2Control NXT FAQ

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Common Questions

Q: Can I connect 2Control to the NXT brick without using a USB cable?
A: No, 2Control requires that a USB cable be plugged in to the NXT brick the whole time in order to be able to connect to it. 2Control cannot connect to the NXT brick via Bluetooth, nor can it download a program to the NXT brick and then have that program run while the NXT brick is not connected to the computer. Using Bluetooth and downloading programs are possible using the *LEGO Mindstorms software*, which is available for purchase separately. See below for more information.

Q: "Add operation failed" when trying to deploy the LEGO Driver MSI as a GPO
A: This is a very common question by schools. We have discussed this with LEGO and requested this feature, but unfortunately GPO deployment is not currently supported for the LEGO Driver. You therefore need to install the driver manually on each machine, or use some other network deployment technique besides GPO; for example, on RM CC3 and CC4 networks the driver can be successfully deployed across a network since these networks do not base their deployment on GPO. If you are aware of any other non-GPO methods that can be used for network deployment for this MSI, please let us know and we will add it to this FAQ.

Q: Unable to connect to the LEGO brick when using Window 7, 64-bit OS
A: Unfortunately 2Control cannot connect to a LEGO brick when installed on this operating system. 2Control can connect to a LEGO brick on Windows 7, 32-bit, not 64. The only known workaround is to use *XP mode* or some other form of virtual PC on the 64-bit machine. Running 2Control within this virtual 32-bit environment does allow a connection with the LEGO brick. Note that the LEGO Mindstorms NXT software does not have this limitation, and can connect to the LEGO brick on a 64 bit machine with no problems.

Errors
Q: I try install the LEGO NXT Driver on XP SP3 and get a message that SP2 is required
Q: "The application failed to initialize properly (0xc0000135)..."
Q: I try to run 2Control from the 2Simple Collection Launcher but nothing happens
Q: "Unhandled exception has occurred… unable to load DLL 'Fantom.dll'…"
Q: "Not Connected!" error when starting up 2Control
Q: "2ControlNXT has encountered an error and needs to close" when trying to run the program
Q: "Run-time error '339': Component FlDbg9b.ocx or one of its dependencies..."
Q: "The network folder \\2sfs01\homedirs\... that contains My Documents is unavailable…"

2Control and LEGO Mindstorms
Q: Why do I get no software included when I purchase my NXT kit?
Q: What is the difference between the LEGO Mindstorms software and 2Control?
Q: Where can i find out more information on LEGO Mindstorms software and hardware?

Other
Q: Do I need to have the USB cable plugged in to the NXT brick the whole time ?
Q: What do I need to use Bluetooth with the NXT brick?
Q: How do I check what firmware version my LEGO NXT brick has?
Q: How do I upgrade the firmware on my NXT brick?
Q: Can 2Control work with other LEGO robots like the RCX brick?
Q: What do I use the 4 buttons on the NXT brick itself for?
Q: Is it possible to program the NXT brick directly without any software at all?
Q: How do I use the touch sensor?

Q: When using the NXT brick as a floor robot with 2Control, I am unable to get the floor robot to turn exactly 90 degree angles - with the Logo part of the program, for example.

Q: 2Control connects to the LEGO bricks but does not recognise the light and sound sensors

Q: Is it possible to draw shapes using the Sequence part of 2Control?

Q: I open a 2cx file in the "NXT Robot" section but the bricks are in the wrong positions

Q: The "NXT Robot" section has no reset button to return the robot to the start position?

Q: In the "NXT Robot" section I am unable to get both a maze and background track to appear

Q: In Sequence, when I drag a number to a box, the original number icon gets distorted

Errors

Q: I try install the LEGO NXT Driver on XP SP3 and get a message that SP2 is required
A: Go to http://support.2simpleweb.com/public/tools/3rd_party/LEGO/ and download the driver.
Install this locally on each pc.

Q: "The application failed to initialize properly (0xc0000135). Click on OK to terminate the application." when trying to run the program
A: You need to install Microsoft .NET Framework (v2 or above) which is available on the CD or can be downloaded from the Microsoft website (go to www.microsoft .com and search for ".NET Framework"

Q: I try to run 2Control from the 2Simple Collection Launcher but nothing happens
A: You need to install Microsoft .NET Framework (see previous question for details.)

Q: "Unhandled exception has occurred… unable to load DLL 'Fantom.dll'…" when trying to run the Sequence part of 2Control
A: Please install the LEGO Mindstorms NXT Driver on that computer (available on the CD).

Q: "Not Connected!" error when starting up 2Control
A: Make sure that:
1) The LEGO Mindstorms NXT Driver is installed on that computer (the driver install is available on the CD or online – see above.)
2) The LEGO brick is plugged into the computer via a USB port.
3) The LEGO brick is turned on (hold down the orange button to do so.) If you do not use the brick for a while, it automatically switches itself off.
4) The LEGO brick is turned on and plugged in before you start 2Control. If you do turn it on or plug it in after starting 2Control, you can reset the connection by clicking on "Restart" when 2Control brings up the "Not Connected" window (see pg 12 of the user guide.)
5) The LEGO brick needs to be light grey in colour (NXT), not yellow (RCX)
6) Try a different USB port on your computer.
7) You may need to update the firmware on the LEGO brick (see below for details)
8) Check if you are able to use the LEGO brick with the LEGO Mindstorms software, if you have purchased it.
9) Check if you have Robolab installed – this is the original version of the LEGO Mindstorms software. Sometimes 2Control may not be able to connect to the LEGO brick if Robolab is installed.
10) If you have a Windows 7 64-bit machine, 2Control won't be able to connect – see below.

Q: "2ControlNXT has encountered an error and needs to close" when trying to run the program

A: This error might occur if your installation of the .NET Framework is corrupted. You could try uninstall and reinstall it to see if this helps. Another possible cause of this error is if you are trying to run 2Control from a shared drive on your network. It is possible to run 2Control this way, but you need to amend your .NET Framework security settings to allow this. Below are 2 possible ways you could do this (Warning – this will change the security settings on your computer – please consult your technician before doing this. Remember also that if you're running 2Control from a shared network drive, you still need to have the following 2 installed on *each* local machine: Microsoft .NET Framework (v2 or above), and the LEGO Mindstorms NXT Driver .)

Method 1:
1. Go to http://support.2simpleweb.com/public/fixes/2control/mapped_drive/
2. Download "2Control_NXT-Mapped Drive.msi"
3. Right-click it and choose "install" (simply double-clicking it will not work)
4. It will briefly flash up a window which will then disappear, but this should be all you need to do. Try 2Control now – it should work.

Method 2:
1. Go to http://support.2simpleweb.com/public/tools/3rd_party/Microsoft/.NET_FW_Config/
2. Download configwizard.msi and install it
3. Go to Start > Control Panel > Administrative Tools > Microsoft .NET Framework 2.0 Configuration
4. Click "Configure Code Access Security Policy" and then "Adjust Zone Security"
5. Select "Make changes to this computer" and click Next
6. Select "Local Intranet" and move the slider up to "Full Trust", click Next and Finish

Q: "Run-time error '339': Component FlDbg9b.ocx or one of its dependencies..."
A: Go to www.adobe.com and install Flash Player.

Q: "The network folder \\2sfs01\homedirs\... that contains My Documents is unavailable…"
A: This error can happen if your default work folder for this program is your My Documents folder, but My Docs points to a server location which no longer exists. For more information, see http://support.2simpleweb.com/public/docs/general/Saving_And_Opening.pdf > The "My Documents" folder is pointing to a location on the server which does not exist

2Control and LEGO Mindstorms

Q: Why do I get no software included when I purchase my NXT kit?
A: As shown on www.2simple.com/mindstorms, there are 3 main options when purchasing LEGO:
1. The NXT hardware – 1 LEGO NXT brick with a processing chip inside it as well as 3 motors, various sensors and other building parts. No software is included with this purchase – it needs to be purchased separately.
2. LEGO Mindstorms NXT – Software developed by LEGO to work with the NXT brick.
3. 2Control NXT– Software developed by 2Simple in partnership with LEGO to work with the NXT brick. 2Control and the LEGO Mindstorms software are separate pieces of software and are available for purchase separately.

Q: What is the difference between the LEGO Mindstorms software and 2Control?
A: LEGO Mindstorms and 2Control NXT are both software programs which work with the LEGO NXT brick. They are available for purchase separately (see www.2simple.com/mindstorms)
While there is some overlap of functionality between these programs, they complement each other well and both provide value in a unique way.
2Control NXT is software developed by 2Simple in partnership with LEGO to work with the NXT brick. It is perfect for those pupils that are less confident with control. It has a clear visual interface, with

an on-screen model which mimics what happens off-screen. There is a progression from simple screens to more advanced ones, with help videos for each screen. The last part in 2Control, "My Model", provides a flow-chart based screen which serves as a good introduction to the LEGO Mindstorms software.

LEGO Mindstorms is software developed by LEGO to work with the NXT brick. It is a powerful program which provides comprehensive and advanced flowchart capabilities, allowing you to specify behaviour of the NXT brick to a fine-grained level.

Some specific differences between Lego Mindstorms and 2Control:
- With 2Control you can use the light, sound and touch sensors. If you want to use any other types of sensors, you need to use the LEGO Mindstorms software.
- 2Control requires that the NXT Brick remains plugged into the computer via a USB cable to be able to work with the program. LEGO Mindstorms is more flexible in this regard as it also supports Bluetooth connections to the NXT Brick, as well as allowing you to download programs to the NXT brick and then disconnect the USB cable and run those programs.

Q: Where can i find out more information on LEGO Mindstorms software and hardware?
A: http://mindstorms.lego.com. You can also view the user guide here:
http://support.2simpleweb.com/public/docs/userguides/LEGO_Mindstorms.pdf

Other questions

Q: Do I need to have the USB cable plugged in to the NXT brick the whole time in order for 2Control to work with it?
A: Yes, you do. With the LEGO Mindstorms software, however, you can disconnect the cable and instead use Bluetooth or download a program to the NXT brick itself – see below for more differences between 2Control and LEGO Mindstorms.

Q: What do I need to use Bluetooth with the NXT brick?
A: You need
(1) The LEGO Mindstorms software (2Control cannot connect to the NXT brick via Bluetooth)
(2) A Bluetooth dongle plugged into the computer (the NXT brick has a built-in Bluetooth receptor). This is available for purchase separately.
See http://mindstorms.lego.com/en-us/bluetooth/default.aspx for more information

Q: How do I check what firmware version my LEGO NXT brick has?
A: Turn the brick on by pressing the orange button. Press the left triangle button twice to get to the spanner icon "Settings" and press the orange button to select. Press the left triangle button twice to get to "NXT Version" and press the orange button. The firmware version will now be displayed on the top line of the display, with the top left displaying "FW" and the top right displaying the firmware version.

Q: How do I upgrade the firmware on my NXT brick?
A: If you have LEGO Mindstorms NXT installed, you can check if a newer firmware version is available online via the TOOLS menu. If you do not have LEGO Mindstorms NXT installed, contact 2Simple for help updating your firmware.

Q: Can 2Control work with other LEGO robots like the RCX brick?
A: Although the RCX brick itself cannot be used with 2Control, the LEGO bricks, sensors and motors can all be integrated into the current NXT system and therefore used with 2Control NXT.

Q: What do I use the 4 buttons on the NXT brick itself for?

Q: Is it possible to program the NXT brick directly without any software at all?
A: It is possible to a very limited extent to program the brick using the 4 buttons on the brick itself.
Here is a very brief guide on what you can do using the brick's buttons:
- Switch on: Hold down the orange button
- Switch off: Press the rectangular button under the orange button, when the main menu is being displayed, to switch the brick off. Press the orange button to confirm.
- Navigation: Within any menu, use the left and right triangle buttons to navigate to different option. Use the orange button to select an option. Use the bottom darker grey rectangle button to jump out to the previous menu.
- Main menu:
  1. My files - load saved files – this option works with LEGO Mindstorms
  2. NXT program - add basic commands to a 5 step flowchart
  3. View - get immediate readings from sensors plugged into the brick
  4. Bluetooth - this option works with LEGO Mindstorms
  5. Settings – various general settings
  6. Try me - quick sensor and motor tests

See also pages 20-29 in the LEGO Mindstorms user guide:
http://support.2simpleweb.com/public/docs/userguides/LEGO_Mindstorms.pdf

Q: How do I use the touch sensor?
A: See http://support.2simpleweb.com/public/docs/userguides/LEGO_Mindstorms.pdf , pg 32.
In 2Control, you can use the touch sensor in the *Sensors* and *My Model* screens.

Q: When using the NXT brick as a floor robot with 2Control, I am unable to get the floor robot to turn exactly 90 degree angles - with the Logo part of the program, for example.
A: We spent a lot of time trying to get the turning accuracy to be as exact as possible. We did not achieve 100% accuracy, but 2Control can still be used very well at a classroom level. A few points to consider:
- Even small inaccuracies will accumulate to become larger ones over the course of many turns.
- The **surface** that the floor robot is moving on can make a great difference to the turning accuracy. Try different surfaces.
- The teacher options (press ctrl + shift + the letter "o") provide the ability to change the turning angle (see "wheel degrees per 360" setting). The default values are meant to work with the 9797 model, but you can change them if required.
- The 3rd wheel of the floor robot (the small one) can also affect the turning accuracy – we have had reports that using a rod instead of a wheel can improve this.
- The LEGO Mindstorms NXT v2.0 software can be used for this. Chris Butlin has kindly provided detailed instructions on how to use LEGO Mindstorms NXT v2.0 to instruct the floor robot to turn at 90 degree angles. Contact 2Simple for further information.

Q: 2Control connects to the LEGO bricks but does not recognise the light and sound sensors
A: This can occur when the LEGO bricks have a new firmware version. A solution to this issue is to use the LEGO brick with the Mindstorms software first. After this, 2Control should recognise the sensors. This only needs to be done once.

Q: Is it possible to draw shapes using the Sequence part of 2Control?

A: You can draw shapes using the "NXT Robot" part of 2Control by giving the on-screen robot instructions to move to different parts of the screen. Though the "Sequence" part of 2Control is very similar to "NXT Robot", it does not provide the facility to draw shapes in the same way.

Q: I open a 2cx file in the "NXT Robot" section but the bricks are in the wrong positions
A: This can happen if you open the 2cx file in a different screen resolution from what was used when the file was originally created. Similarly, opening "Maze 1" results in the 3 bricks on the right hand sideto appear on the actual canvas area if the screen res is bigger than 1024x768.

Q: The "NXT Robot" section has no reset button to return the robot to the start position?
A: This is correct, however you can simply drag the robot back to the centre of the screen and rotate it back to its original direction.

Q: In the "NXT Robot" section I am unable to get both a maze and background track to appear
A: This can be done FIRST loading the set of bricks for the maze (which will clear the background), and then loading the background.

Q: In Sequence, when I drag a number to a box, the original number icon gets distorted
A: This issue has occurred on some Windows 7 machines. To fix this issue, right-click the shortcut for 2Control and go to the "compatibility" tab. Select the box "disable desktop composition", press "apply" and "ok".

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