k.LAB SETUP MANUAL

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1. GETTING STARTED WITH THE k.LAB CONTROL CENTER

The k.LAB technology and all the projects built with it (such as ARIES) serve the needs of both users and producers of integrated data and model content. Data and model producers need specialized tools to import, annotate, and publish data and models on the k.LAB semantic web, which makes them easier to share, reuse, and link. Meanwhile, users will want to produce assessments and explore scenarios, which can be done using a web-accessible application we call k.Explorer. Therefore, the only tool users need to access k.LAB's linked data and models is a modern web browser, such as Chrome or Firefox.

Currently, the Integrated Modelling Partnership does not provide public access to a cloud-based installation of k.Explorer (which would let you run k.Explorer by simply opening a web browser and typing in the appropriate URL). While this will certainly change in the future, providing such services requires significant resources; this approach will probably become available to selected users before we can provide it to all.

We thus distribute a small software package called the k.LAB Control Center, which simplifies and manages the installation, update, and execution of a dedicated modelling engine on each user's machine. The engine provides the network-accessible k.Explorer for each user who runs it; you can connect to it through a local link in your web browser. To support the needs of students, academics, modellers, and others interested in producing and customizing data and models, the control center also provides access to k.Modeler, our integrated development environment for k.LAB content.

2. OBTAINING AND INSTALLING THE k.LAB SOFTWARE

1. Go to https://www.integratedmodelling.org/get_started and download the installation package for your operating system;

The k.LAB Control Center

The k.LAB Control Center manages the authentication, download, update and execution of all k.LAB products (described below), including the k.LAB engine (with its web-based user interface, k.Explorer) and the modeler's user interface (k.Modeler). On systems where you can use a Control Center installer (shown below), it is not necessary to have Java installed, as the Control Center can download it transparently if needed.

To download, install, and launch the Control Center:

On Windows:

- Download the Windows installer and run it. The installer only writes to the user's "appdata" directory, so it should not require administrator permissions to run. After installation, k.LAB will be available in your application menu.

On Linux:

- Download the Debian package and run it installer as normal user. The k.LAB Control Center will be available in your application menu. If your system cannot handle a Debian package, proceed using the zip or tar file as described below.

On MacOSX:

- Download the MacOS installer, mount it and drag the k.LAB icon into the Applications folder. The k.LAB Control Center will be available in your applications folder.

If the Windows/Linux/MacOSX installers cannot be used for any reason:

- Ensure that Java version 1.8 (or higher) is installed on your machine. A 64-bit architecture and Java virtual machine (JVM) are required. The system currently runs on Java 8; version 9 or higher *will* create problems for some important functionalities. We plan to make k.LAB Java 12-compliant in 2020.
- Download and unpack the Zip archive or the tar.gz archive.
- Change directory to where you unzipped the archive and either run `java -cp libs -jar klab.controlcenter.jar` from a terminal or double-click the jar file. If the zip version is used on Linux or MacOSX, file permissions are lost on unzip, so you will need to run `chmod +x klab.controlcenter.jar` in a terminal.

Once installed, you can open the Control Center, which will show a small window with all the commands you need. The picture below serves as both illustration and quick reference manual for the Control Center:

2. While it's downloading, log in to the site and download your certificate file by following this link Download certificate;

Certificate

By downloading the certificate, you are accepting the END USER LICENSE AGREEMENT (EULA) for individual non-profit use.

Individual non-profit EULA characteristics:

- This EULA gives you access to the data and models served via our semantic web for non-profit purposes
- For other purposes please get in touch with us at integratedmodelling.org
- Access is granted via individual and non-transferable certificates, which are valid for 1 year
- User maintains the ownership of newly created data and models, but has the option to grant the right to operate them via our semantic web

In addition and outside the EULA, the USER may obtain an open source license of the k.Lab SOFTWARE under the terms of the Affero General Public License 3.0 or any higher version through the website integratedmodelling.org, which will allow you to exploit the k.Lab SOFTWARE under the terms of that license.

k.LAB End user license agreement [English] / [Español]

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END USER LICENSE AGREEMENT - EULA k.LAB SYSTEM

This End User License Agreement (hereinafter, "EULA"), entered into by (a) ASOCIACIÓN BC3 BASQUE CENTRE FOR CLIMATE CHANGE - KLIMA ALDAKETA IKERGAI (hereinafter, "BC3"), as party of the first and licensor; and (b) the end user (hereinafter, "USER"), as party of the second and licensee, regulates the USER'S access and use of the k.LAB system (hereinafter, the "k.LAB SYSTEM"). The USER accepts the terms and conditions set forth below without reservation.

The k.LAB SYSTEM is a technology for managing co-production of knowledge relevant to decision-making, by making multi-disciplinary predictive models (hereinafter, the "MODELS").

To this end, the k.LAB SYSTEM includes the following elements, accessible through the IT infrastructure funded by BC3 (hereinafter, the "BC3 INFRASTRUCTURE"):

    • The IT programme called "k.LAB", in its 0.11.0 and all successive versions for the duration of this agreement, the website user interface "k.Explorer" and other complementary IT programmes (hereinafter, all conjointly called the "SOFTWARE").

    • The shared MODELS and databases and information available through the BC3 INFRASTRUCTURE.

In this context, in light of the EULA, the USER acquires the right to access and use the k.LAB SYSTEM from BC3, in the Not-For-Profit-Individual modality and as "Software as a Service" or "Saas", pursuant to the following terms:

    1. LICENSE, PERMITTED USES AND RESTRICTIONS
```

Clarification: the EULA regulates the access and use of the k.LAB system hosted in the BC3 INFRASTRUCTURE, including the semantic web of data, models powered by the SOFTWARE, and other data and resources made available to the USER through the BC3 INFRASTRUCTURE. See the complete terms of use here

☐ I have read and accept the END USER LICENSE AGREEMENT (EULA) for individual non-profit use

[ACCEPT] [DECLINE]

3. The start-up user interface of the k.LAB Control Center looks like this:
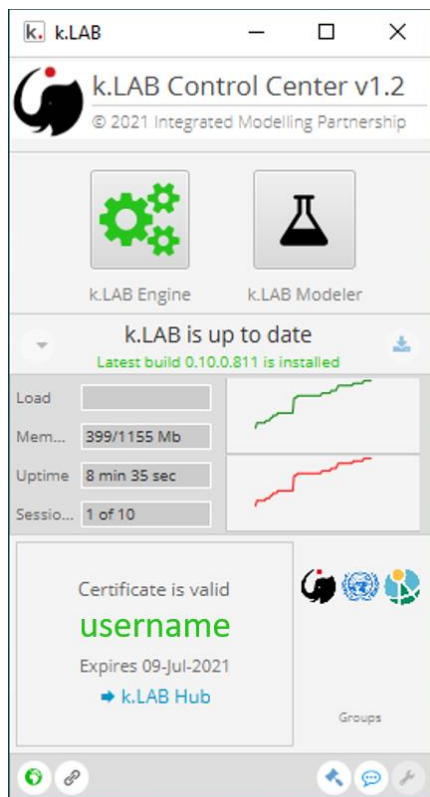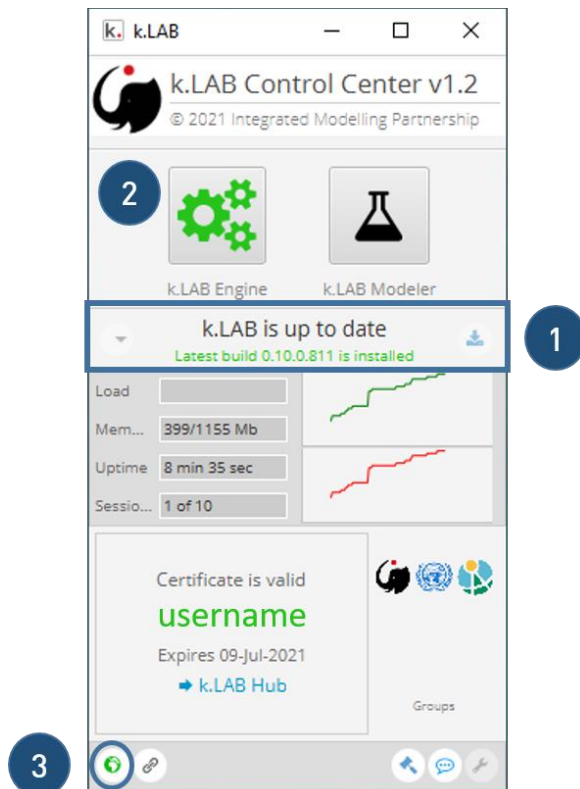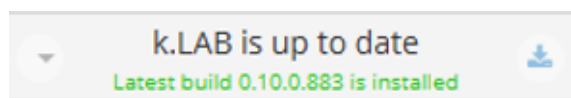
Getting started with the k.Explorer

1. How to start the engine and the k.Explorer interface (**non-modellers**):

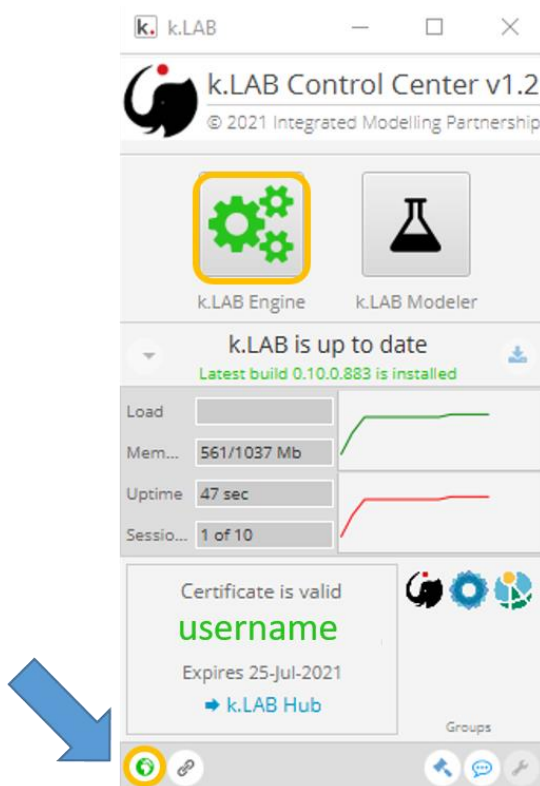2. Always install the latest build (if available);

3. Start the engine, when the gear turns green the system is ready. This tab is easily recognised by the black background and it lists all operations and actions made by k.LAB.

4. Click on the globe icon, a new tab in your internet browser will show up, linking you directly to the k.Explorer. This version of the program is identic to the web-based version, but more stable, as calculation are carried out on your engine, rather than on BC3 server.
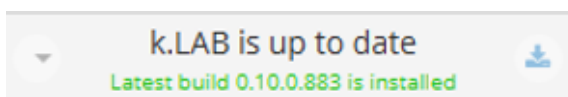
Getting started with the k.Modeler

1. How to start the engine and the k.Modeler interface (**ONLY for MODELLING**):

    a) Always install the latest build (if available);

    b) Start the engine, when the gear turns green the system is ready. This tab is easily recognised by the black background and it lists all operations and actions made by k.LAB.


Once a model fails to compute a red line of code is shown in this section. The most efficient way to report what went wrong to our support team, is to copy and paste or take a screenshot of the lines describing the error or the cause of the failure. Please bear this in mind when you notice a calculation cannot be carried out in k.LAB.
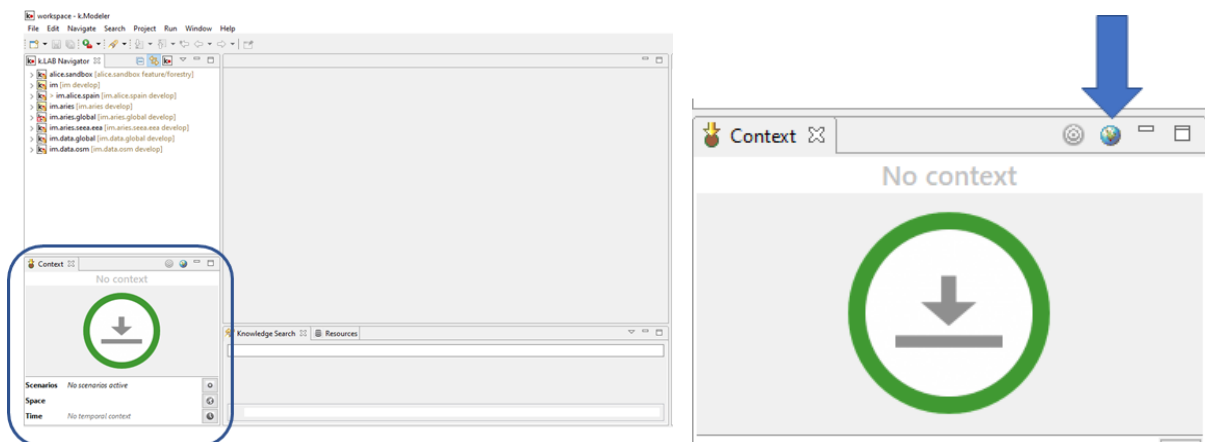
c) In the meantime, you can launch the modeller, and the splash screen will show up, when the flask turns green the k.Modeler interface automatically opens;
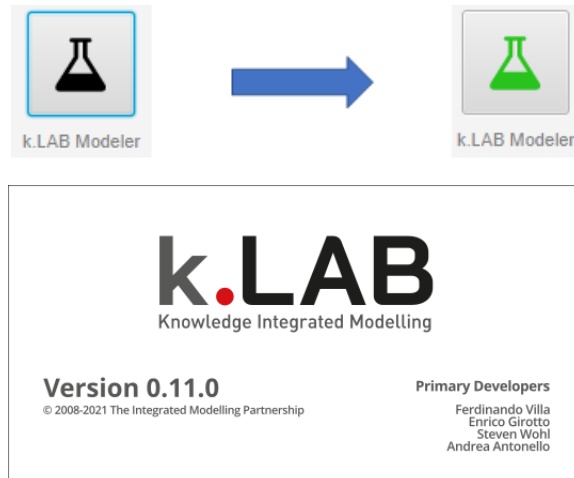
2. This is how the modeller workspace looks. The first step to pose a query in ARIES, is to identify the context in which you want the model to run. Click on the globe icon in the upper right corner of the Context section;


3. The modeller will open up a new tab in your internet browser. You are now in the k.Explorer, and you can simply zoom in/out in the map or search for a particular region in the browser to set the geographic context in which you want to run your query;

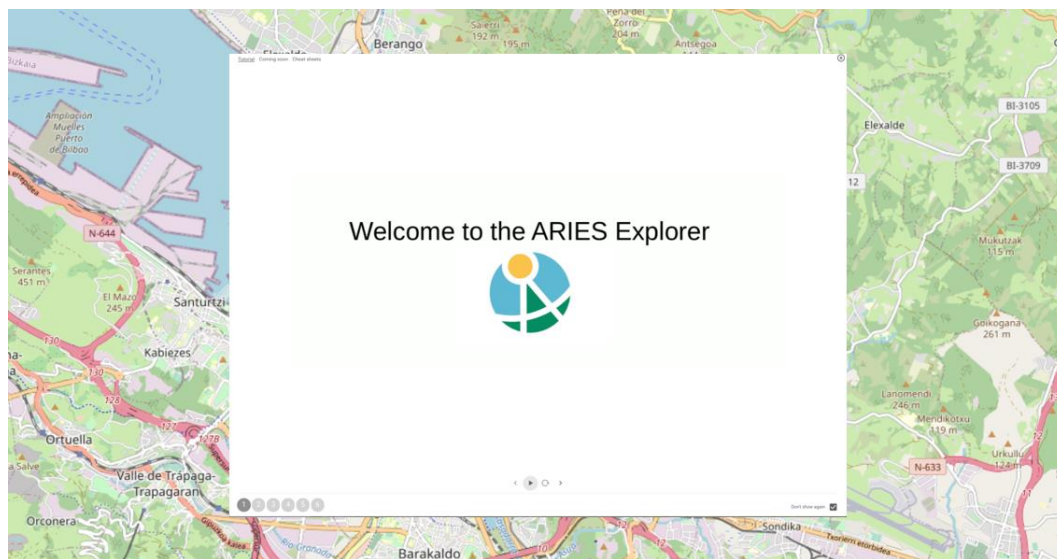4. To run a query on the selected context, simply drag a model from the K.LAB navigator section (upper right corner) and drop it into the Context section. The result will be shown in the k.Explorer;
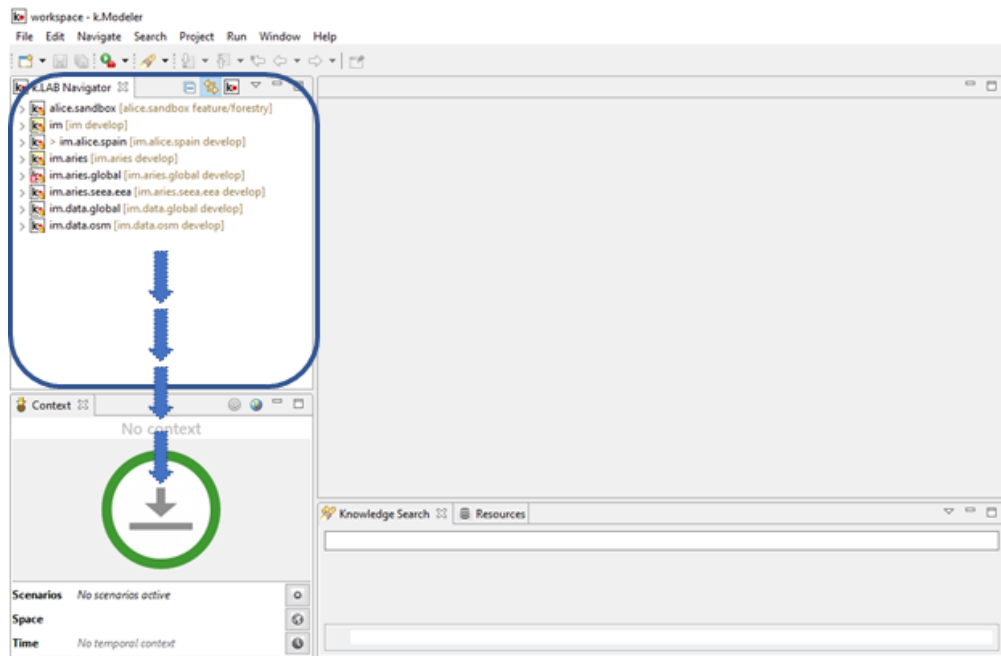
5. When you first start k.Explorer, a tutorial and the cheat sheets on how to use it will show up;

You can try to practice with the things shown in this video tutorial too.

3. OBTAINING AN IM CERTIFICATE
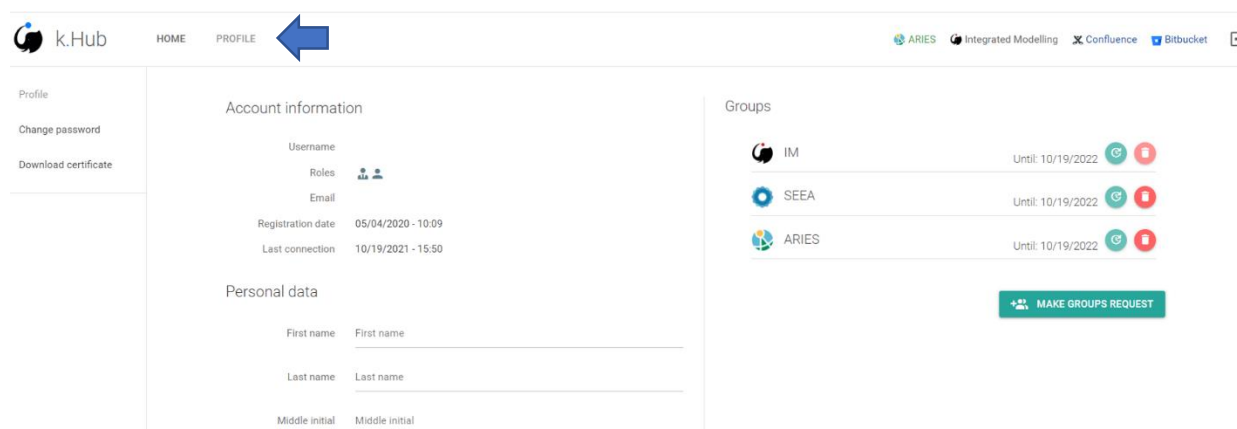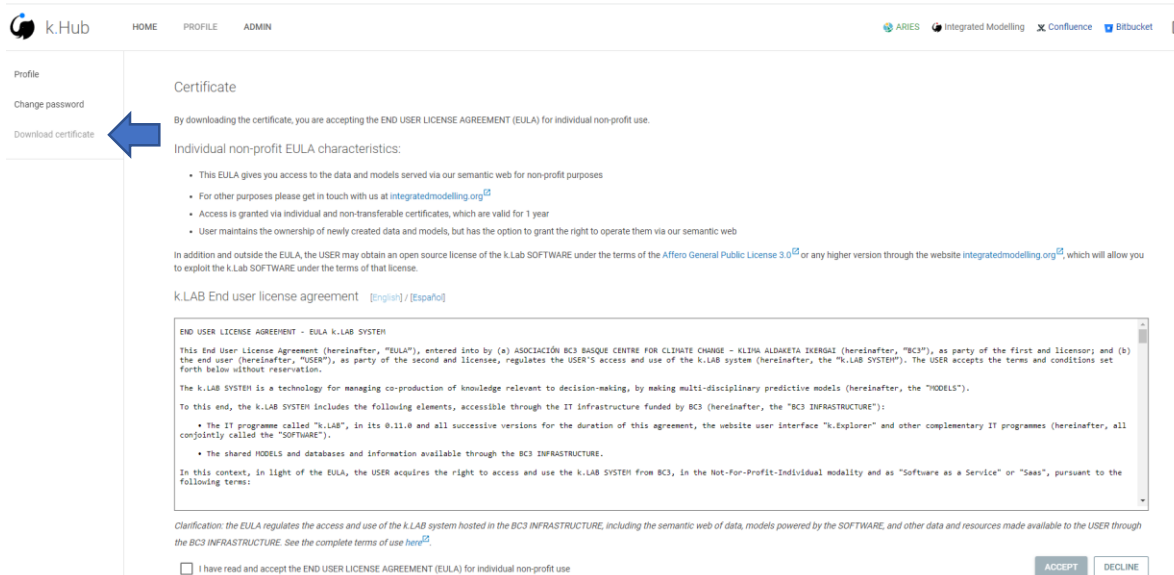
To use the Integrated Modelling network, you will need a user account and an IM certificate which identifies you as you're using the network.

First, create a user account if you don't have one already by going to the central authentication hub: https://integratedmodelling.org/hub/#/home.

Under your username menu click on "Profile":

and then click on "Download Certificate":
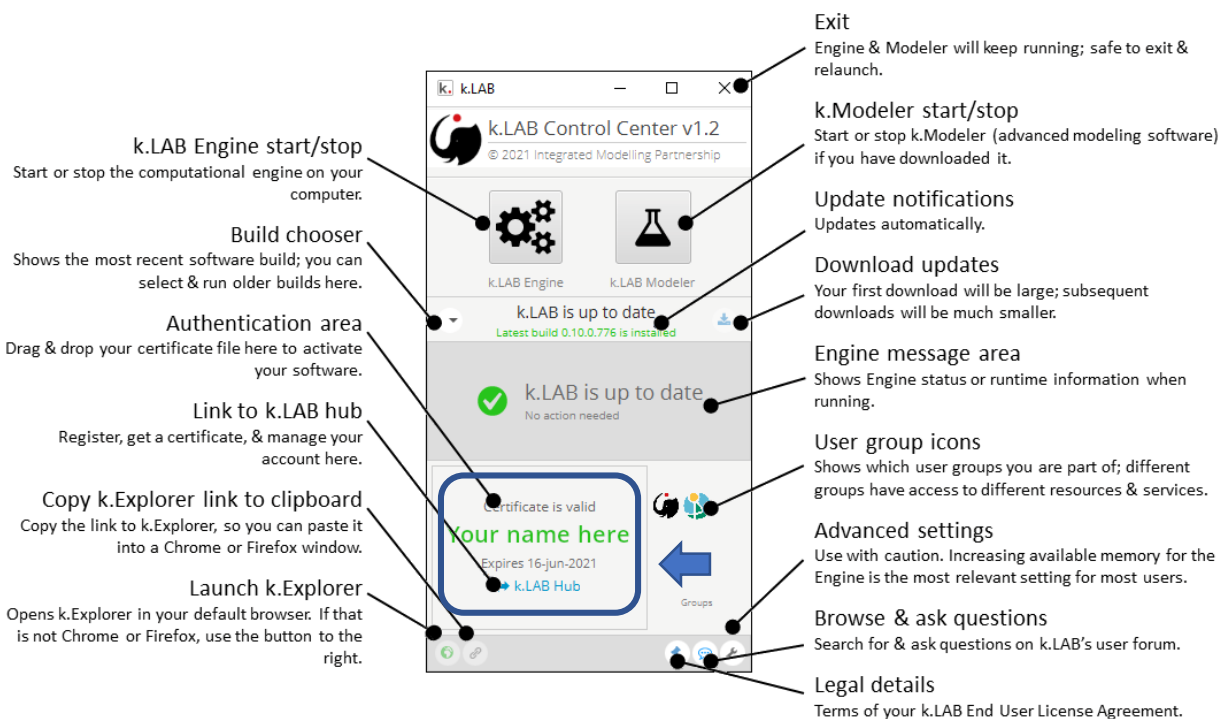
This will ask you to either open or save the file. Save the file to your hard drive so that it can be imported later into k.LAB.

Once you have downloaded your certificate file, it can be imported into k.LAB by simply dragging it into the certificate section at the bottom-left corner of the k.LAB Control Center initial page.

k.LAB Engine start/stop
Start or stop the computational engine on your computer.

Build chooser
Shows the most recent software build; you can select & run older builds here.

Authentication area
Drag & drop your certificate file here to activate your software.

Link to k.LAB hub
Register, get a certificate, & manage your account here.

Copy k.Explorer link to clipboard
Copy the link to k.Explorer, so you can paste it into a Chrome or Firefox window.

Launch k.Explorer
Opens k.Explorer in your default browser. If that is not Chrome or Firefox, use the button to the right.

Exit
Engine & Modeler will keep running; safe to exit & relaunch.

k.Modeler start/stop
Start or stop k.Modeler (advanced modeling software) if you have downloaded it.

Update notifications
Updates automatically.

Download updates
Your first download will be large; subsequent downloads will be much smaller.

Engine message area
Shows Engine status or runtime information when running.

User group icons
Shows which user groups you are part of; different groups have access to different resources & services.

Advanced settings
Use with caution. Increasing available memory for the Engine is the most relevant setting for most users.

Browse & ask questions
Search for & ask questions on k.LAB's user forum.

Legal details
Terms of your k.LAB End User License Agreement.

k.LAB Control Center v1.2
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k.LAB Engine   k.LAB Modeler

k.LAB is up to date
Latest build 0.10.0.776 is installed

k.LAB is up to date
No action needed

Certificate is valid
Your name here
Expires 16-jun-2021
k.LAB Hub

Groups

4. FURTHER INFORMATION AND SUPPORT

For more information, follow the instructions at Obtaining and installing the k.LAB software. **If you ever need to reset your user password for the collaboration server or for accessing Confluence, you can do it at the following link.** Your certificate is good for one year and needs to be refreshed for another year following the above instructions once it has expired.

If you experience issues first check this support page with questions and resolved issues or write to support@integratedmodelling.org

FAQ – Frequently Asked question

The engine gear doesn't turn green at first start-up

While downloading the necessary items to run k.LAB on your machine, some of them might have broken or paused due to a slower connection at some point. Thus these elements might not have been installed correctly and might have compromised the overall functionality.

To solve this issue, erase the folder called .klab, which is the folder containing the files to run the k.LAB control center and the engine. This folder should be inside your user folder, which is in turn contained inside the main partition in Windows usually named C [Windows(C)] - c:\Users\[user name]\.klab. By erasing that folder and start off the engine again, the problem should be solved.
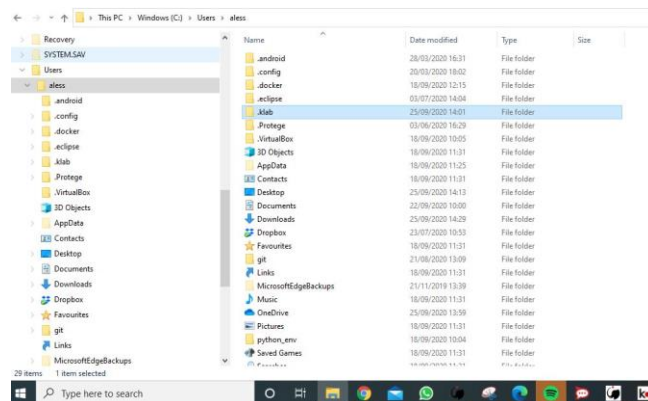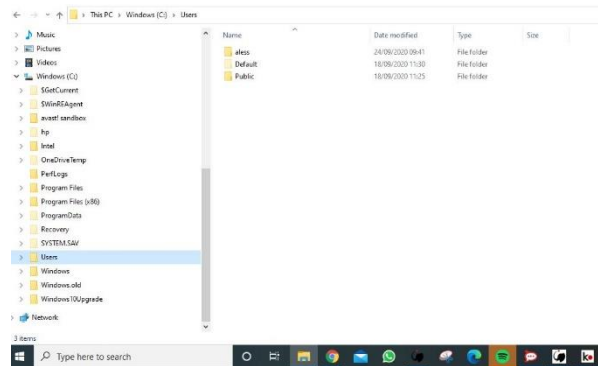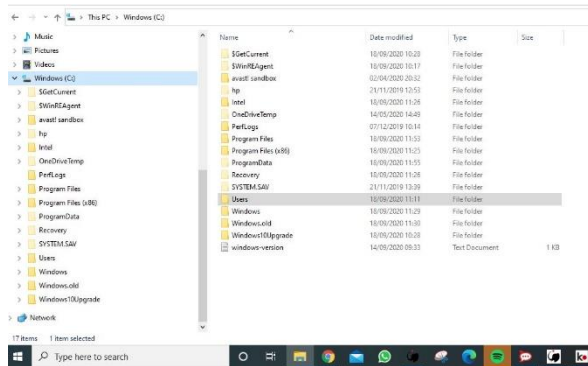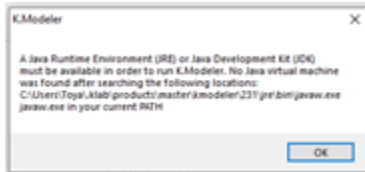
Problems with Java at the start-up of the k.Modeler

If the message shown below pops up when you try to run the k.Modeler, there is a problem with the installed version of Java.

Please, uninstall the current Java version on your engine and download and install the Java Runtime Environment (JRE) (**64-Bit**) at this address:

https://download.cnet.com/Java-Runtime-Environment-JRE-64-Bit/3000-2213_4-75317067.html

CONTACT

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