




IGEL OS Creator

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## IGEL OS Creator Manual

With the IGEL OS Creator (OSC), you can install IGEL OS 11 on any device that supports it. Moreover, you can use the IGEL OS Creator for recovering a broken installation of IGEL OS which is not able to boot anymore.

- [General Information](#) (see page 4)
- [Devices Supported by IGEL OS 11](#) (see page 5)
- [Licensing](#) (see page 7)
- [Installation](#) (see page 8)

 You can roll out IGEL OS also via the IGEL OS Deployment Appliance. For this purpose, you will need to install IGEL OS Deployment Appliance 11.0 or higher. See IGEL OS Deployment Appliance Manual.

## IGEL Tech Video

How to reflash a device using IGEL OS Creator:




Sorry, the widget is not supported in this export.  
But you can reach it using the following URL:

<https://www.youtube.com/watch?v=z1Wp51KQ8tI>

## General Information

The IGEL OS Creator (OSC) software allows the migration of existing hardware to create a functionally standardized IGEL Workspace infrastructure. In the process, the existing operating system is replaced by IGEL OS. The devices can then be administered via the IGEL Universal Management Suite (UMS).

 Installing the IGEL OS operating system via OSC destroys all data on the target device's mass storage device (hard disk, flash memory, SSD).

This manual describes the installation of IGEL OS 11 using OSC.



## Devices Supported by IGEL OS 11

### IGEL Devices

#### Core Requirements for IGEL OS 11

- CPU with 64-bit support
- CPU speed: ≥ 1 GHz
- Memory (RAM): ≥ 2 GB

**i** RAM size higher than 2 GB is recommended if you use any of the following:

- Unified Communications optimizations (uses a client-side media engine)
- High-resolution graphics output

For details on the supported graphics-related characteristics of IGEL devices, see Graphics on IGEL Devices or, for older devices, Graphics on Legacy IGEL Devices.

- More than two monitors

- Storage: 2 GB minimum; ≥ 4 GB recommended

**i** **Storage Requirements for IGEL OS 11.04 or Higher**

IGEL OS 11.04.100 or higher requires at least 2.4 GB storage if the full feature set is applied. Thus, the feature set must be modified accordingly; for more information, see Error: "Not enough space on local drive" when Updating to IGEL OS 11.04 or Higher.

## IGEL Devices Supported by IGEL OS 11

### IGEL UD (Universal Desktop)

Product Line	Device Type	Hardware ID	64 Bit	Memory (RAM)	Storage	HW Video Acceleration
UD2	D220	40	Yes	2 GB	4 GB	Yes
UD2	M250C	50	Yes	2 GB	4 GB	Yes
UD2	M250C	51 / 52*** (see page 6)	Yes	2 or 4 GB	8 GB	Yes
UD3* (see page 6)	M340C	50	Yes	2 GB	4 GB	Yes
UD3	M340C	51	Yes	2 GB	4 GB	Yes



Product Line	Device Type	Hardware ID	64 Bit	Memory (RAM)	Storage	HW Video Acceleration
UD3	M350C	60	Yes	4 GB	8 GB	Yes
UD5* (see page 6)	H830C	50	Yes	2 GB	4 GB	Yes
UD6	H830C	51	Yes	2 GB	4 GB	Yes
UD7	H850C	10	Yes	4 GB	4 GB	Yes
UD7** (see page 6)	H850C	11	Yes	4 GB	4 GB	Yes
UD7	H860C	20	Yes	8 GB	8 GB	Yes
UD9* (see page 6)	TC215B	40 / 41 (Touch)	Yes	2 GB	4 GB	Yes

\* IGEL UD3-LX 50 and UD5-LX 50 are officially supported up to IGEL OS 11.05, incl. private builds. IGEL UD9-LX 40 / 41 (Touch) devices are officially supported up to IGEL OS 11.07.910.

\*\* As of December 2019, IGEL UD7 model H850C is equipped with the AMD Secure Processor; for further information, see UD7 Model H850C.

\*\*\* IGEL UD2-LX 52 is supported with IGEL OS 11.06.140 and later.

### IGEL Zero

**Note on IZ Devices**

The IZ devices listed below can be upgraded to IGEL OS 11. To upgrade your IZ devices to IGEL OS 11, please contact your IGEL sales representative. See also <https://www.igel.com/os11migration/>.

Product Line	Device Type	Hardware ID	64 Bit	Memory (RAM)	Storage	UEFI Secure Boot Support	HW Video Acceleration
IZ2	D220	40	Yes	2 GB	4 GB	Yes	Yes
IZ3	M340C	50	Yes	2 GB	4 GB	Yes	Yes
IZ3	M340C	51	Yes	2 GB	4 GB	Yes	Yes

### Third-Party Devices

For an up-to-date list, see <https://kb.igel.com/os11-supported-hardware>.



## Licensing

For information on licensing, see [IGEL Software License Overview and Deploying Licenses](#).

## Installation


- [Installation Requirements](#) (see page 9)
- [Create USB installation medium \(Windows\)](#) (see page 10)
- [Create USB installation medium \(Linux\)](#) (see page 13)
- [Create DVD installation medium](#) (see page 15)
- [Boot Settings](#) (see page 16)
- [Installation Procedure](#) (see page 20)
- [Installation Procedure for Factory Images](#) (see page 32)




## Installation Requirements

In order to install IGEL OS via OSC, the target device must meet the following requirements:


- 64-bit-capable CPU
- CPU speed  $\geq$  1 GHz


 When using multimedia content (e.g. Unified Communications), a Dual Core CPU with at least 1.5 GHz is recommended.

- At least 2 GB RAM
- At least 2 GB mass storage space ( $\geq$  4 GB recommended): hard disk, flash memory, SSD, eMMC or NVME.
- Intel, ATI/AMD or Nvidia graphics chip

 For information about supported graphics chip sets, see the [IGEL Linux 3rd Party Hardware Database](#)<sup>1</sup>.

- USB 3.0 or 2.0 port from which the device can boot (alternatively a DVD drive)
- Ethernet or wireless adapter

 If these requirements are not fulfilled, the full functionality of the device with IGEL OS can not be guaranteed, and technical support will not be provided by IGEL.


 Installing IGEL OS via OSC destroys all data on the target device's mass storage device (hard disk, flash memory, SSD).

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<sup>1</sup> <https://www.igel.com/linux-3rd-party-hardware-database/>

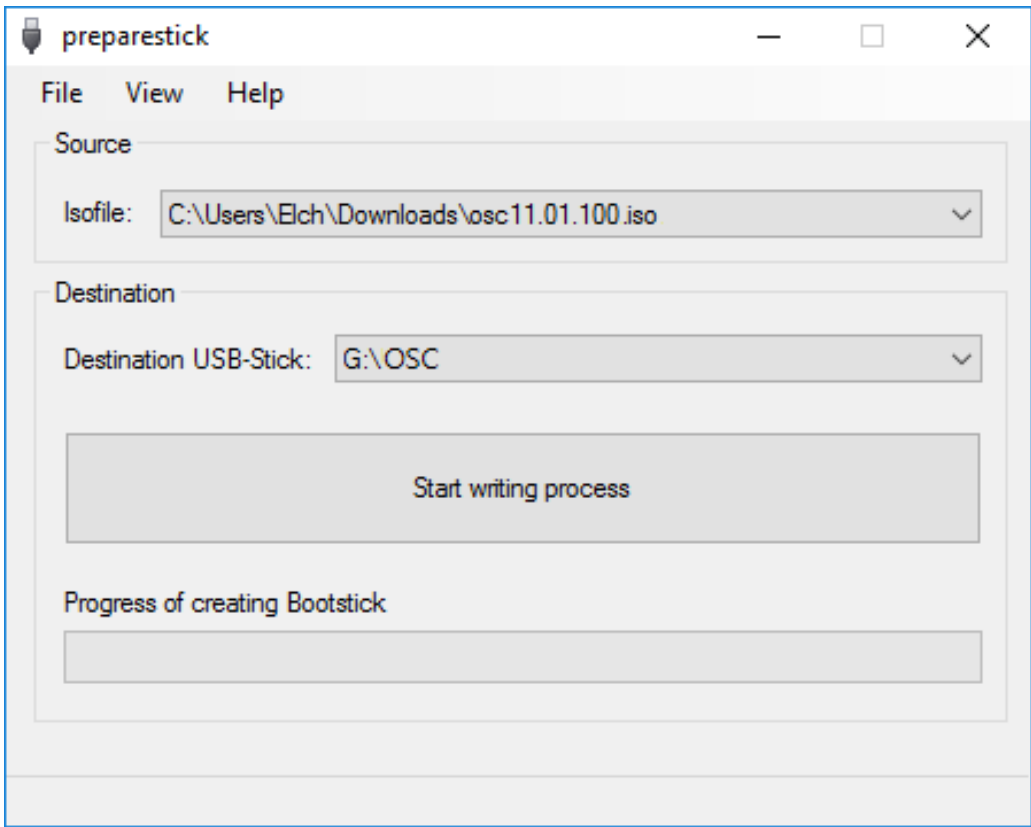
## Create USB installation medium (Windows)

1. Download the ZIP archive for OS Creator from our [download server](#)<sup>2</sup>:
  - For new devices, use the standard installer (e. g. OSC\_11.01.100.zip).
  - For older devices or if you haven't been able to boot the installer at all, use the legacy installer (e. g. OSC\_11.01.100\_legacy.zip).
2. Unzip the contents into a local directory.
3. Connect a USB memory stick with at least 4 GB capacity to the computer.

 All existing data on the USB memory stick will be destroyed.

4. Double-click the `preparestick.exe` file from the unzipped directory.

 If you are in the "administrators" group, the program will start after you have confirmed a dialog. If you are not in the "administrators" group, you must enter the administrator password to start the program.



The dropdown menu **Isofile** shows the ISO files contained in the unzipped directory.

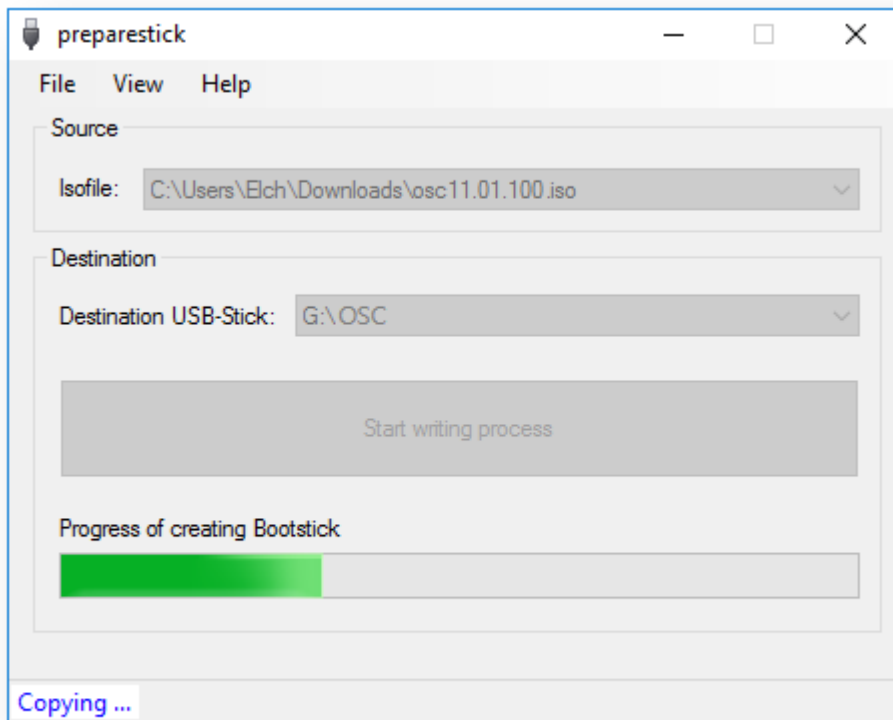
<sup>2</sup> <https://www.igel.com/software-downloads/workspace-edition/>

5. Under **Isofile**, select the appropriate ISO file, e. g. `osc11.01.100.iso`
6. Under **Destination USB stick**, select the USB storage medium on which you would like to save the installation data.

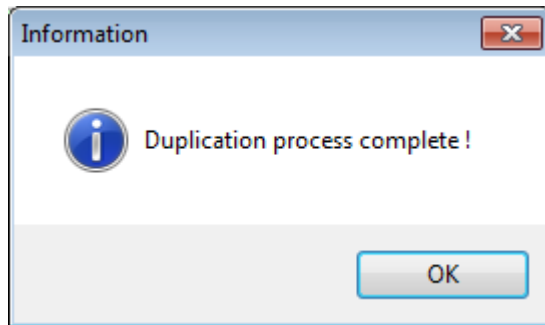
⚠ It is recommended that you only have one USB storage medium connected during this procedure. If you accidentally select the wrong medium, all data on it will be lost.

ℹ Generally speaking, the list of available USB storage media is refreshed automatically. If, however, you would like to refresh it manually, click on **View > Refresh USB Device List**.

7. Click on **Start writing process**.  
In the program window, the progress of the process is shown.



When the process is finished, a message window is displayed.




8. Close the message window and the program.
9. After about 3 seconds, remove the USB memory stick.

⚠ If you remove the USB memory stick immediately, there is a possibility that the writing process has not been completed. In this case, the data on the memory stick gets corrupted.

## Create USB installation medium (Linux)

1. Download the ZIP archive for OS Creator from our [download server](#)<sup>3</sup>:
  - For new devices, use the standard installer (e. g. OSC\_11.01.100.zip).
  - For older devices or if you haven't been able to boot the installer at all, use the legacy installer (e. g. OSC\_11.01.100\_legacy.zip).
2. Unzip the contents into a local directory.
3. From this directory, you will need the ISO file (e. g. `osc11.01.100.iso` or `osc11.01.100_legacy.iso`) to create a bootable medium.
4. Connect a USB memory stick with at least 4 GB capacity to the computer.


 All existing data on the USB memory stick will be destroyed.

5. Open a terminal emulator and enter the command `dmesg` to determine the device name of the USB memory stick.

Example output:

```
[...]
[19514.742229] scsi 3:0:0:0: Direct-Access JetFlash Transcend 8GB
1100 PQ: 0 ANSI: 6
[19514.742805] sd 3:0:0:0: Attached scsi generic sg1 type 0
[19514.744688] sd 3:0:0:0: [sdb] 15425536 512-byte logical blocks:
(7.89 GB/7.35 GiB)
[19514.745370] sd 3:0:0:0: [sdb] Write Protect is off
[19514.745376] sd 3:0:0:0: [sdb] Mode Sense: 43 (0) 00 00 00
[19514.746040] sd 3:0:0:0: [sdb] Write cache: enabled, read cache:
enabled, doesn't support DPO or FUA
[19514.752438] sdb: sdb1
```

In this example, the device name searched for is `/dev/sdb`.

 Ensure that you have determined the correct device name. Use of the `dd` command in the next step can destroy your operating system if you use the wrong device name.


6. The following command writes the installation data to the USB memory stick:
 

```
dd if=osc11.01.100.iso of=/dev/sdX bs=1M oflag=direct
```

 Replace `sdX` with the device name of the USB memory stick that you have determined.
 When the `dd` command has terminated, you can see the terminal emulator input prompt again.

<sup>3</sup> <https://www.igel.com/software-downloads/workspace-edition/>

7. Wait for about 3 seconds after the `dd` command has terminated, and remove the USB memory stick.

 If you remove the USB memory stick immediately, there is a possibility that the writing process has not been completed. In this case, the data on the memory stick gets corrupted.

The USB memory stick for OSC installation is ready for use.

## Create DVD installation medium

The ISO file in the installation directory for OSC is a so-called hybrid image. It can not only be copied onto USB storage devices but can also be used to create a bootable DVD.

### Burn ISO Image (Windows)

1. In Explorer, open the directory that contains the ISO file.
2. Right-click on the ISO file.
3. Select **Burn disc image**.

### Burn ISO Image (Linux)

Under Linux, various burning programs with a graphical user interface or for the command line are available.

The [Ubuntu Wiki](https://help.ubuntu.com/community/BurningIsoHowto#Burning_from_Ubuntu)<sup>4</sup> explains how to burn an ISO image onto a DVD using a number of programs.

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<sup>4</sup> [https://help.ubuntu.com/community/BurningIsoHowto#Burning\\_from\\_Ubuntu](https://help.ubuntu.com/community/BurningIsoHowto#Burning_from_Ubuntu)

## Boot Settings

OSC works on systems with BIOS and UEFI.

It is essential that your system supports booting from USB storage media or from DVD. This may already be enabled, or you may have to enable it yourself.

**i** IGEL OS 11 supports UEFI Secure Boot. Refer to the manual of your device's manufacturer to learn whether your device supports Secure Boot and how to enable it. Enabling Secure Boot often consists of two steps. First, the boot mode has to be changed to UEFI Boot in the BIOS; after that, Secure Boot can be activated, also in the BIOS. How to check whether Secure Boot has been properly enabled, you can learn under [Verifying that Secure Boot is Enabled](#). For UEFI Secure Boot on IGEL devices, see [UEFI Secure Boot Enabling Guides](#).

**i** If IGEL OS fails to boot in UEFI mode, try it in legacy/BIOS mode. IGEL OS will then be installed in legacy/BIOS mode.

**i** For older devices or if you haven't been able to boot the installer at all, use the legacy installer under <https://www.igel.com/software-downloads/workspace-edition/> > **OS 11** > **OS CREATOR** > **LEGACY**.

## Third-Party Devices

The required key presses for this may vary from vendor to vendor. However, here are some hints:

- ▶ While the device is booting, try pressing [F12] (in general), [F10] (Intel devices), or [F9] (Hewlett-Packard devices) in order to access a list of boot devices and select your USB installation medium.
- ▶ If the above does not work, access the BIOS settings via pressing [Del], [F1], or [F2] during boot and activate booting from USB storage media and/or change the boot order.
- ▶ See the BIOS/UEFI documentation for your system for details of how to boot from USB storage media.

**i** On modern computers such as secured-core PCs (see e.g. <https://www.microsoft.com/en-us/windows/business/devices?col=secured-core-pcs>), there may be a BIOS setting related to Secure Boot that allows the use of Microsoft's 3rd party UEFI Secure Boot Certificate. The usual description of such a BIOS setting is "Allow Microsoft 3rd Party UEFI CA". This setting must be set to enabled, as IGEL uses the 3rd party certificate to support UEFI Secure Boot. If UEFI Secure Boot is enabled, but "Allow Microsoft 3rd Party UEFI CA" is not enabled, you may be unable to boot IGEL OS Creator or UD Pocket. Similarly, if the setting "Allow Microsoft 3rd Party UEFI CA" is disabled after a previous installation of IGEL OS, IGEL OS will fail to boot. For how to enable the setting, see [Secured-Core PCs: Microsoft 3rd-Party UEFI Certificate for Secure Boot](#).

## IGEL Devices

**i** If the USB installation medium is not found though the USB boot is enabled, try the following:



- Reconnect the USB installation medium and reboot the endpoint device.
- Use another USB port.

#### UD7 (H850C and H860C)

1. Power up the device while pressing the [Del] button repeatedly in rapid succession.
2. If a password prompt is shown, enter the BIOS password.
3. Select **Setup Utility**.
4. Select the **Boot** tab.
5. Set **USB Boot** to **<ENABLED>**.
6. Save the settings and exit.
7. Connect the USB stick to the device.
8. Reboot the device while pressing the [Del] button repeatedly in rapid succession.
9. Select **Boot Manager**.
10. Select the USB stick as the boot medium and press **Enter**.
11. You can continue with the [installation procedure \(see page 20\)](#).

#### UD6 (H830C)

1. Power up the device while pressing the [Del] button repeatedly in rapid succession.
2. Select **SCU**.
3. If a password prompt is shown, enter the BIOS password.
4. Select the **Boot** tab.
5. Set **USB Boot** to **<ENABLED>**.
6. Save the settings and exit.
7. Connect the USB stick to the device.
8. Reboot the device while pressing the [Del] button repeatedly in rapid succession.
9. Select **Boot Manager**.
10. Select the USB stick as the boot medium and press **Enter**.
11. You can continue with the [installation procedure \(see page 20\)](#).

#### UD5 (H830C)

1. Power up the device while pressing the [Del] button repeatedly in rapid succession.
2. If a password prompt is shown, enter the BIOS password.
3. Select the **Boot** tab.
4. Select **Boot Options Priorities**.
5. Select the entry for the USB stick and move it to the first position using the [+] key.
6. Save the settings and exit.
7. You can continue with the [installation procedure \(see page 20\)](#).

#### UD3 (M350C)

1. Power up the device while pressing the [Del] button repeatedly in rapid succession.
2. If a password prompt is shown, enter the BIOS password.
3. Select **Setup Utility**.
4. Select the **Boot** tab.

5. Set **USB Boot** to **<ENABLED>**.
6. Save the settings and exit.
7. Connect the USB stick to the device.
8. Reboot the device while pressing the [Del] button repeatedly in rapid succession.
9. Select **Boot Manager**.
10. Select the USB stick as the boot medium and press **Enter**.
11. You can continue with the [installation procedure](#) (see page 20).

#### UD3 (M340C)

1. Power up the device while pressing [Del] button repeatedly in rapid succession.
2. Select **SCU**.
3. If a password prompt is shown, enter the BIOS password.
4. Select the **Boot** tab.
5. Set **USB Boot** to **<ENABLED>**.
6. Save the settings and exit.
7. Connect the USB stick to the device.
8. Reboot the device while pressing the [Del] button repeatedly in rapid succession.
9. Select **Boot Manager**.
10. Select the USB stick as the boot medium and press **Enter**.
11. You can continue with the [installation procedure](#) (see page 20).

#### UD2 (M250C)

1. Power up the device while pressing [Del] button repeatedly in rapid succession.
2. Select **SCU**.
3. If a password prompt is shown, enter the BIOS password.
4. Select the **Boot** tab.
5. Set **USB Boot** to **<ENABLED>**.
6. Save the settings and exit.
7. Connect the USB stick to the device.
8. Reboot the device while pressing the [Del] button repeatedly in rapid succession.
9. Select **Boot Manager**.
10. Select the USB stick as the boot medium and press **Enter**.
11. You can continue with the [installation procedure](#) (see page 20).

#### UD2 (D220)

1. Power up the device while pressing the [F2] (older devices) or [Del] (newer devices) button repeatedly in rapid succession.
2. Select **SCU**.
3. If a password prompt is shown, enter the BIOS password.
4. Select the **Boot** tab.
5. Set **USB Boot** to **<ENABLED>**.
6. Save the settings and exit.
7. Connect the USB stick to the device.


8. Reboot the device while pressing the [F2] or [Del] (newer devices) button repeatedly in rapid succession.
9. Select **Boot Manager**.
10. Select the USB stick as the boot medium and press **Enter**.
11. You can continue with the [installation procedure](#) (see page 20).


#### UD9 (TC215B)

1. Power up the device while pressing the [F2] button repeatedly in rapid succession.
2. If a password prompt is shown, enter the BIOS password.
3. Select the **Boot** tab.
4. Select **Boot Option Priorities**.
5. Select the entry for the USB stick and move it to the first position using the [+] key.
6. Save the settings and exit.
7. You can continue with the [installation procedure](#) (see page 20).

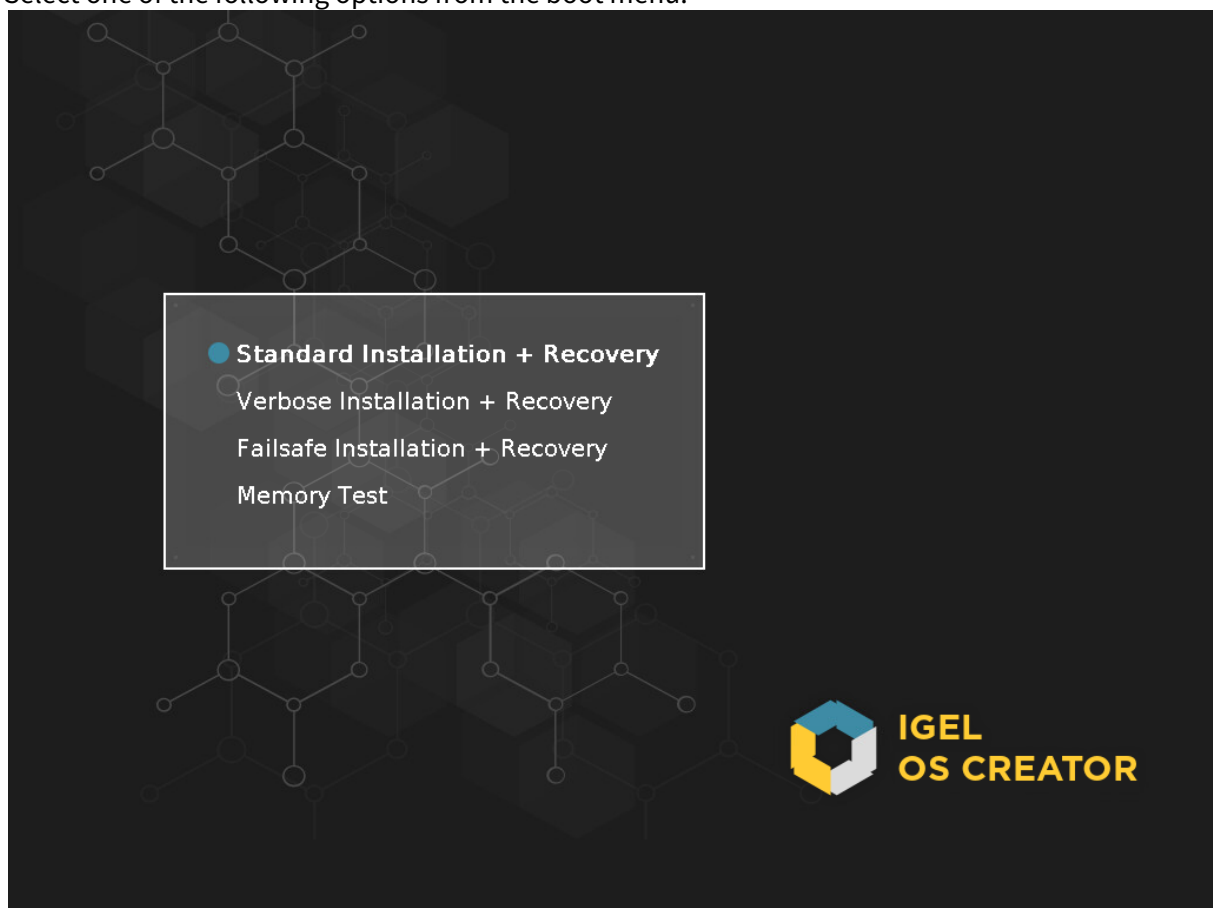
## Installation Procedure

This article describes the regular installation procedure for single devices with the IGEL OS Creator (OSC). If you are an IGEL third-party endpoint partner (i.e. hardware manufacturer, independent hardware vendor, reseller) that has a factory ID from IGEL, please refer to [Installation Procedure for Factory Images](#) (see page 32) (for IGEL OS 11.05.140 or higher).

 This description is valid for IGEL OS 11.05.120 or higher.

 The installation will overwrite all existing data on the target drive.

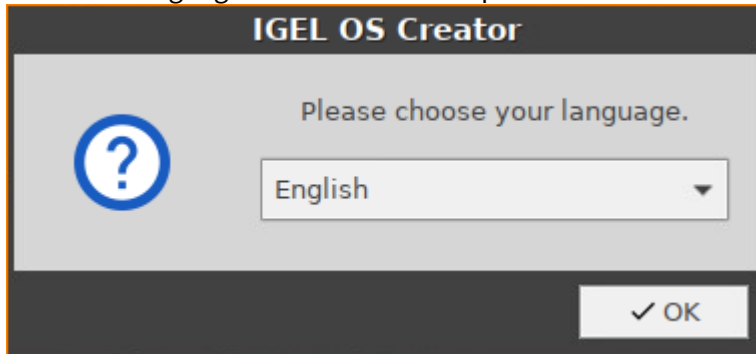
1. Connect the prepared USB memory stick to the target device and switch the target device on.
2. Select one of the following options from the boot menu:



- **Standard Installation + Recovery:** Boots the system with just a few messages from the USB memory stick and launches the installation program. (Default)
- **Verbose Installation + Recovery:** Boots the system from the USB memory stick and shows the Linux boot messages in the process.
- **Failsafe Installation + Recovery:** Fallback mode to be used if the graphical boot screen cannot be displayed.

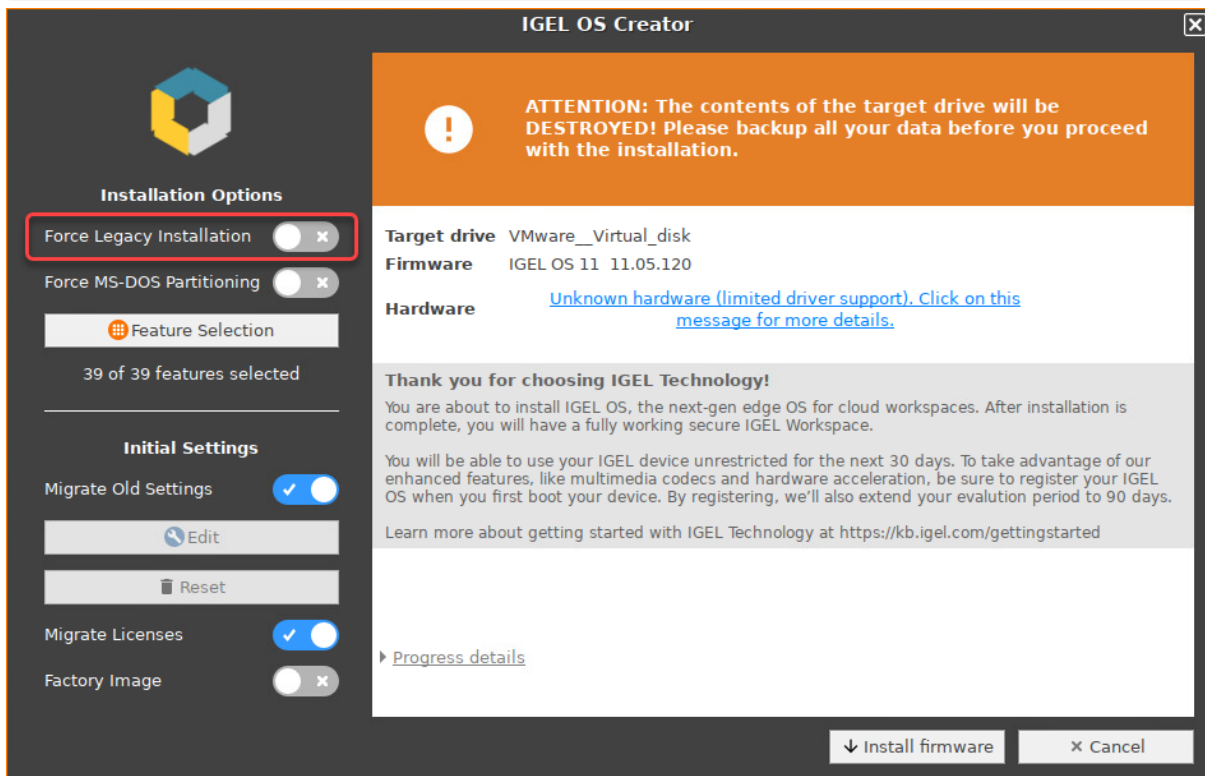
- **Memory Test:** Memory test, only available in legacy/BIOS mode. This option does not carry out an installation.
- **EFI Debug Shell:** Available only in UEFI boot mode. If the hardware in use is EFI-capable, boot problems can be analyzed with that.

3. Select the language for the installation process.

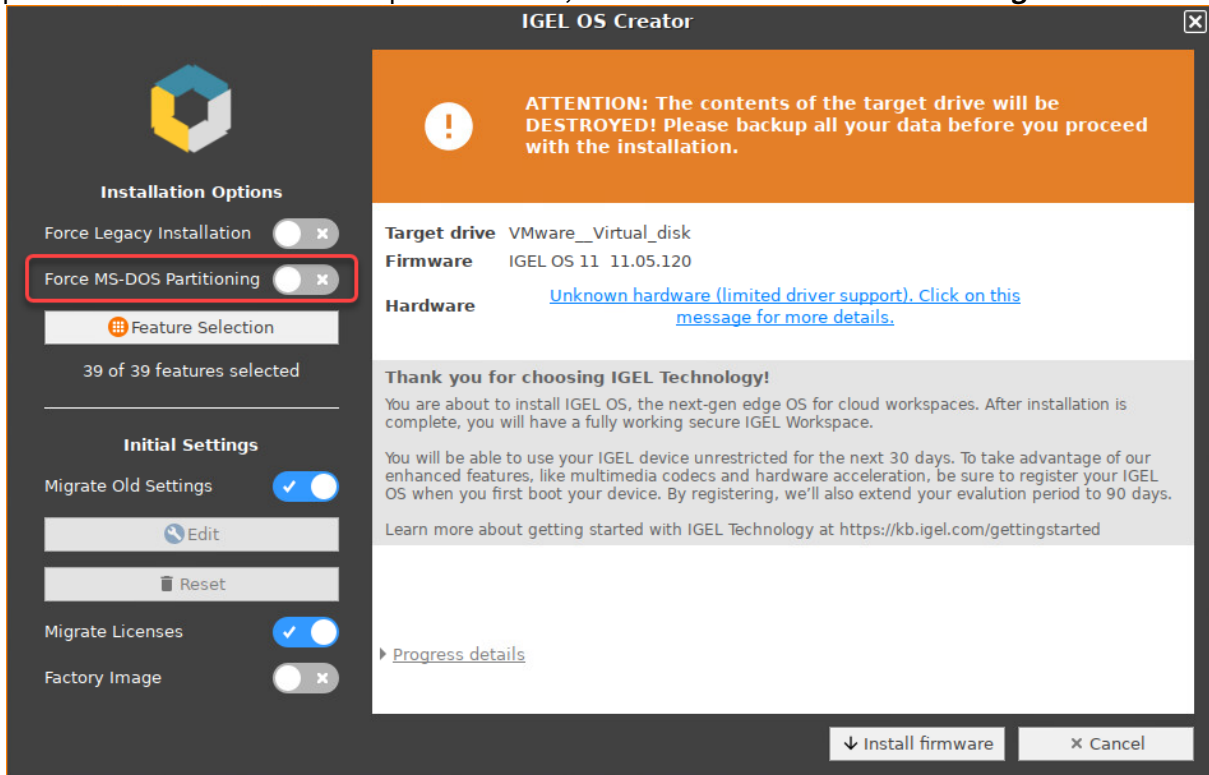


4. Optional, only available if your device has booted in UEFI mode: If you want to install the legacy/BIOS version of IGEL OS 11, activate **Force Legacy Installation**.

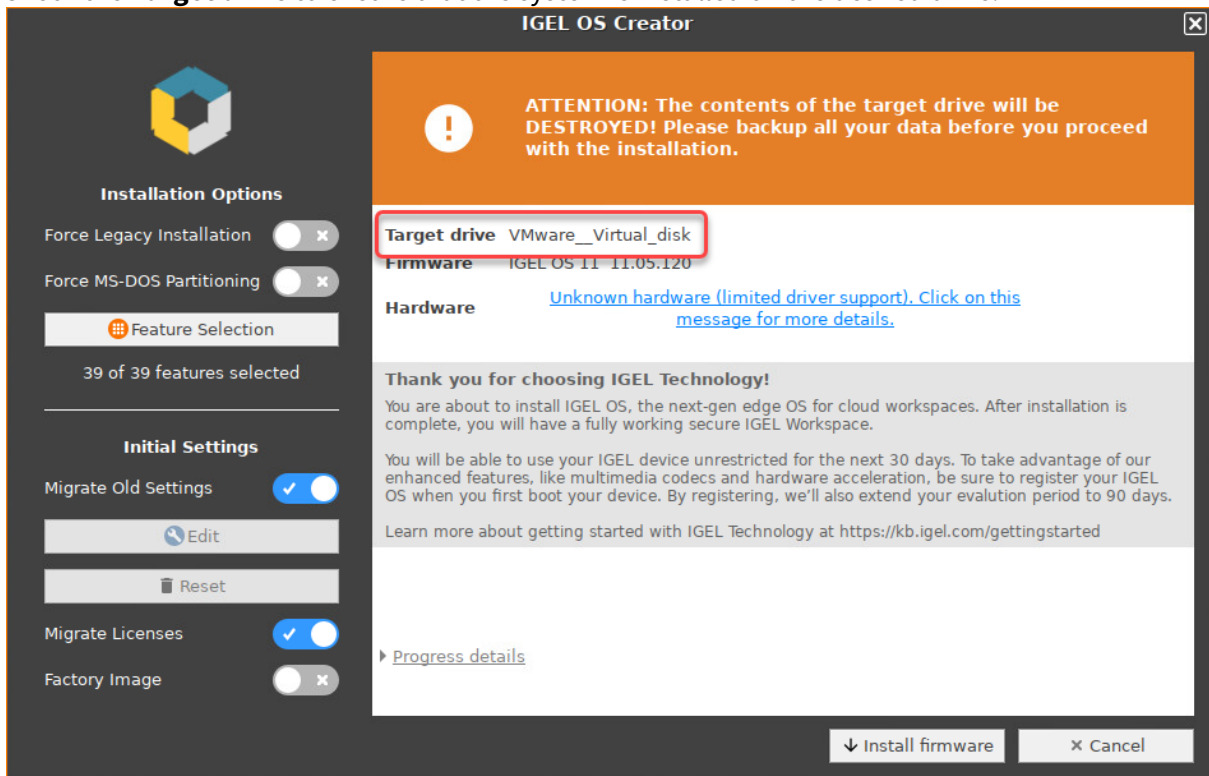
**i** If you have activated **Force Legacy Installation**, remember to set the system to legacy/BIOS mode after installation.



- 5. Optional, only available if your device has booted in UEFI mode: If you want to use an MS-DOS partition table instead of a GPT partition table, activate **Force MS-DOS Partitioning**.



6. Check the **Target drive** to ensure that the system is installed on the desired drive.



7. If you want to exclude features of IGEL OS, e.g. to save storage space, click **Feature Selection** and edit the settings as required.

**IGEL OS Creator**

**ATTENTION: The contents of the target drive will be DESTROYED! Please backup all your data before you proceed with the installation.**

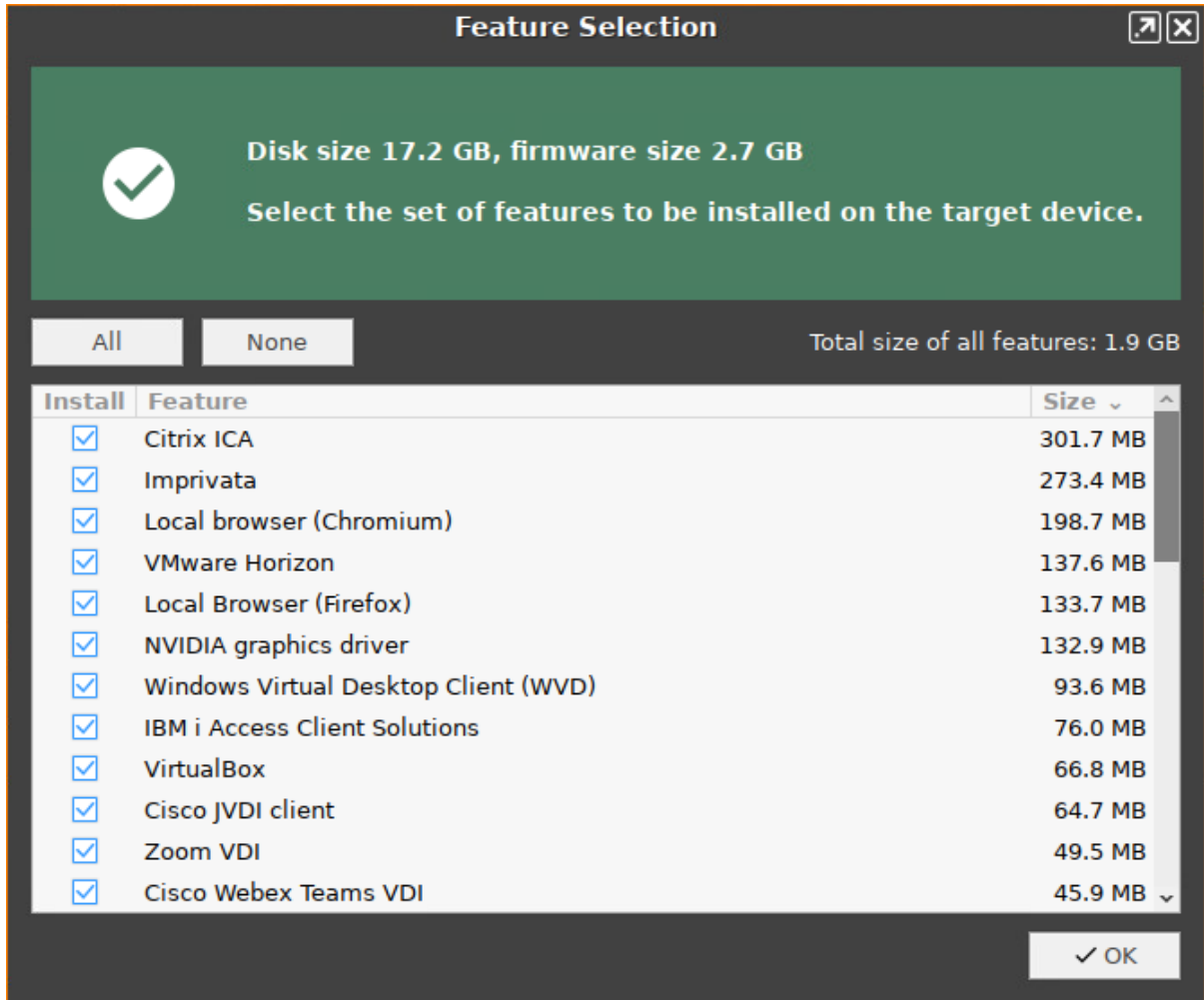
**Target drive** VMware\_\_Virtual\_disk  
**Firmware** IGEL OS 11 11.05.120  
**Hardware** [Unknown hardware \(limited driver support\). Click on this message for more details.](#)

**Thank you for choosing IGEL Technology!**  
You are about to install IGEL OS, the next-gen edge OS for cloud workspaces. After installation is complete, you will have a fully working secure IGEL Workspace.  
You will be able to use your IGEL device unrestricted for the next 30 days. To take advantage of our enhanced features, like multimedia codecs and hardware acceleration, be sure to register your IGEL OS when you first boot your device. By registering, we'll also extend your evaluation period to 90 days.  
Learn more about getting started with IGEL Technology at <https://kb.igel.com/gettingstarted>

▸ [Progress details](#)

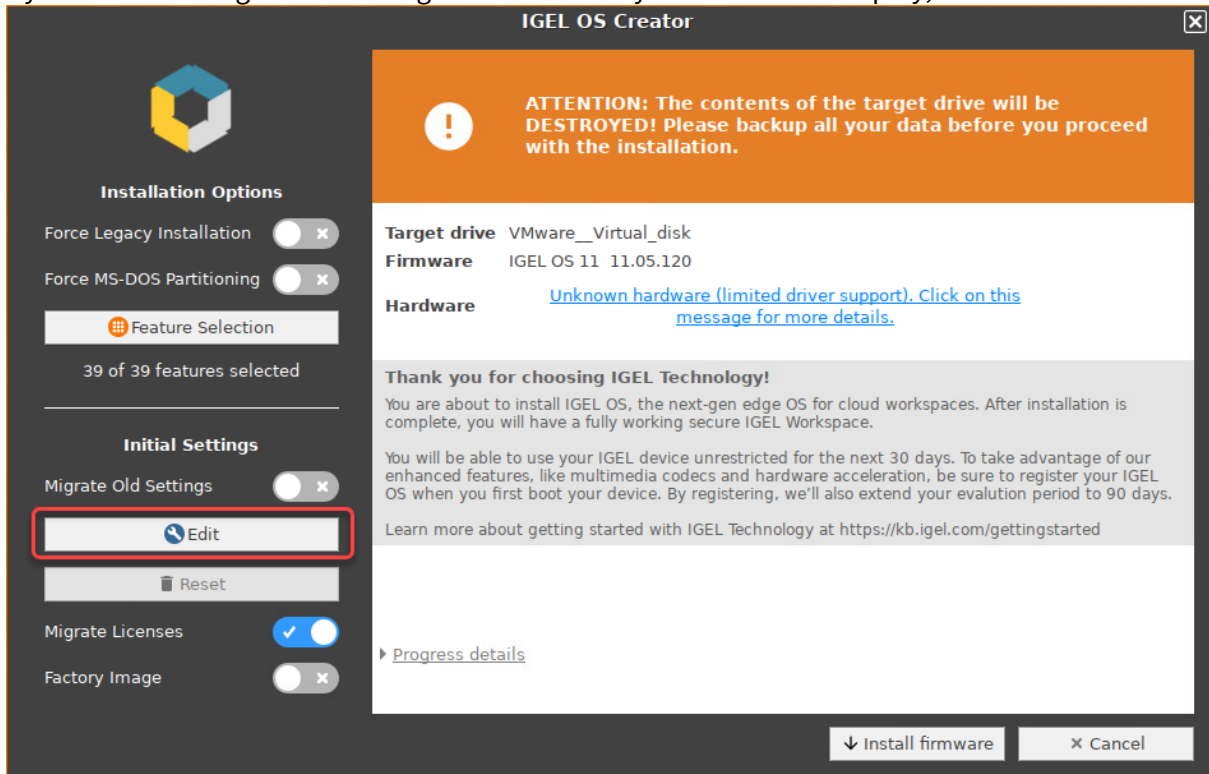
↓ Install firmware    × Cancel





- **All:** Select all features
- **None:** Select no feature
- **Feature:** Sort the list alphabetically
- **Size:** Sort the list by the memory requirements of the features

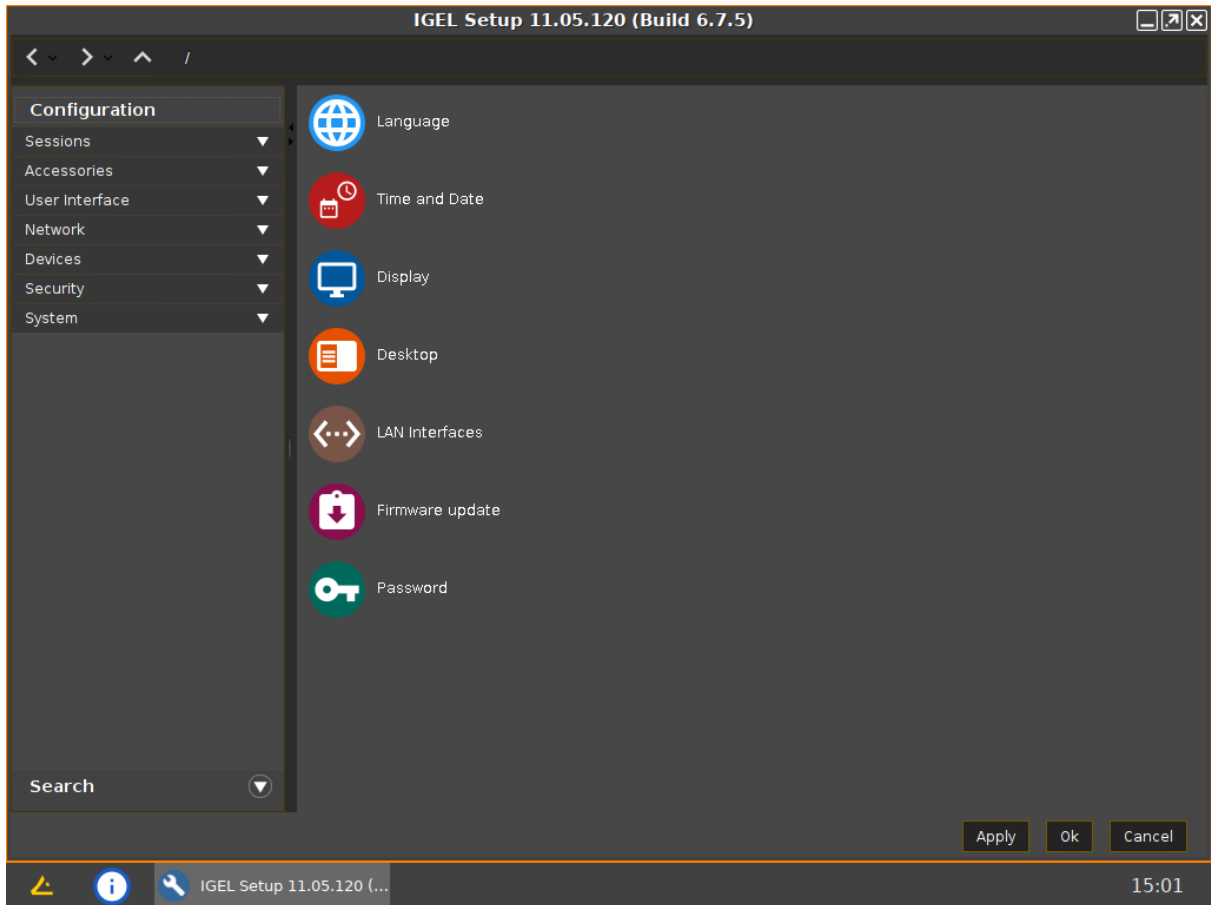
8. If you want to change initial settings for the devices you are about to deploy, click **Edit**.



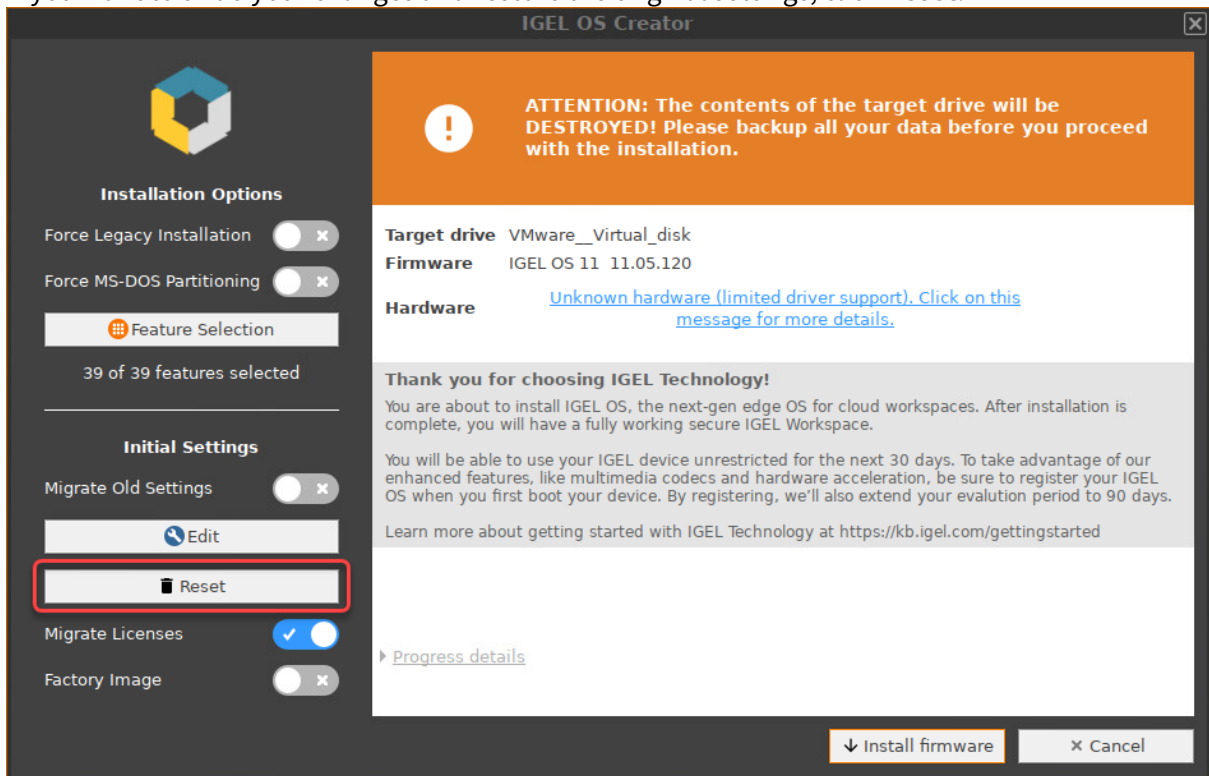
The IGEL Setup opens, enabling you to change the settings in the same way as with a regular IGEL OS installation.

✓ The changes are stored on the USB memory stick from which the IGEL OS Creator (OSC) is executed. When you use this USB memory stick for subsequent OSC installations, your custom settings will be re-used. This allows you to easily create a number of IGEL OS installations with custom settings.

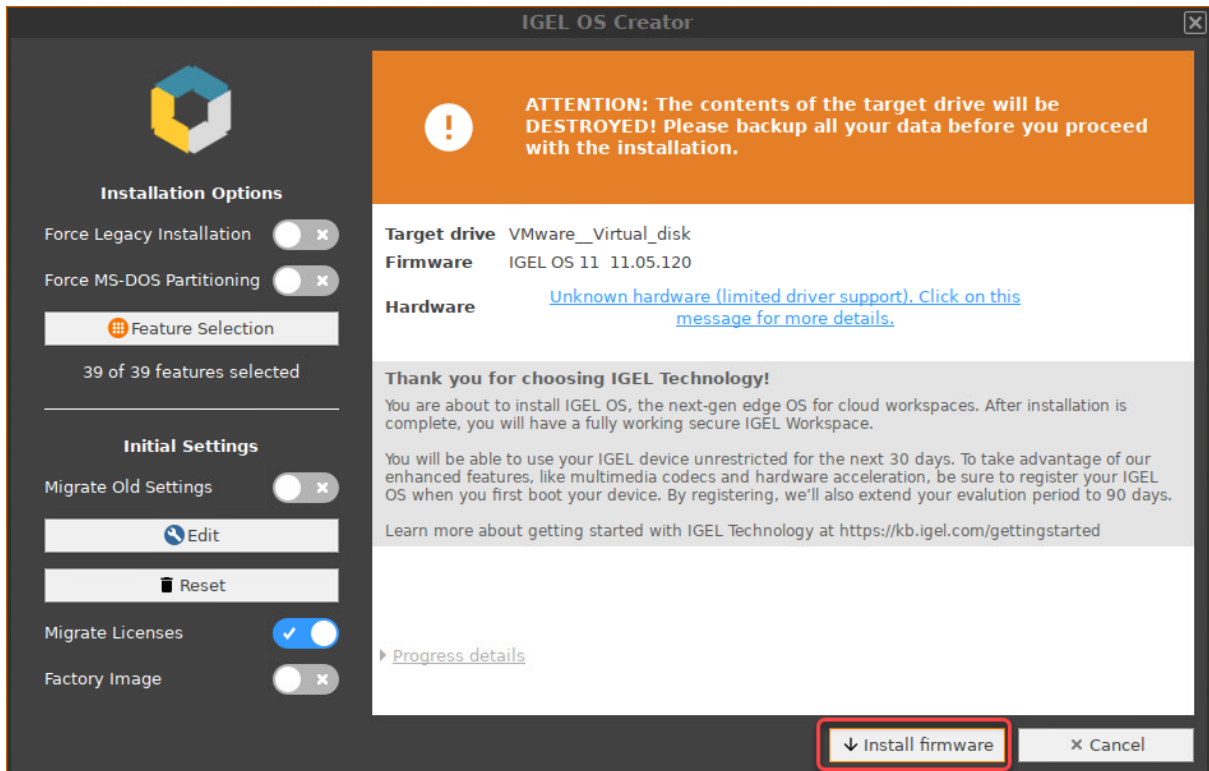
For details about the settings, see the chapters Setup and the subsequent chapters in the IGEL OS Reference Manual.



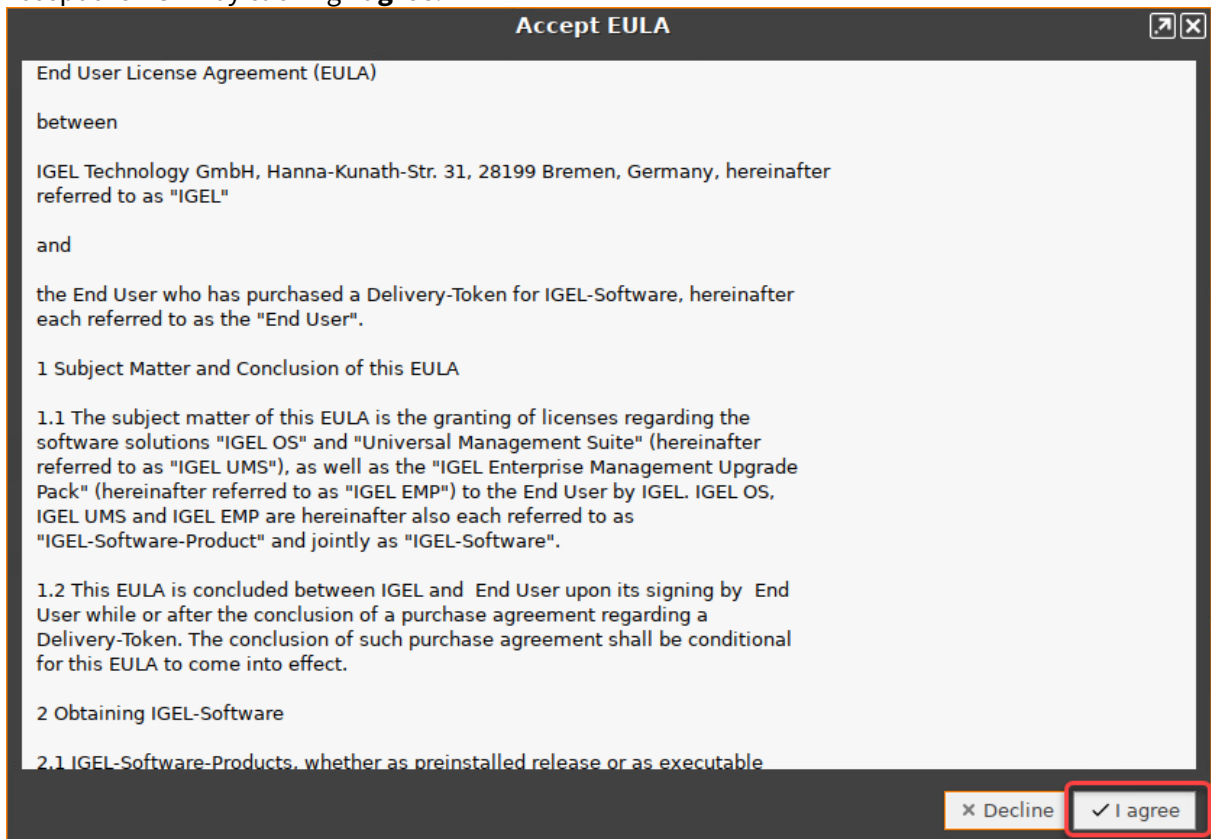
- 9. If you want to undo your changes and restore the original settings, click **Reset**.



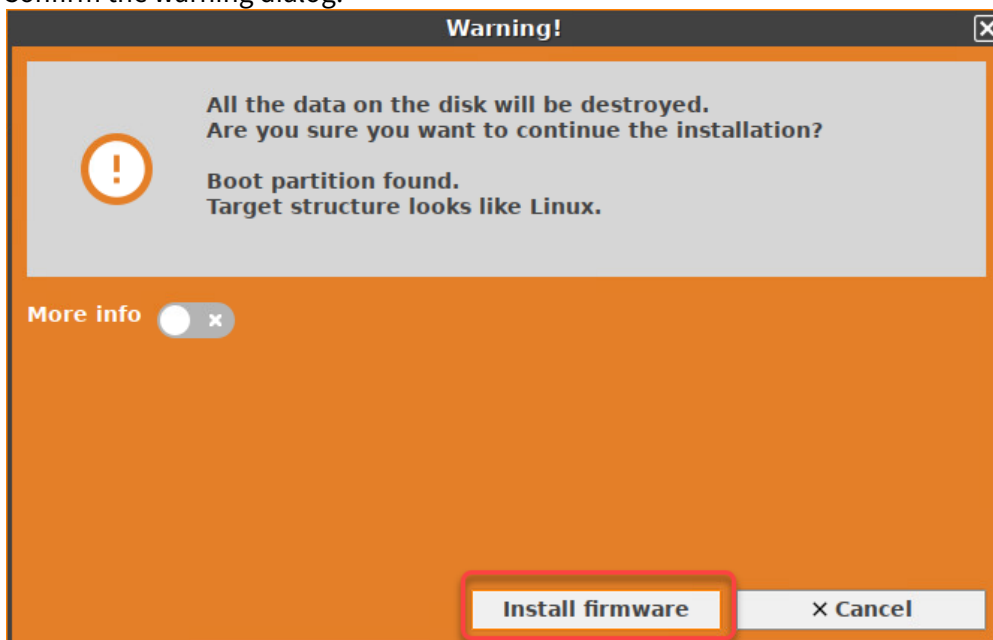
- 10. Click on **Install firmware**.



11. Accept the **EULA** by clicking **I agree**.

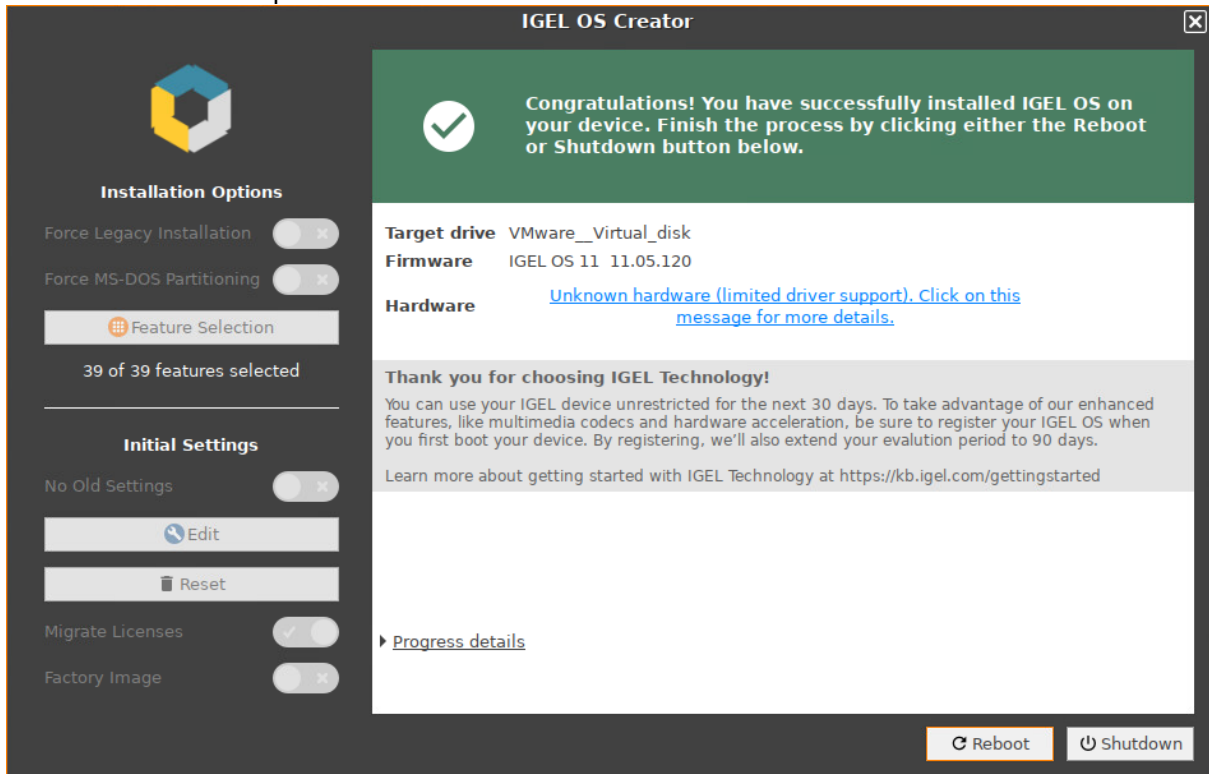


12. Confirm the warning dialog.



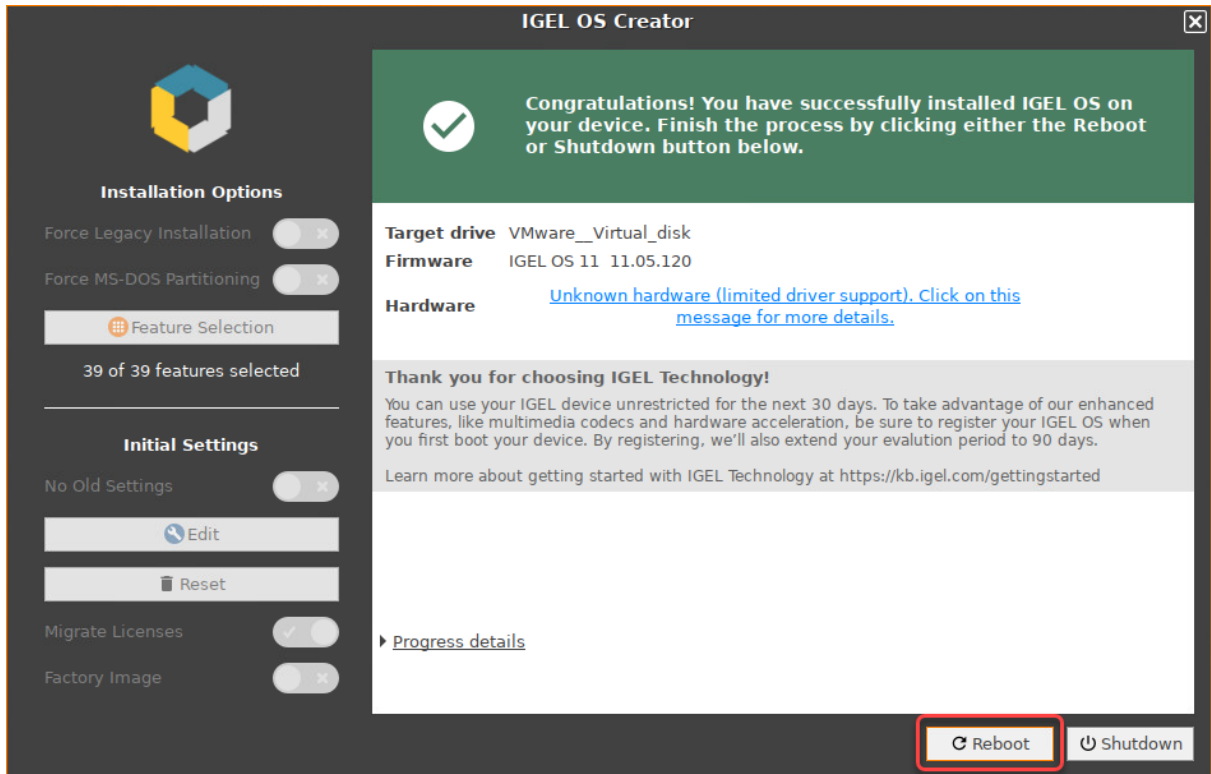
The installation program will install IGEL OS 11 on the target drive. If you see the success message,

the installation is complete.



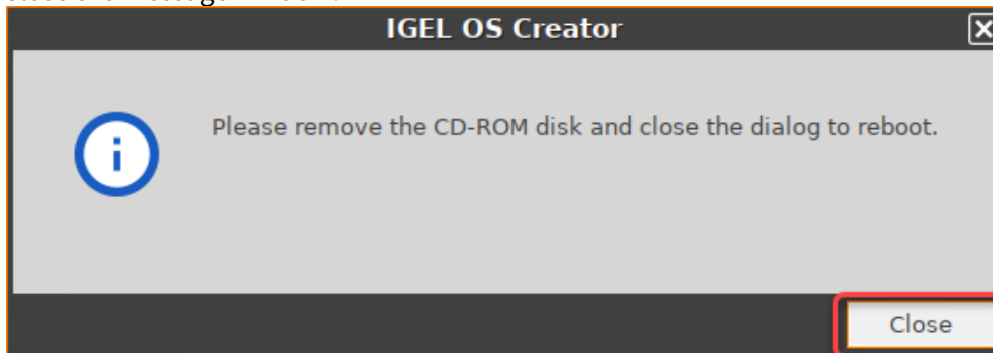
13. Detach any external network adapters from the device. In this way, you ensure that the unit ID for the device is derived from the built-in network adapter. The unit ID will be saved on the device persistently, regardless of any external network adapter that may be used in the future. This is important for licensing.

14. Click on **Reboot**.




15. Remove the USB memory stick.


16. Close the message window.



The system will shut down and then boot IGEL OS 11.

## Installation Procedure for Factory Images

 This description is valid for IGEL OS 11.05.140 or higher.

 The installation will overwrite all existing data on the target drive.

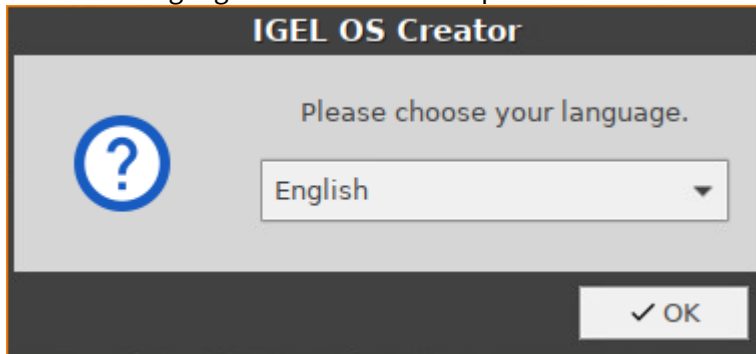
### Preparing the Image

1. Connect the prepared USB memory stick to the target device and switch on the target device.
2. Select **Standard Installation + Recovery** or **Verbose Installation + Recovery**.





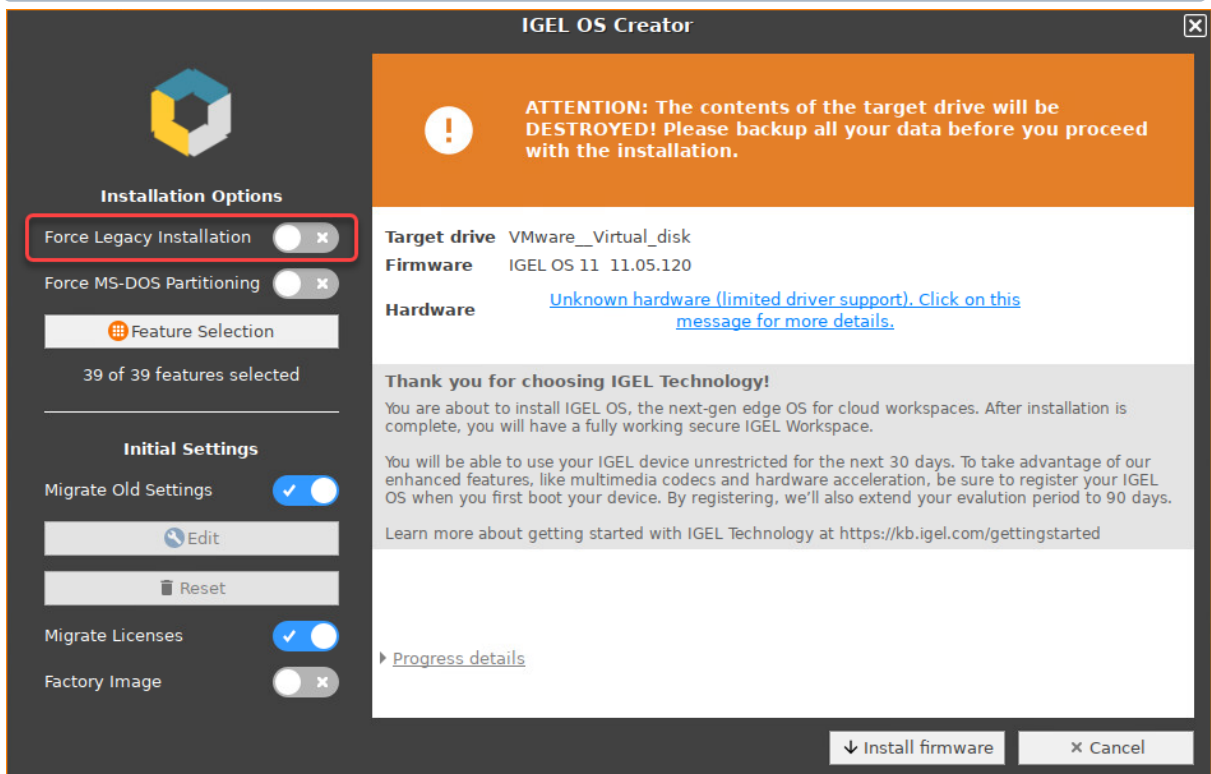
3. Select the language for the installation process.



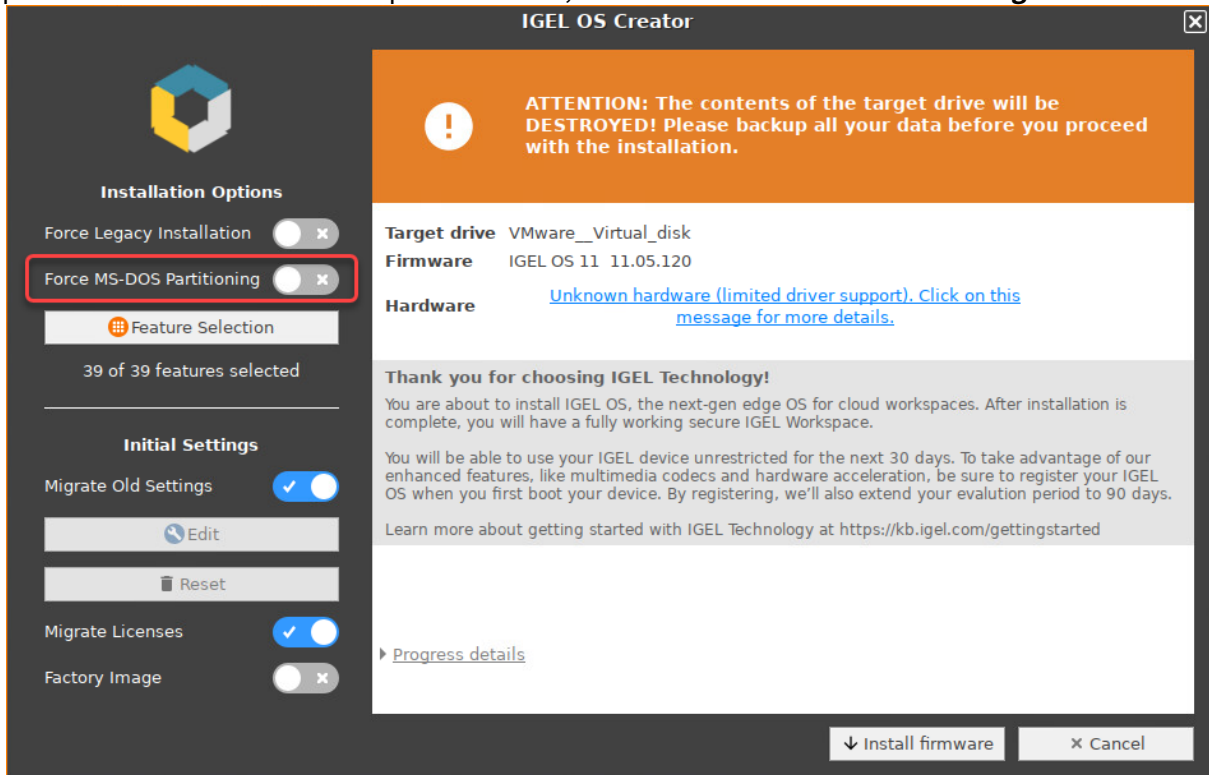
The installation program **IGEL OS Creator** opens. Here, you can configure settings for the installation process and start it.

4. Optional; only available if your device has booted in UEFI mode: If you want to install the legacy/BIOS version of IGEL OS 11, activate **Force Legacy Installation**.

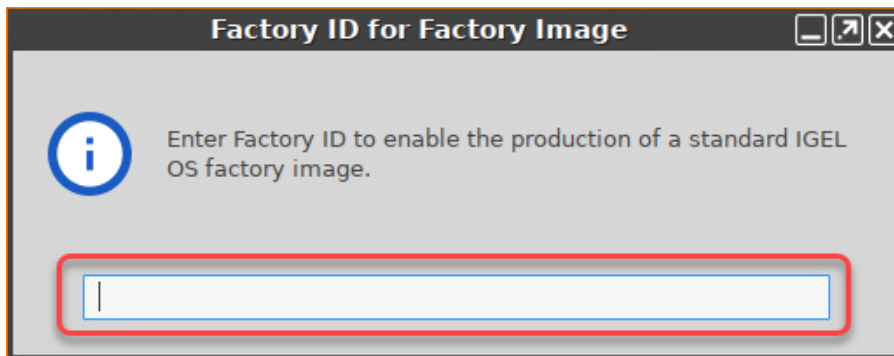
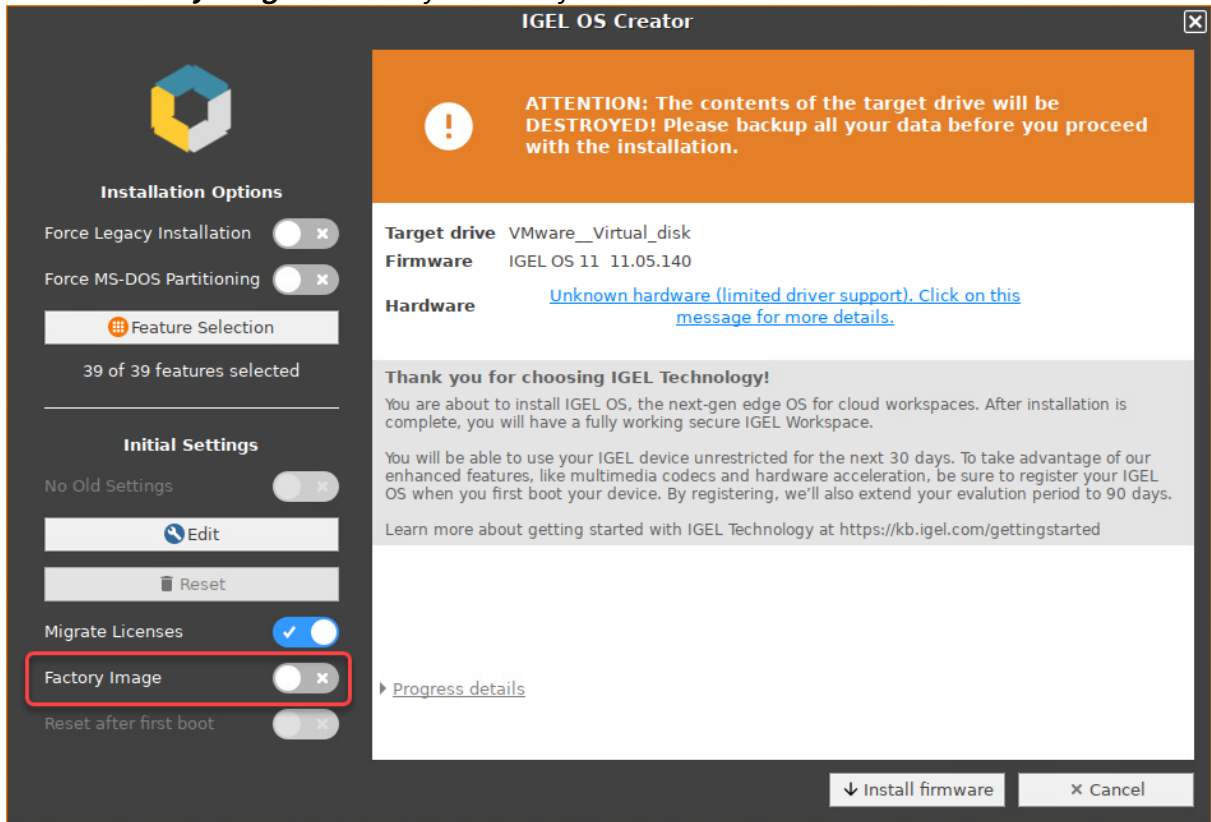
**i** If you have activated **Force Legacy Installation**, remember to set the system to legacy/BIOS mode after installation.



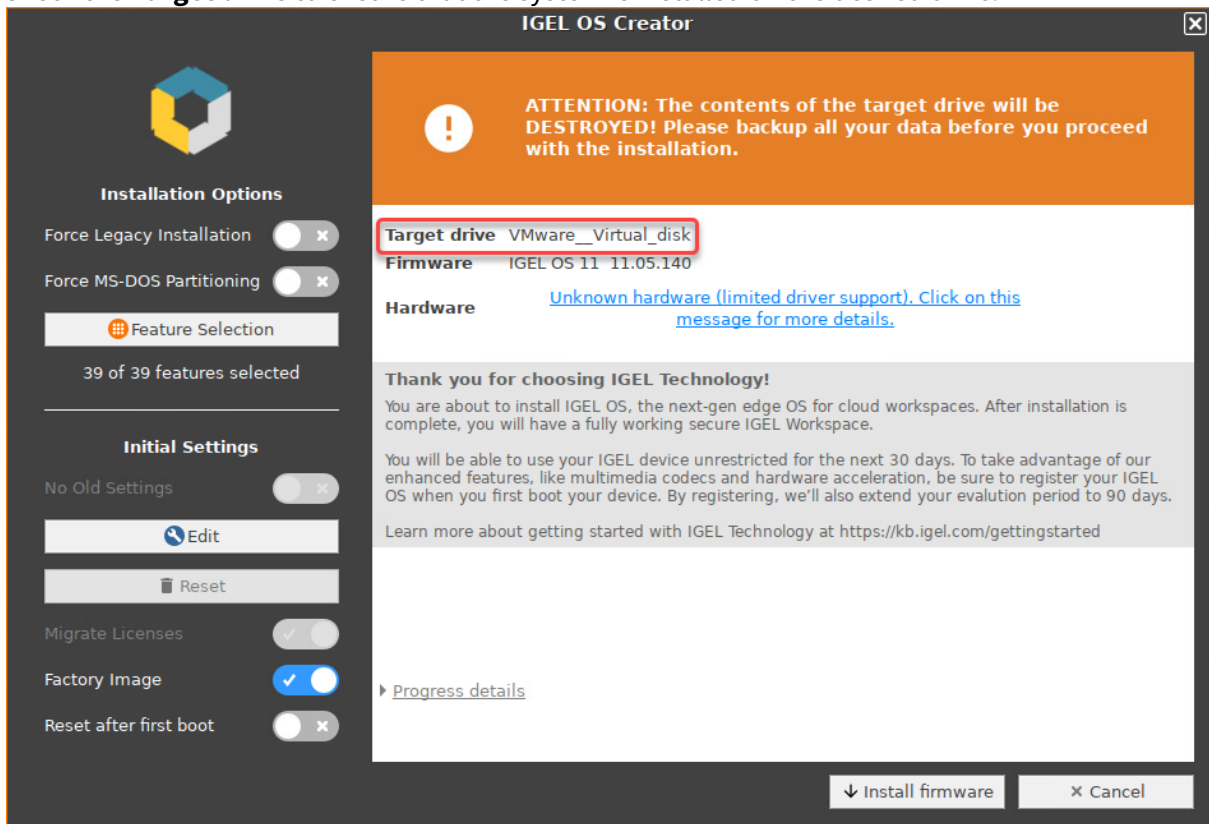
- 5. Optional; only available if your device has booted in UEFI mode: If you want to use an MS-DOS partition table instead of a GPT partition table, activate **Force MS-DOS Partitioning**.



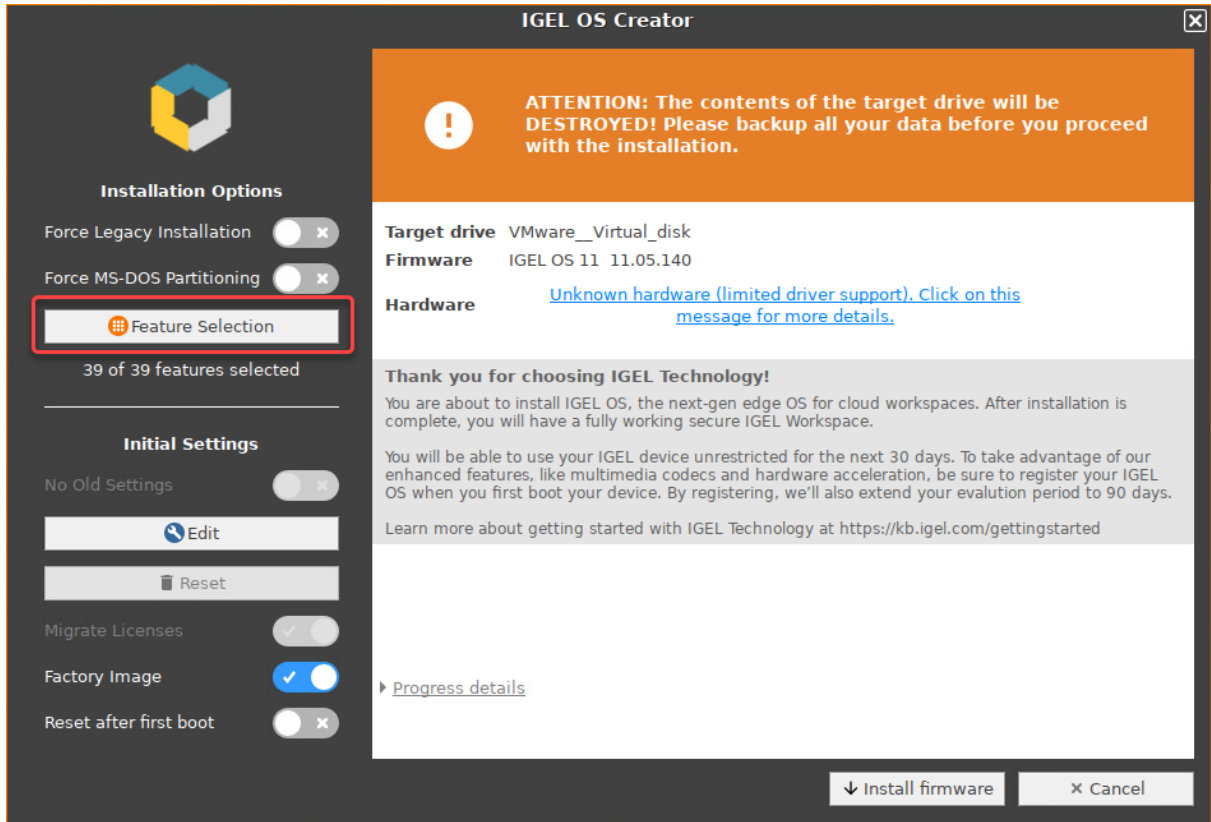
6. Activate **Factory Image** and enter your factory ID.

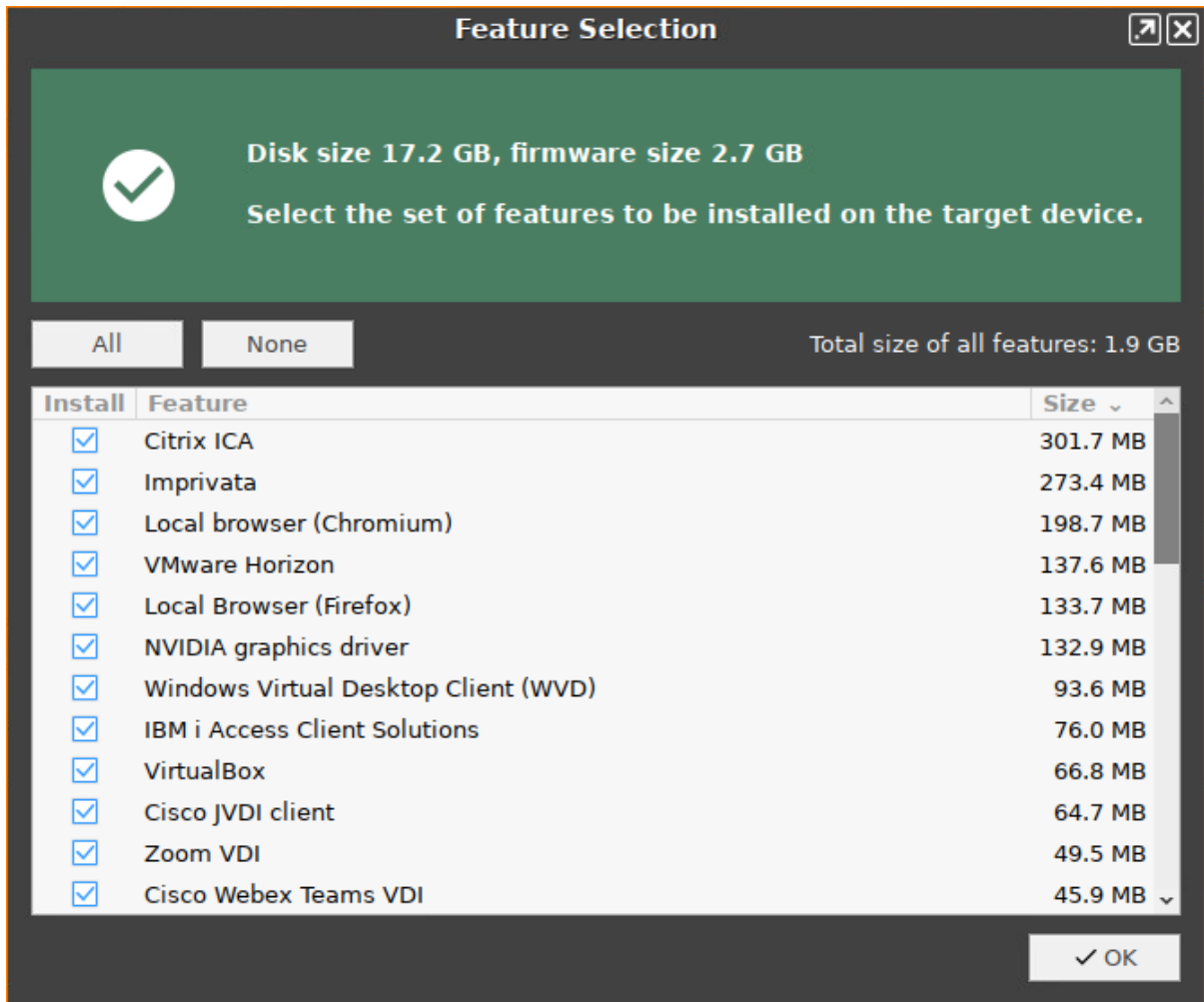


- 7. Check the **Target drive** to ensure that the system is installed on the desired drive.



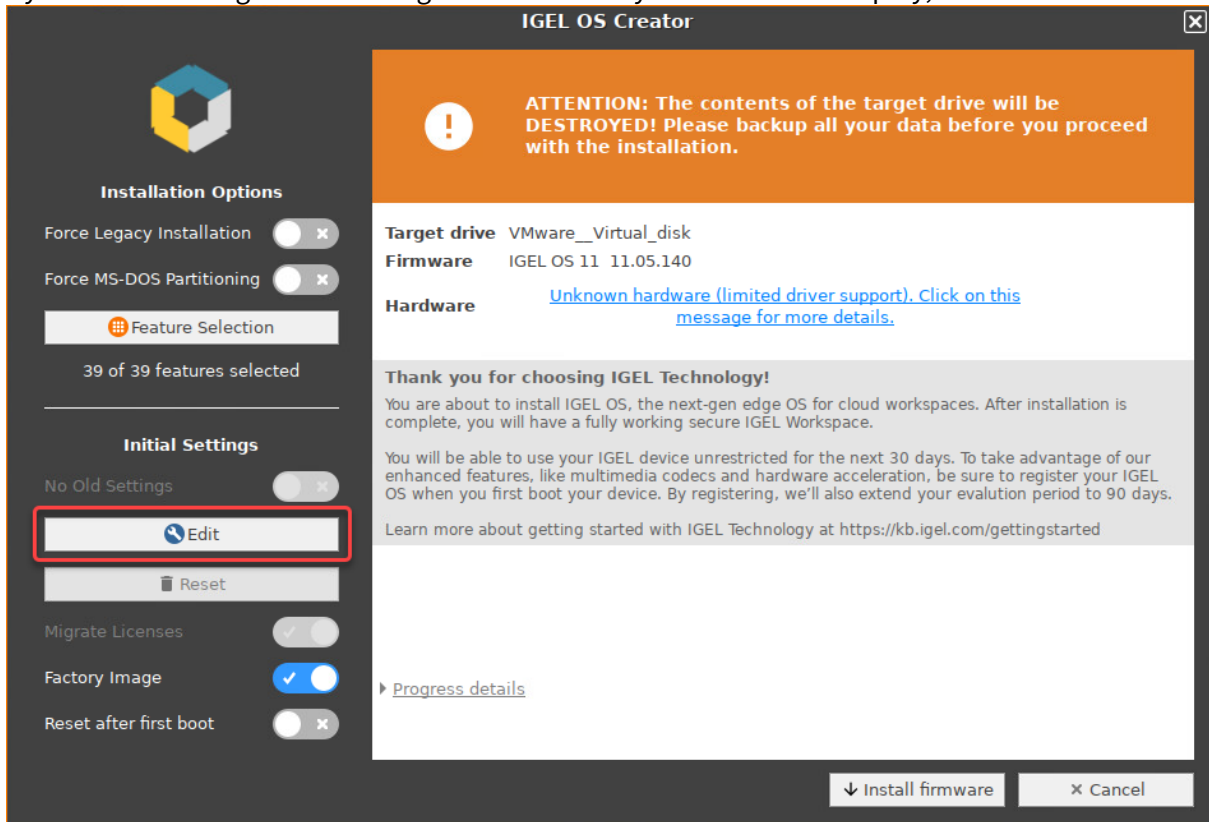
- 8. If you want to exclude features of IGEL OS, e.g. to save storage space, click **Feature Selection** and edit the settings as required.





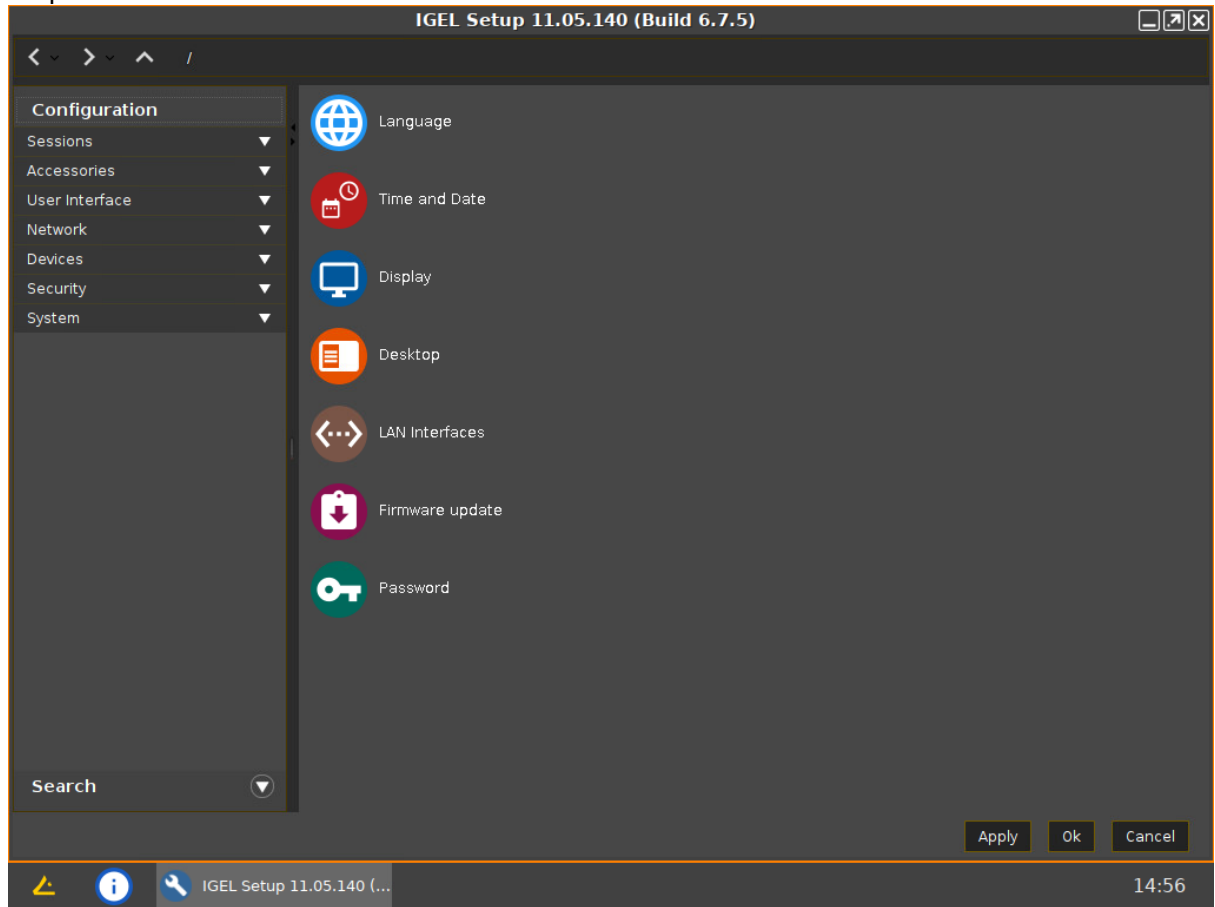
- **All:** Select all features
- **None:** Select no feature
- **Feature:** Sort the list alphabetically
- **Size:** Sort the list by the memory requirements of the features

9. If you want to change initial settings for the devices you are about to deploy, click **Edit**.



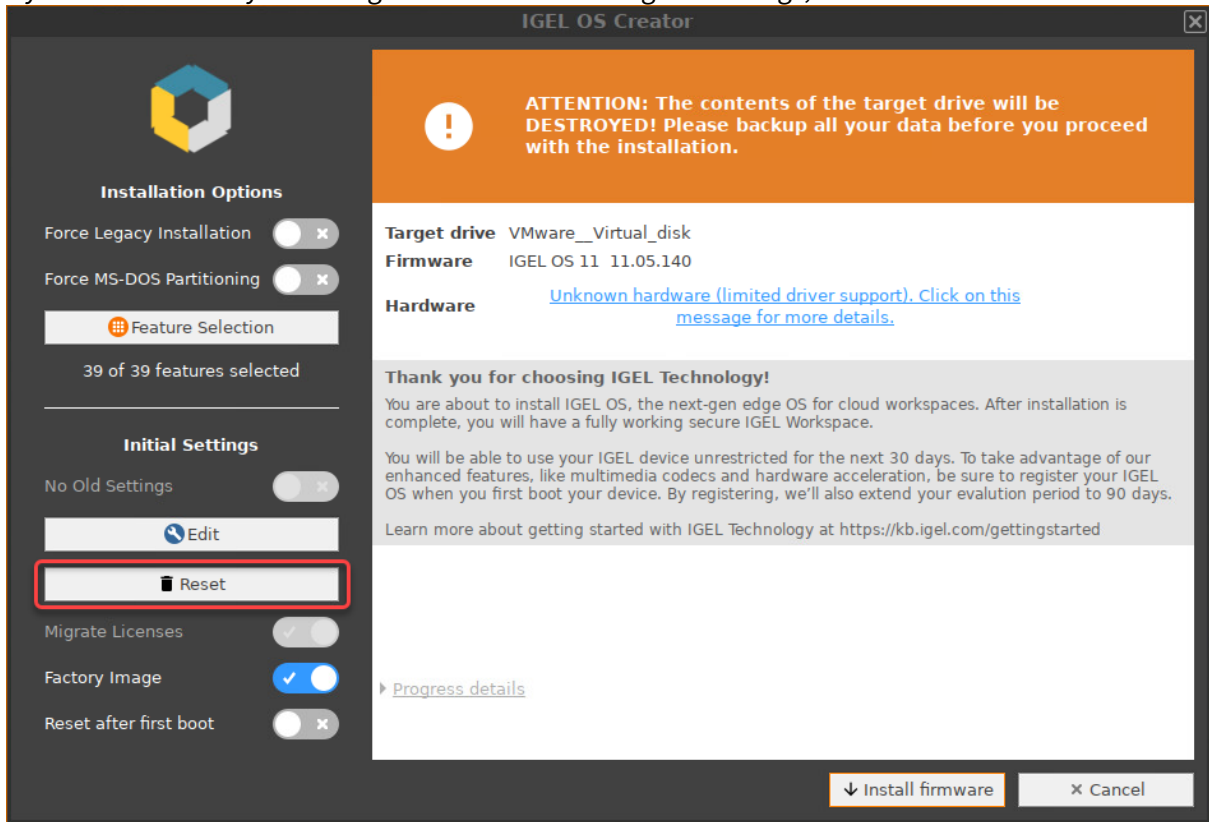
The IGEL Setup opens, enabling you to change the settings in the same way as with a regular IGEL OS installation. The changes are stored on the USB memory stick from which the IGEL OS Creator (OSC) is executed. For details about the settings, see the chapters Setup and the subsequent

chapters in the IGEL OS Reference Manual.





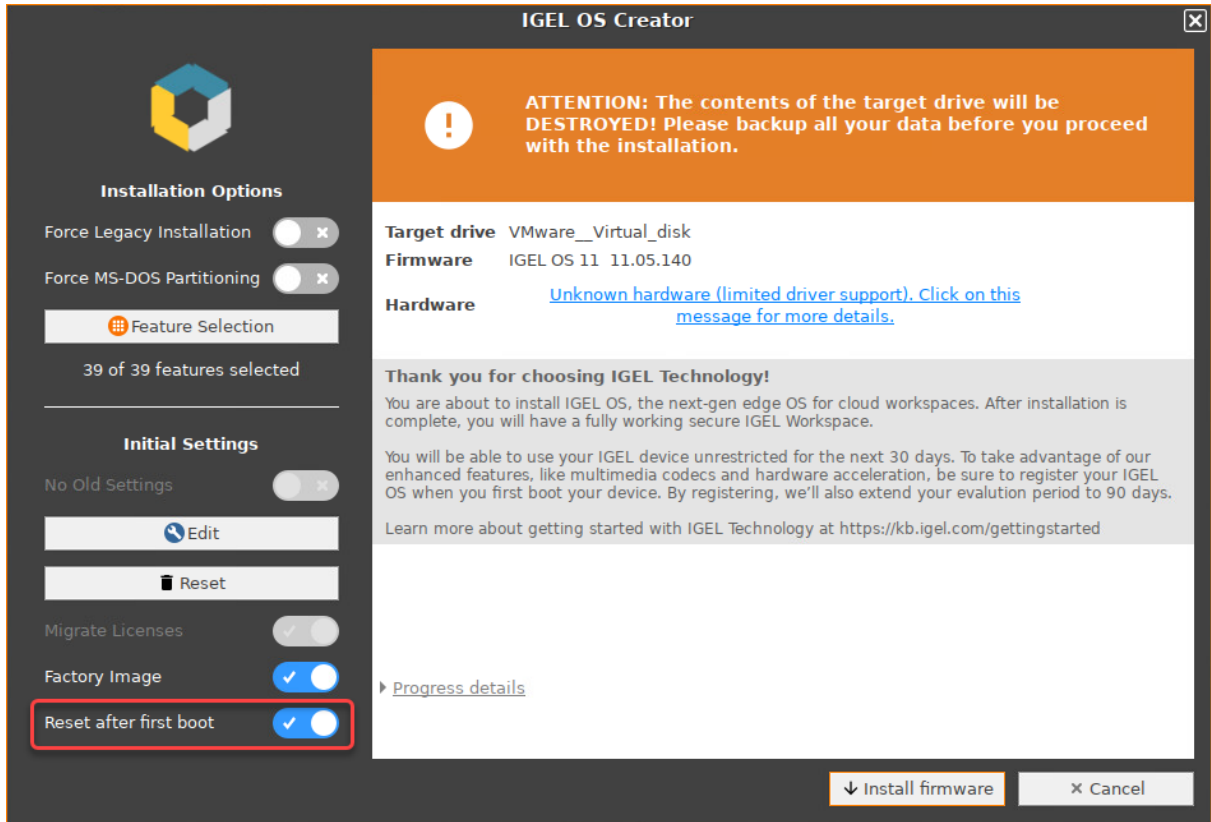
- If you want to undo your changes and restore the original settings, click **Reset**.



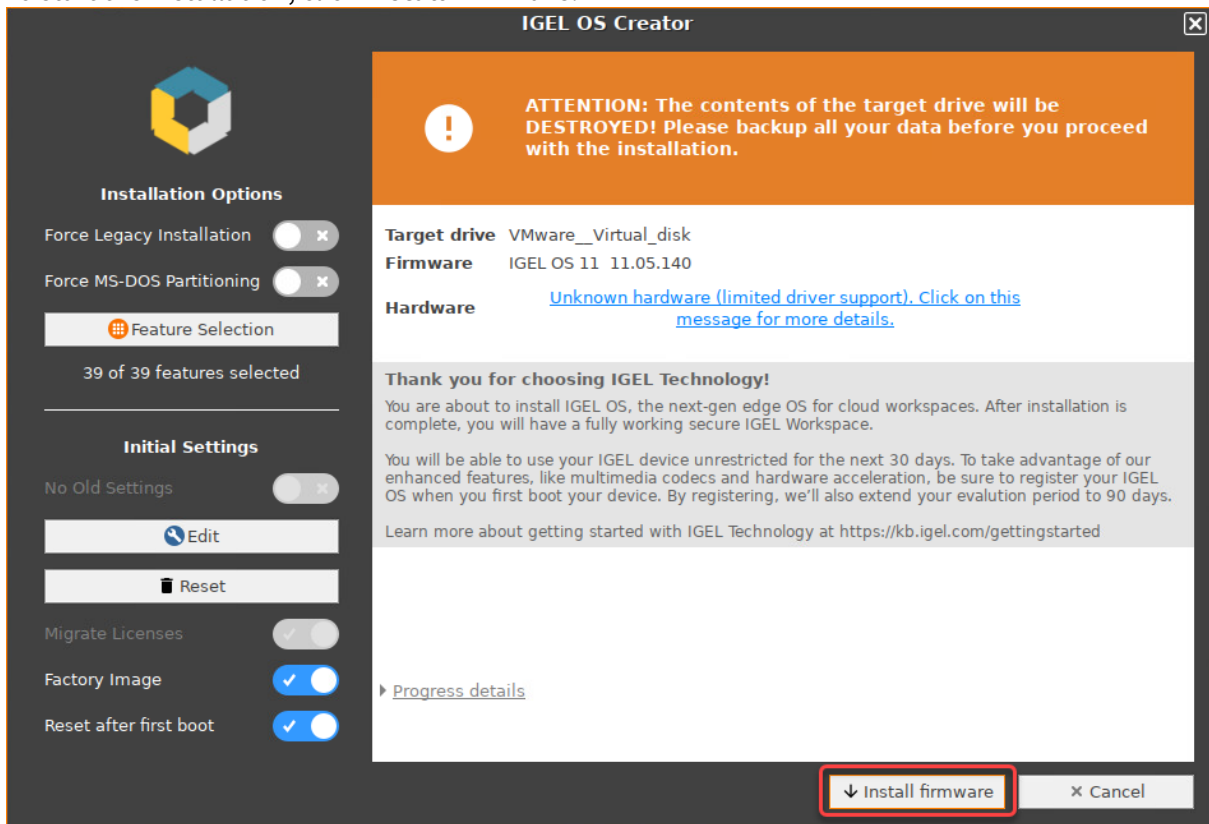
- If you want to change some device settings after the first boot for functional testing, enable **Reset after first boot**. These changes will not be persistent; after the second boot, the image will be restored to its initial state.

**⚠ Important Note**

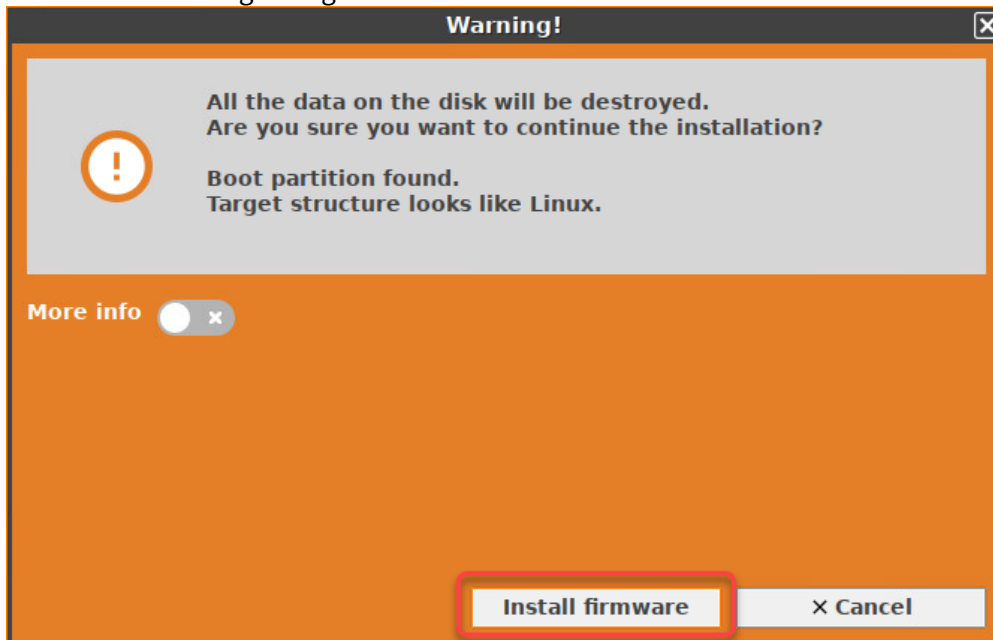
If **Reset after first boot** is activated in your factory preload image, the first boot of your devices **MUST** take place **BEFORE** shipment to end customers!

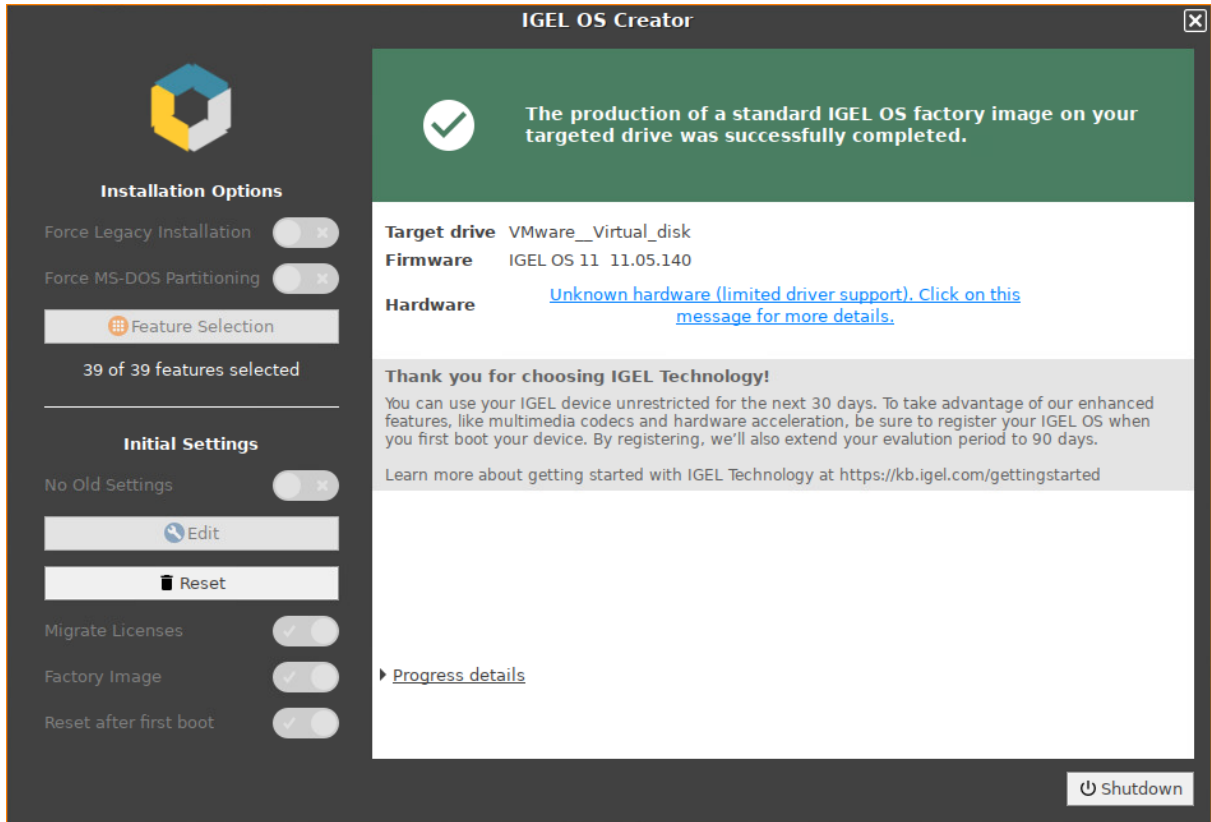


12. To start the installation, click **Install firmware**.



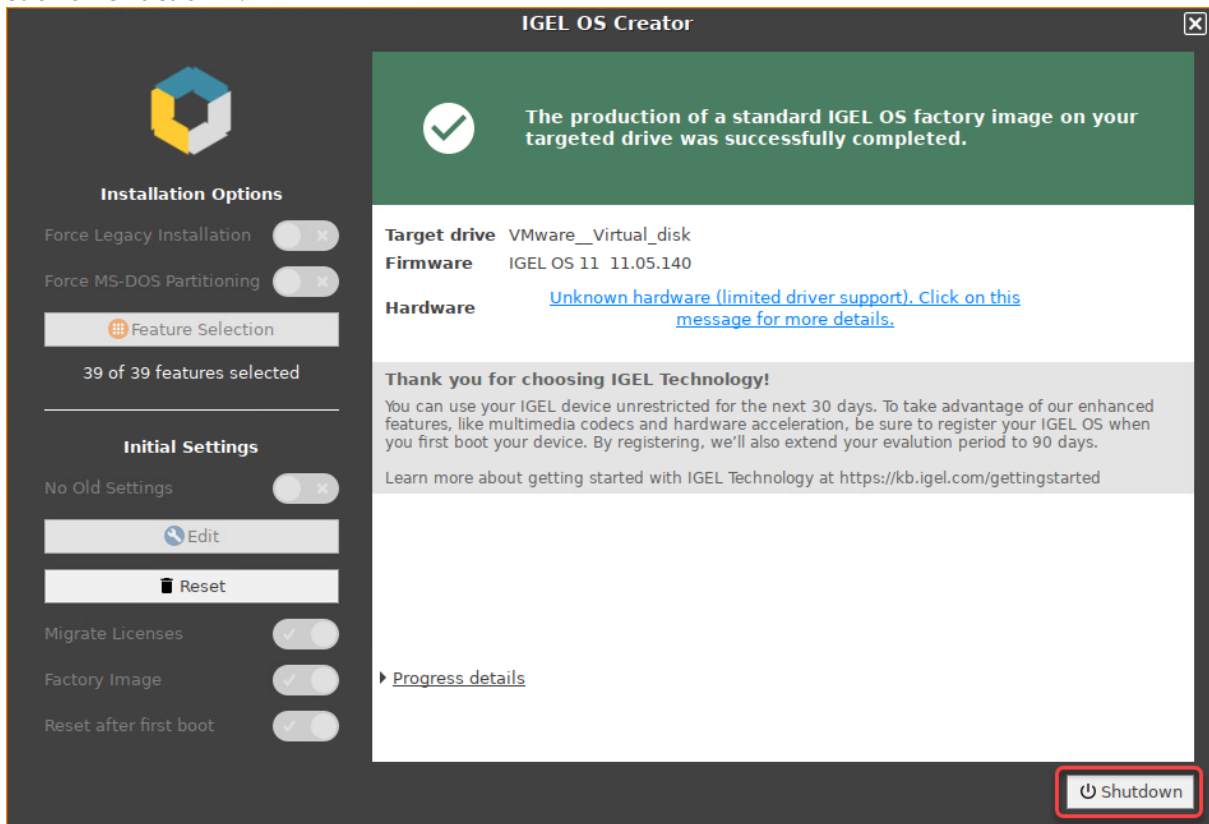
13. Confirm the warning dialog.





The installation program will set up IGEL OS 11 on the target drive. If you see the success message, the installation is complete.

14. Click on **Shutdown**.



15. Read out the image from your device to deploy it on the units.
16. To ensure the integrity of the image, you should create checksums of the original image and of the images that are deployed, and then compare them. For details, see IGEL Endpoint Partners: Ensuring Image Integrity with a Checksum.
17. Proceed as appropriate:
  - If **Reset after first boot** is inactive, you can deploy the images on the units and roll them out straight away. The deployment should include comparing the checksums.
  - If **Reset after first boot** has been activated, deploy the images on the units and continue with [Unit Testing](#) (see page 45). (see page 0)

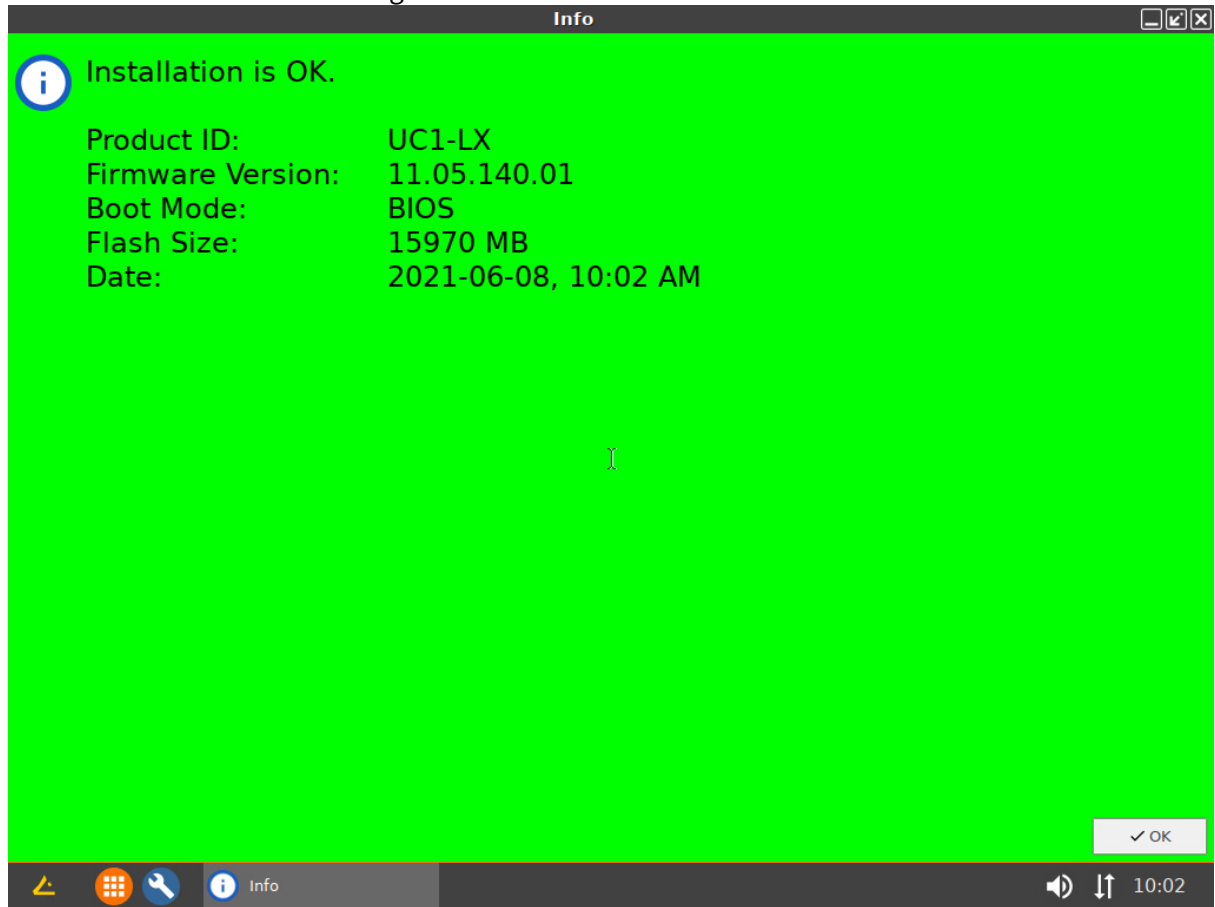
### Unit Testing

Perform the following procedure on the original device and on every unit on which the image has been deployed.

**⚠ Important Note**

The first boot test **MUST** take place with each unit **BEFORE** it is rolled out. (Otherwise, the device would present the green test screen instead of the IGEL Setup Assistant.)

1. Start the device and review the green test screen.



2. Click **OK**.  
You can access IGEL OS in a regular way and perform your tests.
3. Shut the device down.  
The device is ready for roll-out.



## IGEL OS Creator Articles

- [Café Wireless \(Wi-Fi\)](#) (see page 48)
- [Reduce CPU Power Consumption](#) (see page 52)
- [Installing UDC3 on Secunet SINA Workstation](#) (see page 53)
- [Setting up UDC3 on Mobile Devices](#) (see page 55)

## Café Wireless (Wi-Fi)


When you use your mobile device frequently at different Wi-Fi hotspots, automatic Wi-Fi roaming may be useful. This is what IGEL Café Wireless does. The IGEL Café Wireless feature can be used, for instance, with IGEL UDC3. After you have configured your wireless networks, your mobile device is ready to roam.

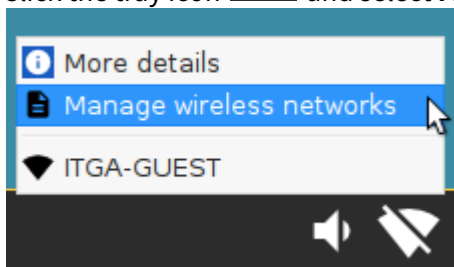
For optimizing the network switchover, please see [Configuring Wi-Fi Network Roaming](#).

If the network's SSID is hidden, see [Connecting to a Wi-Fi Network with Hidden SSID](#).

See also the manual chapter "Wireless".

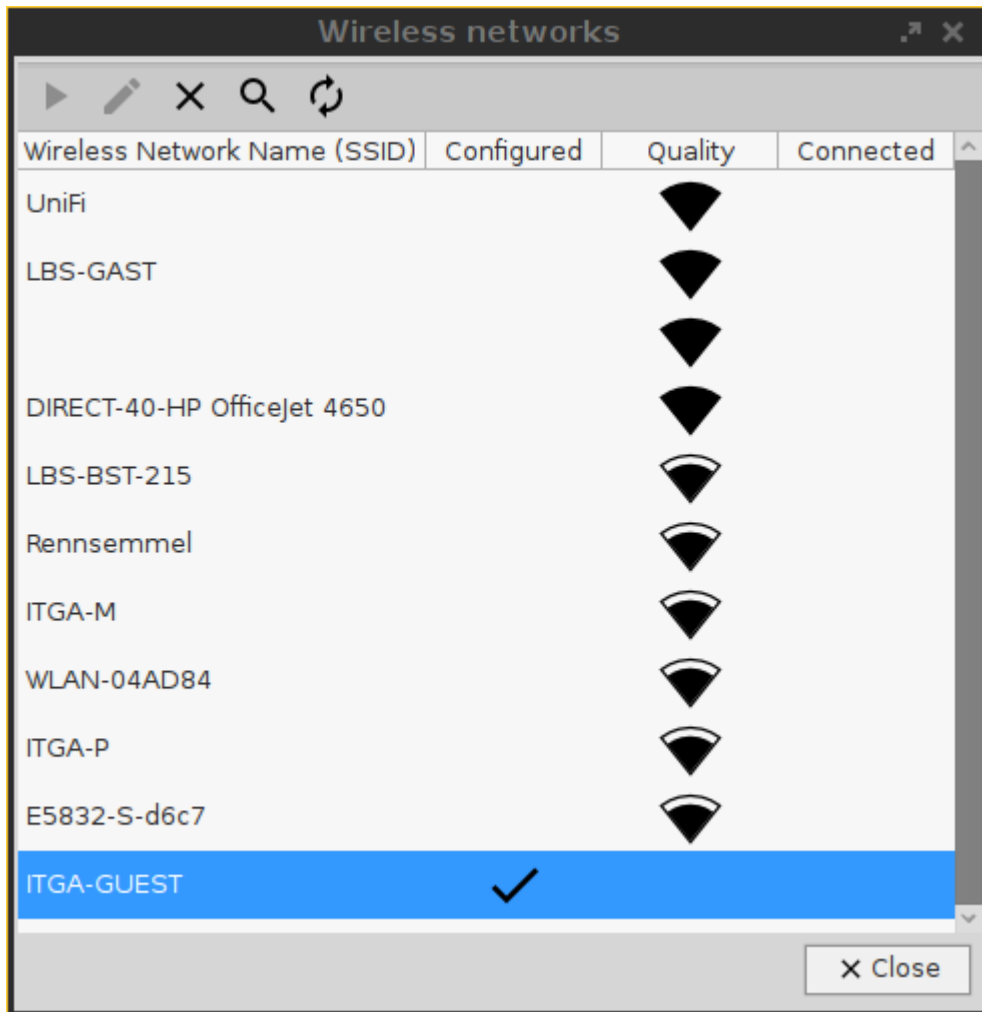
To configure a wireless network with the Wireless Manager:

1. Open **Network > LAN interfaces > Wireless** in the Setup.
2. Enable **Activate wireless interface**.
3. Activate **Enable Wireless Manager**.
4. Click the tray icon  and select **Manage wireless networks**.

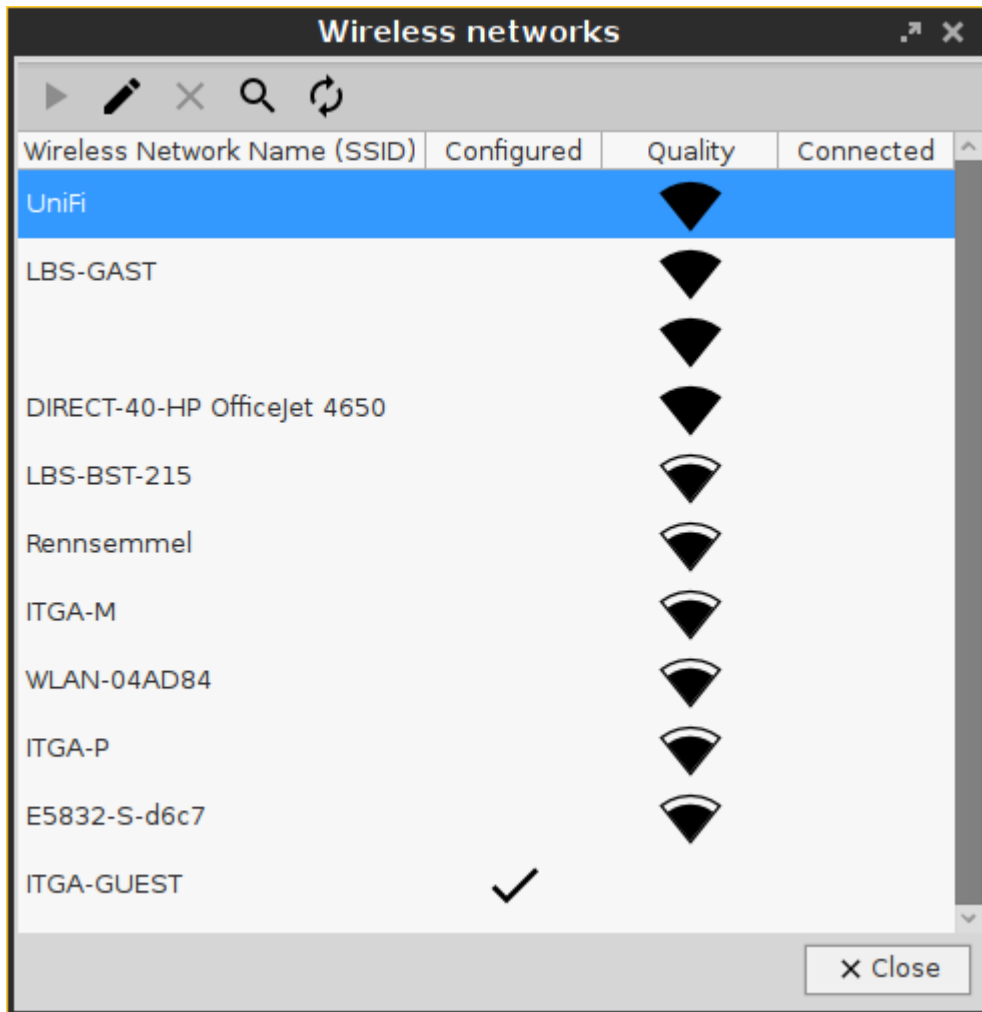


The **Wireless networks** dialog opens. After a few seconds, all wireless networks within reach are shown, sorted by signal strength. Previously configured connections are flagged with a tick in the **Configured** column. The connection currently active is flagged with a symbol under **Connected**.

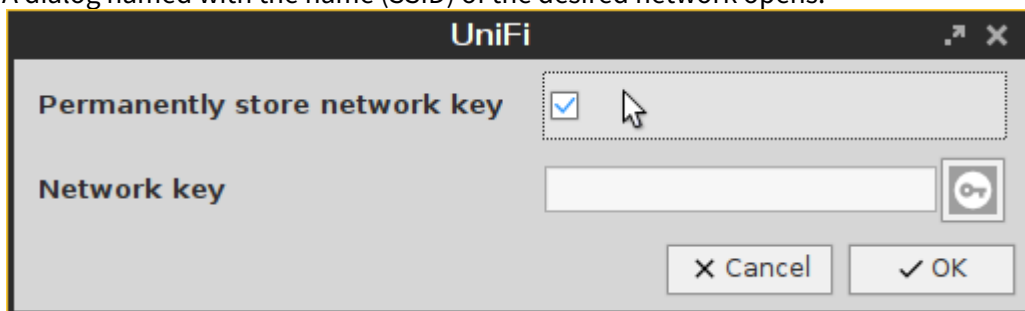





5. Double-click the network to be configured.



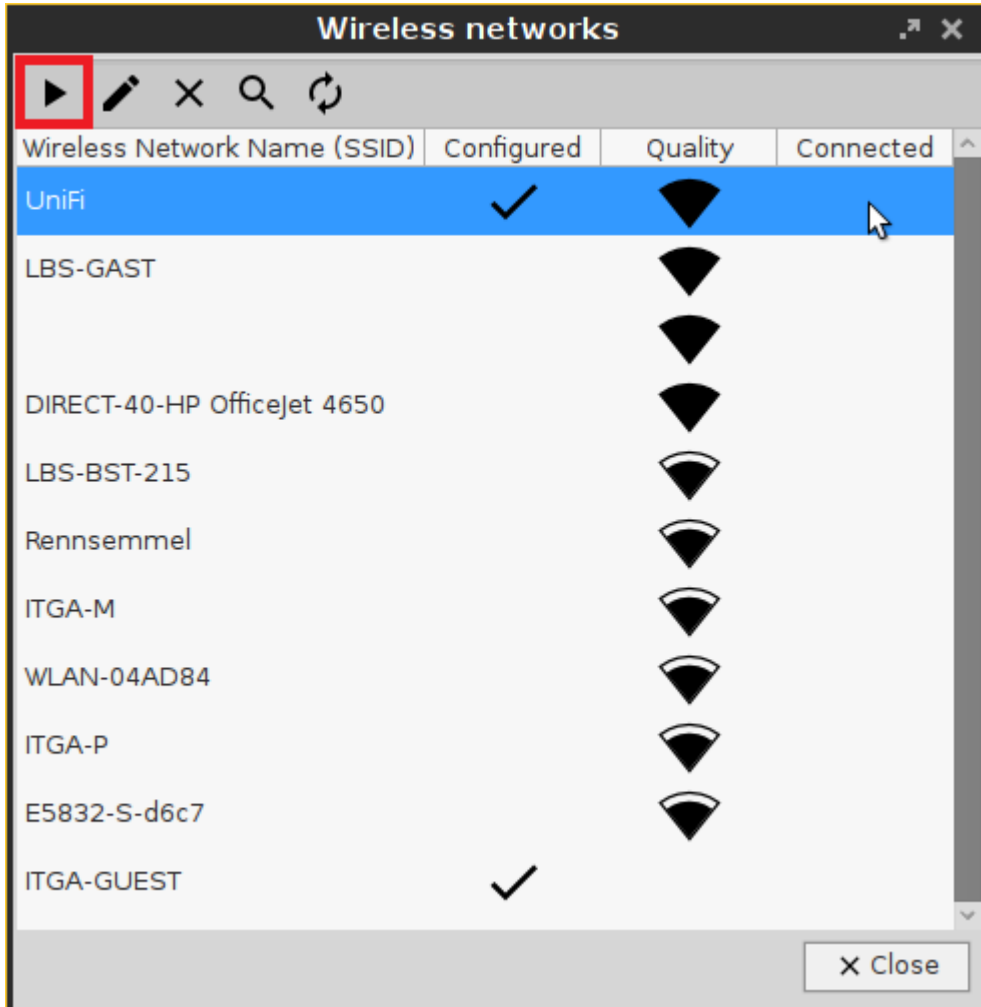
A dialog named with the name (SSID) of the desired network opens.



6. Activate **Permanently store network key** so that your mobile device remembers the network key.
7. Enter the **Network key**. To have the network key displayed while typing, click .
8. Click **OK**.
9. Repeat the steps described above for the remaining networks.

To connect to a configured network manually:

- ▶ Highlight the network and click on ▶ in the **Wireless networks** dialog.



Your mobile device is connected to the wireless network. The icon




shows the network's current signal strength.

## Reduce CPU Power Consumption


### Reduce CPU Power Consumption

When you are using the *IGEL Universal Desktop Converter (UDC2)* on a mobile device in battery mode, you might want to reduce power consumption. One major power consumer is your CPU.

You can easily gain some control over the power consumption of your CPU using the tray icon  (**CPU Power Plan**) on your taskbar.

► If the tray icon is not displayed, open the IGEL Setup, go to **System > Power Options > System** and activate **Tray Icon**.

To change the CPU power settings:

1. Click on .
2. Select the appropriate option. **High Performance** gives you the highest performance, but also the highest CPU power consumption, **Power Saver** results in lowest performance and lowest CPU power consumption. The other options are in between.  
For further information about the power plan settings, see the [system \(see page 52\)](#) chapter in the manual.

## Installing UDC3 on Secunet SINA Workstation

To install IGEL Universal Desktop Converter 3 on a SINA workstation, proceed as follows:

1. Download the UDC3 zip file under [IGEL Software Download](https://www.igel.com/software-downloads/)<sup>5</sup> and unzip the file.
2. Copy the ISO image to an USB stick.
3. Start the SINA workstation
4. Click **Administration > Volumes** in the navigation bar.
5. Click **+ Add item** at the bottom of the screen to add a new item.
6. Enter a distinct name for the volume in the **Name** field top right.  
The target drive is already specified.
7. Click **New CFS** under **Select volume type**.  
The form expands.
8. Choose the preconfigured **Security domain, Cipher algorithm** and **Hash algorithm**.
9. Click **Define Guest system** under **CFS content**.  
The form expands.
10. Enter a distinct name for the system under **Guest system name**.
11. Choose **2 GiB** as minimum for the **Guest system size**.
12. Select **Disabled** under **Quarantine**.
13. Click **Create**.

The system will now create the volume. This may take a while - depending on the size of the guest system.

1. Go to **Administration > Volumes** and click the new volume.  
Next to it a little form opens.
2. Open **Guest systems**.  
You will see the volume you've created.
3. Click **Local** under **Add guest system from...** to add the ISO image to this volume.  
The form expands.
4. Plug the USB Stick with the ISO image into the workstation.
5. Choose the stick as **Device** and the ISO image as **Guest system image**.
6. Click **Add** at the bottom of the form.

The system now adds the ISO image to your new volume. This will take a while.

1. Switch to the **Workplaces** menu.
2. Click **+ Add item** at the bottom of the screen.
3. Enter a distinct name for the workplace in the **Name** field top right.
4. Choose the **Guest system** you've created. It has a small hard disk icon.
5. Choose the ISO image under **Secondary guest system**. It should have a small CD icon.
6. Select **Secured networking** under **Network mode**.
7. Choose your preferred settings under **Display layout, Workplace hotkey** and **Audio mode**.
8. Select **CD/DVD** under **Boot order**.
9. Select **Automatic reservation** under **IP to claim** and **MAC to claim**.
10. Select **Ubuntu** as **OS type**.
11. It is not necessary to activate the **Detailed settings**.

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<sup>5</sup> <https://www.igel.com/software-downloads/>


12. Click **Create**.

The system now creates the workplace.

1. Click on the new workplace.  
Next to it a little form opens.
2. Click **Launch** to start the workplace.  
The IGEL Universal Desktop Converter starts.
3. After a few second you will see this screen:



4. Keep the first selected item **Boot IGEL UD Converter**.  
The conversion process starts.  
Next you will see the blue IGEL Linux background.  
A little popup appears.
5. Choose your desired **language**.
6. Agree the **license agreement**.
7. Install the IGEL Linux OS to the workspace.

 Be aware, that all data of the volume will be deleted. That's why you should always create a new volume for the IGEL Linux OS.

## Setting up UDC3 on Mobile Devices


- [Multi Monitor Environment](#) (see page 56)
- [Presentation Mode](#) (see page 57)
- [Display Brightness](#) (see page 58)
- [Power Management](#) (see page 59)
- [Wireless Manager \(Café Wireless\)](#) (see page 60)
- [Shortening Network Timeouts in Mobile Scenarios](#) (see page 61)
- [Battery Level Control](#) (see page 63)

## Multi Monitor Environment

If you use your notebook in an office workstation, you can use a multi monitor environment.


To configure the display for multiple screens, use the **Display Switch**.

Respective Tray Icon:

Tray Icon Name	Icon	Where to configure
Display Switch		Menu path: <b>Setup &gt; Accessories &gt; Display Switch</b>

Activating the Display Switch:

1. Enable the **Display Switch** in the **IGEL Setup** under **Accessories > Display Switch**.
2. Select **Quick Start Panel** as a starting method.  
The **Display Switch** icon is shown in the quick start panel.
3. Click the icon to open the display configuration dialogue.
4. Switch between simple and advanced settings.

-  For a detailed description, see the manual, chapter Display Switch.  
Here you can find additional instructions concerning monitor settings:
- How-To Dual Screen
  - Manual topic RDP Global > Window




## Presentation Mode

You are using your mobile device for a presentation. You neither want the monitor to enter power saving mode nor to start the screensaver during the presentation.

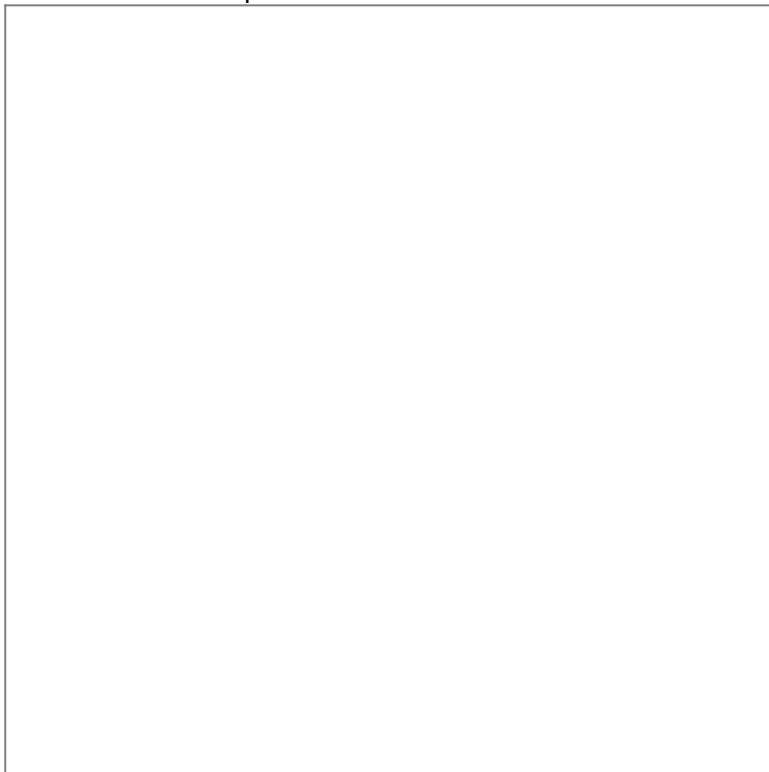
For this situation, use the **Presentation Mode** which disables the DPMS and the screen saver.

Respective Tray Icon:

Tray Icon Name	Icon	Where to configure
Notebook BAT		Menu path: <b>Setup &gt; System &gt; Power Options &gt; Battery</b>

Activating the **Presentation Mode**:

1. Right-click the battery symbol in the system tray.  
The context menu opens:




2. Click **Presentation Mode** to enable/disable it.

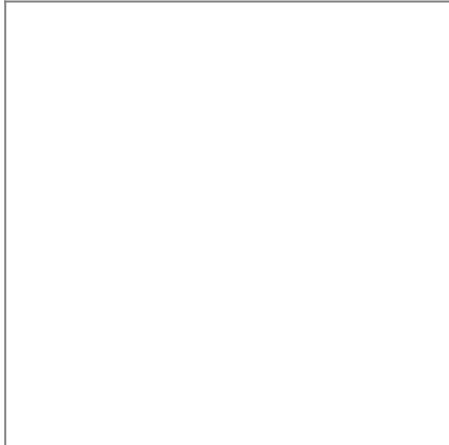
## Display Brightness

In order to preserve the battery you want to reduce the display brightness.

Respective Tray Icon:

Tray Icon Name	Icon	Where to configure
Notebook BAT		Menu path: <b>Setup &gt; System &gt; Power Options &gt; Battery</b>


1. Right-click the battery symbol in the system tray.  
The context menu opens.
2. Click the slider of the brightness display to reduce the **Display Brightness**.



## Power Management

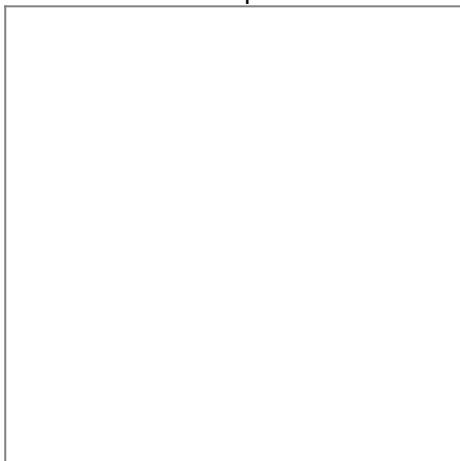
You are using your mobile device in battery mode and need to reduce power consumption to preserve the battery. To save power, set CPU power options to scale the CPU frequency down.

Respective Tray Icon:

Tray Icon Name	Icon	Where to configure
CPU Power Plan		Menu path: <b>Setup &gt; System &gt; Power Options &gt; System</b>

Setting CPU power options:

1. Click the CPU Power Plan icon in the system tray.  
The context menu opens.



2. Select the appropriate mode.

**i** Here you can find additional instructions concerning the power management:

- Define the **CPU Power Plan, Critical Battery Level, Standby Time or Suspend Time, Brightness reduction, and Shut-down Options**. See the manual, chapter System > Power Option > System.

## Wireless Manager (Café Wireless)

If you are traveling with your notebook, you need to handle different WiFi connections.

You can use **Café wireless** to configure different wireless network connections.

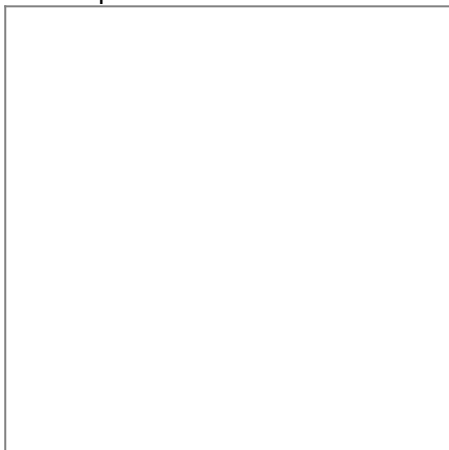
Respective Tray Icon:

Tray Icon Name	Icon	Where to configure
Wireless Network Connection		Menu path: <b>Setup &gt; Network &gt; LAN Interfaces &gt; Wireless</b>


Defining **Café wireless**:

1. Enable the **Wireless Manager** under **Network > LAN Interface > Wireless**.

Set all options:



2. Click the WiFi tray icon in the right corner of the panel.
3. Open the **Wireless Manager** dialog.

 You can find the complete instruction in the manual, chapter Wireless Manager.

## Shortening Network Timeouts in Mobile Scenarios

When on the road with their UDC2 mobile device, users often experience slow system startup. This is due to the system waiting for network connections or the UMS which are not available in the mobile scenario. This document describes how to minimize waiting by shortening various timeouts.

### Don't Wait for Wired Network

When an Ethernet interface is configured but not physically connected, startup is delayed by default. The goal is to give the user an opportunity to plug in the network cable. If this is not desired, as of IGEL Linux version 5.10.100 waiting can be turned off.

1. In Setup, go to **System > Registry**.
2. Go to the `network.interfaces.ethernet.device[number].nolink_nowait` registry key. Replace [number] with:
  - 0 for eth0, the first Ethernet interface
  - 1 for eth1, the second Ethernet interface
3. Enable **No waiting without physical link**. By default, this option is disabled.

### Don't Contact UMS Unless Specific Network Devices Are Up

Startup is also delayed because the system tries to contact UMS by default, which may not be available in a mobile scenario. You can configure IGEL Linux version 5.10.100 to contact UMS only if one of the network devices in a whitelist is up.

1. In Setup, go to **System > Registry**.
2. Go to the `system.remotemanager.device_whitelist` registry key.
3. Put a space-separated device list into the **Network device whitelist** field. Only if at least one of these devices is up, the system will try to contact UMS. Device names:
  - First Ethernet adapter: `eth0`
  - Second Ethernet adapter: `eth1`
  - Wireless: `wlan0`
  - Mobile broadband: `ppp10`
  - OpenVPN: `tun0`

### Don't Contact UMS Unless Specific Networks Are Available

You can configure IGEL Linux version 5.10.100 to contact UMS only if one of the networks in a whitelist is reachable.

1. In Setup, go to **System > Registry**.
2. Go to the `system.remotemanager.network_whitelist` registry key.
3. Enter a space-separated list of networks in CIDR notation into the **Network whitelist** input field, e.g. `172.30.0.0/16 192.168.100.0/24`. If there are entries in this field, the system will only try to contact UMS if one of the device's current IP addresses happens to be in one of these ranges.

### Shorten the UMS Timeout

When different environments cannot be distinguished by the previous two mechanisms, as of IGEL Linux version 5.10.100 the startup delay can be reduced by setting a shorter timeout for connections to the UMS.

1. In Setup, go to **System > Registry**.

2. Go to the `system.remotemanager.rmagent_timeout` registry key.
3. Enter an integer number of seconds into **IGEL Remote Management Timeout**. The default is 90.

#### Don't Wait for All Network Interfaces

You can configure IGEL Linux to wait only for one of the network interfaces to be up instead of all. This also means that error messages concerning Ethernet devices will only be displayed shortly.

1. In Setup, go to **System > Registry**.
2. Go to the `network.global.waitfor_interfaces` registry key.
3. Disable **Wait for interfaces to come up**. By default, this option is enabled.

## Battery Level Control

Since Linux *version 10.03.100* it is possible to display the battery level of a mobile device via UMS. The frequency of the battery level reports sent by the device to the UMS can be adjusted: A report is triggered when the battery status has changed at a specified percentage compared to the previously reported status. The percentage is specified by the **Battery status update frequency** parameter.

Example use case: The IT administrator in a hospital has to take care of battery-powered medical devices. Using the new feature, he can easily keep track of all these devices via the UMS, without any need of physical access or mirroring VNC.

To adjust the report frequency:

1. In Setup, go to **System > Registry**.
2. Go to the `system.remotemanager.battery_report_frequency` registry key.
3. Select the **Battery status update frequency**:
  - Often
  - Normal
  - Rarely
  - Very Rarely
  - Never
4. Click **Apply** or **Ok**.