

P.E.T. v2.0

Website User Guide



Updated April 27, 2015

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Contact Support

Email: ulmpet@gmail.com

Requirements

You must have one of the following to access the <PhageEnzymeTool_URL> website.

- Google Chrome-version 27 or higher (recommended)
 - Mozilla Firefox-version 22 or higher
- Microsoft Internet Explorer- version 10 or higher
 - Apple Safari-version 6 or higher
 - Opera-version 12 or higher

Website performance will vary with the speed of your Internet connection.

Overview

This website focused on improving on an existing P.E.T. tool maintained by Paul D. Wiedemeier. You can read more about the research and contributors of the original in the link found below.

[A web-based restriction endonuclease tool for mycobacteriophage cluster prediction.](#)

Contributors to the this <PhageEnzymeTool_URL> website are as follows:

Samuel Butler
Michael Bruscato
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Accessing the Website

Website URL

Enter www.websitename.com/



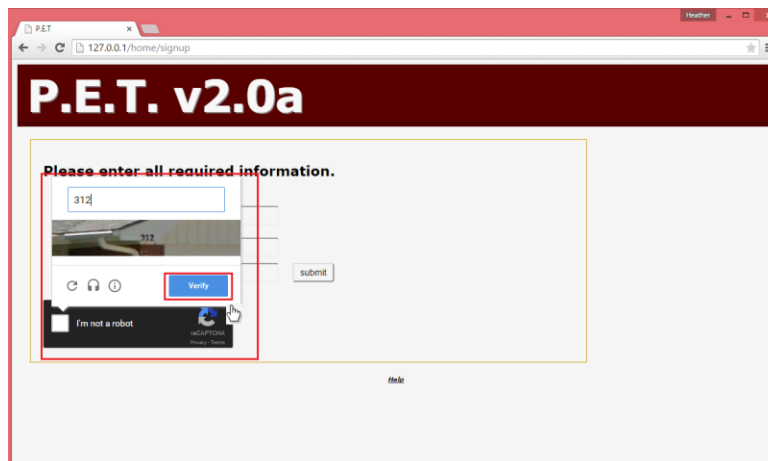
Create User Account

1. Click **Sign up for an account** at the bottom of the login page

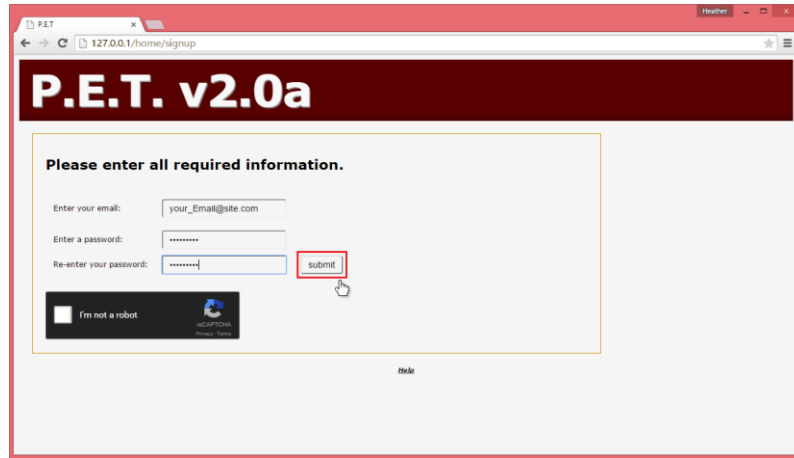


2. **Captcha**

To make sure you are a human, we will need to confirm using a captcha system. Check the ***"I'm not a robot"*** box. Then type in the characters seen in the image, and submit using the **Verify** button.



3. Enter all of the information required on the Sign Up form and press **Submit**



A screenshot of a web browser window showing the 'P.E.T. v2.0a' sign-up page. The browser's address bar shows '127.0.0.1/home/signup'. The page has a dark red header with the title 'P.E.T. v2.0a'. Below the header, a light gray box contains the sign-up form. The form is titled 'Please enter all required information.' and includes three input fields: 'Enter your email:' with the placeholder 'your_email@site.com', 'Enter a password:' with masked characters, and 'Re-enter your password:' with masked characters. A red box highlights the 'Submit' button to the right of the password fields. Below the input fields is a CAPTCHA area with the text 'I'm not a robot' and a reCAPTCHA logo. A 'help' link is located at the bottom right of the form box.

Login

To login to your Phage Enzyme Tool account:

1. Enter your email address.
2. Enter your password.
3. Press **Log in**.



A screenshot of a web browser window showing the 'P.E.T. v2.0a' login page. The browser's address bar shows '127.0.0.1/home'. The page has a dark red header with the title 'P.E.T. v2.0a'. Below the header, a light gray box contains the login form. The form is titled 'Please enter your username and password.' and includes two input fields: 'Email Address:' with the placeholder 'your_email@site.com' and 'Password:' with masked characters. A red box highlights the 'login' button to the right of the password field. Below the input fields are two links: 'Click here to sign up for an account!' and 'Click here to reactivate account!'. A 'help' link is located at the bottom right of the form box.

Log Out

There are two ways to log out:

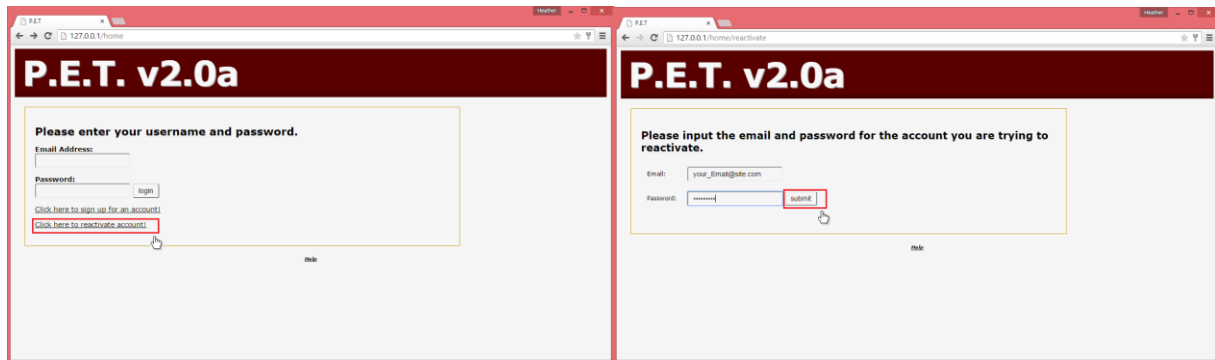
- Click **Log out** found at the bottom of the left-hand menu.
- OR-
- Close the browser

Forgot Password

Forgot your password? Email an administrator. He/she will help you to reset your password.

Reactivate Account

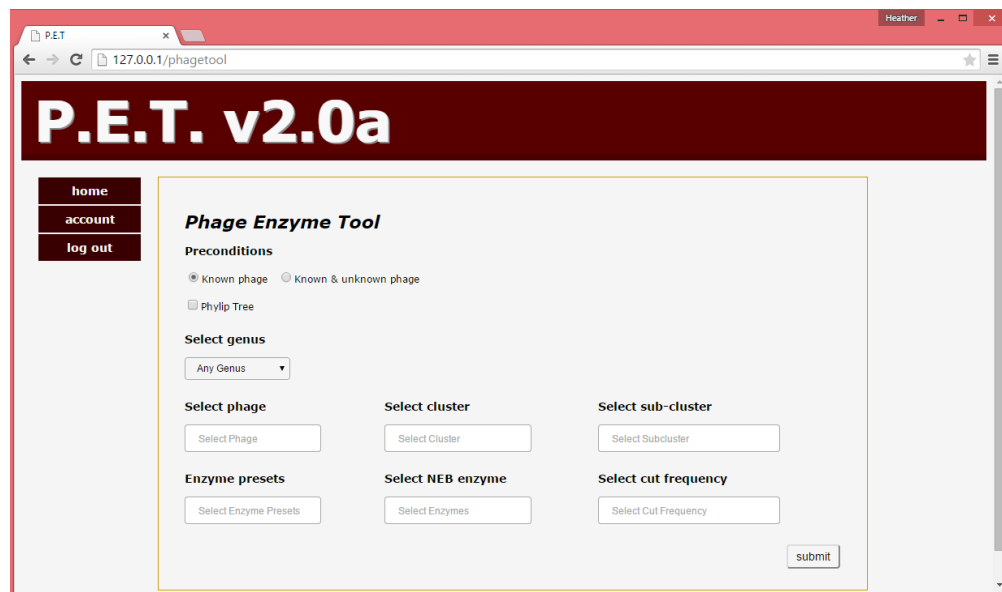
If you have previously deactivated an account, go to **Reactivate account** at the login page to do so.



The image shows two side-by-side screenshots of the P.E.T. v2.0a login page. The left screenshot shows the login form with a red box around the 'Click here to reactivate account' link. The right screenshot shows the reactivation form with a red box around the 'submit' button.

Enter your previous account email and password and click **submit**.

Website Home



The image shows the P.E.T. v2.0a website home page. The page features a dark red header with the title "P.E.T. v2.0a". On the left, there is a sidebar with links for "home", "account", and "log out". The main content area is titled "Phage Enzyme Tool" and contains several sections: "Preconditions" with radio buttons for "Known phage" and "Known & unknown phage", a checkbox for "Phylip Tree", a "Select genus" dropdown menu, and three columns of selection buttons: "Select phage", "Select cluster", "Select sub-cluster", "Enzyme presets", "Select NEB enzyme", and "Select cut frequency". A "submit" button is located at the bottom right of the main content area.

Phage Enzyme Tool

1. Preconditions

Select radio button **Known phage** if you would like to search the database for information about a known phage and its enzyme interactions.

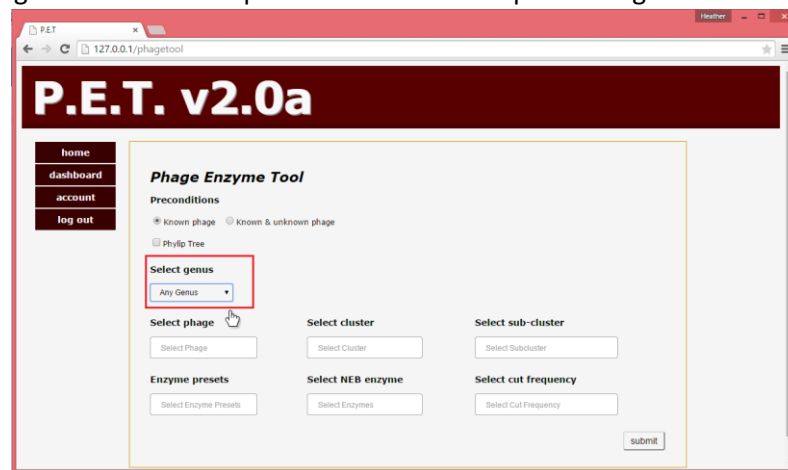
Select radio button **Known & unknown phage** if you would like to search the database for information about known phage and their enzyme interactions and have the phage tool calculate a similarity score (or sim score) based on cut count comparisons.

2. Phylip Tree

Select the **Phylip Tree** option if you would like to have a phylip tree generated from the comparisons of the cuts of the selected phage.

3. Select Genus

Select a genus from the drop down menu where up-to-date genus names can be found:

The screenshot shows the P.E.T. v2.0a web application. On the left is a sidebar with links: home, dashboard, account, and log out. The main content area is titled 'Phage Enzyme Tool' and contains a 'Preconditions' section. In this section, there are two radio buttons: 'Known phage' (selected) and 'Known & unknown phage'. Below these is a checkbox for 'Phylip Tree'. A red rectangle highlights the 'Select genus' dropdown menu, which currently shows 'Any Genus'. Below the dropdown are three columns of text boxes: 'Select phage' (with a 'Select Phage' button), 'Select cluster' (with a 'Select Cluster' button), and 'Select sub-cluster' (with a 'Select Subcluster' button). At the bottom, there are three more sections: 'Enzyme presets' (with a 'Select Enzyme Presets' button), 'Select NEB enzyme' (with a 'Select Enzymes' button), and 'Select cut frequency' (with a 'Select Cut Frequency' button). A 'submit' button is located at the bottom right of the form.

4. Select Phage

Select one, many, or all phages from the **Select phage** list which will become visible after clicking inside of the **Select phage** text box.

Phages may be unselected by clicking the **x** to the left of the selected phage's name box.

5. Select Cluster

Select one, many, or all cluster options from the **Select cluster** list which will become visible after clicking inside of the **Select cluster** text box.

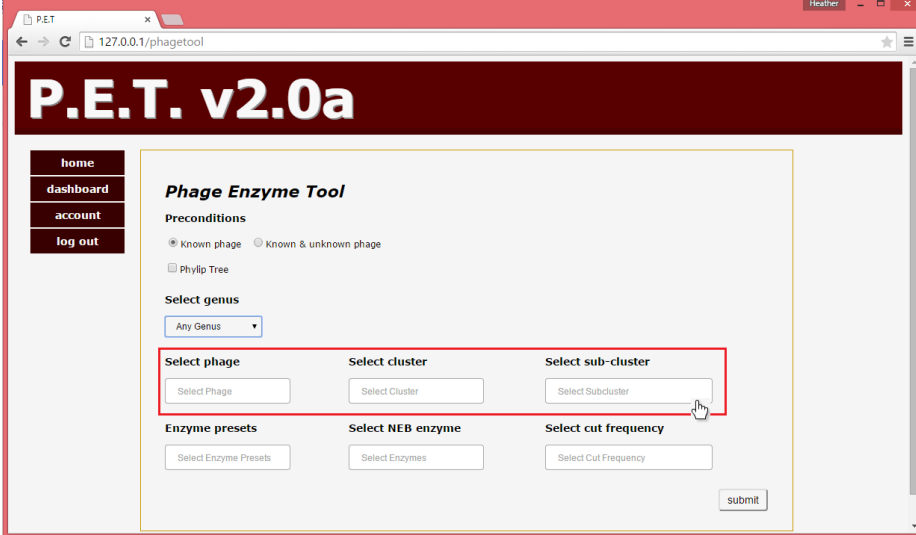
Clusters may be unselected by clicking the **x** to the left of the selected cluster's name box.

6. Select Sub-cluster

Select one, many, or all Sub-cluster options from the **Select cluster** list which will become visible after clicking inside of the **Select cluster** text box.

Sub-clusters may be unselected by clicking the **x** to the left of the selected cluster's name box.

INSTRUCTIONS 3-6



7. Select NEB Enzyme

Select one, many, or all NEB enzyme options from the **Select NEB enzyme** list which will become visible after clicking inside of the **Select cluster** text box.

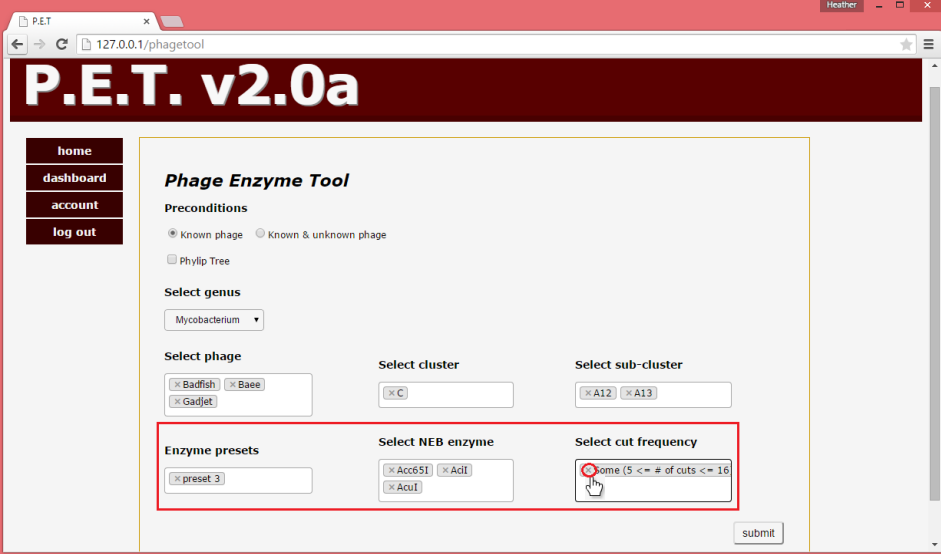
NEB enzymes may be unselected by clicking the **x** to the left of the selected enzyme's name box.

8. Select Cut Frequency

Select one, many, or all of the cut frequency options from the **Select cut frequency** list which will become visible after clicking inside of the **Select cluster** text box.

Cut frequencies may be unselected by clicking the **x** to the left of the selected frequency name box.

INSTRUCTIONS 7-8



The screenshot shows the P.E.T. v2.0a web interface. On the left is a sidebar with links: home, dashboard, account, and log out. The main area is titled "Phage Enzyme Tool". It contains several sections: "Preconditions" with radio buttons for "Known phage" (selected) and "Known & unknown phage", and a checkbox for "Phylog Tree"; "Select genus" with a dropdown menu showing "Mycobacterium"; "Select phage" with buttons for "Badfish", "Bae", and "Gadjet"; "Select cluster" with a text input field containing "C"; "Select sub-cluster" with buttons for "A12" and "A13"; "Enzyme presets" with a button for "preset 3"; "Select NEB enzyme" with buttons for "Acc65I", "AclI", and "AclI"; and "Select cut frequency" with a button for "some (5 <= # of cuts <= 16)". A red box highlights the "Enzyme presets", "Select NEB enzyme", and "Select cut frequency" sections. A "submit" button is located at the bottom right.

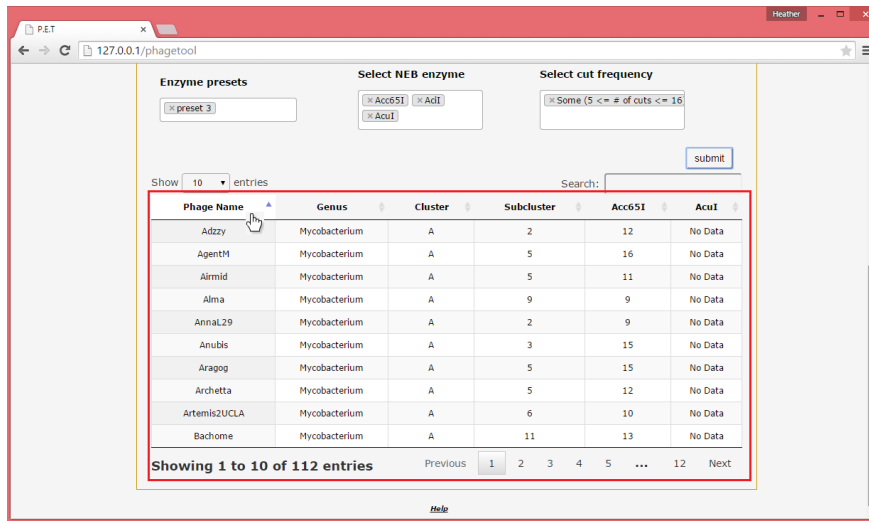
Once you are satisfied with all of your selections, click the **Submit** button to obtain results. The load time of your results may vary.

Viewing Results

Your results will be in a table format. Each row in the table holds the information from one phage and its cut data. The column names indicate what data is being shown or which enzyme created the number of shown cuts.

If you have selected the unknown and **known** information, the **unknown** phage data will always be the first row in the chart and its cuts will be shown as selected ranges. There will also be a similarity score associated with each phage row comparing the percentage of enzymes that cut in the same range as the unknown phage the user entered.

The table is sortable by any column. You can click on any column's header to sort by that criteria alphanumerically.



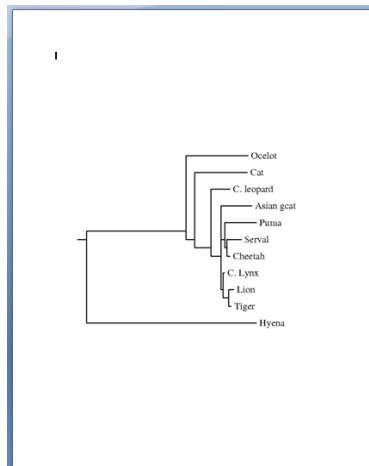
The screenshot shows the phagetool web interface. At the top, there are sections for 'Enzyme presets' (with a 'preset 3' button), 'Select NEB enzyme' (with 'Acc651' and 'Acl' buttons), and 'Select cut frequency' (with a 'Some (5 <= # of cuts <= 16)' button). Below these is a 'submit' button. A 'Show 10 entries' dropdown is visible. The main table has columns: Phage Name, Genus, Cluster, Subcluster, Acc651, and Acl. The table lists 12 phages, all of which are Mycobacterium. The 'Showing 1 to 10 of 112 entries' text is at the bottom of the table, along with pagination links (Previous, 1, 2, 3, 4, 5, ..., 12, Next).

Phage Name	Genus	Cluster	Subcluster	Acc651	Acl
Adzy	Mycobacterium	A	2	12	No Data
AgentM	Mycobacterium	A	5	16	No Data
Airmid	Mycobacterium	A	5	11	No Data
Alma	Mycobacterium	A	9	9	No Data
AnnaL29	Mycobacterium	A	2	9	No Data
Anubis	Mycobacterium	A	3	15	No Data
Aragog	Mycobacterium	A	5	15	No Data
Archetta	Mycobacterium	A	5	12	No Data
Artemis2UCLA	Mycobacterium	A	6	10	No Data
Bachome	Mycobacterium	A	11	13	No Data

You can also choose the number of entries shown at a time, as well as search for specific phages.

Your **Phylip tree** results will be output to a pdf file. This tree is generated by the PHYLIP executables who's documentation can be found at <http://evolution.genetics.washington.edu/phylip.html> . The pdf is generated by ghostScript. An open source PostScript to PDF converter for linux. You can read more about it at <http://ghostscript.com/doc/current/Ps2pdf.htm>.

Example of a Phylip Tree layout:

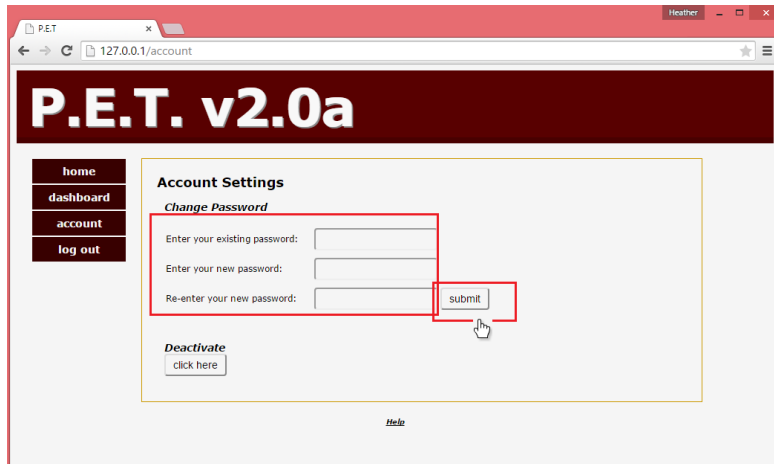


Account Settings

Account settings are found on the page linked to the **Account** menu button.

Change Password

To change your password, go to the menu and select **Account**.



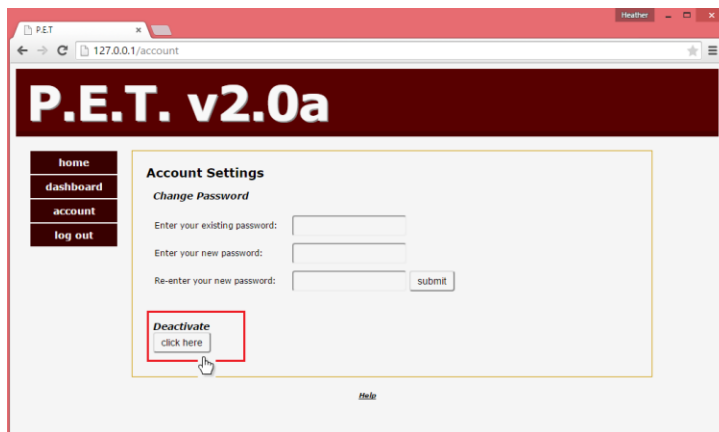
The screenshot shows a web browser window with the address bar displaying "127.0.0.1/account". The page title is "P.E.T. v2.0a". On the left, there is a navigation menu with buttons for "home", "dashboard", "account", and "log out". The main content area is titled "Account Settings" and contains a "Change Password" section. This section has three text input fields: "Enter your existing password:", "Enter your new password:", and "Re-enter your new password:". A "submit" button is located to the right of the third field. Below the "Change Password" section, there is a "Deactivate" section with a "click here" link. A red box highlights the "submit" button, and a mouse cursor is pointing at it.

Here you will enter your current password, the new password you wish to change it to, and the new password once again for confirmation. Once you have filled in all three text boxes click the **submit** button to make the change final.

When logging in the next time, remember to enter this new password.

Deactivate Account

To deactivate your existing account, go to the menu and select **Account**.



The screenshot shows the same web browser window as the previous one, but with the "Deactivate" section highlighted. A red box is drawn around the "Deactivate" link, and a mouse cursor is pointing at it. The "Change Password" section is still visible above it.

At the bottom of the account setting page you will see the words “**Deactivate account**”, and a **click here** button following. Once you click, your account will be deactivated.

If you wish to reactivate your account, see the **Reactivate account** option at the login page of the website.