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Getting started

Documentation for the Tom.bio ID Visualisation Framework

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2 Introduction

The FSC Tom.bio ID Visualisation Framework is an open source framework for creating new identification resources that run as 'web apps' in web browsers. You can use the framework to create a new ID web app simply by creating a knowledge-base using a spreadsheet.

But it's not always convenient or desirable to run your app on a website, especially while you are developing a new knowledge-base. The good news is that you don't have to. Instead, you can get your own computer to run as a little mini-webserver and run it locally.

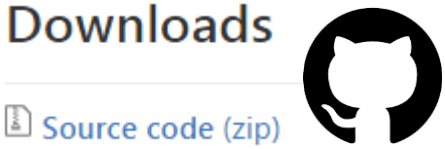
These instructions tell you:

1. How to install the framework on your computer.
2. How to set up your computer to run web apps locally.
3. How to run the visualisations web page.
4. How to start a new knowledge-base and web app of your own.

3 Installing the Tom.bio ID Visualisation Framework

These are the steps for installing the framework on your computer.

1. **Download the latest version of the framework** from https://github.com/burkmarr/tombiovis/releases - download the latest '**Source code (zip)**' file.



2. Unzip the framework zip file to a convenient location on your computer.

The framework is delivered as a zip file. Once you've downloaded and unzipped this file you will find a folder called something like: **tombiovis-1.0** (the version number at the end might be different). If you have a look in this folder you will see the folders and files shown below.

Name	Date modified	Type	Size
documentation	25/11/2016 10:51	File folder	
kb	25/11/2016 10:51	File folder	
tombio	25/11/2016 10:51	File folder	
LICENSE	25/11/2016 10:51	File	35 KB
README.md	25/11/2016 10:51	MD File	1 KB
server.js	25/11/2016 10:51	JS File	1 KB
server-run.bat	25/11/2016 10:51	Windows Batch File	1 KB
server-setup.bat	25/11/2016 10:51	Windows Batch File	1 KB
vis.html	25/11/2016 10:51	Chrome HTML Document	1 KB

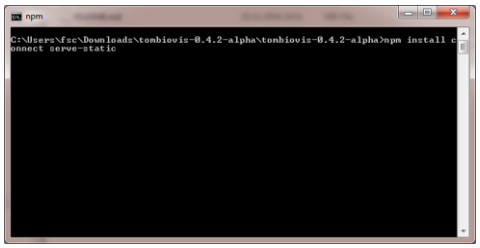
4 Set up your computer to run web pages locally

These steps describe how to use a program called '**Node.js**' to enable you to run web pages locally on your computer.

1. **Install Node.js**: https://nodejs.org/en/ on your computer.

2. In your tombiovis folder (e.g. tombiovis-1.0), **execute server-setup.bat** (e.g. by double-clicking it from Windows explorer). This may take up to a minute or so to run.

Step 1 installs Node.js® on your computer – select the appropriate download from the website and follow the instructions. This is a one-off task. Node.js a JavaScript runtime built on Chrome's V8 JavaScript engine. It is a high-quality open-source development which you can use to run a simple and lightweight local web server, allowing you to run the tombiovis framework on your own computer rather than installing it on a website. This is great for development work, e.g. when you are developing a new knowledge base. But it's also a great way to use the multi-access keys and visualisations on a local computer when you do not want to deploy them to a website.



Step 2 sets up the Node.js dependencies required for the local web server. While it is running, you will probably see a 'command shell' window like that shown here. When it ends, the window will disappear and you will notice a new folder in the tombiovis folder called node_modules. This is another one-off task and you shouldn't need to run it again unless this folder is removed (or if you install a new version of the framework).

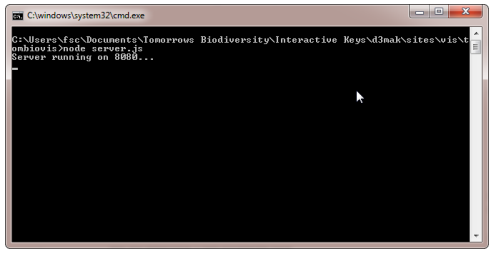
There are other ways to run a light-weight web server on your computer and if you prefer to use another method, that is fine.

5 Run the visualisation web page

These steps show you how to run the visualisation app on your computer.

1. In your tombiovis folder (e.g. tombiovis-1.0), **execute server-run.bat** (e.g. by double-clicking it from Windows explorer).

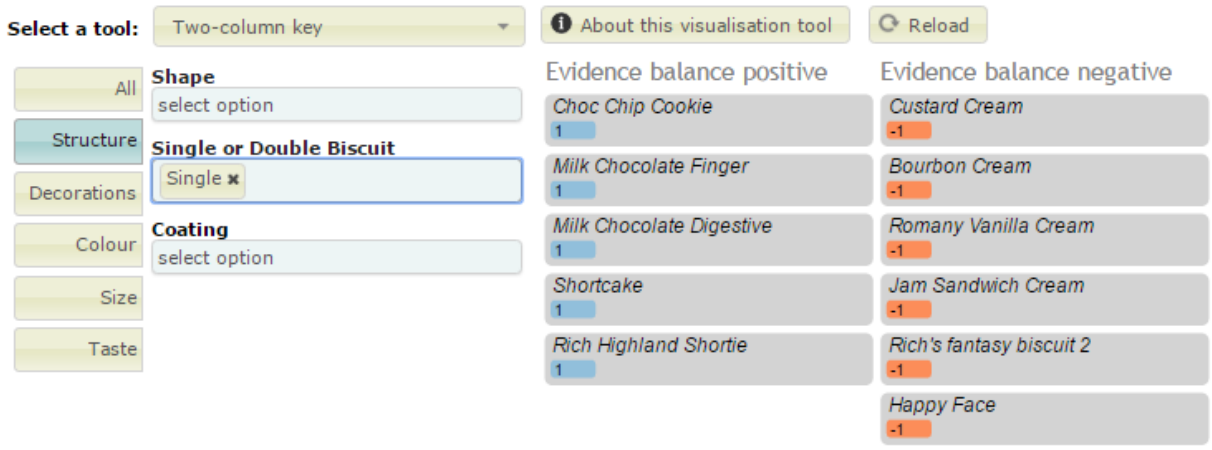
2. Start the by entering the following URL into your web browser: http://localhost:8080/vis.html



Step 1 starts the local web server. You will notice a command shell (like the one pictured) running on your computer when you have executed this. This will remain visible whilst your local web server runs. You can stop the local web server at any time by closing this window.

Step 2 starts the visualisation web app. It is running on the example knowledge-base provided with the framework – the biscuits knowledge base.

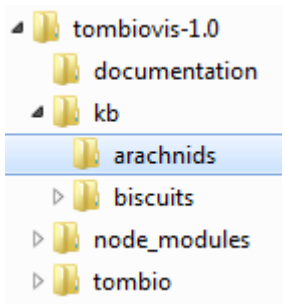
Repeat these steps whenever you need to start the local web server and the visualisation app.



6 Create a new knowledge-base and visualisation

It is unlikely that you downloaded the framework to obtain an idenfication resource for biscuits! Its more likely that you want to have a go at creating a new knowledge-base of your own to drive a new ID resource. Here's one way you can make a start.

(You are given only the very briefest introduction to creating a knowledge-base below. For a proper guide you should read the 'Building a knowledge-base' document included with the framework.)



1. In the 'kb' folder in the main framework folder, **create a new folder** corresponding to the resource you'd like to make, e.g. 'arachnids'.

2. **Copy** the file '**kb/biscuits/biscuits.xlsm**' into your new folder and rename it, e.g. '**kb/arachnids/arachnids.xlsm**'.

3. In the main framework folder, you will notice a file called '**vis.html**' – this is the main web app page. (It's a very lightweight little thing – the framework loads your visualisation into this dynamically.) **Open this file in a text editor** such as 'Notepad'.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="utf-8">
    <title>Tom.bio ID Visualisation</title>

    <!--Change the tombiopath variable to match the installation environment-->
    <script>var tombiopath = "tombio/"</script>

    <!--Change the tombiokbpath variable to pick up the KB you are working with-->
    <script>var tombiokbpath = "kb/biscuits/"</script>

    <!--Change the path to load.js to match the installation environment-->
    <script type="text/javascript" src="tombio/load.js"></script>

</head>
<body leftmargin="100px">
    <h1>Tom.bio ID Visualisation test page</h1>
    <div id="tombiod3"></div>
    <h1 style="width: 100%">footers</h1>
</body>
</html>
```

4. You need to direct the app page to look for your new knowledge-base rather than the biscuits one. To do that, **change the path of the knowledge base folder to the folder you just created** by changing the word 'biscuits' to the name of your new folder (e.g. 'arachnids') – se text highlighted in yellow above.

5. **Save the changes** you made to 'vis.html'.

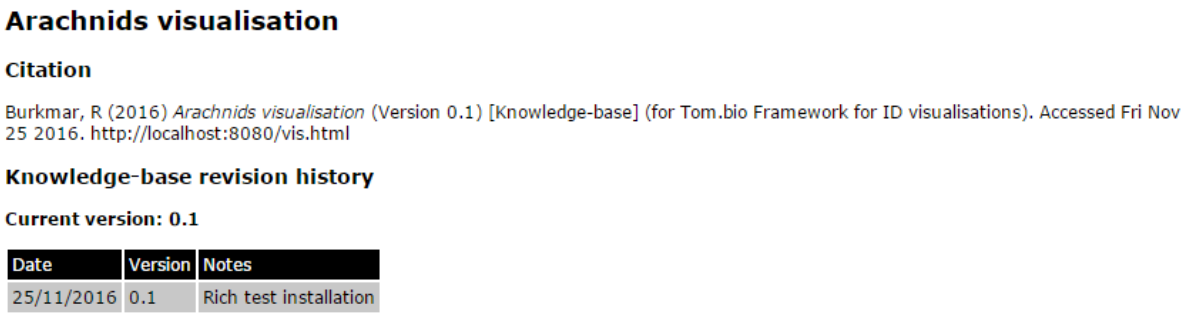
title	metadata	yes	Family Circle Biscuits
year	metadata	yes	2016
authors	metadata	yes	Bell, C.
publisher	metadata	no	Field Studies Council
location	metadata	no	Preston Montford, Shrewsbury

6. Open your new knowledge-base Excel file (e.g. arachnids.xlsm) for editing. (You need to ensure that macros are 'enabled' – so respond accordingly to any questions.) On the 'config' worksheet, **change the values** of the **title**, **year**, **authors**, **publisher** and **location** keys. (You can leave the values of publisher and location blank if you like.) Also **delete** one of the **release history** lines and edit the remaining one to something suitable.

7. Go to the 'macros' worksheet and **click the 'Save worksheets as CSV' button**. This creates five CSV files in the same folder as your knowledge base with the names, taxa.csv, characters.csv, values.csv, media.csv and config.csv, corresponding to the five worksheets of the same name in the knowledge-base. The framework reads these CSV files – not the spreadsheet – so you must repeat this step every time you modify the knowledge-base.

8. At this point you should be able to **run the web app** (see 'Run the visualisation web page' above) or, if it is already running, just **click the 'Reload' button**, to pick up the new knowledge base.

Currently it will look just like the biscuits knowledge-base because you haven't changed anything except some of the configuration metadata. To confirm that you are picking up your new knowledge-base, select the 'About the knowledge-base' option from the 'Select a tool' drop-down. You should see some information reflecting the changes you made on the config worksheet.



*At this point you've create a new knowledge-base and you understand how to run a visualisation from it on your computer and make changes. All that's left to do now is populate the knowledge base with real information! For instruction on that, read the '**Building a knowledge-base**' document.*