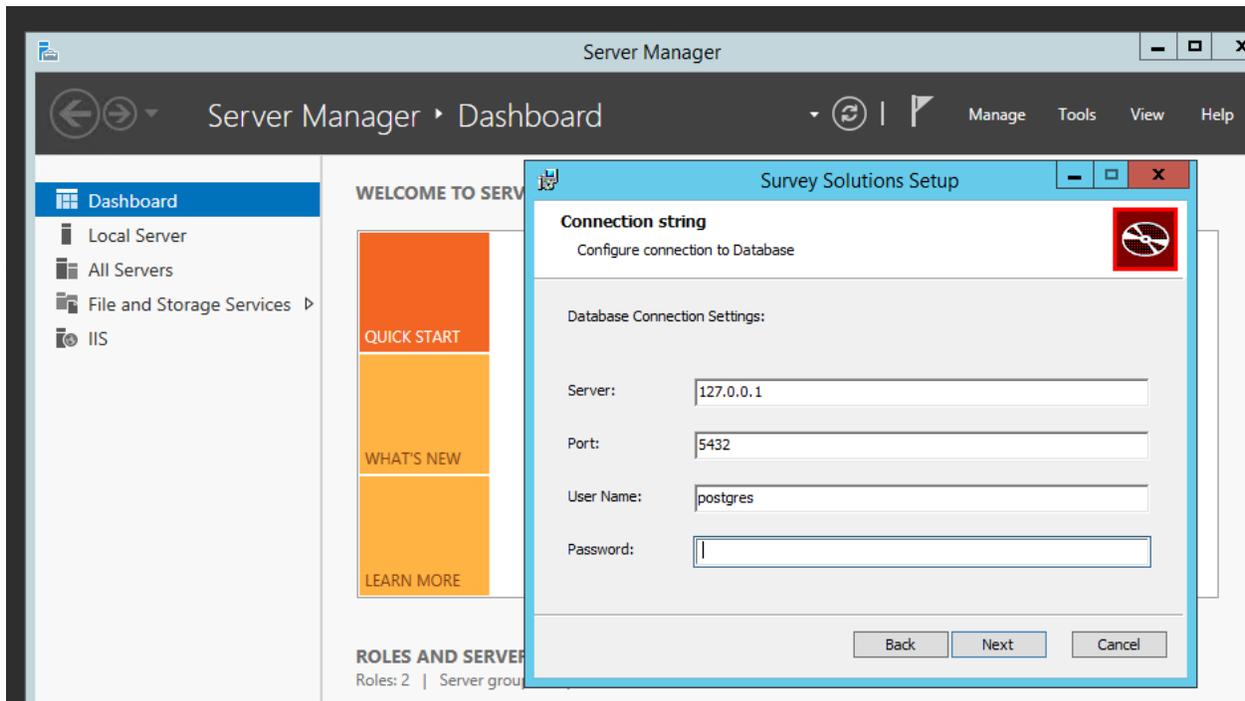
Note: FOR ILLUSTRATIVE PURPOSES.

After you complete the Survey Solution installation on your server, the finish installation page will automatically open in your browser where you will be able to create administrator user for Survey Solutions Headquarters application. The link to the site will be automatically added to your start menu. If this does not happen or you want to access it directly by typing the address in the browser's address bar, you can do so by typing http://localhost:9700/ in the browser whilst in the server environment.

Once the installation is complete, please forward the following details regarding your server to Vladimir (vladimir.gordeev@lshtm.ac.uk): the username login for Survey Solutions Headquarter that is used by the Headquarter admin that you just created, associated e-mail, URL and real IP address of your server installation. For example, "indepthadm", user@site.com, 255.22.54.233, andhttp://surveysolutions.lshtm.ac.uk:9700/. This information will be then forwarded to the World Bank for your server to be whitelisted for security purposes.

OR

Step 2b – assisted installation by World Bank Survey Solution technical team

Given that you can provide remote access (RDP) to your local/virtual server and admin rights to the World Bank Survey Solutions technical team, you can send a request to install Survey Solution software remotely by sending a request to support@musurvey.solutions

LAPTOPS/DESKTOP FOR SUPERVISORS

Each site should have the PCs (laptop(s) or Desktop(s) designated for the supervisor(s) whose role is to oversee the work of the interviewers. NOTE: It is also possible for the supervisor to use a Tablet, but one might find it easier to manage assignment tasks using the PC, given the size of the screen.

The Laptops or computers (or tablet) should be able to have an internet connection either using WLAN or WIFI or 3/4G dongle or modem. This is essential requirement to allow supervisors being able to review the submitted interviews by the interviewers. The PC should be running Windows 7/ Windows 8 Operating System (OS) or higher and have a minimum of 4GB RAM and 500GB HDD.

If the supervisor is working in the field, the connectivity in the field should be arranged using 3G or 4G connection (built-in, USB, external wireless modem, or dongle).

TABLETS

The Survey Solutions APP is designed to work on Android tablets. For maximum usability of the APP, the interface is optimized to work on tablets with screen size larger than 7-inches. The APP will also work with the smaller tablets (5-inches or smaller) but with limited visibility due to the small fonts.

Additional requirements

1. Tablets should ideally be operating **OS Android 5.0 or above.** Devices running OS Android 4.1-4.4 are incompatible with the TLS v. 1.2 protocol, a security protocol that is used on most of the servers. This incompatibility does not have a straightforward fix, and tablets running OS Android 4.1-4.4 are not able to synchronise the data with the server.
- 1GB of RAM and 8GB of flash memory storage are minimal. Better technical characteristics will improve responsiveness of the programme
- At minimum 1GB of available space must be available for the Survey Solutions' use.
- The tablets should be simcard enabled to allow for 3G or 4G connection for connectivity while in the field or should able to connect to a WIFI connection for connectivity at the office.
- The tablet should have cover for storage and protection from rain and sudden drops
- The tablet should have an extra external battery or recharger
- It is recommended to install a tablet lock APP to limit the use of the tablets for other purposes by the interviewers other than data collection, as it can reduce the battery performance of the tablet up to 50%.

CREATING ACCOUNTS FOR YOUR TEAMS

After completion of setting up the server, and checking the requirements for both the tablets and the laptop or desktops, you are now ready to set up the Designer, the Headquarters, Supervisors and Interviewer user accounts

STEP 1

HEADQUARTERS

Option 1 – If you are using the LSHTM server

█████████████████████████████ who has access to the LSHTM server will create a Headquarters account for your HDSS site from his administrators account.

To log into your headquarters, you will need to type the virtual server address (for example, https://surveysolutions.lshtm.ac.uk), and log in using the headquarters username and password that will be provided to you as it is shown below:
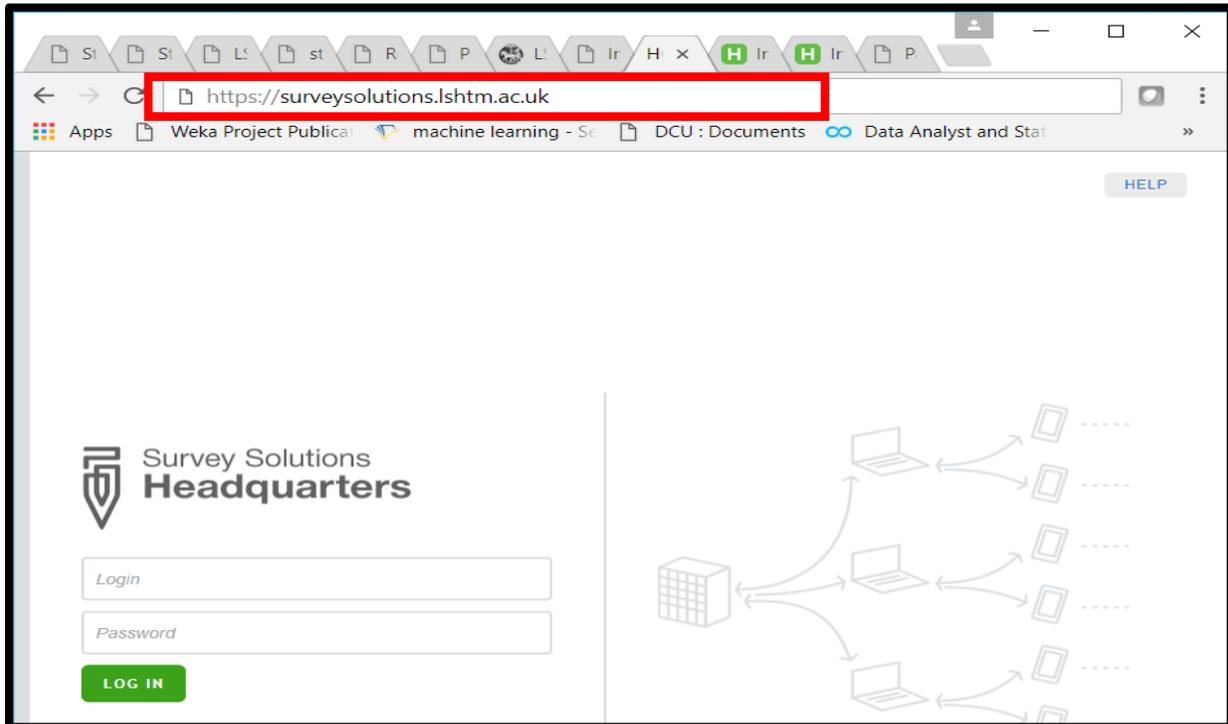
Note: THIS OPTION IS ONLY AVAILABLE TO YOU IF YOU ARE USING THE LSHTM SERVER. THE ADDRESS IS FOR ILLUSTRATIVE PURPOSES.

Option 2 – If you have set up your own server

Log into your server using the headquarters username and password you created at the end of the installation. Each HDSS will utilize its own headquarters and will have its own username and password different from the one shown below.
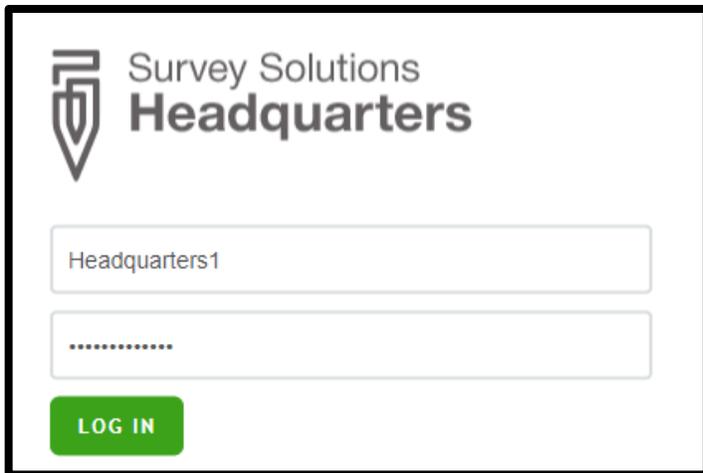
Once you have successfully logged into your Headquarters account from using either options provided above, you are now ready to setup accounts for other users, including the supervisors and interviewers.

STEP 2

Creating accounts for supervisors

Ensure that you add supervisors for your HDSS. The supervisors responsible for assigning tasks to the interviewers and reviewing the data collectors completed questionnaires. To add a supervisor, click on the *Teams and Roles*
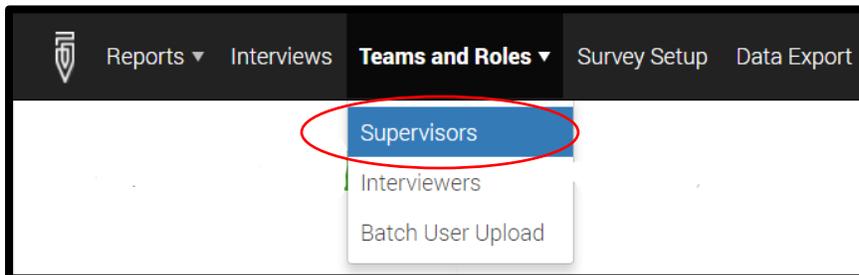
Then, complete the form displayed and click on **CREATE** to add the supervisor in the system.

Note: This option only allows you to create one supervisor account at a time. It is possible to create several supervisors using the **USER BATCH CREATION**

In order to upload more than one supervisor using the user batch upload. You will need to open a new MS excel workbook, add the following fields; (*login, password, email, fullname, phonenumber, role, supervisor*) as is illustrated below.

Once you have added the fields with the same exact wording, you should now save the workbook on your computer save a "tab-delimited" file. Or ".txt"

Ensure that you save it in a location that you can find easily on your computer.

Note: Only 'Supervisor' OR 'Interviewer' are allowed in the 'role' column.
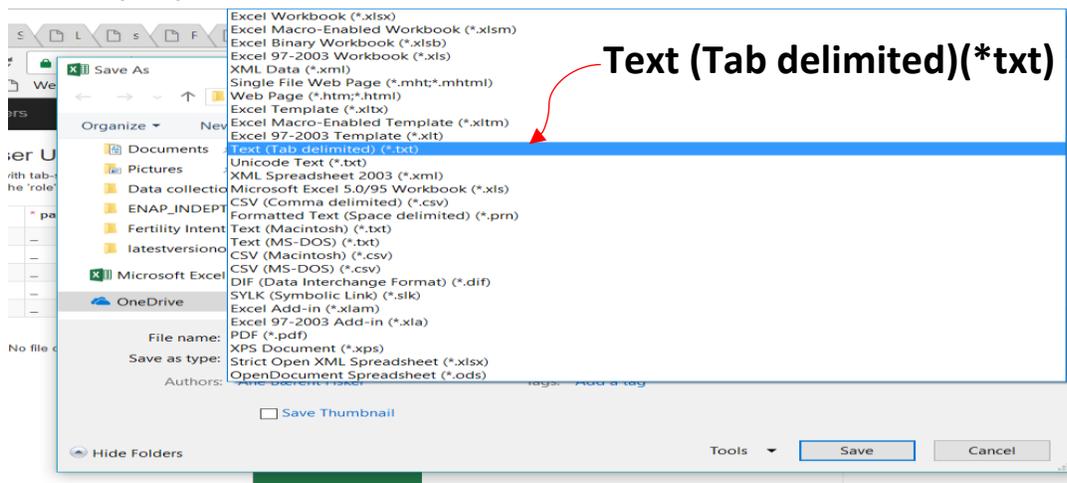
STEP 3

Adding interviewers

This process is similar to adding supervisors. You need to go to the Teams and Roles tab and then select Interviewers, then create interviewers, then complete the form displayed.
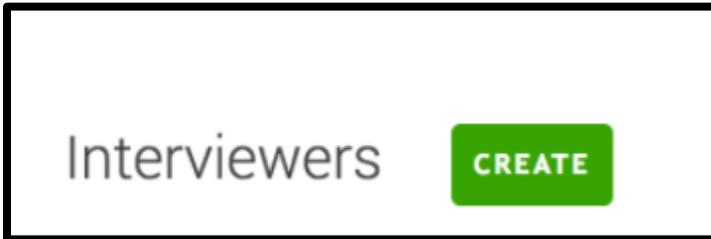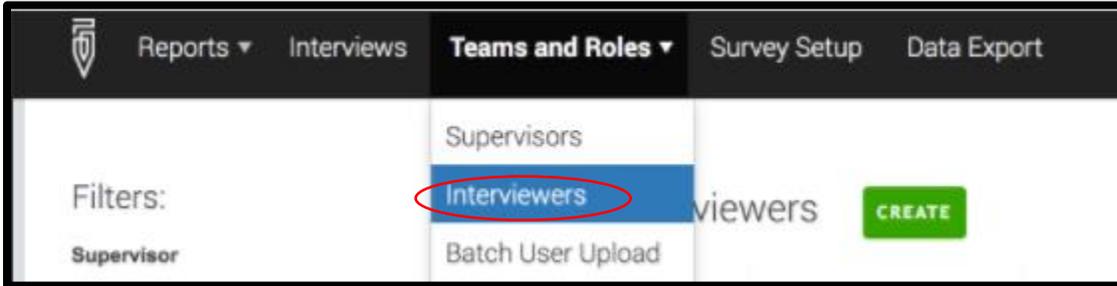
This approach allows you to upload only one Interviewer at a time. To upload many Interviewers, you need to use the Batch option which is similar to the one for Supervisors as is shown in STEP 2.

The batch upload saves you a lot of time.
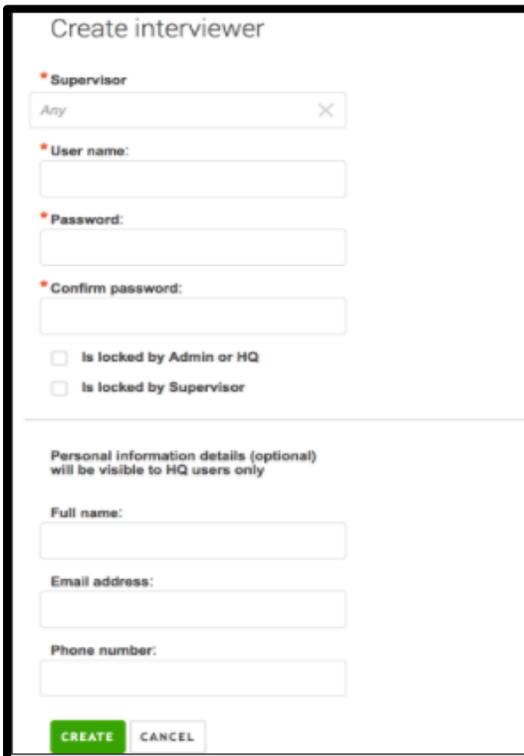
NOTES

Up to 10,000 user accounts can be created from a single tab-delimited file, which must include the login, password, and role of the user, and may include additional attributes, like email or phone.

Batch creation of user accounts comes handy when:

- the same accounts need to be replicated on a different server;
- migrating from a different CAPI system with established accounts;
- the survey is so huge that manual creation of accounts via a web interface would take a significant amount of time.

Creating user accounts in batch mode is available to both the administrator and the headquarter users. For new supervisor accounts the role must be specified as Supervisor (case-sensitive). For interviewer accounts the role must be specified as Interviewer (case-sensitive), and in addition the login of the supervisor must be specified, which determines the team where the interviewer account will be added. Interviewers may be added to existing supervisors, or to new supervisors mentioned anywhere in the users list.

When creating new users with a batch upload feature, select the Batch user upload menu item of the Teams and Roles menu.

DESIGNER ACCOUNT

The HDSS data manager or the survey manager at the HDSS site will need to also create a designer account from which he/she will be able to access the latest version of questionnaire. The purpose of having a designer account is to be able to import the questionnaire template into the Headquarters so that is can be assigned to supervisors and interviewers during the data collection. The following steps illustrate how to create a designer account.

STEP 1

GO TO: https://solutions.worldbank.org/

STEP 2: Click on Register

STEP 3: Fill out the form and click on register. Then wait for an email notification

STEP 4:

Complete the registration by clicking on the link *"Complete registration" in the email received.*
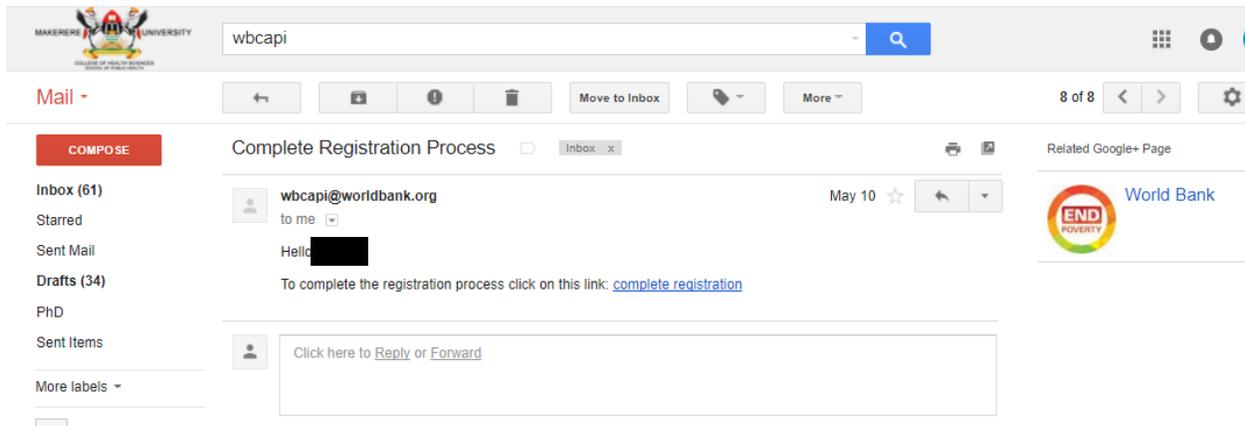
STEP 4:

When you click on the link with complete registration in step 3 above, a new browser will open so that you can log into the DESIGNER using the USERNAME and PASSWORD that you have created. With the designer account you are able to design your own questionnaire template.

SURVEY SETUP

Uploading questionnaire template

Now that the survey manager at the HDSS has created accounts including the headquarters, supervisors and interviewers. The final survey questionnaire will be uploaded by the overall survey administrator. It is only possible for original author of the questionnaire template to share it.

Creating assignments

Once the questionnaire template has been uploaded into the survey headquarters questionnaire setup system. It is now possible to start distributing assignments to the different interviewers.

There are two options available for creating assignments. One at a time and many assignments at a time.

OPTION ONE: Creating one assignment at a time

With this option, you can only upload only one assignment at a time. This is not the best option for issuing assignments as you will have to add assignments one at a time.

STEP 1

The HDSS data manager should log into the server using the headquarters username and password as was shown in STEP 1 of creating accounts for teams.

STEP 2

You should select the *Survey Setup* tab on the main menu, and click on **Questionnaires.**
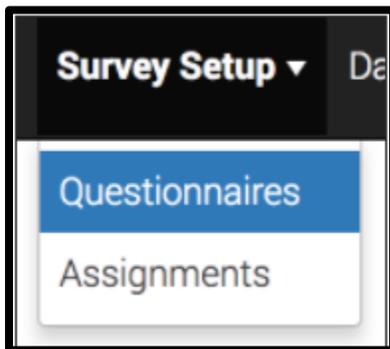
In order to create a new assignment, we need to click on the questionnaire template that you want to create an assignment for and then click on the *New Assignment* from the pop-up menu that you want to send out.

STEP 3

After clicking on the new assignment option, a new window will open up. This is where you should fill in the identifier variables for the interviewer to be able to identify the respondent correctly.

After specifying the identifier information, the quantity and the Interviewer responsible, you can now complete the assignment creation by clicking on the create button.

The only downside of this option is that you to repeat this process over and over again in case you have many new assignments to the interviewers.

OPTION TWO: creating many assignments at ago

Before choosing this option you need to first create a tab-delimited text file with the unique identifiers for the woman who has had a pregnancy in the last five years within the HDSS setting. Examples of these identifiers may include, study ID, woman's ID, name, age, residence etc. These set of variables need to be compiled by the HDSS statistician or data manager.

Repeat STEP 1 and 2 for option one

When using this option, of creating assignments, you will need to repeat the same procedures for steps one and two above for creating one assignment at time. But this time you should select upload multiple assignments.

STEP 3

Upload the prepared listing or identifier data in text-delimited version. Select identifying data only if you have the prepared file on your PC. This is the only option where you can specify your interviewers and supervisors a priori. If your upload is successful, the system will tell you that it is successful.

At this point, you will be able to see the details of the assignments including the date created, modified, ID number and the person responsible for that assignment.

Within the headquarters you can review the completed interviews and can accept, reassign, assign, archive data and download data into usable formats like in STATA 14, SPSS, CSV among others.

Download and Install the Interviewer Application on the tablet:

IMPORTANT! You should not use the Tester app from Android PLAY store for data collection. Any data entered in tester will not be stores. You need to download an INTERVIEWER app.

It is important that you download the Interviewer app from your own Survey Solutions server and do not download it from the generic page of the World Bank. To do so, you will need to go to the login page of your designated headquater. For example, if your virtual server is with LSHTM, it will be the same address as the virtual server - https://surveysolutions.lshtm.ac.uk. If you use your own server, you will need put in the address of your virtual server in the browser.

Once you are at your home headquarter log in page, at the bottom left corner of the page you can see the button which will allow you to download the INTERVIEWER app (shown below). The APP setup can be downloaded on your PC or directly to the tablet. To save up your internet traffic and data charges, we recommend that you download the setup .apk file once and copy it to all other devices. This mode of operation will save you a lot of time and money.
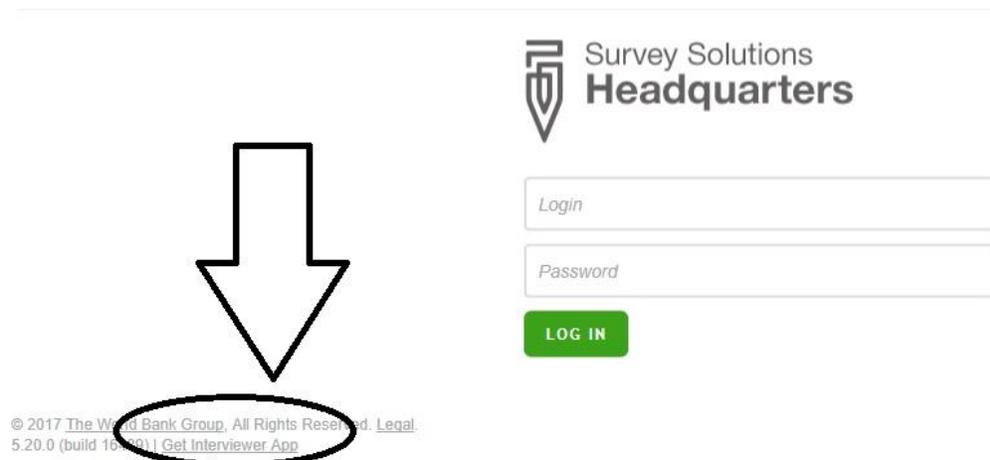
Further detailed instructions on further app installation:
http://support.mysurvey.solutions/customer/en/portal/articles/2475216-download-and-install-the-interviewer-application

Since the interviewer setup is not part of the Google APP store certified applications, you will need to accept installation of applications from unknown sources. This can be easily found on your device by following this path **SETTINGS >> SECURITY >> UNKNOWN SOURCES.** When inside the security settings, you need to find the unknown sources checkbox. This will allow you to run the installation of the Survey Solutions APP on your devices.
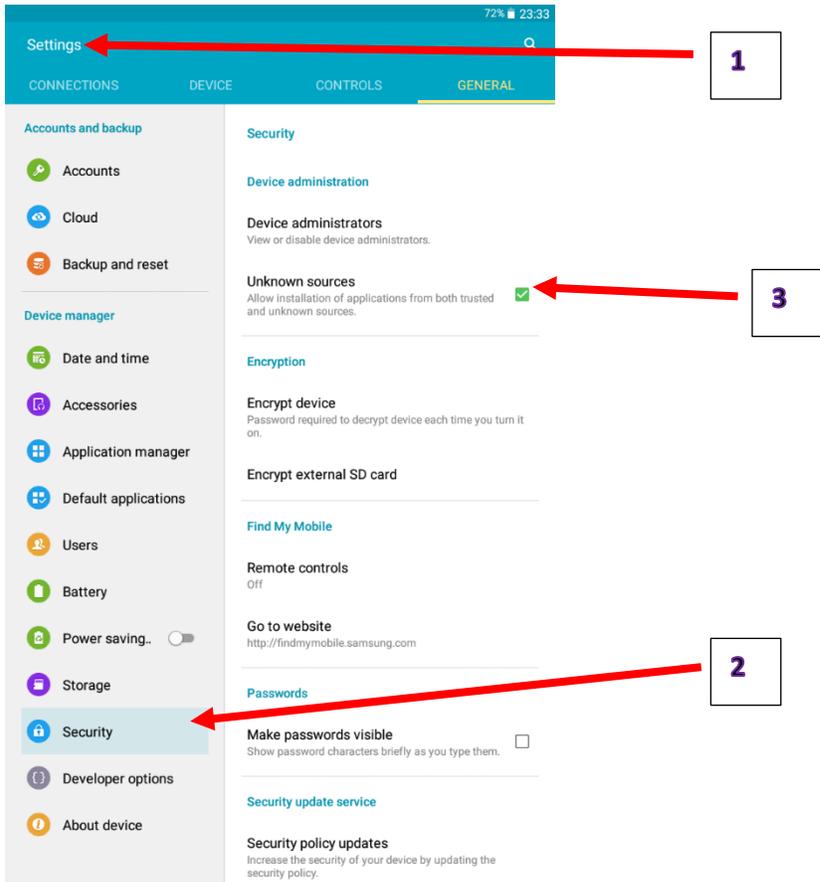
When the installation is complete, the interviewer APP which is blue in colour will appear on the home screen of your devices.
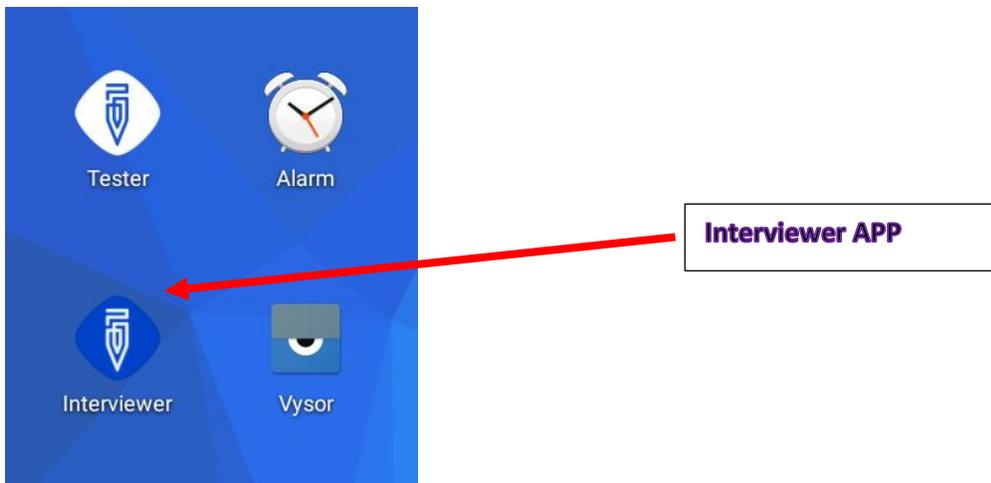
Interviewer APP

Logging into tablet for the first time.

When the installation is complete, the interviewer APP which is blue in colour will appear on the home screen of your devices. This should allow you to login into one of the Interviewer accounts that you created as is shown on pages 5-7 of this document. You will need to enter the link to the server which you selected to use – the address of your virtual server. For example if you are using the LSHTM server, then you can use the following link: https://surveysolutions.lshtm.ac.uk .

This should then be followed by the Interviewers' assigned user name and password that you created for them during the interviewer account setup.

Remember that this information should match exactly as you set it up earlier otherwise you will receive an error message that the information provided is wrong, therefore, the tablet will not be able to link to the server.

After logging into the interviewer APP, the device should be connected to the server by connecting it to the internet. This will allow for the synchronization to take place. After synchronization the interviewer will be able to see his assignments.

IMPORTANT! Due to security set-up and the way the app operates, once an interviewer logs into the tablet for the first time the tablet it registered as assigned to the interviewer credentials. This means, that it will be not possible for another interviewer to log in into the same device, as the IP and tablet details will already have been linked to the details of the first interviewer. Therefore, it is good practice to label your devices beforehand and assign them to a specific interviewer before they are deployed into the field to start the data collection.

The only way to reassign the device is to uninstall the Survey Solutions' interviewer APP and reinstalling it again but with this process you will lose all the data on the device that has not yet been synchronized and sent to the server to be reviewed by the supervisor. Therefore, it is important, that all devices are synchronized on a regular basis and should the need always sync the device before it is reassigned.
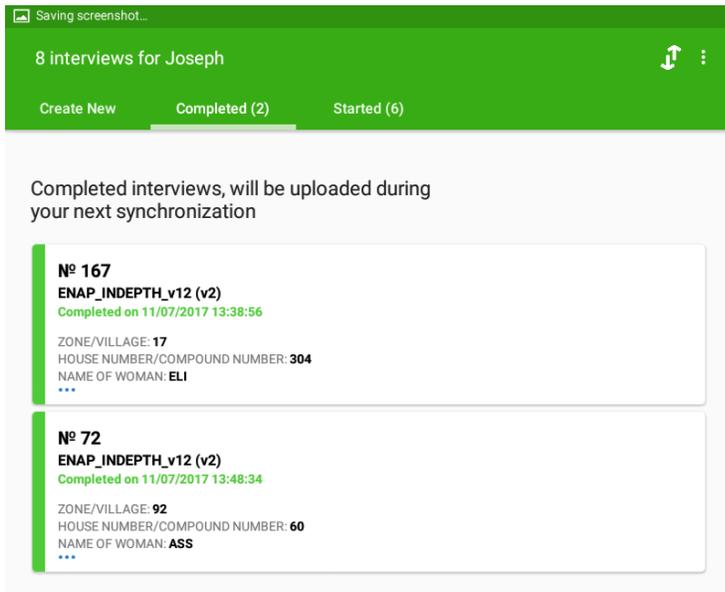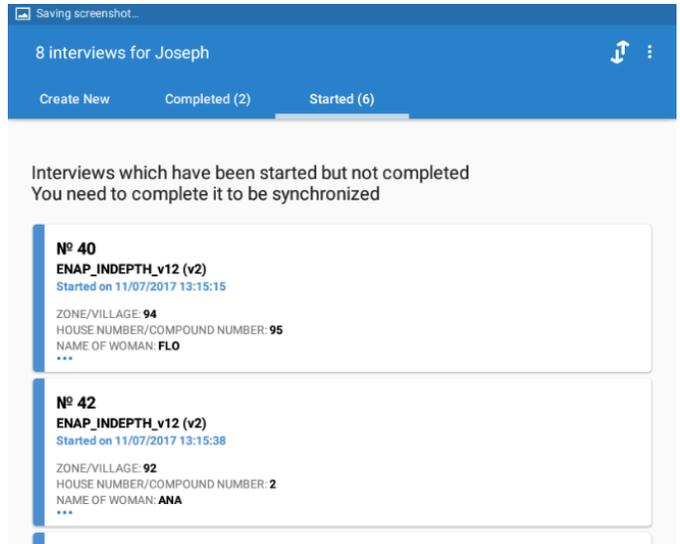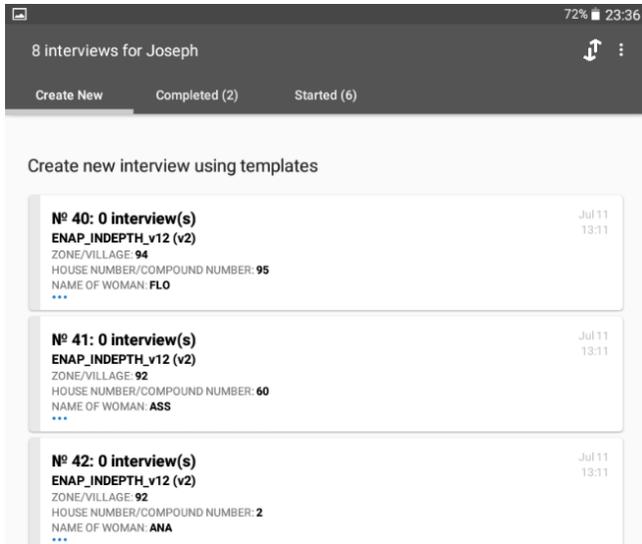
Top left: Interviewer APP interface for new assignments

Top right: Interviewer interface for started assignments

Bottom left: Interviewer APP interface for completed interviews.

The ICON on the interviewers APP top right corner with two arrows pointing in opposite directions is used for synchronization.

The interviewer dashboards in the pictures above give an overview if the interviewer's assignments at hand and the level or state of completion for each assignment. In case any of the submitted interviews are rejected, an additional dashboard will appear in between the started and completed dashboards.
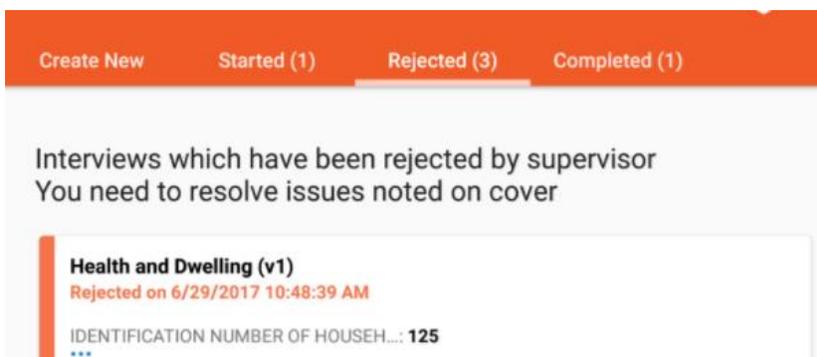
Starting a new interview

The interviewer should make sure s/he is in the **Create New** tab to find her new assignments. For each assignment, the identifier information to find the woman of interest will be shown in a small rectangular cards. For example, if the supervisor or headquarters assigned five assignments to the interviewer, he or she will see five rectangular cards on her **Create New** tab.
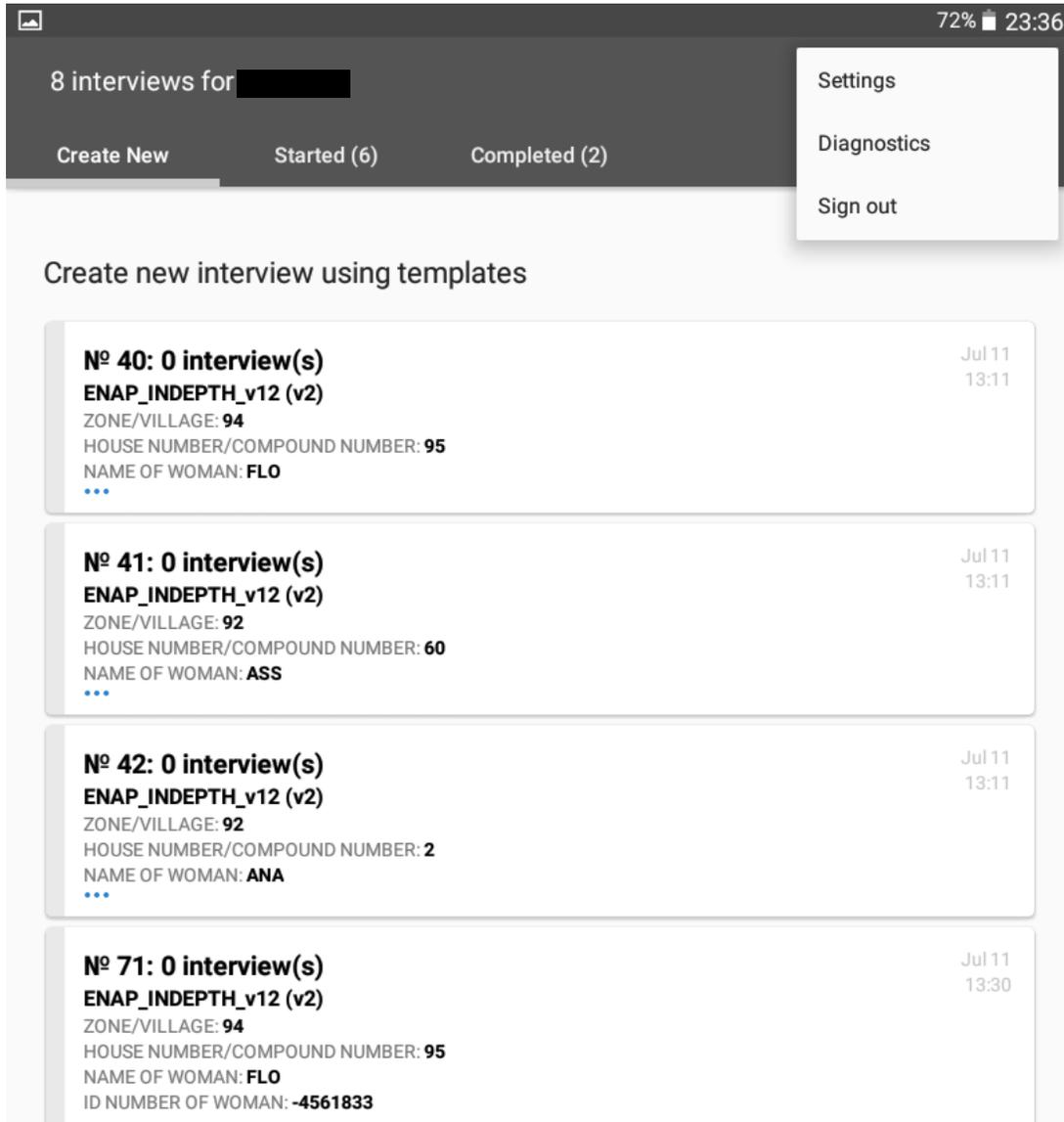
When s/he taps on one of the rectangular boxes, the assignment will expand making the identifier details more visible and he or she can make an informed decision on whether to start that interview or not. If s/he decides to start the interview, s/he is meant to tap on the **START** button that appears for that specific interview in order to load it. Below is the tester app user guide in the Annex. Some of the functions are similar.

Annex

Guidance Note for using the Tester app and access the latest version of the ENAP questionnaire.

This document has been compiled to assist you with the step-by-step installation and use the tester APP to test the INDEPTH-ENAP questionnaire template.

You will be required to have access to an Android tablet or phone.

The Tester APP will allow you to access the latest version of the questionnaire.

Please follow the instructions below to download the mobile app and access the questionnaire.

Please circulate this note to the researchers involved in the study in your site and compile and send us comments by **COB the 19th of July.**

These comments will be used to Improve the performance of the questionnaire template that will be implemented in the next few months.

NOTE: *You need to ensure you have at least 204 Megabytes of storage space left on your device before installing the Survey Solutions Tester APP.*

STEP 1: Connect to the WIFI from your Android device.

Connect your Android device to the internet using either 3G/4G or WIFI. This is made possible by taping the WIFI icon or the mobile data icons
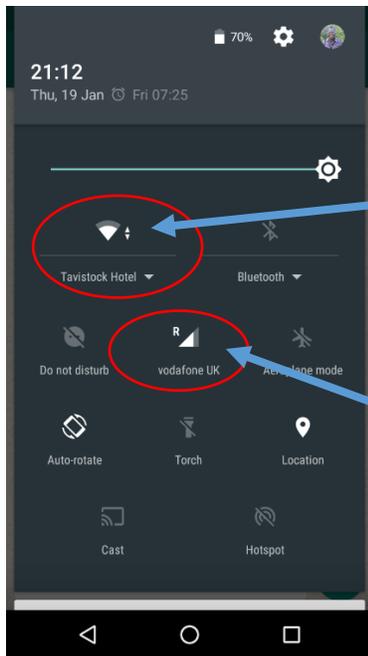
	WIFI connection
	Mobile data

Once your device is connected to the internet you will now need to open the Google Play Store APP. If you cannot find this APP, you need to look for an APP that looks like the image below

Google Play Store

The Play Store should appear like is shown here on your phone.

2. STEP 2 – Download Survey Solutions Tester from Google Play.

When your Play Store APP is open, you now need to search and download the Survey Solutions Tester APP using the steps shown below.
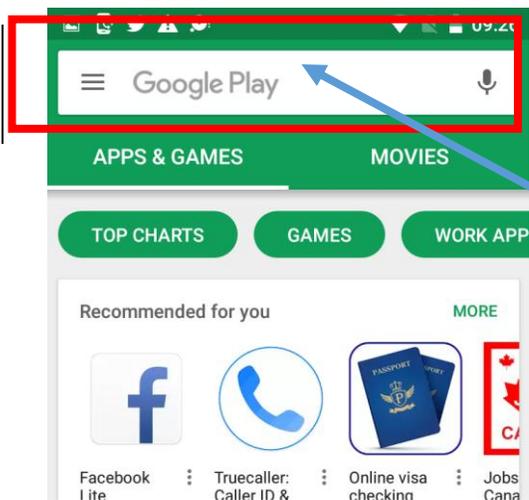
Tap on the highlighted part on your tablet/phone
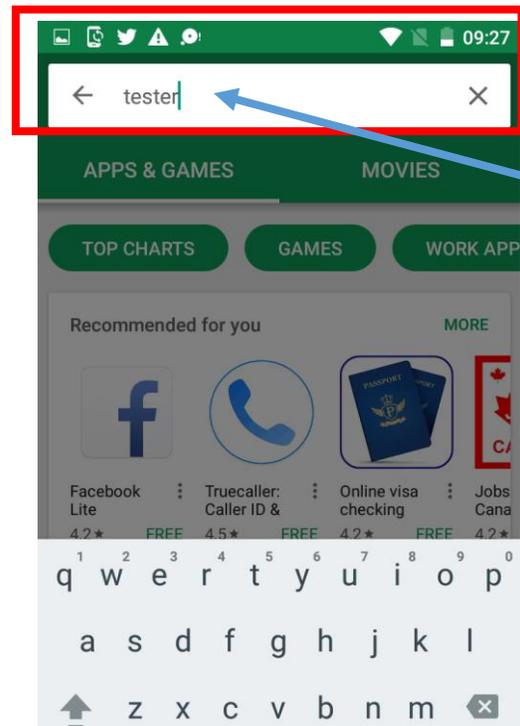
Type Tester in the highlighted part to search for the Tester APP

3
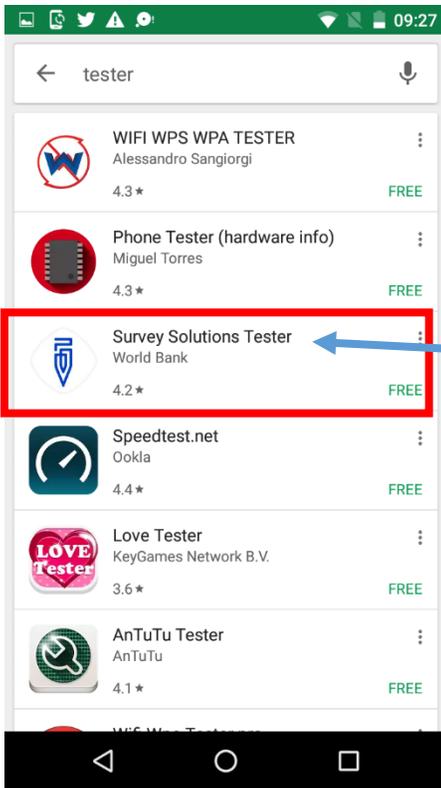
Tap on the Survey Solutions Icon to open for the installation

4
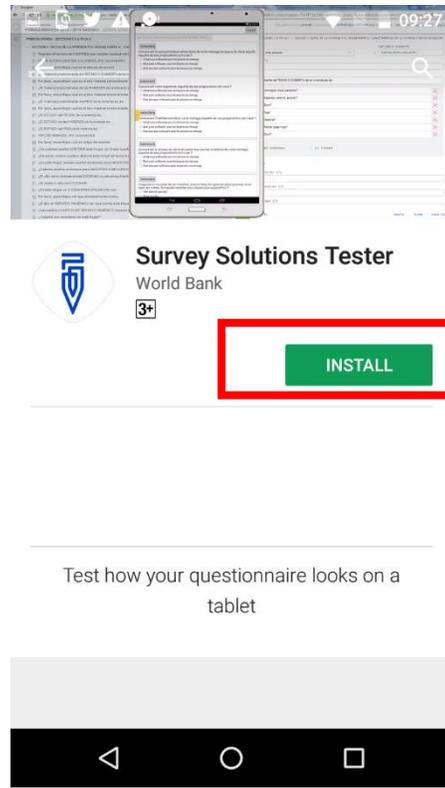
Tap on the installation Icon to install Survey Solutions Tester on your Tablet of Phone

5
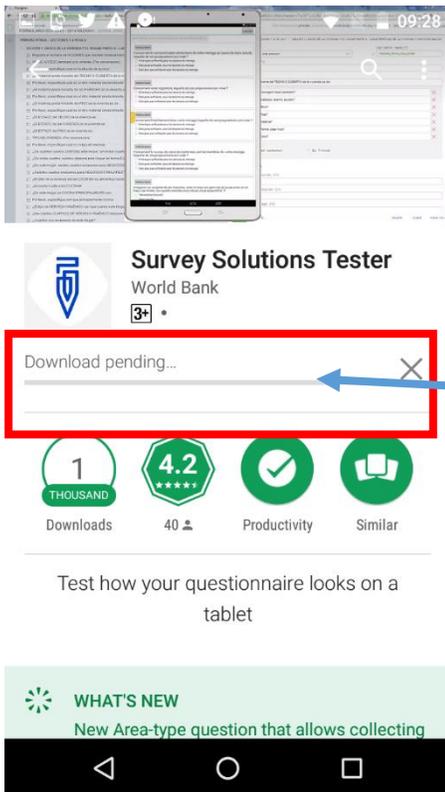
Wait for the APP to completed download and installation
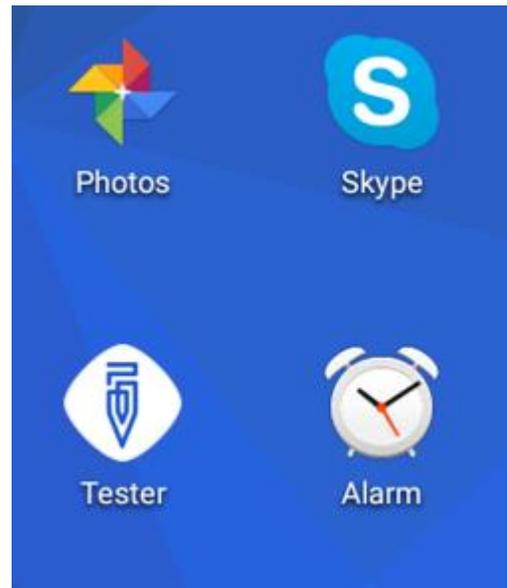
Once installation is complete, the Tester Icon should appear on your device.

Note: *The Tester APP has a white background. This should not be confused with the Interviewer APP.*

The Tester APP does not store any data. It is only used for training purposes only.

3. STEP 3 Log in in the Tester App.

When the download and installation of the Tester APP is complete, double click on the Tester APP to open it. The hope screen should look like the ones presented below. In order to access the INDEPTH-ENAP questionnaire template for testing, you should login using the ▇▇▇▇▇▇ username and ▇▇▇▇▇▇ as the password.
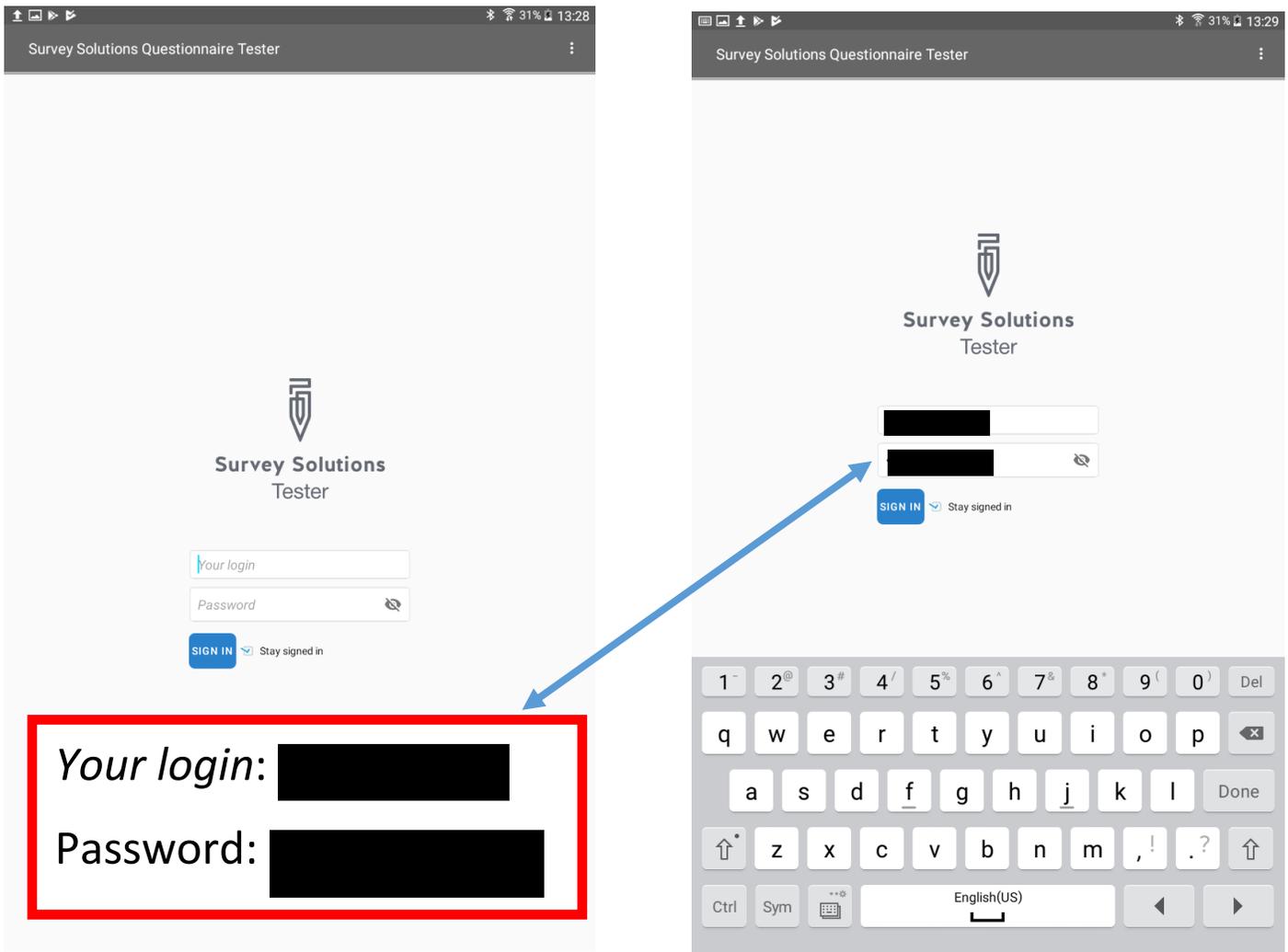
When the login is successful, you should now be able to view the available questionnaire template for testing as is shown below in STEP 4. You should now click on the ENAP_INDEPTH_V## template link to activate the questionnaire for testing.

NOTE

BEFORE STARTING TO TEST THE QUESTIONNAIRE TEMPLATE, WE ADVISE YOU TO TAKE NOTES FOR SUGGESTIONS OR COMMENTS ON THE DIFFERENT SECTIONS AND QUESTIONS IN THE APP.

REMEMBER TO NOTE DOWN THE QUESTION NUMBER OR SECTION NUMBER.

REMEMBER THAT AT THIS STAGE WE EXPECT ONLY THE DIFFERENT HDSS CORE SCIENTISTS WHO ARE ALREADY FAMILIAR WITH THE ENAP STUDY TO CONDUCT QUESTIONNAIRE TEMPLATE TESTING. FEEDBACK ON ANY INCONSISTENCIES OR CHALLENGES WHEN TESTING THE APP SHOULD BE SUBMITTED TO THE INDEPTH-ENAP CORE TEAM FOR IMPROVEMENTS TO FOLLOWING EMAIL ADDRESS ▮▮▮▮▮▮▮▮▮▮▮▮ BY 19TH JULY 2017.

LASTLY, PLEASE COMPILE ALL THE FEEDBACK FROM YOUR HDSS SCIENTISTS INTO ONE MS WORD DOCUMENT TO AVOID SUBMITTING DUPLICATED/MANY NOTES.

4. STEP 4: Access the latest version of the ENAP/INDEPTH Survey Questionnaire.

Click on the link to activate the questionnaire template. Click on the most recent or newest version of the INDEPTH_ENAP questionnaire template incase more than one version of the templates appears on your device.
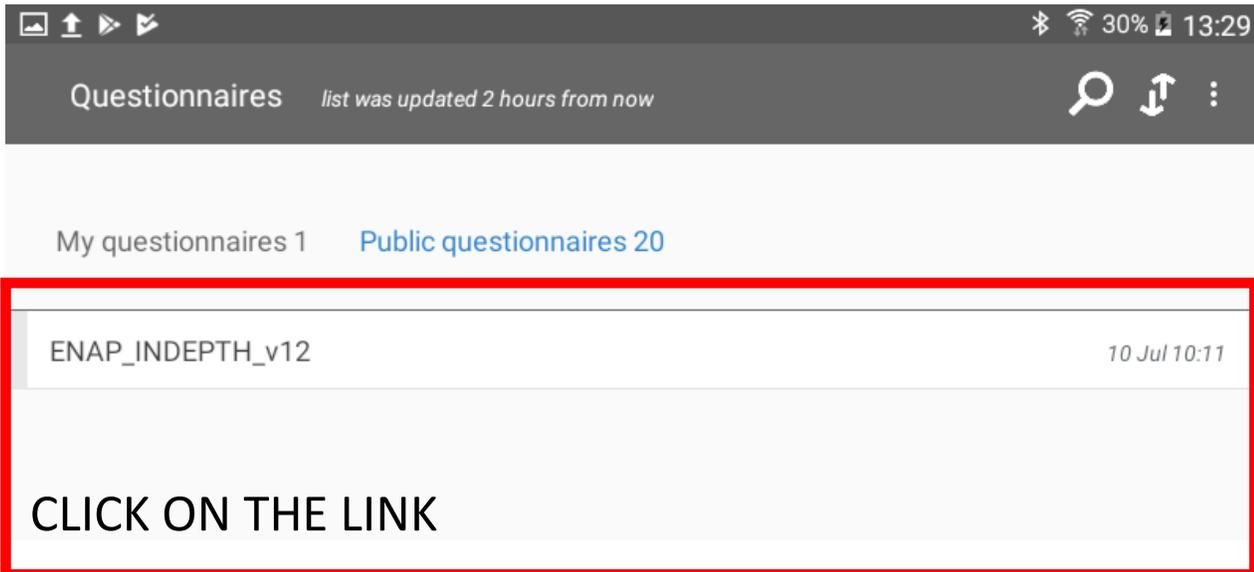
5. STEP 5: Check the latest version of the survey questionnaire.

Tester should appear like in the picture below. The grayed out words are the identifier variables that your HDSS will have selected. You should tap on the START button to begin testing
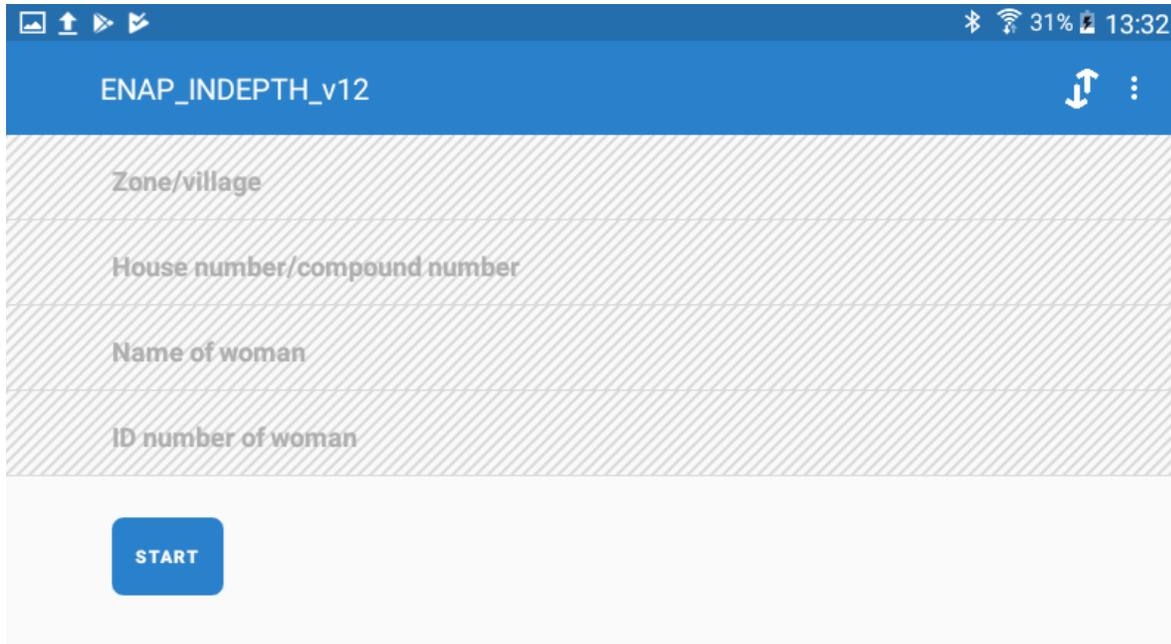
NOTE:

1. ***Some of the questions that are add-on to the INDEPTH-ENAP survey and will not appear for certain countries. An example vaccination questions that are highlighted YELLOW in the MS Excel version of the questionnaire template that have been selected by Bandim HDSS.***
2. ***All sections in the MS-Excel that appear in GREEN, the Survey Solutions APP will do this for you***

After tapping the START button, the APP should direct you to the next page where you are required to select the country in which your HDSS is located.

Country selection.
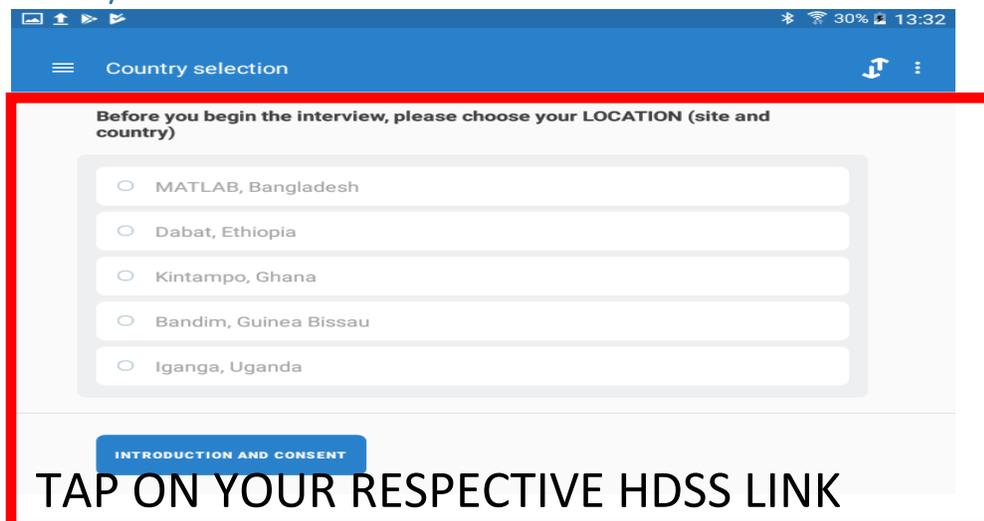
TAP ON YOUR RESPECTIVE HDSS LINK

Listing variables

After selecting your respective HDSS, Since Dabat, Kintampo, Iganga-Mayuge HDSS and Matlab HDSS sites will not see the **LISTING** tab because a template for the woman listing has not yet been created. However, Bandim HDSS where the Listing has been created, the **LISTING** Tab will appear and this will be prepopulated with the woman's information in the final interviewers APP. These variables need to be identified by each HDSS.
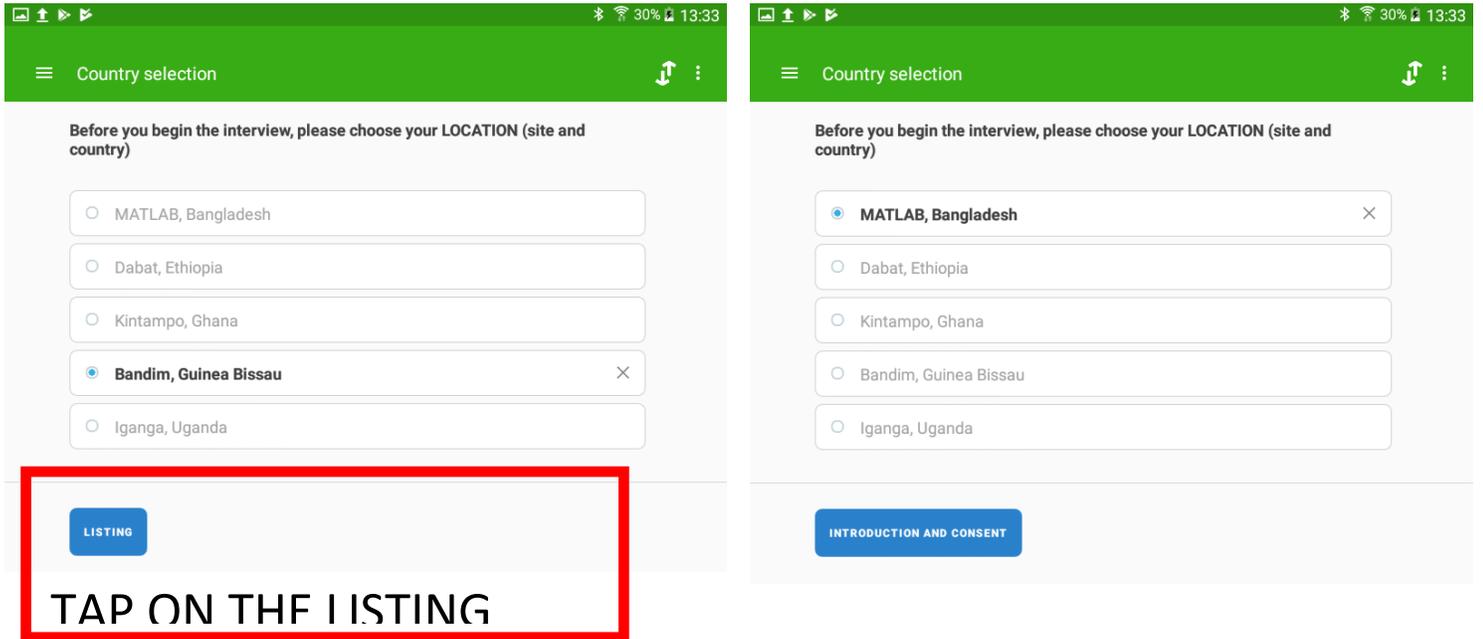
NOTE: YOU ARE USING THE TESTER APP THEREFORE, THE PREPOPULATED INFORMATION WILL NOT APPEAR.

Consent form and signature

After completing the Listing, the APP will direct you to the INTRODUCTION AND CONSENT section, where you can begin the testing the functionality of the questionnaire template.

NOTE:

1. If you do not tap on the options for the question "***May I begin the interview?***", You will not be able to proceed testing the questionnaire functionalities.

Sturecture of the questionnaire

Below is the structure of the questionnaire template which can be accessed by tapping the expansion icon on the top left corner which appears like this

Interview Progress

At this point you are now ready to proceed testing the questionnaire template. Below are some of interface options that will notice while testing the APP and the questionnaire template.

    a. **When completing the INTRODUCTION AND CONSENT section, ensure that you remember to tap on the text box below the question "Date when the signature of the interviewee received" Otherwise the APP will not be able to compute correct values of the age of the individuals in question in the preceeding sections**

    b. When you succefully complete a section, the section Header of that section will turn from BLUE to GREEN as is shown in the Pictures below
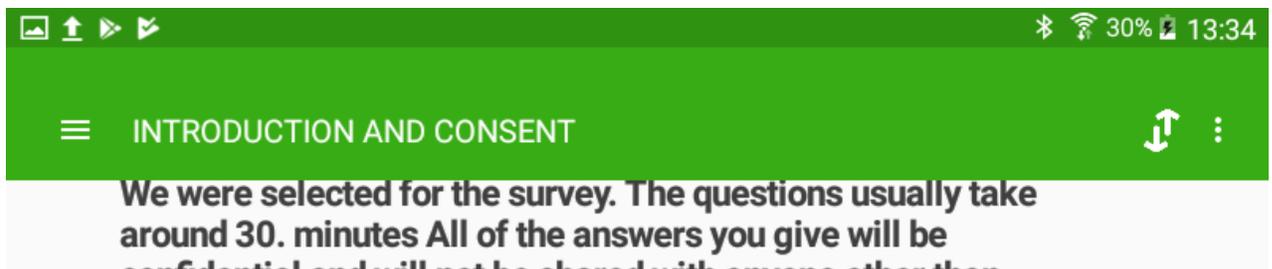
c. When you complete **SECTION 1: RESPONDENT BACKGROUND,** The APP will randomize you to either the **PREGNANCY HISTORY SECTION TWO** or the **BIRTH HISTORY SECTION TWO** as is expected and is clearly elaborated in the study protocols that you have all submitted to your Institutional Review Boards.

IF THE RANDOM NUMBER IS GREATER THAN 0.5 YOU WILL BE ASSIGNED THE PREGNANCY HISTORY SECTION 2, ELSE YOU WILL BE ASSIGNED THE LIVE BIRTH HISTORY MODULE FOR SECTION 2

Error messages

Erroneous entries that are entered or entries that are outside the expected range will flag a **RED** wording, and the **SECTION HEADER** will also flag a **RED** as is shown below.