BETELGEUSE 2FA
(TWO FACTOR AUTHENTICATION)

The 2FA is a secure manner to connect to a remote ssh service. It combine or requires something that you known (password) and a thing that you own (smarthphone or computer).

In order to adapt our access portal ‘betelgeuse’ to the ICIQ security access policy, have been enabled a 2FA system. So from now onwards you must to use it if you are connecting through betelgeuse from a public or shared computer. The private/public key is also allowed in your personal computers but is mandatory to provide a passphrase when you generate them.

You can follow the next steps and advices in order to configure the 2FA access mode.

METHOD-1 : TIME-BASED ONE TIME PASSWORD

STEP-1 – INSTALLING AN AUTHENTICATOR IN YOUR DEVICE

SMARTPHONE

- Install the Google Authenticator app (you can use other) in your smartphone:
    Google Authenticator in Play Store or Apple Store.

COMPUTERS

In the computer:

LINUX OS
Open a new terminal and install ‘oathtool’:
    DEB based distros:
        $ sudo apt-get install oathtool

    RPM based distros:
        $ sudo zypper in oath-toolkit
        or
        $ sudo yum install oathtool

WINDOWS OS
    Install WinAuth in your Windows OS (instructions)

MAC-OSX OS
    Install G2FA Google Authenticator in your OSX

LIKE A BROWSER EXTENSION

CHROME BROWSER EXTENSION

Install the chrome extension GAuth Authenticator extension in the Chrome browser (instructions).

FIREFOX

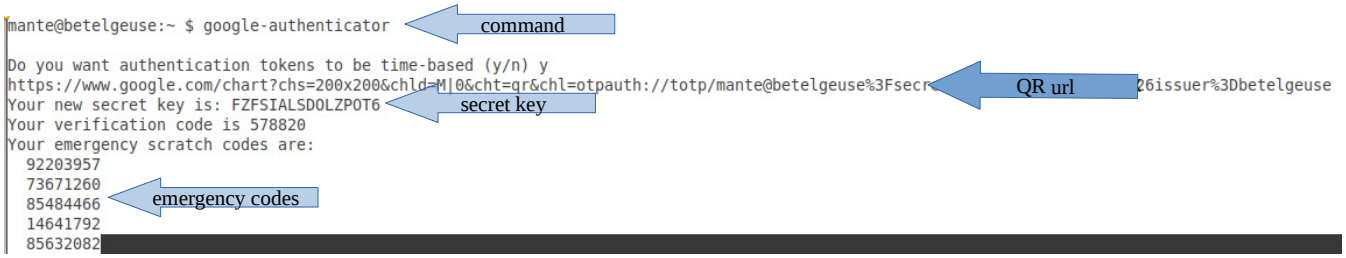
Install the firefox Authenticator extension in the Firefox browser.

STEP-2 – GENERATING THE AUTH CODES AND KEY

Open a new terminal in 'betelgeuse' portal and execute the next command:

$ google-authenticator

the command will return an URL (link to a QR image) and some key/codes. Save this information in a secure place. In addition it ask you some questions, reply 'y' all of them. Finally a new hided file '.google_authenticator' will be created in your home directory, do not change content, name nor delete it.



STEP-3 – SETTING A NEW ACCOUNT IN THE AUTHENTICATOR

Open the authenticator application installed in the Step-1.
Add a new account using the QR code (copy paste URL in a browser) or using the SECRET_KEY.
A new account will be created and will be shown the VALIDATION CODE (it change each 30 seconds but remains valid 1½ minutes).

Note: for linux command line authenticator, use the next command:

$ oathtool --totp -b 'SECRET_KEY'

be aware that it will be readable in your .bash_history file.

STEP-4 – TRYING TO VALIDATE IN 'betelgeuse'

Open a ssh connection to betelgeuse and it ask you for 'VALIDATION CODE' in the first time and your user password after. Tha's the 2FA mechanism.

NOTE: the AUTHENTICATOR time based (TOTP - Time-based One-Time Password) use the time for validating, so the 'SECRET_KEY' (or QR) provided by betelgeuse is used to install a new account in the Authenticator device allowing to to be synchronized.

USING EMERGENCY CODES

If you are connecting without possibility of generating the VERIFICATION_CODES (with an Authenticator) you can use the one-time-use EMERGENCY_CODES yet. When use any of them it will be disabled automatically and will disapear from the *$HOME/.google_authenticator* file. You easilly can generate more Emergency codes using the command *google-authenticator* (without continuig the process answering 'no' or using Ctrl+C) in a betelgeuse terminal and copying at bottom of the *.google_authenticator* file.

RECOVERING THE 2FA METHOD

If you have lost your device or deleted the betelgeuse account in your Authenticator, you can easily recover it using the original QR code or SECRET_KEY. You can also contact with the betelgeuse manager by e-mail (mgumbau@iciq.cat).

METHOD-2 : PRIVATE AND PUBLIC KEYS

(FOR PERSONAL/PRIVATED COMPUTERS)

Key files method is based on Private and Public key files plus an additional Passphrase.

The PRIVATE_KEY should be stored in a a secure place (Personal Computer) and the PUBLIC_KEY will be copied in the remote computers where you want to connect to.

LINUX OS
Open a new terminal in your personal computer.
Execute the command:

$ ssh-keygen -t rsa

it ask you the location for the key files. Default location is right ($HOME/.ssh).
Now you must enter two times a secure and unforgetable passphrase.
That's all in the client side.
Now copy the public key ($HOME/.ssh/id_rsa.pub) file content to the remote server 'betelgeuse':

$ ssh-copy-id -p2004 -i ~/.ssh/id_rsa.pub yourusername@betelgeuse.iciq.es

WINDOWS
- With MobaXTerm: Link1 or Link2
- With Putty: Link1

MAC-OSX
- Similar to linux OS: Link1

Note: *if you are connecting to 'betelgeuse' from a personal computer where you have stored the PRIVATE_KEY, betelgeuse will ask you for the passphrase you generated. In other case 'betelgeuse' will ask you for the VERIFICATION_CODE and user password.*

Questions to: mgumbau@iciq.cat