IES Cloud User Manual

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What is it?

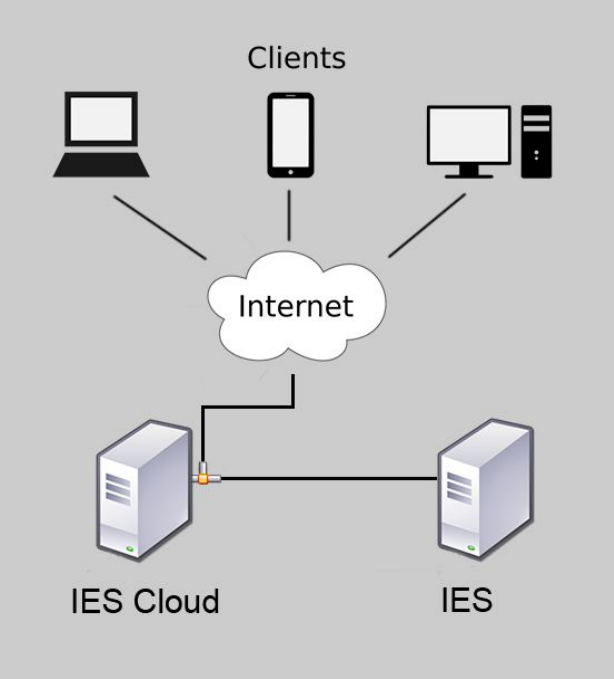
IES Cloud is a service that allows you to run IES in the cloud (internet visible) or locally at your office. It allows all users to access all of IES functionality without having to install a client of their own. They only need the web address of the service to access it. In addition IES cloud is compatible with a large majority of smartphones, tablets and other web enabled devices.This all means that your system will be available from anywhere if needed.

Quick start.

To get up and running quickly without all the details, please go to '*Standard Installation*'. Otherwise, please continue reading for more specifics.

Architecture.

IES Cloud is architected as a standalone service on Windows which listens on HTTP and HTTPS ports. Clients connect with a web browser using a computer name, IP address or domain name. The service allows users that are connected to login to a pre configured IES service installation by using the address and port of a OpenQM instance running IES.

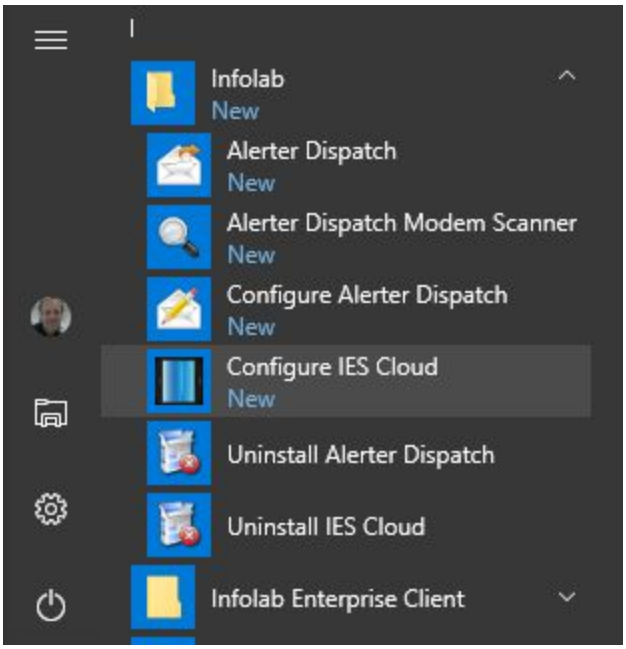


IES Cloud may be installed on the same server as IES and OpenQM or it may be installed to its own server on the network. If it is installed on a different server, then security will have to be configured to allow remote access to the shared folders (`BRIDGE` and `BRIDGERO`). See '*Security Considerations*' for more information.

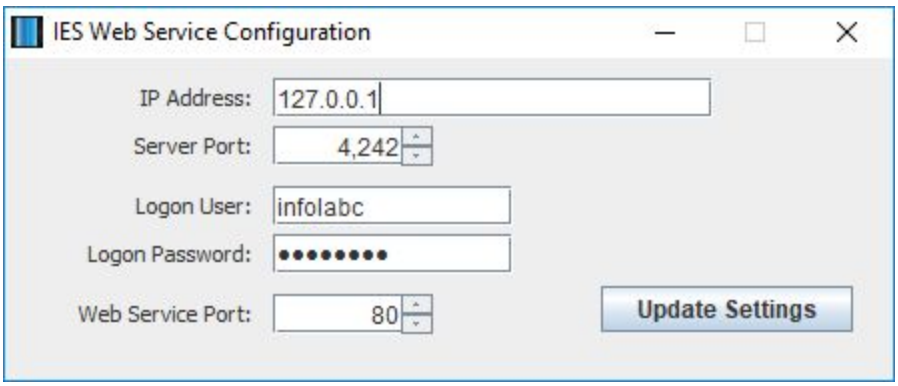
Configuration.

Service Configuration :

The IES Cloud service is configured using the configure application which can be found in the ***bin*** directory after installation. This configure application is run by default during installation allowing the user to check and modify configuration settings as needed. The application can also be accessed using the start menu, and is located in the Infolab program group.



The following is a screen capture of the configure interface :



IP Address:
This is the IP address of the IES server and is used to map files from the server so that the cloud service can facilitate between IES server and connected clients. It is also used to connect each user to the OpenQM service. If IES Cloud is installed on the same machine as IES, then this can be left at 127.0.0.1.

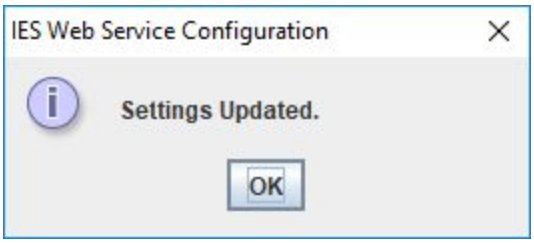
Server Port:
This is the port that OpenQM is running on and will be used to connect and login any IES cloud clients.

Logon User:
This is the standard IES logon user for this version and is `infolabc` and should not be changed.

Logon Password:
This is the password for the login user.

Web Service Port:
This is the port that the service listens on and will be have to entered with the web address if it is something other than 80 (HTTP)

When all the settings have been reviewed, ***Update Settings*** can be clicked to save.

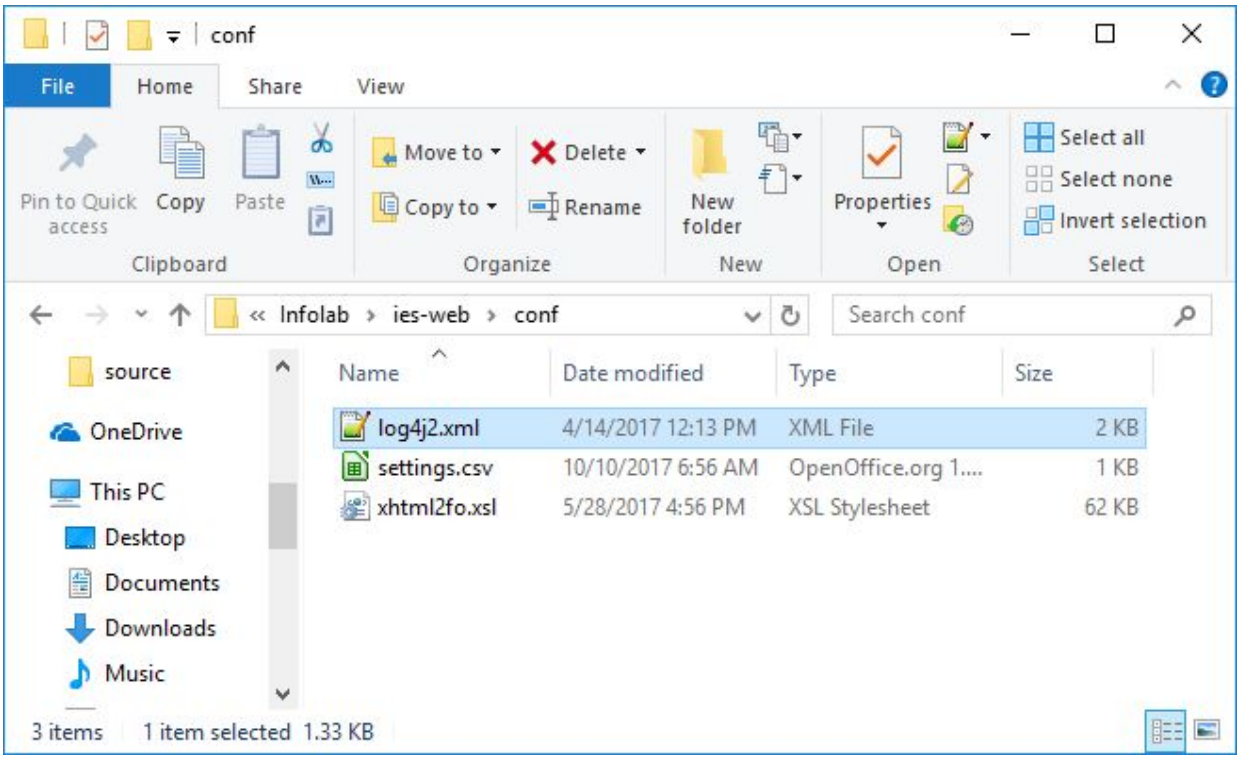


The above dialog will be displayed to confirm that settings has been saved.

Logging Configuration :

The IES Cloud service logs appropriate messages to a rolling log folder at `/infolab/ies-web/log`.

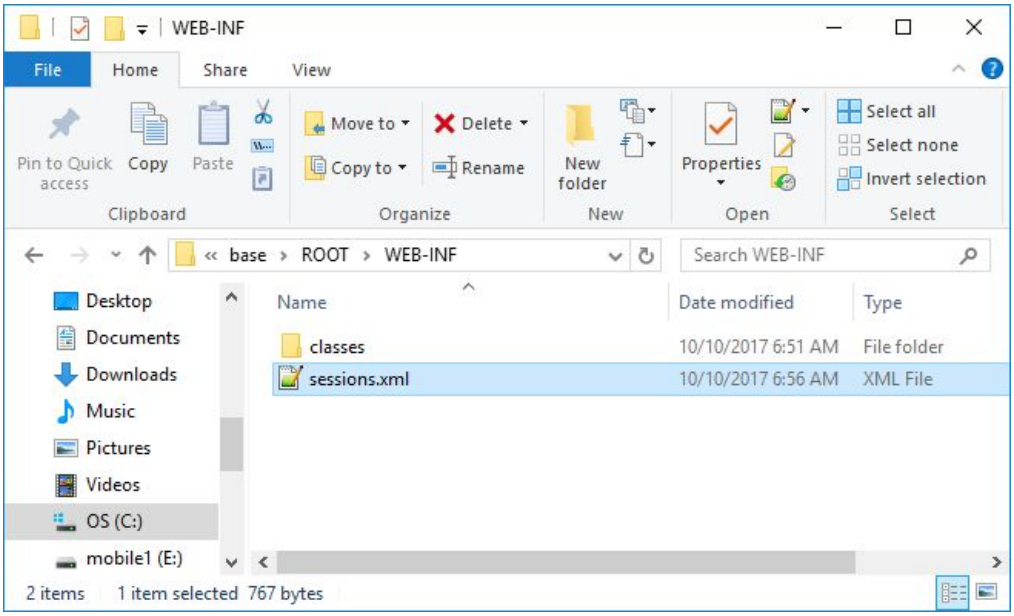
The logging functionality can be configured using the file `log4j2.xml` which is at `/Infolab/ies-web/conf` :



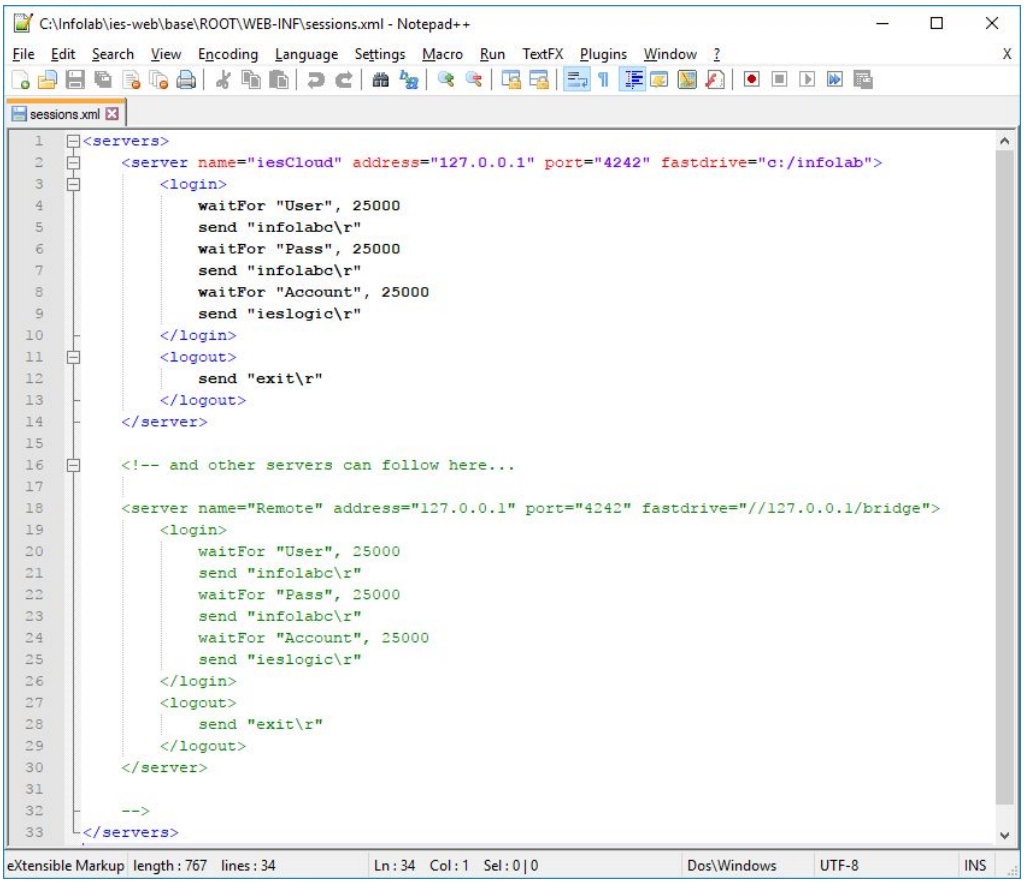
A Reference for the XML configuration in this file can be found at : [Configuring Log4J 2]

Servers Configuration :

The list of servers display to clients connecting to the IES Cloud service (at the login screen) can be configured by editing the `sessions.xml` file at `/infolab/ies-web/base/WEB-INF/`



The file can be edited with a text editor, and the commented out server can be uncommented and edited as needed (lines 16-32) :



Upgrade.

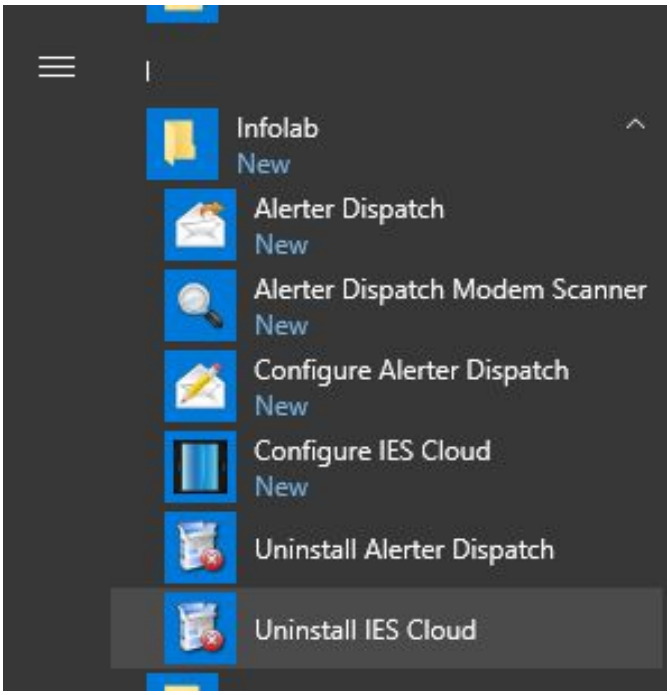
The following steps are needed to upgrade IES Cloud to a new version :

1) Backup settings at `conf/` and certificate at **`cert/ies.keystore`**
2) Ensure all users have logged out.
3) Run the new installer.
4) Restore backed up settings and certificate..

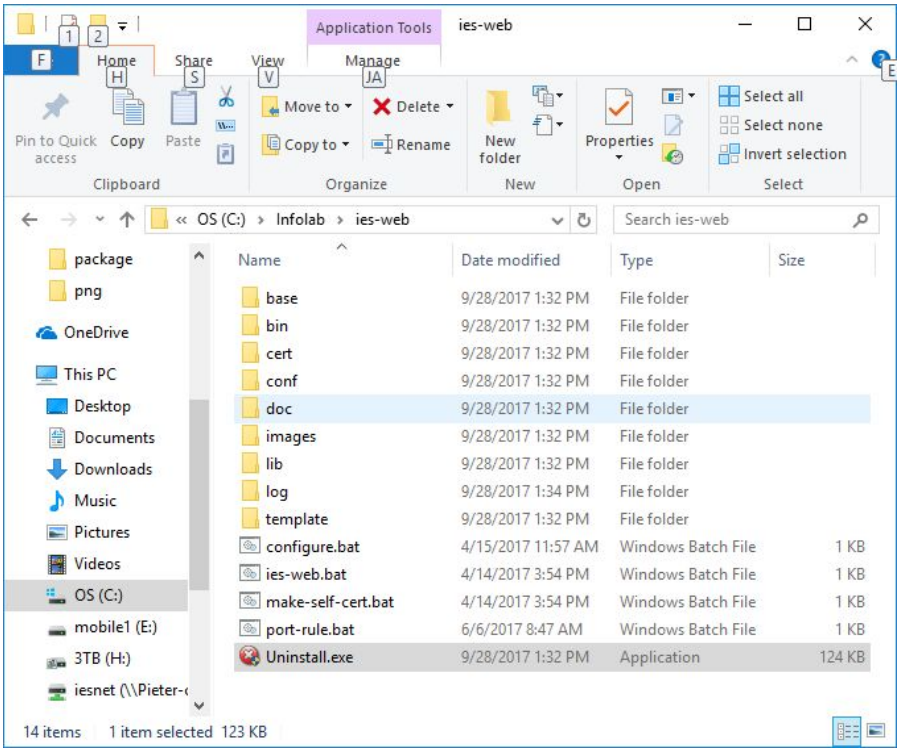
The new installer will stop the service if it is currently running, uninstall the previous version and install the new version thereafter. It will also start the service after installation.

Uninstall.

To Uninstall IES Cloud, use the “Uninstall IES Cloud” option under the ‘Infolab’ program group and follow the prompts.

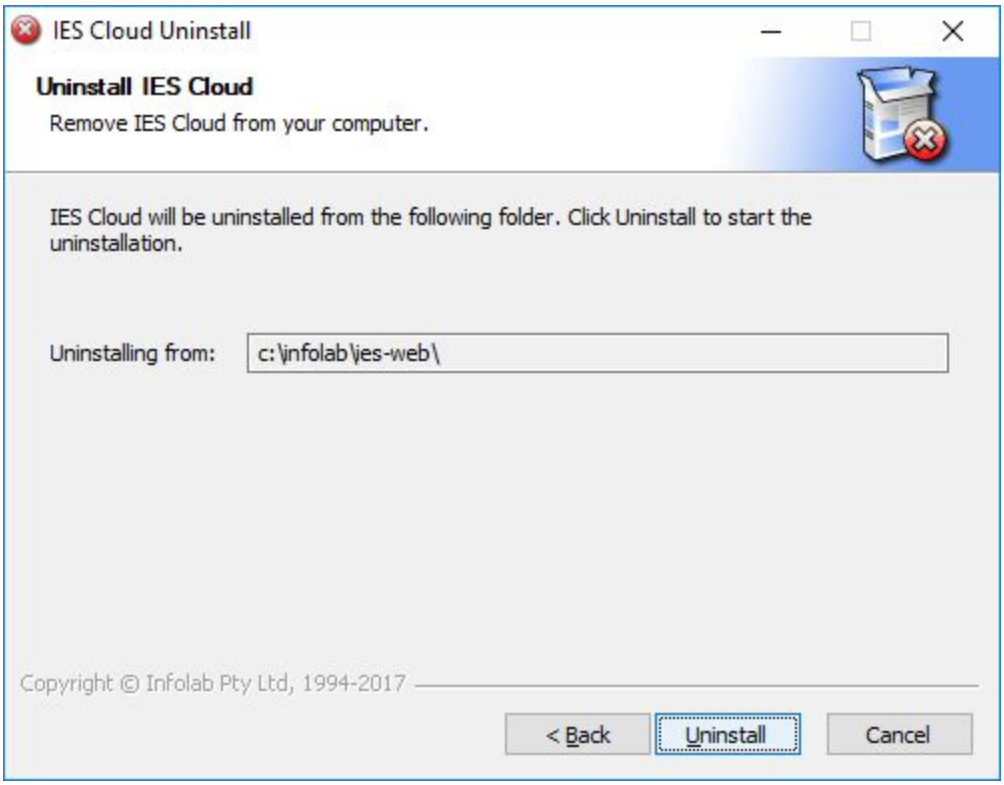

Infolab
New
Alerter Dispatch
New
Alerter Dispatch Modem Scanner
New
Configure Alerter Dispatch
New
Configure IES Cloud
New
Uninstall Alerter Dispatch
Uninstall IES Cloud

IES Cloud can also be uninstalled by executing the “uninstall.exe” program in the `/infolab/ies-web/` folder

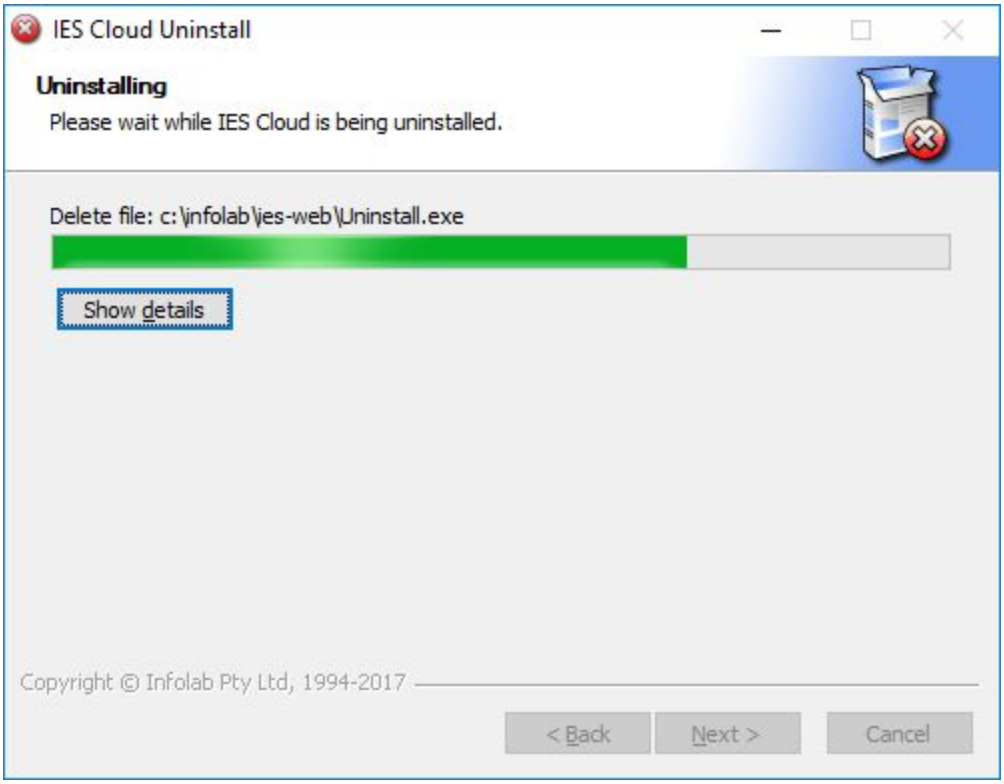


On uninstallation you will see the following prompt :

On clicking **Next**, the following dialog is displayed :



The folder is ok as is, click **Uninstall**.
The uninstaller will proceed to stop the service and remove all the IES Cloud installation files :



Once uninstallation has completed, you will see the following dialog :

Click **Finish** to exit the uninstaller.

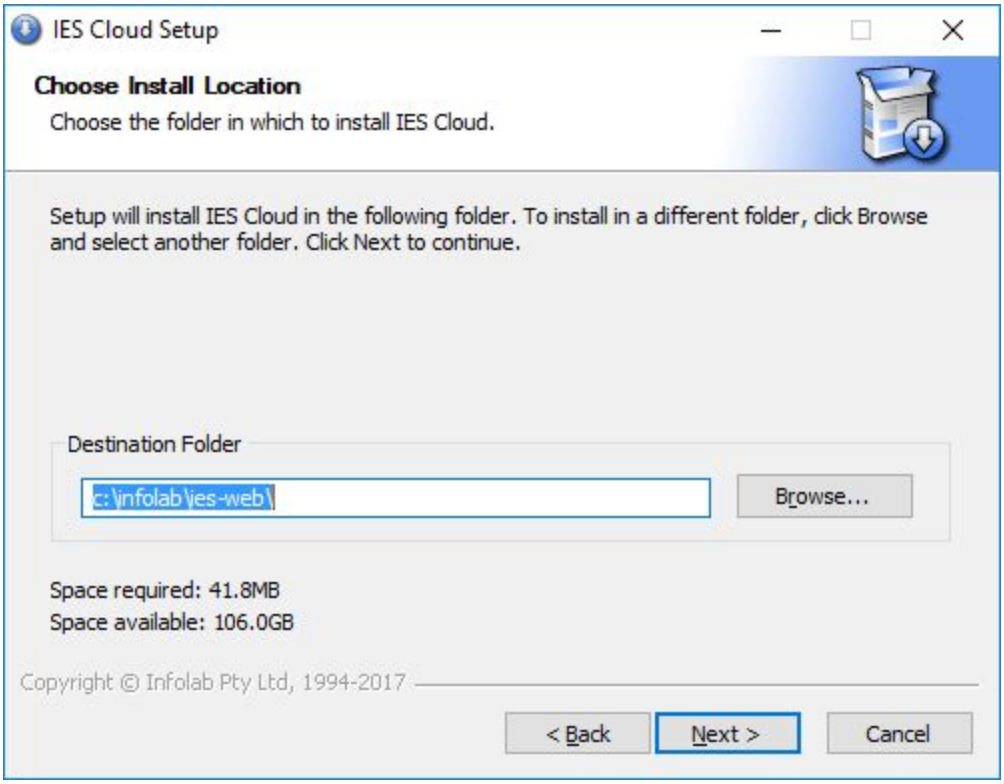
Standard Installation.

In order to install the latest version of IES Cloud, you will need to download it from the website. After download you can run the installer, which will show the following dialog :

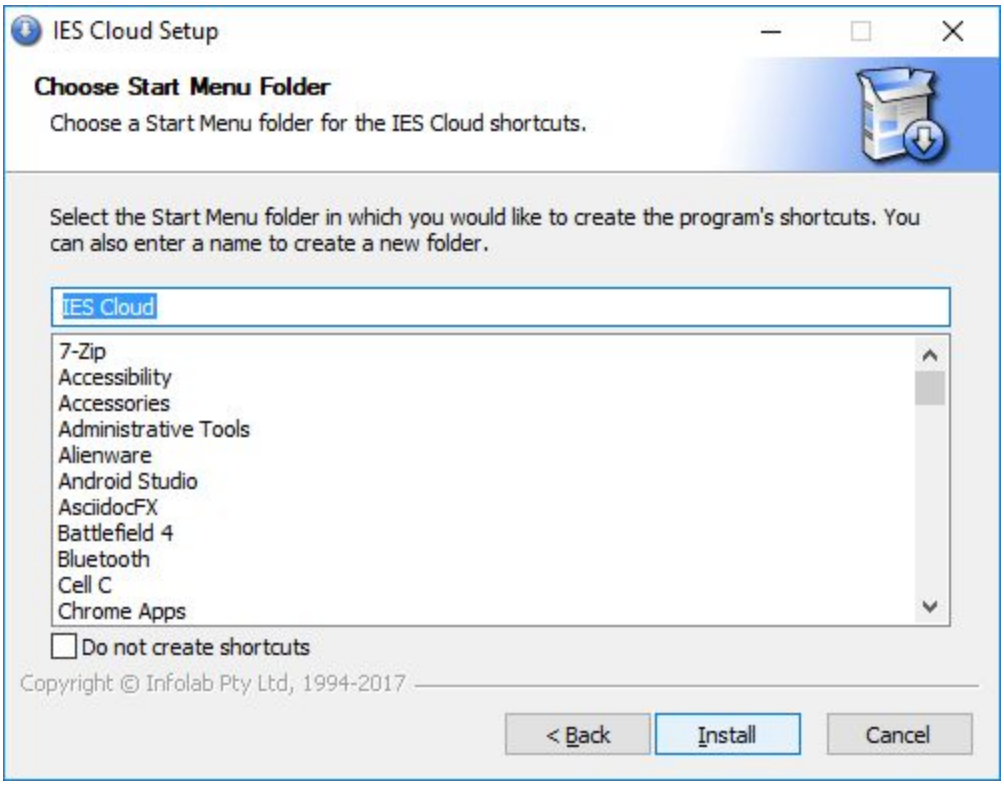
If it shows the ***uninstall dialog***, then it means that you already have a copy installed and that it will be uninstalled first. Follow the uninstall instructions above should this be the case.

If you do not have Java 1.8 or later installed, before executing this step, the the installer will notify you of this and direct you to the Oracle site to install Java first. It is important to have the correct version of Java for your machine, 32bit or 64bit. IES Cloud only looks for a Java installation of the same type as your main processor, so make sure to install the correct one. See '*Java Installation*' for more information.

Click **Next** to proceed

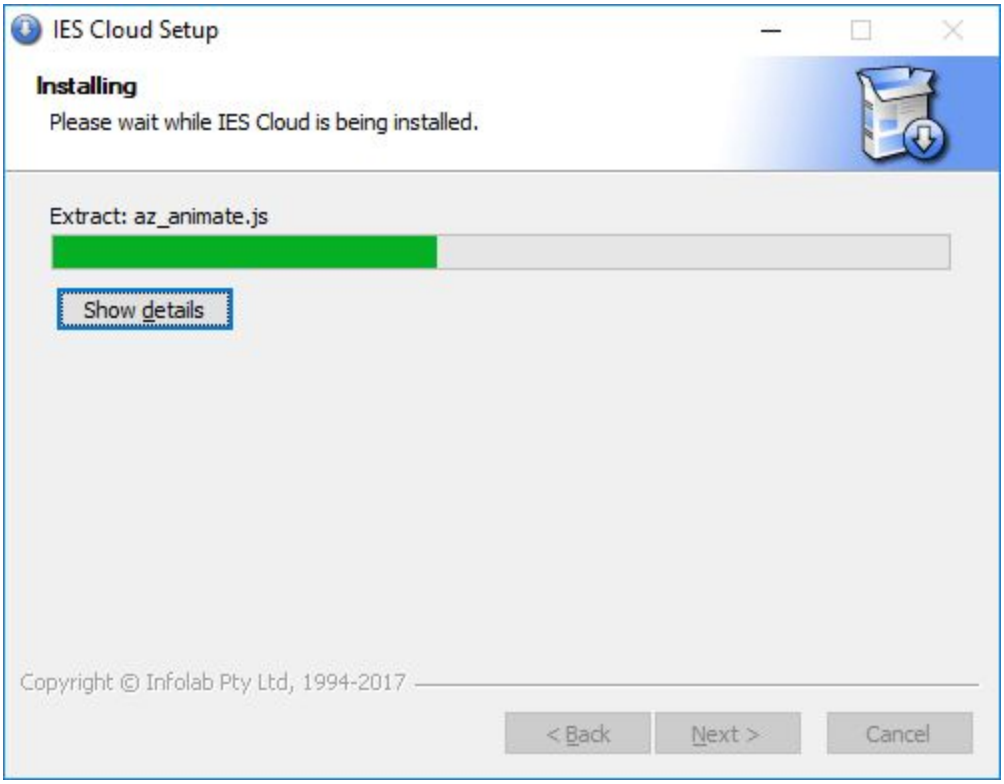


Select the install location, or leave the default as is and click **Next**.



Please choose the program group to create for IES Cloud, or leave the default alone and click **Install**.

IES Cloud setup will proceed to copy some files :



Next, IES Cloud Setup will create the IES Cloud service entry and run the configure app to allow you to enter basic parameters for the installed service :

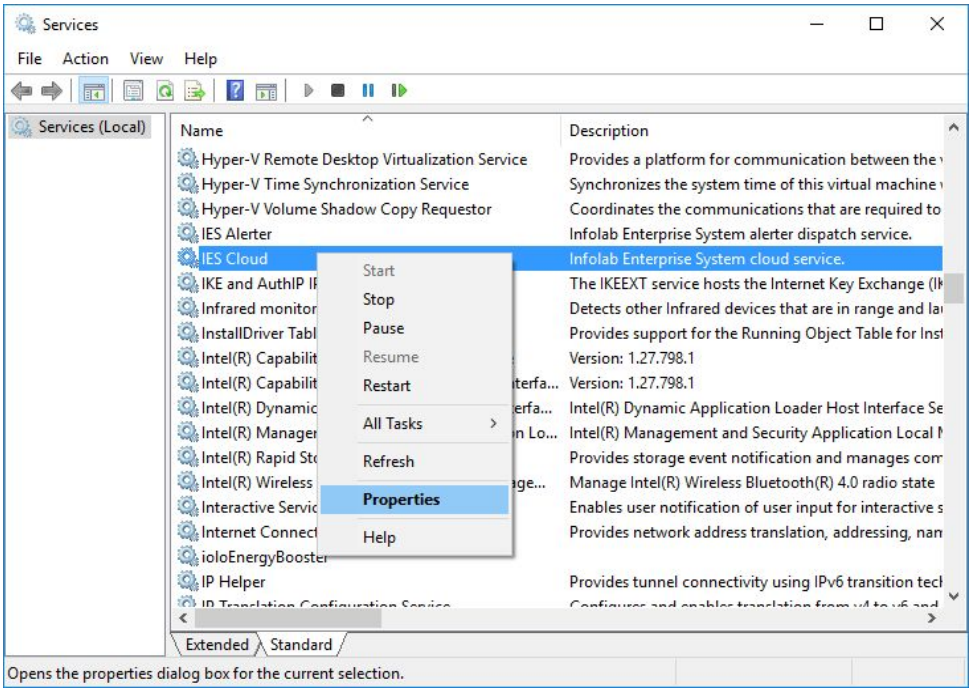
Please see the *'Configuration'* section of this document for details.

After configuration, The IES Cloud service is automatically started and firewall entries created for the server and port as entered in configuration.

Click **Finish** to exit the installer.

Managing the Service.

The IES Cloud service runs as a Windows service and can be accessed by pressing **Windows+R** keys to open the Run dialog, typing '**`services.msc`**' and pressing Enter.



You can scroll down to the entry for IES Cloud to manage the service.

The service manager can be used to start and stop the IES Cloud service, but always make sure that all users using the IES Cloud service (web users) are logged off before stopping it, otherwise they will have their sessions interrupted.

The service manager also shows the status of the service in the top bar and the service properties can be used to set settings such as auto-start and the user credentials used for the service.

Log Files

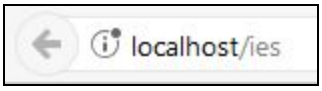
Log files for the service is kept at `/infolab/ies-web/log`
The default logging strategy is to keep files daily files which rollover at 30mb, but this can be modified. See '*Logging Configuration*' in the '*Configuration*' section.

Accessing the service.

The IES Cloud service can be accessed by a user using a web browser by entering the URL to the IES service.

1) **`http://localhost/ies`** for accessing the service from the machine it is installed on.
2) **`http://[ip.address]/ies`** for accessing it from another machine on the same network or through a VPN.
3) **`http://[domain-name]/ies`** for accessing it from anywhere on the internet if it is running on a registered domain on the internet.

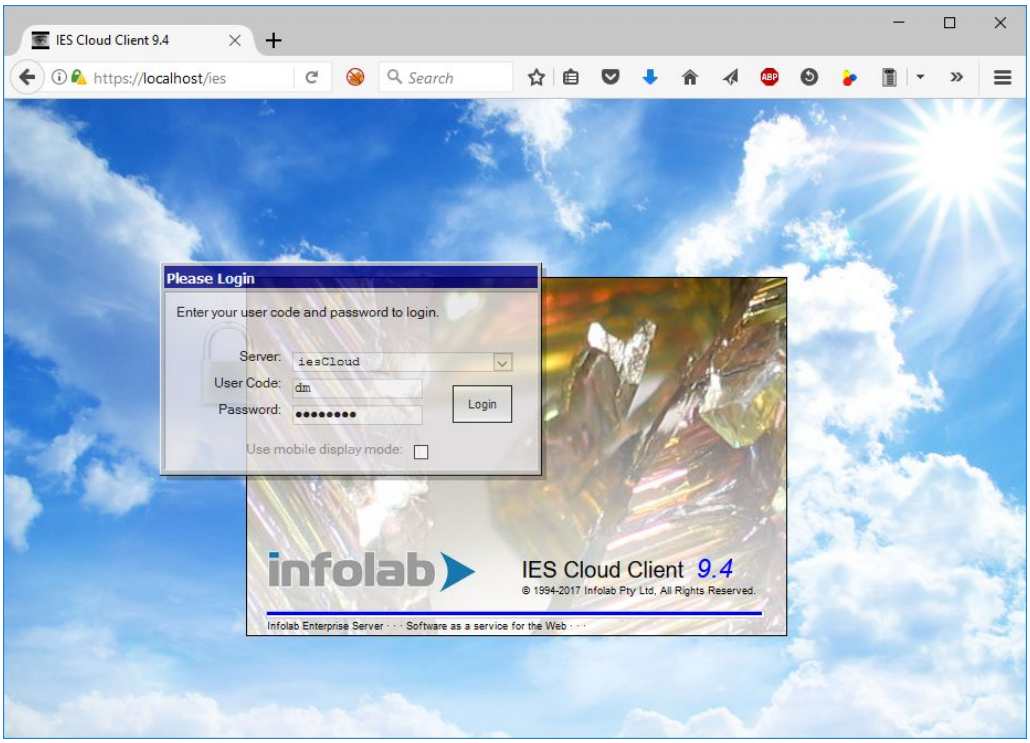
For web users connected using the HTTP protocol, the address bar will look like this :



By default HTTPS support is enabled with a self-signed certificate so the user will see an SSL exception when accessing the service using the HTTPS protocol. See '*Security Considerations*' for details on setting up complete HTTPS support.

For web users connected using the HTTPS protocol, with the standard setup, the address bar will look like this :

This is the login screen that greets you on accessing the service from a browser :

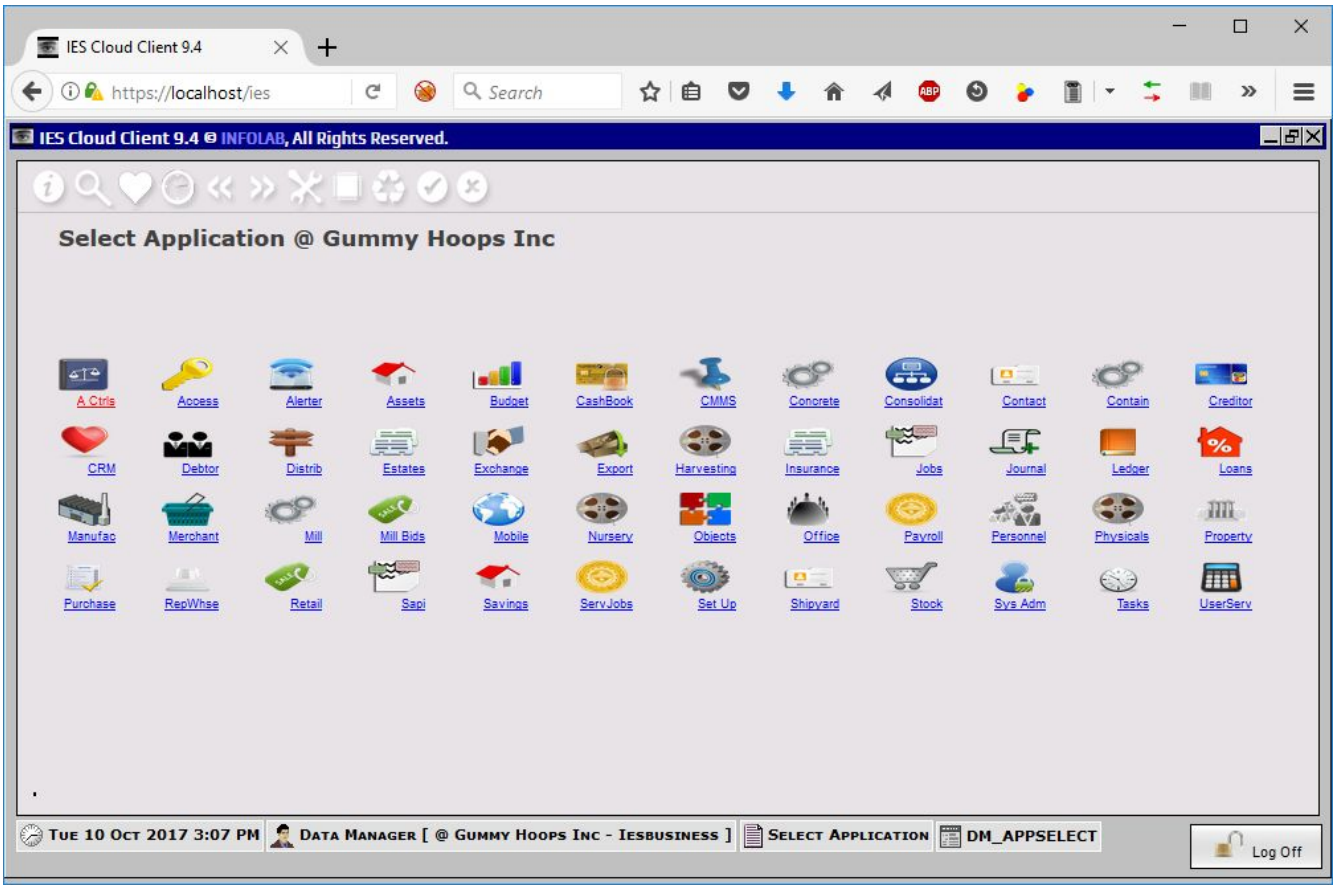


Looking closer at the Login dialog :

The server dropdown contains the default entry which will log the user on to the configured IES server. Additional servers can be configured to appear in the list. Please see '*Servers Configuration*' in the '*Configuration*' section for more information.

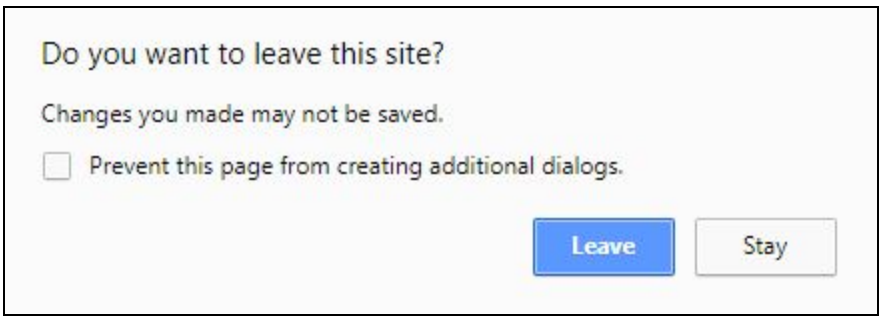
The user can enter their username and password and click **Login** to log into IES.
The checkbox for mobile display mode can be clicked to enable a more mobile / touch friendly interface on mobile devices.

If login is successful, a page similar to the following will be displayed :



Users should always log off correctly before closing the browser window or navigating to a new URL in the same tab.
IES Cloud will warn the user when closing the browser or navigating away using a dialog similar to the following :

If the user presses **Reload** then the page will be reloaded with the connection lost until logged off manually by the system administrator



If the user presses **Leave** here then the connection will be lost until logged off manually by the system administrator.

These dialogs will look different on browsers other than Chrome (which these screenshots was taken from).

Java installation :

IES Cloud requires Java 8 or later to be installed for the correct processor type.
This means that on a 64bit machine, the 64bit JRE or JDK must be installed.

Please see https://www.java.com/en/download/help/windows_manual_download.xml
for instruction on installing Java on Windows.

Security Considerations.

General :

Communication between connected clients and the IES Cloud service uses standard HTTP between the client browser and the service. This makes it suitable only for use within a trusted network. For better security, a VPN can be installed for internal and external networks which will encrypt communications between clients and the server. For secure exposure on the world wide web as a true cloud service, HTTPS will have to be enabled.

HTTPS setup :

In order to enable full HTTPS functionality using encryption and authentication, the system administrator will have to follow the steps below :

1) Register a domain, for example : www.my-new-domain.com
2) Point domain name server to internet IP of server machine that will run IES cloud.
3) Get a HTTPS certificate for the site www.my-new-site.com.
   You will need a public key and will have to send a Certificate Signing Request to a certificate provider of choice.
4) Convert the certificate to a Jetty keystore. (see:loading-keys-and-certificates)
5) The keystore password must be "**`iespass`**"
6) The keystore file should be copied to **`infolab/ies-web/cert/ies.keystore`**

Once the above setup has been done, IES can be accessed using the HTTPS protocol.

This is what the address bar will look like for a user connected through HTTPS (using Infolab's certificate as an example):

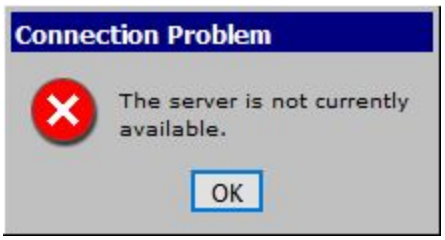
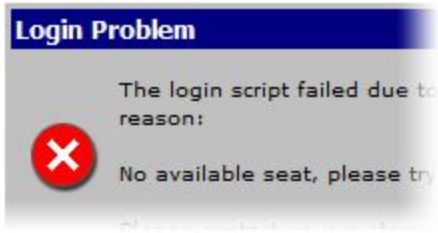
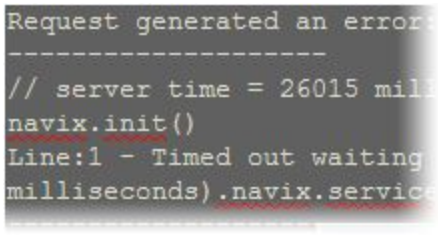
Existing Keystore

The initial certificate after a clean install is a self signed certificate and can serve HTTPS with encryption, but without authentication. The browser will present a warning page, which if bypassed runs in partial HTTPS with the address bar looking like this :

Shared Folders :

The IES Cloud service needs access the shared folders `BRIDGE` and `BRIDGERO` on the IES Server. If the IES Cloud service is installed on a remote machine, then the user that the service runs under must have the right security credentials to access the IES Server machine with shared folders. The user that the IES Cloud service logs on as can be configured using the Service Manager of Windows, Please see the '*Managing the Service*' section.

Troubleshooting.

Symptom	**Solution**
Cannot access the IES server using the correct URL. Page takes a while to load before displaying "Unable to Connect" or "Cannot load page"	Make sure that the IES Cloud service is running. Look at the '*Managing the Service*' section for more details.
`404 Page not found`	While the service is starting up it will show this, just reload the page a second later and it should be fine.
	This means that the IES Cloud service could not connect to the IES Server and most probably means that the OpenQM service is stopped.
	This means that the maximum number of users on the OpenQM server has been reached. This could be due to multiple logins from different browsers. Or from users not logging off before closing the browser or reloading the page after login.
	This indicates a hung connection between IES Cloud and IES server. Restarting the IES Cloud service will fix this.

Service won't start. Log file contains : "`{0.0.0.0:443}: java.net.BindException: Address already in use: bind`"	Some other application is binding the SSL port 443 so that IES Cloud cannot listen on it. You can try any of the following: ● Remove the file **`cert/ies.keystore`** so that IES Cloud does not try to listen on port 443. ● Find out which application is binding port 443 by using **`netstat -ano`** command to find the *processid* and **`tasklist /fi "pid eq processid"`** to look up the associated application, ● Stop the app that is binding the port.