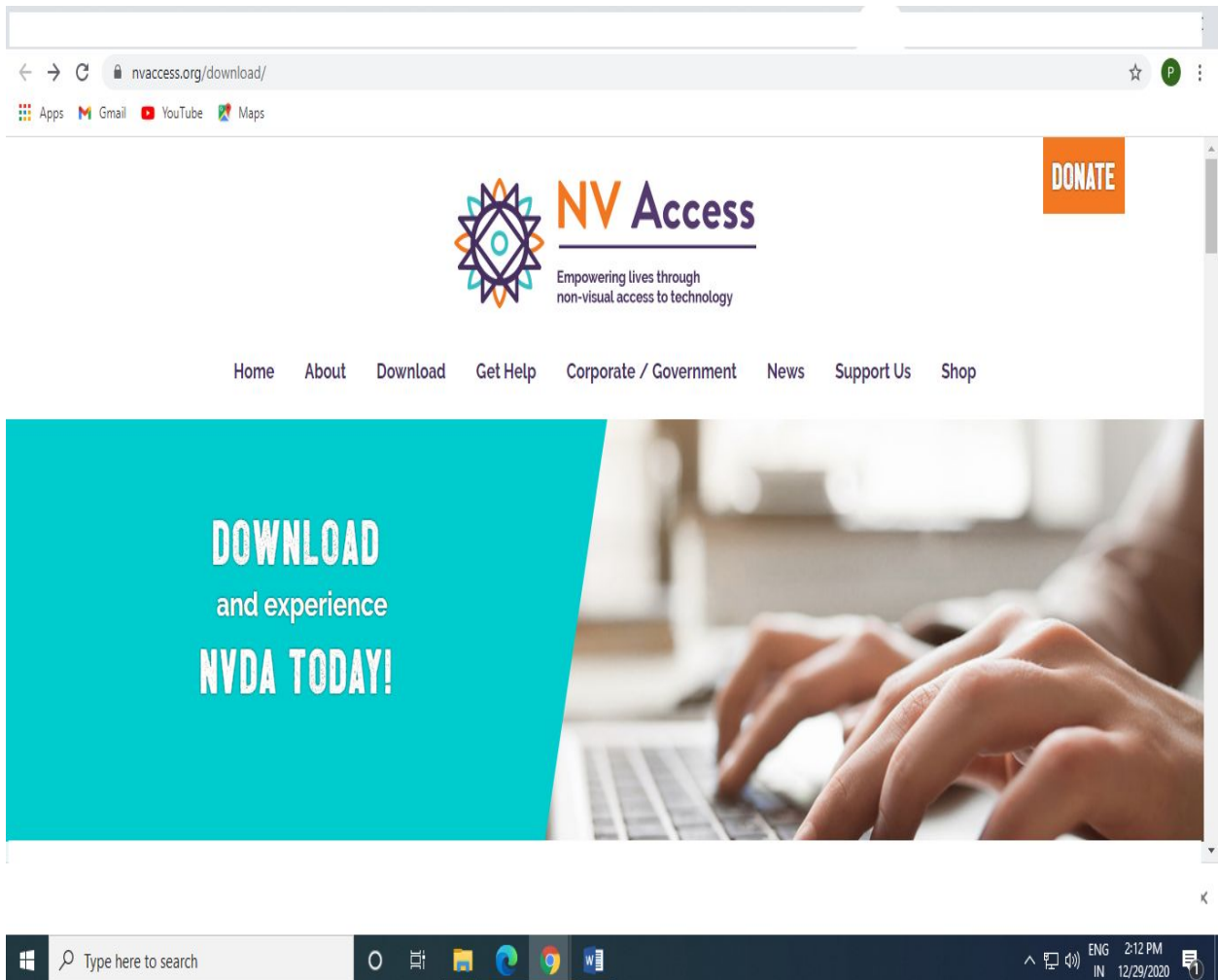


## Screen Reader for Blind and Visually Impaired Users

S.NO.	Name of Software	Description	Related Link
1.	NVDA Version 2020.3 for Windows	NonVisual Desktop Access (NVDA) is a free and open source screen reader for the Microsoft Windows operating system. Providing feedback via synthetic speech and Braille, it enables blind or vision impaired people to access computers running Windows for no more cost than a sighted person. NVDA is developed by NV Access, with contributions from the community.	<a href="https://www.nvaccess.org/download/">https://www.nvaccess.org/download/</a>

### 1. NVDA Version 2020.3



The screenshot shows a web browser window displaying the NV Access website. The address bar shows the URL <https://www.nvaccess.org/download/>. The website features the NV Access logo, which includes a stylized eye icon and the text "NV Access Empowering lives through non-visual access to technology". A prominent orange "DONATE" button is visible in the top right corner. The navigation menu includes links for Home, About, Download, Get Help, Corporate / Government, News, Support Us, and Shop. A large teal banner on the left side of the page reads "DOWNLOAD and experience NVDA TODAY!". The background of the banner shows a close-up of hands typing on a laptop keyboard. The Windows taskbar at the bottom of the screen shows the search bar, task view, and several application icons, along with the system tray displaying the date and time as 2:12 PM on 12/29/2020.

## **General Features**

NVDA allows blind and vision impaired people to access and interact with the Windows operating system and many third party applications.

Major highlights include:

- Support for popular applications including web browsers, email clients, internet chat programs and office suites.
- Built-in speech synthesizer supporting over 80 languages.
- Reporting of textual formatting where available such as font name and size, style and spelling errors.
- Automatic announcement of text under the mouse and optional audible indication of the mouse position.
- Support for many refreshable braille displays, including the ability to detect many of them automatically as well as braille input on braille displays with a braille keyboard.
- Ability to run entirely from a USB flash drive or other portable media without the need for installation.
- Easy to use talking installer.
- Translated into 54 languages.
- Support for modern Windows Operating Systems including both 32 and 64 bit variants.
- Ability to run during Windows sign-in and at secure screens.
- Announcing controls and text while using touch gestures.
- Support for common accessibility interfaces such as Microsoft Active Accessibility, Java Access Bridge, IAccessible2 and UI Automation.
- Support for Windows Command Prompt and console applications.
- The ability to highlight the system focus.

## **System Requirements**

- Operating Systems: all 32-bit and 64-bit editions of Windows 7, Windows 8, Windows 8.1, Windows 10, and all Server Operating Systems starting from Windows Server 2008 R2.
  - For Windows 7, NVDA requires Service Pack 1 or higher.
  - For Windows Server 2008 R2, NVDA requires Service Pack 1 or higher.
- At least 150 MB of storage space.

## **Installation**

If installing NVDA directly from the NVDA download package, press the Install NVDA button. If you have already closed this dialog or are wanting to install from a portable copy, please choose the Install NVDA menu item found under Tools in the NVDA menu.

The installation dialog that appears will confirm whether you wish to install NVDA and will also tell you whether this installation will be updating a previous install. Pressing the Continue button will start installing NVDA. There are also a few options in this dialog which are explained below. Once the installation has completed, a message will appear telling you that it was successful. Pressing OK at this point will restart the newly installed copy of NVDA.

## NVDA Touch Gestures

If you are running NVDA on a device with a touchscreen and running Windows 8 or higher, you can also control NVDA directly via touch commands. While NVDA is running, unless touch interaction support is disabled, all touch input will go directly to NVDA. Therefore, actions that can be performed normally without NVDA will not work. To toggle touch interaction support, press NVDA+control+alt+t. You can also enable or disable [touch interaction support](#) from the Touch Interaction category of the NVDA settings.

- **Exploring the Screen:** The most basic action you can perform with the touch screen is to announce the control or text at any point on the screen. To do this, place one finger anywhere on the screen. You can also keep your finger on the screen and move it around to read other controls and text that your finger moves over.
- **Touch Gestures:** When NVDA commands are described later in this user guide, they may list a touch gesture which can be used to activate that command with the touchscreen. Following are some instructions on how to perform the various touch gestures.
- **Taps:** Tap the screen quickly with one or more fingers. Tapping once with one finger is simply known as a tap. Tapping with 2 fingers at the same time is a 2-finger tap and so on. If the same tap is performed one or more times again in quick succession, NVDA will instead treat this as a multi-tap gesture. Tapping twice will result in a double-tap. Tapping 3 times will result in a triple-tap and so on. Of course, these multi-tap gestures also recognize how many fingers were used, so it's possible to have gestures like a 2-finger triple-tap, a 4-finger tap, etc.
- **Flicks:** Quickly swipe your finger across the screen. There are 4 possible flick gestures depending on the direction: flick left, flick right, flick up and flick down. Just like taps, more than one finger can be used to perform the gesture. Therefore, gestures such as 2-finger flick up and 4-finger flick left are all possible.
- **Touch Modes:** As there are many more NVDA commands than possible touch gestures, NVDA has several touch modes you can switch between which make certain subsets of commands available. The two modes are text mode and object mode. Certain NVDA

commands listed in this document may have a touch mode listed in brackets after the touch gesture. For example, flick up (text mode) means that the command will be performed if you flick up, but only while in text mode. If the command does not have a mode listed, it will work in any mode. To toggle touch modes, perform a 3-finger tap.

- **Touch keyboard:** The touch keyboard is used to enter text and commands from a touchscreen. When focused on an edit field, you can bring up the touch keyboard by double-tapping the touch keyboard icon on the bottom of the screen. For tablets such as Microsoft Surface Pro, the touch keyboard is always available when the keyboard is undocked. To dismiss the touch keyboard, double-tap the touch keyboard icon or move away from the edit field. While the touch keyboard is active, to locate keys on the touch keyboard, move your finger to where the touch keyboard is located (typically at the bottom of the screen), then move around the keyboard with one finger. When you find the key you wish to press, double-tap the key or lift your finger, depending on options chosen from the Touch Interaction Settings category\_of the NVDA Settings.

## Guidelines

- If using a shared computer, you may not want NVDA starting automatically. While useful on a user’s own computer, NVDA can be set not to run on the login screen, or after a user logs on.
- When installing, one of the setup screens has a checkbox to “Use NVDA on the logon screen”.
- When checked, this option will start NVDA when the computer boots and gets to the logon screen. Aside from speaking or using a connected Braille display, NVDA does not affect the way sighted users interact with the logon screen.
- The welcome dialog has an option to “Automatically start NVDA after I log on to Windows”. If unchecked, NVDA will not start when this user logs in.
- Even with this option checked, NVDA won’t start when other users log in to their accounts on this computer, unless they have set that up.
- Both of these options are also available in the General settings dialog. Press NVDA+control+g to open the dialog. Note that the NVDA key is either INSERT or CAPS LOCK, depending on how it was setup.

## Basic NVDA commands

Name	Desktop key	Laptop key	Touch	Description
Starts or restarts NVDA	Control+alt+n	Control+alt+n	none	Starts or restarts NVDA from the Desktop, if this Windows shortcut is enabled during NVDA's installation process. This is a

				Windows specific shortcut and therefore it cannot be reassigned in the input gestures dialog.
Stop speech	Control	control	2-finger tap	Instantly stops speaking
Pause Speech	shift	shift	none	Instantly pauses speech. Pressing it again will continue speaking where it left off (if pausing is supported by the current synthesizer)
NVDA Menu	NVDA+n	NVDA+n	2-finger double-tap	Pops up the NVDA menu to allow you to access preferences, tools, help, etc.
Toggle Speech Mode	NVDA+s	NVDA+s	none	Toggles speech mode between speech, beeps and off.
Toggle Input Help Mode	NVDA+1	NVDA+1	none	Pressing any key in this mode will report the key, and the description of any NVDA command associated with it
Quit NVDA	NVDA+q	NVDA+q	none	Exits NVDA
Pass next key through	NVDA+f2	NVDA+f2	none	Tells NVDA to pass the next key press straight through to the active application - even if it is normally treated as an NVDA key command
Toggle application sleep mode on and off	NVDA+shift+s	NVDA+shift+z	none	Sleep mode disables all NVDA commands and speech/braille output for the current application. This is most useful in applications that provide their own speech or screen reading features. Press this command again to disable sleep mode - note that NVDA will only retain the Sleep Mode setting until it is restarted.