

Kinect

Kinect is a line of motion-sensing input device made by Microsoft. It is a depth-sensing camera featuring a RGB camera and Depth Sensor.

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- [Use Kinect in TouchDesigner](#)

Install Drivers

Kinect for Windows and Azure require different drivers and SDK. Identify your Kinect and install the corresponding SDK from below.



Kinect for Windows V2



Azure Kinect

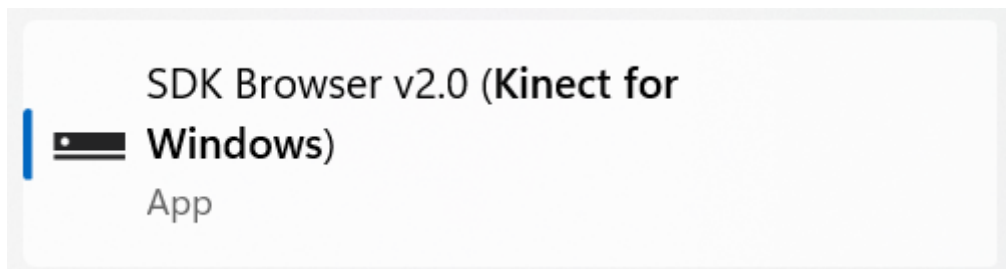
Kinect for Windows V2

Download and install the Kinect for Windows SDK 2.0

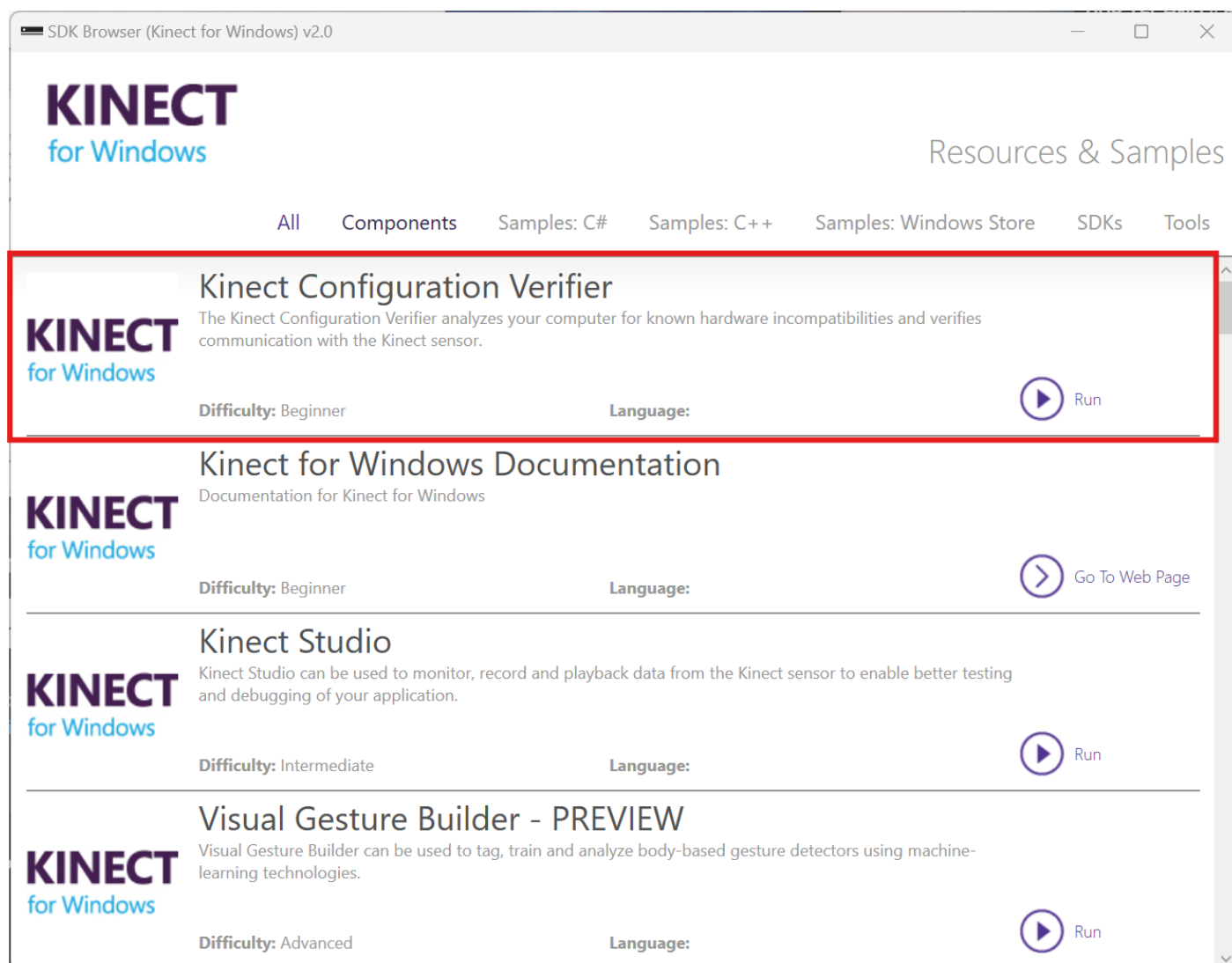
[Download Kinect for Windows SDK 2.0 from Official Microsoft Download Center](#)

After you install the SDK, connect your Kinect to your computer, make sure the power supply is connected, the usb cable only transfer data.



Head to SDK Browser v2.0 to find the SDKs and Documentation. You don't need to touch the SDKs to use Kinect, but the installation is required for other application to run on it.




Use the Kinect Configuration Verifier to check if Kinect is working properly. It may take some time to run, if you can see the color and depth image in the last section, then everything is all set now.





Kinect v2 Configuration Verifier





Configuration Verifier


 Update Configuration Definitions


 Operating System


 Processor Cores


 Physical Memory (RAM)

 Graphics Processor

 USB Controller

 Kinect Connected

 Verify Kinect Software Installed

 Verify Kinect Depth and Color Streams

Detects depth and color stream latency



Result: Depth stream detected within target frame rate

For more information, visit:

[Kinect for Windows v2 System Requirements](#)

[Kinect for Windows v2 Forums](#)

FPS: 30



You can view your live Kinect feed with Kinect Studio 2.0



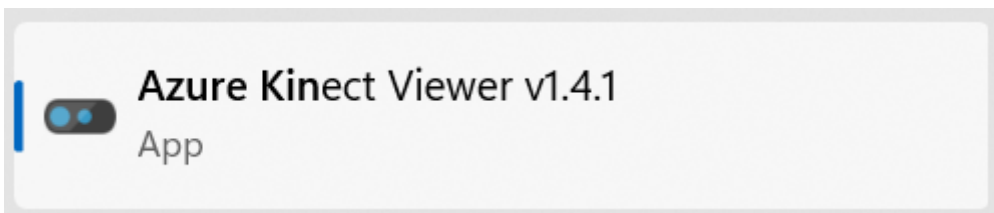
Azure Kinect

Azure Kinect SDK can be found on GitHub, follow the instruction to download and install the latest version.

GitHub - microsoft/Azure-Kinect-Sensor-SDK: A cross platform (Linux and Windows) user mode SDK to read data from your Azure Kinect device.

Connect Azure Kinect to your computer. Azure Kinect could be powered with a standalone power supply or directly from usb-c. Make sure you use the bundled usb-c cable or a quality cable that meets the power delivery and data speed requirement.

Verify the connection and view the live feed from Azure Kinect Viewer.



Troubleshooting

Kinect don't show up as a device/ Couldn't connect to the Kinect

- Check your usb connection
- Check if Kinect is connected to power
- Try a different usb cable that is known good for data and power

** The light on Kinect only turns on when there's application actively using the device

Kinect for Windows connects, but loses connection/reboot every couple minutes

Go to your system sound settings and find Microphone Array Xbox NUI Sensor. Make sure this device is allowed for audio. If not allowed, Kinect won't initialize properly and try to reboot every minute.

System > Sound > Properties



Microphone Array
3- Xbox NUI Sensor
[Rename](#)

Provider (Generic USB Audio)
Driver date 16/04/2025
Driver version 10.0.22621.5262
[Check for driver updates](#)

General

Audio
Allow apps and Windows to use this device for audio

Don't allow

Know the Kinect

There is a [Tech Demo](#) from MicroSoft of what Kinect can do.

Kinect can do:

- Skeletal tracking in 3D space with human body joints
- IR image
- Depth image
- Spatial audio recording

Kinect can't do:

- High precision motion capture
- Hand(gesture)/face(landmark) tracking (with only native Kinect SDK)

** Kinect offers native support on Windows only

** For macOS users, the alternative option is to use webcam with OpenCV, MediaPipe for tracking. LeapMotion is also an option, but limited to hand and gesture on a smaller scale.

There are two versions of Kinect available from the Kit Room, Kinect for Windows V2 and Azure Kinect. The functionality is mostly the same, with some difference in specs and formfactor. Kinect for Windows V2 is set up and installed in the Darklab.



Kinect for Windows V2



Azure Kinect

Use Kinect in TouchDesigner

TOP and Chop

There are generally two different ways of utilizing Kinect in TouchDesigner, with Kinect TOP and Kinect Chop. Kinect TOP offers all image sensor data in a TOP. Kinect CHOP provides skeletal tracking data through a CHOP.

TOP

The image data can be accessed through [Kinect TOP](#) or [Kinect Azure TOP](#) respectively.

Below is an example of using creating a colored point cloud from the depth and color sensing image from Kinect. The project file for this example could be found [here](#).

