VWR Protocole Builder Software

User manual

Summary

1. Introduction

1.1. What is VWR Protocole Builder Software?

VWR Protocole Builder Software is an easy-to-use software for creating custom pipetting protocols for pipettes. Use it to create personalized pipetting protocols on your computer, and to transfer these protocols to pipettes, where you can execute them.

VWR Protocole Builder Software runs on Windows 7, Windows 8 and Windows 8.1.

1.2. Passwords and User information

When running the VWR Protocole Builder Software for the first time (e.g. after installation) you are prompted to enter some information about passwords and your institution.

User password. Enter user password and select a **Hidden question** / **Hidden answer** (used to recover forgotten passwords). You can also select **I don't want to use passwords**. You can still switch to start using passwords later (in Main menu select other administration → Change password).

User profile. Provide Institution/Company details. Providing this information is optional and can also be done later on (in Main menu select other administration → Institution/Company profile).

During the installation you are prompted to enter a **Recovery password** that will be used to retrieve forgotten passwords.

Password must contain 8-30 characters, start with a letter, and contain no special symbols, at least one digit and at least one uppercase letter.

Note: When using password, please make sure you remember or save your **Recovery password** and/or the answer to the **Hidden question** – those are the only two means of retrieving your user in the event of forgetting the password (see following section).

1.3. Forgotten password

Users who use password protection have to provide the password to run VWR Protocole Builder Software and to modify custom protocols in Pipette.

In case of forgotten password click the **Forgotten Password** button on the VWR Pipette Login window. Select one of the following options to recover the forgotten password:

- I know the answer to the hidden question
- I have the recovery password

And click **next**. Provide the Answer to the hidden question or the recovery password on the next screen and click **next**. On the following window provide a new password and click **Finish**

2. Home screen

After launching the VWR Protocole Builder Software you are directed to the Home screen.

Image: VWR Protocole Builder Software Home screen

The Home screen offers the following options:

Manage custom protocols – Create, Edit, Import or Export custom protocols.

Transfer custom protocols to pipette – Connect a pipette via USB cable and transfer a selected custom protocol to the pipette.

Update pipette settings - Set additional pipette settings such as beeping, lock and maximal volume limit, or update firmware on the pipette.

Other administration – Manage the repository of your VWR pipettes, view history of custom protocol uploads to particular pipettes, manage passwords and manage the Company/Institution profile.

By clicking the **Home icon** you are returned to the Home screen.

Menu bar offers the following options:

- File → Exit; exit the VWR Protocole Builder Software
- Help → Help; access the User guide (pdf document)
- Help → About; access basic information on the VWR Protocole Builder Software

3. To install VWR Protocole Builder Software

3.1. Computer requirements

VWR Protocole Builder Software is supported on PCs with Windows 7, Windows 8 and Windows 8.1.

Table below lists the computer system requirements for the software.

System	Minimum/Allowed	Recommended
Operating system	Windows 7	Windows 7 and above
Hard drive	1 GB	10 GB
Processor speed	2.0 GHz	2.0 GHz
RAM	1 GB	2 GB
Screen resolution	480x800, 768x1024, 720x1280, 768x1280, 800x1280, 768x1366	768x1024
Text size (*Windows only*)	100%, 125%, 150%	100%
USB	USB 2.0 High-speed port	USB 2.0 High-speed port

3.2. Install software

i. Software must be installed on the computer by a user with administrative privileges. Make sure you have administrative privileges. Installer will not start if run without administrative privileges.
ii. Download the appropriate VWR Protocole Builder Software installation file for your operating system to the computer.
iii. Double-click the installer and follow the instructions on the screen to complete the installation.
iv. When completed, the VWR Protocole Builder Software icon will appear on desktop of the computer if *Create Desktop Shortcut* is checked.
v. If software is not launched automatically double click the VWR icon on the Desktop.
vi. Once installed, the VWR Protocole Builder Software can be run by any user on the installed computer.

3.3. To install the drivers

On Windows 7 systems, drivers are installed along with the installer. On some Windows 8 and Windows 8.1 systems, drivers might need to be installed manually.

3.4. Software files

VWR Protocole Builder Software stores information about custom pipetting protocols in specific files with the extension .pmp.

4. Uninstall VWR Protocole Builder Software

When uninstalling VWR pipette you can select to remove the user data (select checkbox Remove user data during uninstall process). This will remove all user data, custom protocols, pipette data and history related to pipettes and protocols.

5. Creating and Managing custom protocols

In Manage custom protocols you can Create, Edit, Import or Export custom protocols.

5.1. Create a custom protocol

Start creating a new custom protocol from scratch by clicking the “Create a new protocol” button.

Specify the **Protocol name** (e.g. *DNA-isolation*) and click Create. The Edit custom protocol screen appears with the **Protocol info** and **Protocol setup** tabs.

In the **Protocol info** tab select a pipette from a list of VWR models. Enter the name of the user who created the protocol (**Protocol created by**: field) and enter any comments into the **Comments** box, if required.

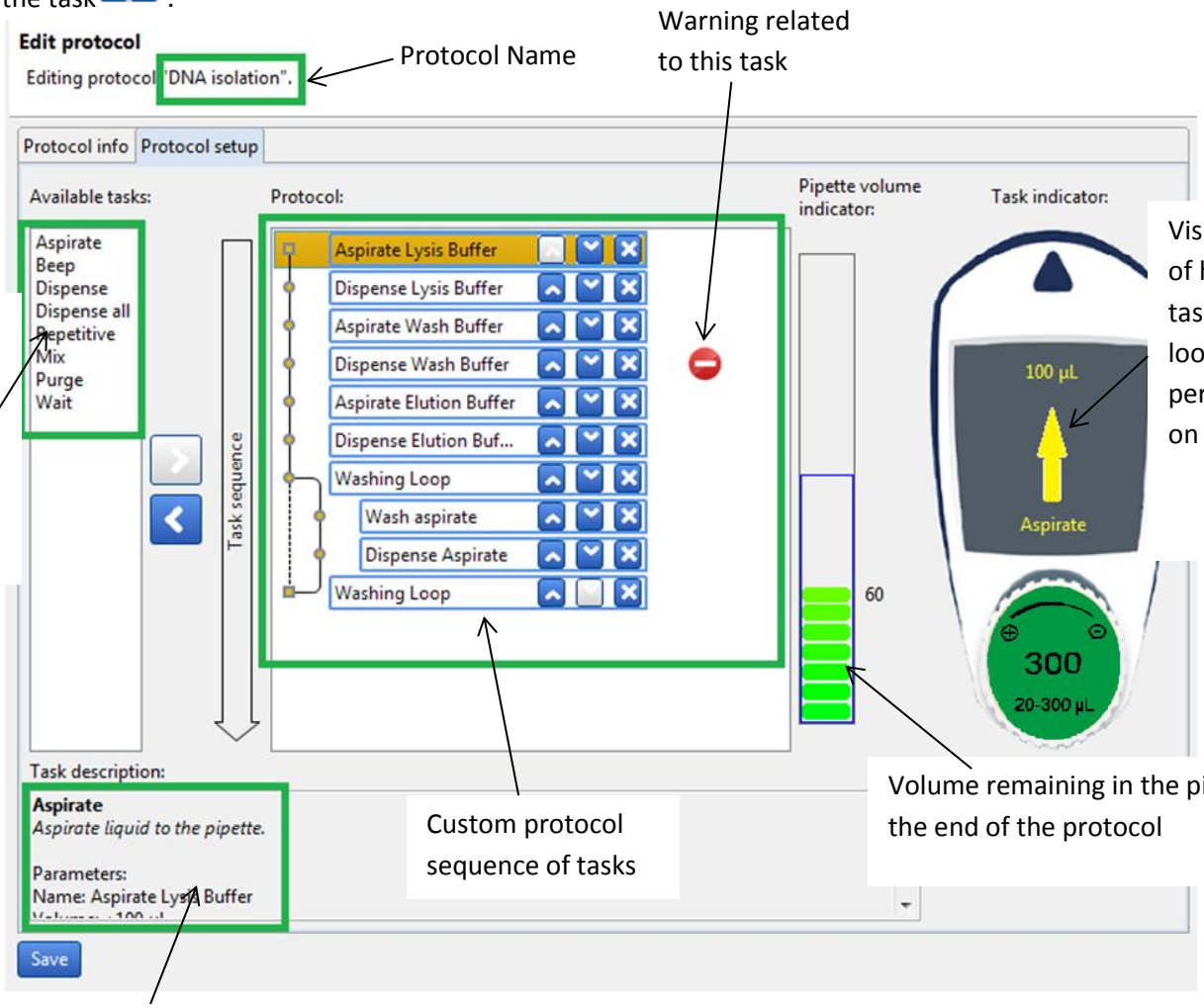
In **Protocol setup** tab build a pipetting protocol by adding tasks from the **Available tasks** list (on the left of the screen) to the **Protocol** pane (on the right of the screen) and modifying the task’s default parameters:

1. Select a task in the **Available task** list
2. Drag-and-drop it to the **Protocol** pane (or use the arrow button  or simply double-click on the task)
3. Modify the task’s parameters in the Edit task window that opens automatically after you add the task to protocol and click **Create** to add the task
4. Add further tasks to the protocol if desired
5. When the protocol contains all desired tasks click **save** button to store the protocol. If you are using password protection you will be asked to confirm this action by entering your password.

The protocol is now listed in **Manage custom protocols.**

Protocols can contain up to 20 tasks.

Tasks listed in the Protocol pane will be executed on the Pipette from top to bottom*. You can move the task's position in the Protocol by drag-and-drop movement or by using up/down arrows next to the task .



Default tasks available:

- **Aspirate**: aspirates specified volume into the tip
- **Dispense**: dispenses specified volume from the tip
- **Dispense all**: dispenses all remaining volume from the tip followed by a purge action
- **Repetitive***: enables repeating any of the other tasks once or more
- **Mix**: mixes the specific volume in one or more cycles
- **Purge**: dispenses all remaining volume from the tip followed by emptying extra volume
- **Wait**: introduces a wait for a specified number of seconds
- **Beep**: makes pipette produce a beep sound

Add tasks to the protocol by drag-and-drop action, by selecting a task and clicking the arrow button  , or by double-clicking the task. Drag-and-drop actions position the tasks in the following way: the task over which you are dragging the selected task is highlighted. If you are moving a task upwards or creating a new task the task will be positioned above the highlighted task. If you are moving the task downwards the task will be dropped after the highlighted task.

After you add a task to the protocol you can modify task parameters.

***Tasks within **Repetitive** will be executed in a sequence for the specified number of repetitions/iterations. Example: if Repetitive contains two tasks: Aspirate 20 µL followed by Dispense 20 µL and the number of Repetitions/iterations is set to 3, the tasks will be executed on Pipette in the following order: 1. Aspirate 20 µL, 2. Dispense 20 µL, 3. Aspirate 20 µL, 4. Dispense 20 µL, 5. Aspirate 20 µL, and 6. Dispense 20 µL.

5.1.1. Default task parameters

Tasks have the following parameters that are available for modification.

Aspirate and **Dispense** tasks have the following parameters:

- Task name*: specify the name of the task
- Volume (µL) *: specify the volume for the task in µL
- Speed*: specify the speed for the aspiration/dispense
- Comments: enter any comments related to the task
- Display text: enter text that is displayed on the pipette's LCD screen when the task is activated (note that the number of characters for Display text is limited**)

*Parameters marked with an asterisk are obligatory.

Dispense all tasks have the following parameters:

- Task name*: specify the name of the task
- Speed*: specify the speed for the dispense
- Comments: enter any comments related to the task
- Display text: enter text that is displayed on the pipette's LCD screen when the task is activated (note that the number of characters for Display text is limited**)

*Parameters marked with an asterisk are obligatory.

Repetitive task has the following parameters:

- Task name*: specify the name of the task
- Number of iterations*: specify how many times should the Pipette repeat the tasks that are placed inside the repetitive task
- Comments: enter any comments related to the task

*Parameters marked with an asterisk are obligatory.

Mix task has the following parameters:

- Task name*: specify the name of the task
- Volume (µL) *: specify the volume for the task in µL
- Aspiration speed*: specify the speed for the aspiration
- Dispense speed*: specify the speed for the dispense
- Use start button mixing (checkbox): if checked mixing will be performed continuously for as long as the user holds the Push button on the pipette; once the Push button is released mixing stops and the next task in the protocol is executed
- Number of cycles*: specify how many times the Volume should be mixed
- Comments: enter any comments related to the task
- Display text: enter text that is displayed on the pipette's LCD screen when the task is activated (note that the number of characters for Display text is limited**)

*Parameters marked with an asterisk are obligatory.

Purge task has the following parameters:

- Task name*: specify the name of the task
- Comments: enter any comments related to the task
- Display text: enter text that is displayed on the pipette's LCD screen when the task is activated (note that the number of characters for Display text is limited**)

*Parameters marked with an asterisk are obligatory.

Wait task has the following parameters:

- Task name*: specify the name of the task
- Duration (s)*: specify the duration of the wait in seconds
- Comments: enter any comments related to the task
- Display text: enter text that is displayed on the pipette's LCD screen when the task is activated (note that the number of characters for Display text is limited**)

*Parameters marked with asterisk are obligatory.

Beep task has the following parameters:

- Task name*: specify the name of the task
- Comments: enter any comments related to the task
- Beep On/Off: for the pipette to start beeping select On; For the pipette to stop beeping select Off
- Example of use: in order to produce a beep sound with duration of 1 second on the pipette before the Aspirate task, position the following set of tasks before the Aspirate task: 1. Beep task (with Beep: On), 2. Wait task (with Duration 1 s), and 3. Beep task (with Beep: Off).

*Parameters marked with an asterisk are obligatory.

****NOTE**: Pipettes are able to display a limited number of characters on their LCD screen. If you use longer strings of characters in "Display text" not all may be displayed.

5.1.2. Editing, Cloning and Deleting tasks

Once the task is listed in the protocol, you can edit it's parameters by selecting the task, **right-clicking** on it and selecting **Edit task**, or by double-clicking the task. **Edit task** window opens, where you can modify the task's parameters and store them.

You can clone a task by **right-clicking** on the desired task and selecting **Clone task. Add task** window opens where you can rename the task and change the parameters if desired. When done add the task to the protocol by clicking **Create** button. The task is added immediately after the original task.

You can delete tasks from the protocol by **right-clicking** on the desired task and selecting **Delete task.** Alternatively you can select a task in the protocol and click the left-arrow  . When deleting a task, a pop-up window appears where you can confirm task deletion.

5.1.3. Pipette volume indicator

As you build a protocol the Pipette volume indicator will display how much of the pipette's maximum volume is used at the end of the protocol. If you click on a particular task a rectangle will mark the volume of the current task (blue rectangle indicates aspirations, and red rectangle indicates dispense of volume).

If volume in pipette exceeds the maximal volume, or is below the minimal volume of the pipette, the Pipette volume indicator will be surrounded with a red rectangle.

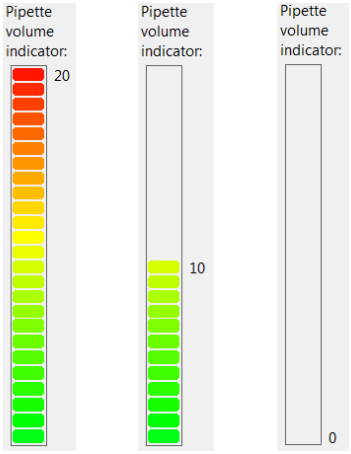


Image: Pipette volume indicator: left – 100% full pipette, middle – 50% full pipette, right – empty pipette

5.1.4. Warning and error messages

VWR Protocole Builder Software verifies after the addition of each task, or after modification of a task, whether the volume of the pipette is still within the volume specifications for the particular

VWR model. Should the volume in pipette model fall outside specifications, an **error sign** will appear next to the task that caused this. More details about error are available if you position the mouse over the error sign. Protocols that contain one or more error signs may be saved, however they cannot be transferred to a pipette, cannot be exported.

In certain cases a yellow **warning sign** will appear next to a protocol in Manage custom protocols. More details about the warning are available if you position the mouse over the warning sign. Such protocols may be transferred to a pipette and can be exported.

5.2. Managing existing protocols in Manage custom protocols

All protocols that have been created are listed in the **Manage custom protocols** window with information on pipette model, date of creation, date of last modification, person that created the protocol, person that last modified the protocol. If a protocol contains a warning or an error, the warning or error icon is displayed.

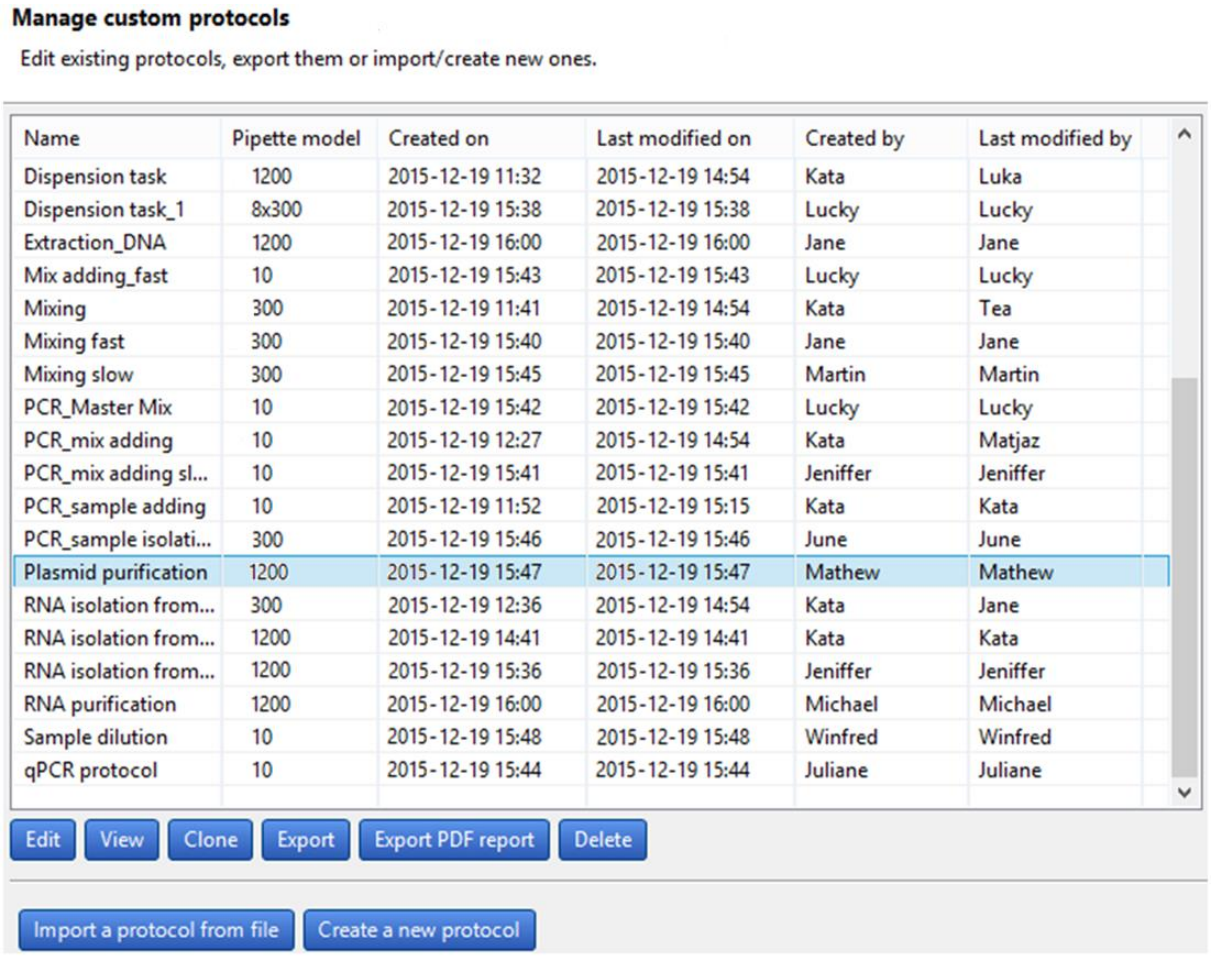


Image: Custom protocols are listed in Manage custom protocol window

For each of the protocols listed you can perform the following actions. Simply select the protocol and click on one of the buttons:

- **View**: view a protocol. No parameters can be changed in the View mode.
- **Edit**: edit a protocol (change the VWR model, rename protocol, add/edit/remove tasks).
- **Clone**: clone a protocol (if you are creating a similar protocol cloning will save time).
- **Export**: export a protocol to a .pmp file and store it on the computer.
- **Export to pdf**: create a summary of the protocol in the form of a print-ready pdf document.
- **Delete**: delete a protocol.

Alternatively you can perform these actions by **right-clicking** on a desired protocol. Editing protocol is also available by double-clicking the selected protocol.

5.3. Importing a protocol

You can add protocols to the Manage Custom protocols by importing a previously created protocol (.pmp files).

Click on Import a protocol from file button, navigate to the .pmp file and click Open. The protocol is then available in Manage Custom protocols.

5.4. Practical tips for creating custom protocols

If you have existing protocols cloning them and modifying them will save you time.

VWR Protocole Builder Software enables you to easily create a similar protocol on a different VWR model. Simply clone the protocol and change the VWR model. If necessary modify the volume of transfers to fit volume specifications of the new VWR model.

6. Transfer Custom Protocols to Pipette

To transfer a protocol to a pipette, click the **Transfer Custom Protocols to Pipette** button and follow the instructions on the screen:

1. Connect pipette to the PC via USB cable and click **next.** Should pipette not be recognized immediately, disconnect the USB cable, reconnect it and click **Try again** button. If a pipette is already correctly connected when **Transfer Custom Protocols to Pipette** button is clicked, this step is skipped.
2. By default the protocols for the connected VWR model are listed. You can access the protocols created for other VWR models by selecting the model from the “Show protocols for pipette model*:” drop-down list.
3. Select a protocol in the list and click **Finish**.
4. If a pipette is locked, transferring protocols will unlock it. For that purpose, a pop-up window appears, where you can confirm that you would like to transfer the selected protocol, unlocking the pipette in the progress.

5. You can also check “Mute beeps” if you want to disable any pipette sounds during beep tasks.
6. Disconnect the pipette. The Custom protocol is now available on the pipette.

Note: Protocols that have a red **error sign** cannot be transferred to pipettes.

Note: You can transfer a protocol created for a different VWR model to the connected pipette, providing the protocol is using volumes within the connected pipette’s volume specifications.

Protocols that contain volumes outside connected pipette’s volume will have a red error sign .

Note: The pipette must be registered in the software prior to transferring custom protocols. If the connected pipette is not yet register, a pop-up appears which informs you that the pipette is not yet registered. Here, you can click on **Add pipette now**, which takes you to the pipette management screen, or you can proceed to/stay at step 1 by clicking **Connect different pipette**.

Note: On the bottom left of **Transfer Custom Protocols to Pipette** wizard, you can find the **Pipette connection information** – An icon accompanied with text which reports the current connectivity status. The icon is green if there is a pipette connected to the computer or gray when there are no pipettes connected. The connectivity status is refreshed when any of the buttons is clicked.

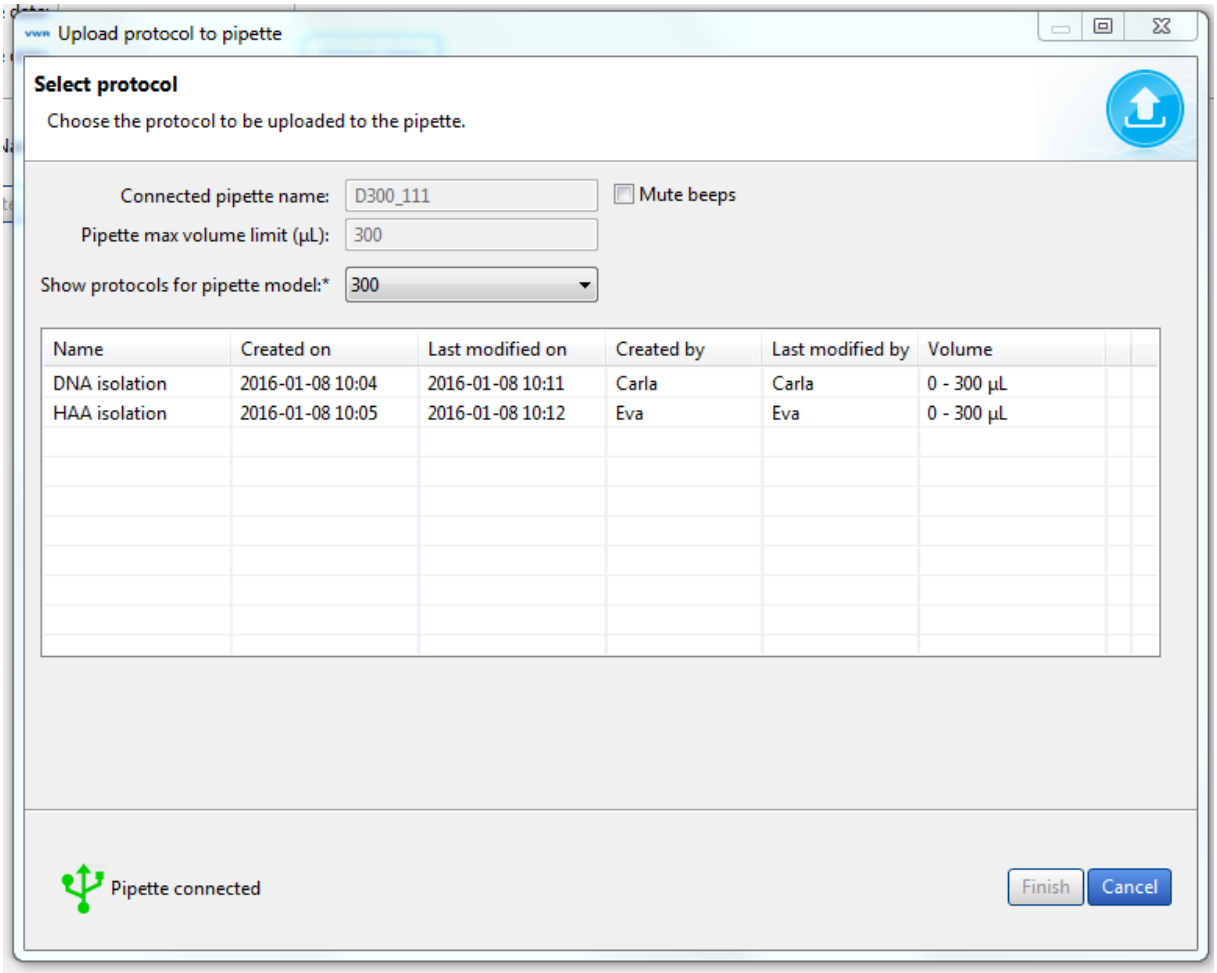


Image: Selecting a protocol for transfer to a VWR 300 pipette.

7. Update pipette settings

Here you can set the following configurations on the connected pipette:

- Set the **Beep** to **On** or **off** (switches the tone of the pipette to on or off). Beep On and Off only affects the built-in pipette protocols, as well as aspirate, dispense, mix, purge tasks (but NOT beep task!).
- Set the **Lock pipette On** or **Off** (Lock pipette On disables access to Configuration, Speed and Mode on pipette)
- Set **Maximal volume limit**: this sets the maximal allowed volume on the particular pipette; it cannot be higher than pipette's specified maximal volume. Simply enter the volume (in µL) in the field.
- Update Firmware.

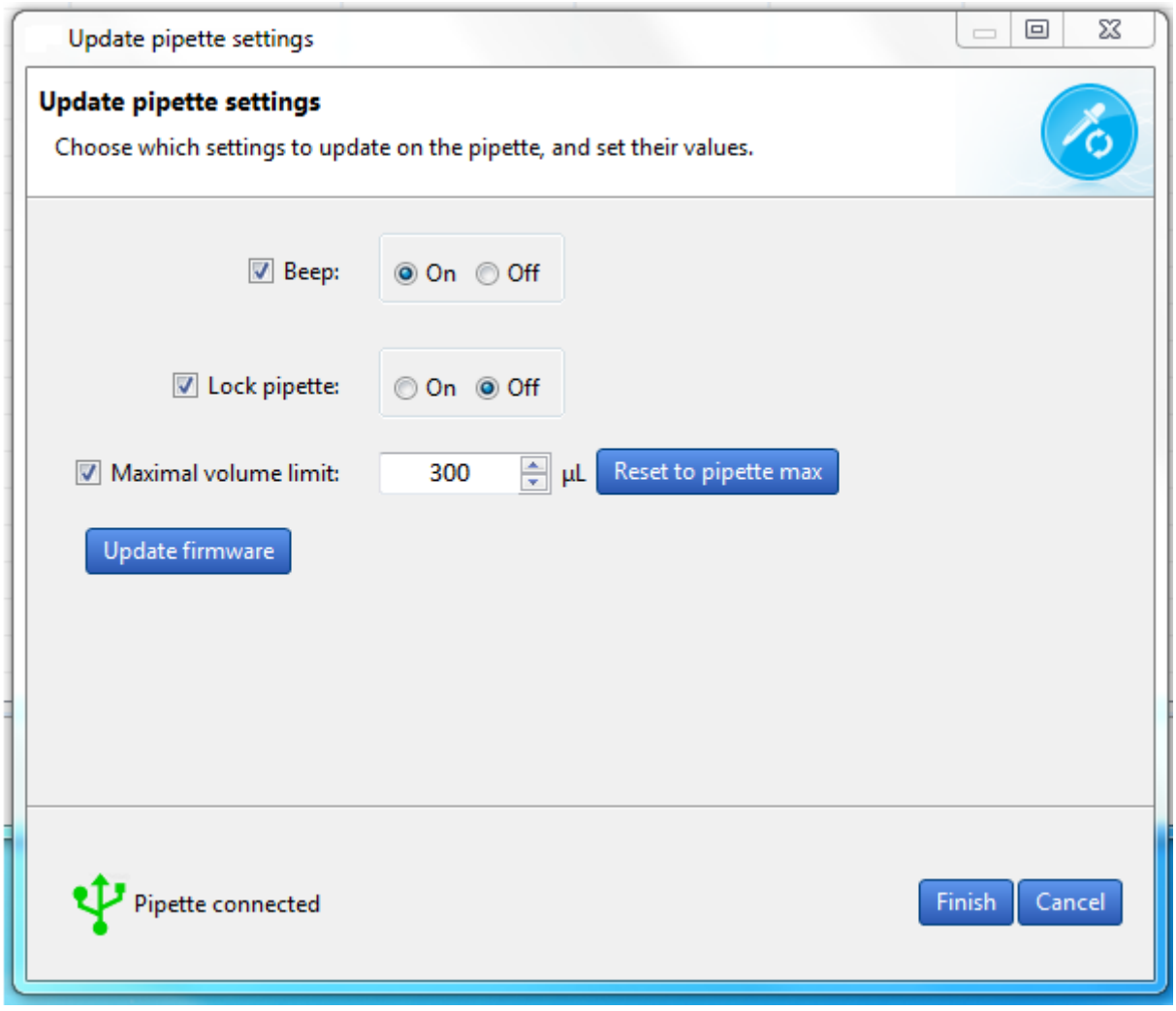


Image: Update pipette settings.

To modify these configurations, follow these steps:

1. Click **Update pipette settings** in the main menu.
2. If a pipette is already correctly connected, proceed to step 4.
3. Connect pipette to the PC via USB cable and click **next.** Should pipette not be recognized immediately, disconnect the USB cable, reconnect it and click **Try again** button.
4. Check the checkbox for the configuration that you would like to change and then modify it (e.g. change Beep from On to off; or modify the Maximal volume limit); Unchecked configurations will not be updated.
5. Click Finish.
6. Disconnect pipette.

You can reset the pipette's **Maximal volume limit** to pipette's specified maximal volume by clicking the **Reset to pipette max**.

Note: The pipette must be registered in the software prior to transferring custom protocols. If the connected pipette is not yet register, a pop-up appears which informs you that the pipette is not yet registered. Here, you can click on **Add pipette now**, which takes you to the pipette management screen, or you can proceed to/stay at step 1 by clicking **Connect different pipette**.

Note: On the bottom left of **Update pipette settings** wizard, you can find the **Pipette connection information** – An icon accompanied with text which reports the current connectivity status. The icon is green  if there is a pipette connected to the computer or gray  when there are no pipettes connected. The connectivity status is refreshed when any of the buttons is clicked.

7.1. Updating pipette firmware

To update firmware on VWR pipette follow these steps:

1. Click **Update pipette settings** in the main menu.
2. If a pipette is already correctly connected, proceed to step 4.
3. Connect pipette to the PC via USB cable and click **next.** Should pipette not be recognized immediately, disconnect the USB cable, reconnect it and click **Try again** button.
4. Click the **Update firmware** button
5. Navigate to the firmware file and click Open.
6. On the next dialog click OK to confirm the firmware update. **IMPORTANT:** The pipette must not be disconnected during firmware update. Disconnecting pipette could result in pipette malfunction.
7. Wait for the firmware update, click OK and disconnect pipette.

8. Other administration

Here you can perform the following administrative tasks:

Pipette management – manage the collection of your VWR pipettes

View history – view the history of protocol uploads to pipettes and the history of protocol modifications

Change password – change the password to access VWR Protocole Builder Software

Institution/Company profile – manage the information related to your Institution/Company.

8.1. Pipette management

Here you can register your individual VWR pipettes. Registering a pipette is required to allow for transfer of your personalized protocols onto the pipette, as well as updating the pipette settings.

Register a new pipette by clicking **Register new pipette** button and follow the instructions on the screen:

1. Connect a pipette to the PC via USB cable and click **next.** Should pipette not be recognized immediately, disconnect the USB cable, reconnect it and click **Try again** button. If a pipette is already correctly connected when **Register new pipette** button is clicked this step is skipped.
2. Type in the name of the pipette and click **Finish**.
3. Pipette is now listed in the **registered pipettes** list along with the basic information (*Model*, *Firmware version*, *Serial number*, *Minimal volume (µL)*, *Maximal volume (µL)*, *Last maintenance date, Next maintenance date*).

You can rename a pipette in the **registered pipettes** list by selecting the pipette, clicking the Rename button, entering a new name and clicking **Rename**.

You can reset the maintenance dates (last and next) by clicking the Refresh dates button. This process requires you to connect the selected pipette to the computer.

You can delete a pipette in the **registered pipettes** list by selecting the pipette, and clicking **Delete this pipette** button.

Note: On the bottom left of **Register new pipette** wizard, you can find the **Pipette connection information** – An icon accompanied with text which reports the current connectivity status. The icon is green  if there is a pipette connected to the computer or gray  when there are no pipettes connected. The connectivity status is refreshed when any of the buttons is clicked.

8.2. View history

Here you can view the history of protocol uploads to VWR pipettes (tab **Protocol upload**) and history of protocol modifications (tab **Protocol management**).

To display the history of Protocol uploads to pipettes, navigate to the **Protocol upload** tab, select the time interval and click **Show history**. The protocols that have been uploaded to any pipette within the selected time interval will be listed in the table below, displaying the following information for each protocol: *Protocol name*, *Pipette name*, *Pipette model*, *Pipette serial*, *Uploaded on* and *Result*.

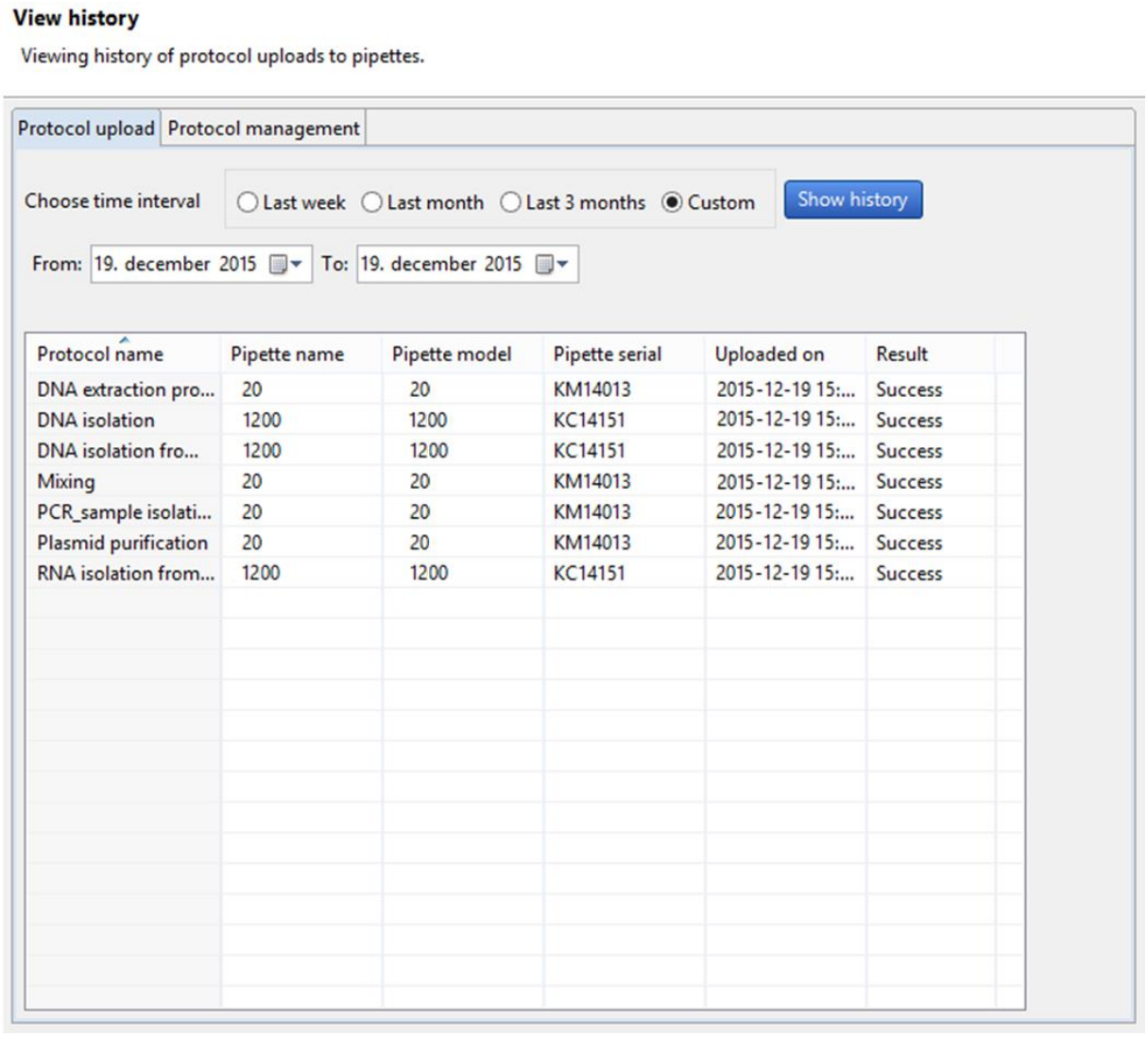
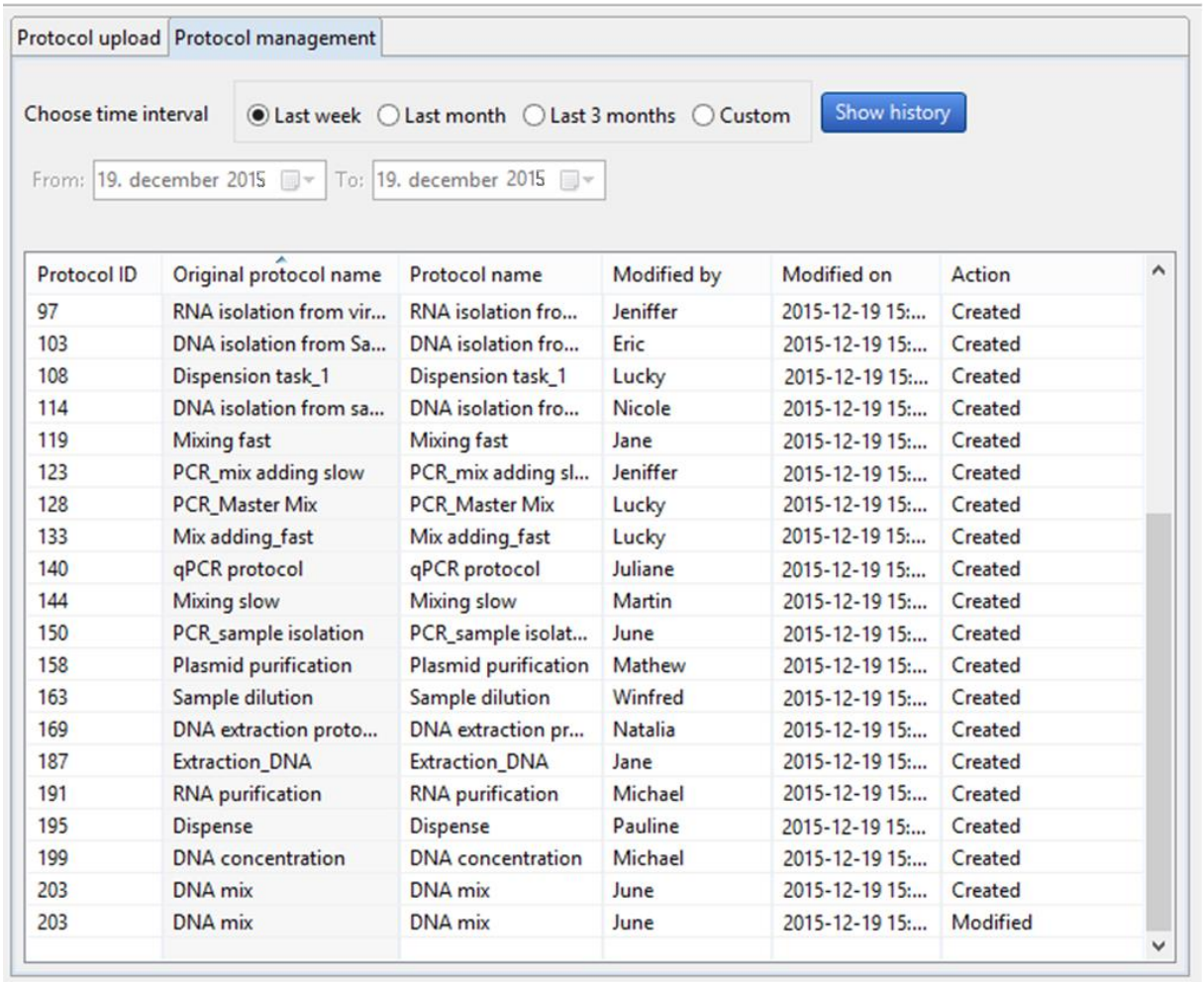


Image: Display history of Protocol uploads to pipettes

To display history of protocol modifications navigate to **Protocol management** tab, select the time interval and click **Show history**. The protocols that have been modified within selected time interval will be listed in the table below, displaying the following information for each protocol: *Protocol ID*, *Original protocol name*, *Modified by*, *Modified on*, and *Action*.

View history

Viewing history of protocol modifications.



Protocol ID	Original protocol name	Protocol name	Modified by	Modified on	Action
97	RNA isolation from vir...	RNA isolation fro...	Jeniffer	2015-12-19 15:...	Created
103	DNA isolation from Sa...	DNA isolation fro...	Eric	2015-12-19 15:...	Created
108	Dispension task_1	Dispension task_1	Lucky	2015-12-19 15:...	Created
114	DNA isolation from sa...	DNA isolation fro...	Nicole	2015-12-19 15:...	Created
119	Mixing fast	Mixing fast	Jane	2015-12-19 15:...	Created
123	PCR_mix adding slow	PCR_mix adding sl...	Jeniffer	2015-12-19 15:...	Created
128	PCR_Master Mix	PCR_Master Mix	Lucky	2015-12-19 15:...	Created
133	Mix adding_fast	Mix adding_fast	Lucky	2015-12-19 15:...	Created
140	qPCR protocol	qPCR protocol	Juliane	2015-12-19 15:...	Created
144	Mixing slow	Mixing slow	Martin	2015-12-19 15:...	Created
150	PCR_sample isolation	PCR_sample isolat...	June	2015-12-19 15:...	Created
158	Plasmid purification	Plasmid purification	Mathew	2015-12-19 15:...	Created
163	Sample dilution	Sample dilution	Winfred	2015-12-19 15:...	Created
169	DNA extraction proto...	DNA extraction pr...	Natalia	2015-12-19 15:...	Created
187	Extraction_DNA	Extraction_DNA	Jane	2015-12-19 15:...	Created
191	RNA purification	RNA purification	Michael	2015-12-19 15:...	Created
195	Dispense	Dispense	Pauline	2015-12-19 15:...	Created
199	DNA concentration	DNA concentration	Michael	2015-12-19 15:...	Created
203	DNA mix	DNA mix	June	2015-12-19 15:...	Created
203	DNA mix	DNA mix	June	2015-12-19 15:...	Modified

Image: Display history of protocol modification

8.3. Change password

Here you can change a password, change the Hidden question and Hidden answer, or disable/enable the use of passwords (checkbox: Don't use password).

Note: Remember or store the answer to the hidden question in case of password recovery.

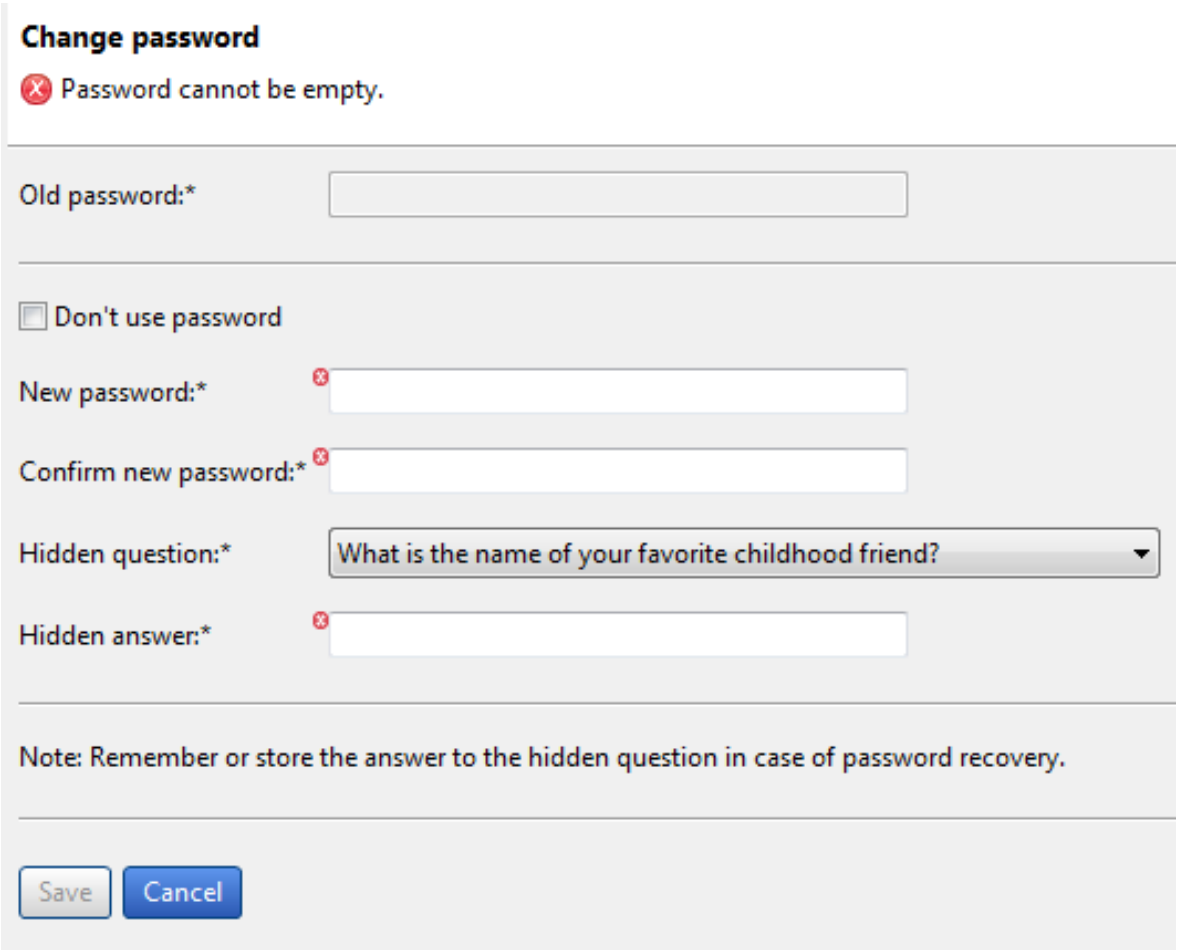


Image: Change password, Hidden question, Hidden answer

8.4. Institution/Company profile

Enter the information related to your Institution/Company here or modify it. Simply enter the information in provided fields and click **Save**.

None of the information is mandatory.

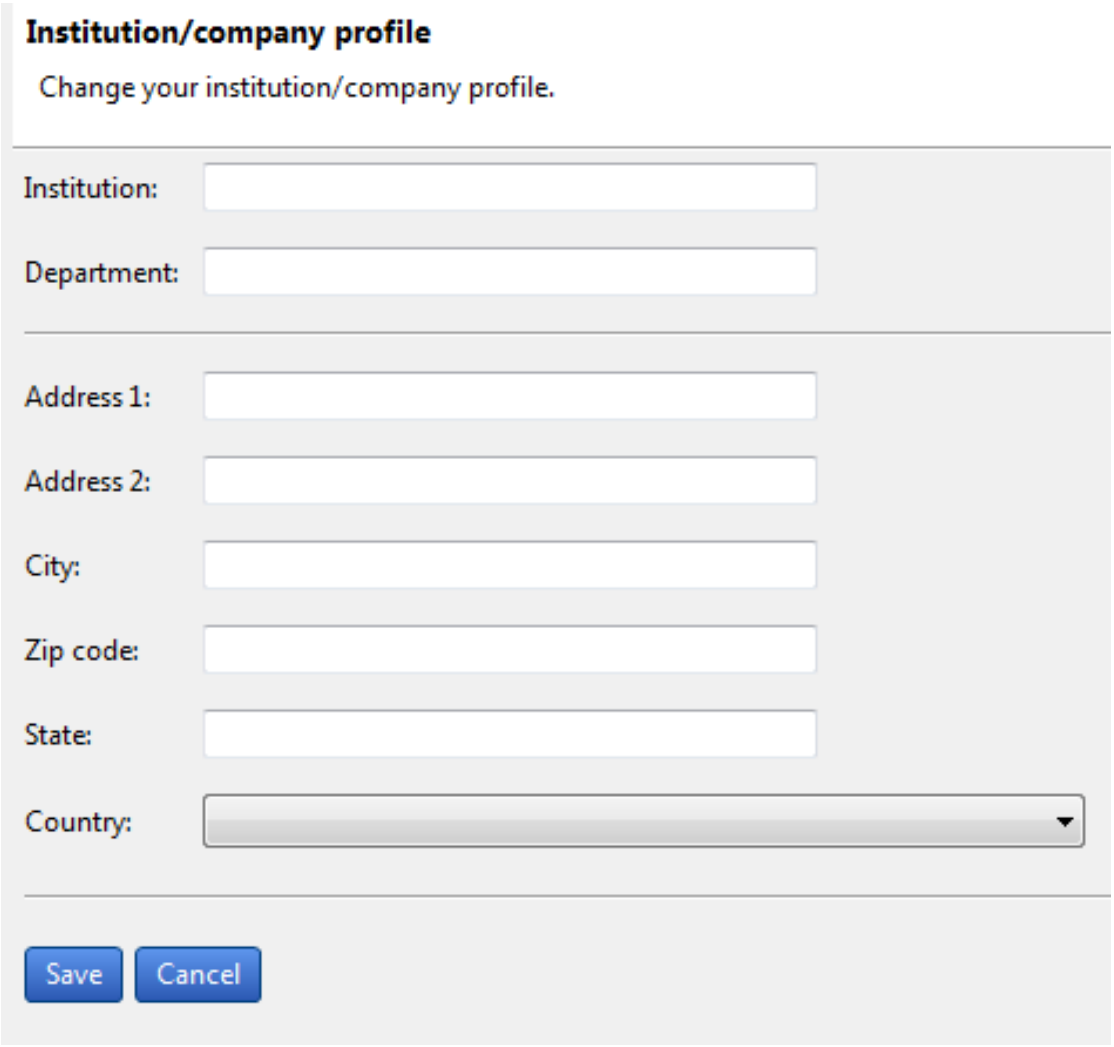


Image: Enter the information related to your Institution/Company here or modify it.