Arabicizing Windows:
Enabling Windows Applications to Read and Write Arabic

by

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Abstract
This paper is technical in nature. It provides detailed instructions for enabling Arabic reading and writing capabilities in Microsoft Windows 98, Windows 98 SE (Second Edition), Windows ME (Millennium Edition), Windows 2000 Professional, Windows XP (eXPerience) Home, Windows XP Professional, Microsoft Office XP, Microsoft Word 2000, Word Perfect, Internet Explorer 5.x, Internet Explorer 6.x, Netscape Navigator 7.x, and Mozilla 1.x. This paper also discusses useful, time-tested hints and resources for using Arabic with Windows including enabling the Arabic Proofing Tools, enabling the On Screen Arabic Keyboard, typing right-to-left, accessing Hindi numerals, defining Arabic romanization keyboards, and finding Arabic fonts, English/Arabic keyboards, Arabic QWERTY keyboards, and Arabic keytop labels. This paper has been adapted from a manuscript the author is currently writing on resources for Arabic language study, for publication in The NCLRC Language Newsletter at http://www.nclrc.org/inst-arabic3.pdf.

1 I would like to thank the Arabic Language, Literature & Linguistics department faculty and staff at Georgetown University for all their computer related questions, without which this work may never have materialized. I would especially like to thank Professor Karin C. Ryding for her trust and confidence in my abilities and for her foresight into the need for home user Arabic internet and word-processing literacy. Lastly, great thanks go to my best-friend and loving wife, Liana Sebastian, for her patience and support during those long days and nights I served as the resident information technology consultant first and her husband second.
Step 1: How to determine the version of your Windows operating system

- Arabic works seamlessly in the newest version of Windows. To determine which Windows operating system you are running on your PC, begin by right clicking on My Computer from the Desktop. Scroll down the dialogue box and left click on Properties. Left click the General tab on the top left of the box that appears. Under System, read about your computer operating system. If your operating system is Microsoft Windows ME, Windows 2000 Professional, Windows XP Home or Windows XP Pro, then continue to Step 2.

- If your operating system is Microsoft Windows 98 or Windows 98 SE, then the instructions below will aid you in adding Arabic to Windows. You should note however, that some items will appear differently and some functions will operate slightly differently than the same items in newer versions of Windows. I have discussed many of these differences at length below. Continue to Step 2.

- If your operating system is Microsoft Windows 95a or Windows 95b your Windows operating system does not come enabled with Arabic support. Therefore you will need separate CDs or disks (apart from the Windows and Office CDs) to either arabicize your entire Windows operating system or simply your word-processing program, depending upon your specific computing needs. Contact an IT specialist to help you in this regard.

Step 2: How to determine the version of your word-processing program

- The version of the word-processing program on your computer also plays a role in the level of ease with which you can effectively work in Arabic. During the early days of Windows, one was required to enable their operating system with Arabic by purchasing additional Windows software and installing it over their current Windows version. When Microsoft began supporting right-to-left script within their flagship program, Microsoft Word, it no longer became necessary to enable an operating system for Arabic, since one could simply enable Word for Arabic and not the entire Windows operating system. Thus it is possible to have an older Windows operating system running a newer version of Word, and be able to write in Arabic within Word only, but not within other programs or on the Internet. Luckily for new PC owners, the newest versions of Windows come with Arabic scripting enabled, and the newest word-processing programs also come with Arabic. This combination makes for seamless right-to-left Arabic scripting.

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3 Because Microsoft continues to support Windows 2000 and Windows XP, they have instructions of their own for enabling international language support in these two versions of Windows. Their instructions are extremely helpful due to their use of screen shots to guide users through this process. If you want to add Arabic support to Windows 2000 or Windows XP, I encourage you to read the appropriate site below first. For Windows 2000 read [http://www.microsoft.com/globaldev/handson/user/2kintlsupp.mspx](http://www.microsoft.com/globaldev/handson/user/2kintlsupp.mspx). For Windows XP read [http://www.microsoft.com/globaldev/handson/user/xpintlsupp.mspx](http://www.microsoft.com/globaldev/handson/user/xpintlsupp.mspx).
To determine the version of your word-processing program, open the program you use to write most of your documents. You should see the word Help on one of the toolbars at the very top-middle of the page. Left click on Help and left click again on the item in the menu labeled About X, where X represents the program you are using. About X is usually one of the very last options available in the menu. After left clicking on About X, a box will appear that tells you the precise version of your word-processing program. It is my experience that Microsoft Office 10 (AKA Microsoft Word 2002 or XP) functions more smoothly than Microsoft Office 9 (AKA Microsoft Word 2000) when typing in Arabic. In fact, Microsoft Office 10’s Arabic spelling and grammar checker is more stable in my experience than those in previous versions of Microsoft Word. Likewise, Word Perfect 10 (AKA Word Perfect 2002) and above is friendlier to all things Arabic than Word Perfect 9 (AKA Word Perfect 2000). I do not advise using Arabic with earlier versions of these two programs while also using earlier versions of Windows (i.e. Windows 95) unless you have Microsoft Word Arabic 6.0 installed. But that’s another story.

If you own an older version of either of these word-processing programs, my advice is to upgrade, provided your computer has the memory and physical space to maintain a newer word-processor. If an upgrade is not possible, then consult with an IT specialist on what your system may require in order for you to do Arabic.

Step 3: How to enable Windows to read Arabic script

Before continuing, have your Microsoft Windows and Office CDs on hand should you need to install extra components not previously installed.

For Windows XP Home and Windows XP Pro users, follow these instructions.

- Left click on Start. Left click on Control Panel. Double-left click on Regional and Language Options. Left click on the Regional Options tab on the top of the box that appears. Keep the Standards and Formats as English (United States). Left click on the Languages tab at the top of the box. Under Supplemental Language Support, tick the box that says Install Files for Complex Scripts and Right-to-Left Languages (including Thai). Now click the Apply button located on the bottom right of the box. Wait while your computer installs the files needed. Insert the Windows XP CDs if requested to do so. Click the OK button located on the bottom left of the box to complete the process. Restart your PC if requested to do so.

For Windows 2000 Professional users follow these instructions.

- Left click on Start. Left click on Settings. Left click on Control Panel. Double-left click on Regional Settings. Left click on the tab labeled General at the top of the screen that appears. Keep the Your Locale (Location) as English (United States). On the same screen, under Language Settings for the System, tick the Arabic box. Now left click on the Apply button located on the bottom right. If your operating system

\[N.B.:\] All instructions reflect a classical layout of the Windows operating system and do not conform to the Windows XP enhanced layout.
needs additional files to run this function you will be asked to insert the necessary CDs. If these files have already been installed on your operating system, they will self install. You may be requested to restart the computer. Do so.

○ For users of all other versions of Windows, abide by what follows.
  ○ Left click on Start. Left click on Settings. Left click on Control Panel. Double-left click on Keyboard. Left click on the tab labeled Language at the top of the screen that appears. To add Arabic, left click on Add and scroll down to find Arabic. If Arabic does not appear, then you must install this language from the Windows CD or from the Windows Setup function within Add/Remove Programs, depending on how your system was originally configured.
  ○ Before giving up, users of all other versions of Windows should attempt the following. Left click on Start. Left click on Settings. Left click on Control Panel. Double-left click on Add/Remove Programs. Left click on the tab labeled Windows Setup. Scroll down the list of options. Tick the following boxes: Accessibility and Multilanguage Support. Left click on the Apply button. If you are asked to insert the Windows CDs, do so. Restart the computer. Now go back up to the previous instruction set and try enabling your PC to read Arabic again. If the above instructions fail to enable your PC to read Arabic, continue to Step 4 anyway for more solutions.

Step 4: How to enable Windows to type Arabic script
  ○ For Windows XP Home and Windows XP Pro users, follow these instructions.
    ○ Left click on Start. Left click on Control Panel. Double-left click on Regional and Language Options. Left click on the Languages tab at the top of the box. Under Text Services and Input Languages, left click on the Details… button. Left click on the Settings tab at the top of the box that appears. Under Installed Services left click on the Add… button on the right. An Add Input Language Box should appear. Add Arabic. You will see quite a few varieties of Arabic listed. These country specific versions of Arabic do not reflect any dialectical differences that may be enabled on your keyboard. Since no differences exist in the country choice, you may choose whichever country you wish that is labeled as Arabic.
    ○ In the same box, directly under Input Language, there is an area for selecting a Keyboard Layout from a drop-down menu. Scan the menu for an Arabic keyboard. Choose an Arabic keyboard and then left click on the OK button.
    ○ There are minor differences in the keyboard layouts available from Microsoft. The keyboard you choose will determine which Arabic letters correspond to the English letters on the keyboard in front of you. If you are a beginning user of Arabic, then any of the three available options (Arabic 101, Arabic 102, or Arabic 102 AZERTY) will do. More advanced users probably have a favorite, especially if coming from the
Arabic-speaking and Arabic-typing world. Choose an Arabic keyboard and then left click on the OK button.

- You should be back at the Text Services and Input Languages box. Keep the Default Input Language English (United States) –US. Under Preferences left click the Language Bar… button. A Language Bar Settings box should appear. Tick the box that says Show the Language Bar on the Desktop and tick the box that says Show Additional Language Bar Icons in the Taskbar. Finally, left click on the OK button.

- A box with an EN (short for English) block should appear on the Taskbar on the bottom right hand corner or on the top right of your computer screen. Left clicking on the EN will allow you to switch from one input language to another, in this case from English to Arabic. Right clicking on the EN block and then left clicking on Settings will allow you easy access to enabling additional input languages and keyboard layouts on your PC. Continue to Step 5.

For all other Windows users follow these instructions.

- Left click on Start. Left click on Settings. Left click on Control Panel. Double-left click on Keyboard. Left click on the tab labeled Input Locales or labeled Language at the top of the screen that appears. Left click on the Change button. For those users who do not see a box with a Change button in it, left click on the Add… button. A Text Services box will appear, an Add Input Locale box will appear or an Add Language box will appear. The Default Input Language should remain English (United States). If there is a box titled Installed Services, left click the Add… button and search for Arabic. If such a box does not appear, simply search for Arabic. If Arabic is not among the additional language options, then you will need to do one of two things, or both: 1) install Arabic Language Support from http://windowsupdate.microsoft.com and http://office.microsoft.com/productupdates/, or 2) install a higher version of Microsoft Office and enable the Microsoft Office Language Settings for Arabic. However, if Arabic is among the many options, then you will see quite a few varieties of Arabic listed. These country specific versions of Arabic do not reflect any dialectical differences that may be enabled on your keyboard. Since no differences exist in the country choice, you may choose whichever country you wish that is labeled as Arabic.

- In the same box, under Input Language, there is an area for selecting a keyboard type from a drop-down menu. First be sure the box labeled Keyboard Layout is ticked and then scan the menu for an Arabic keyboard. Some versions of Windows take you directly to Keyboard Layout within the Add Input Locale box. If so, do what is intuitive; Scan the menu for an Arabic keyboard.

- There are minor differences in the keyboard layouts available from Microsoft. The keyboard you choose will determine which Arabic letters correspond to the English letters on the keyboard in front of you. If you are a beginning user of Arabic, then any of the three available options (Arabic 101, Arabic 102, or Arabic 102 AZERTY) will do. More
advanced users probably have a favorite, especially if coming from the Arabic-speaking and Arabic-typing world. Choose an Arabic keyboard and then left click on the OK button.

- Next, tick the box that says Enable Indicator on Taskbar. Finally, left click on the Apply button. A blue EN (short for English) block should appear on the Taskbar on the bottom right hand corner of your computer screen. Left clicking upon EN will allow you to switch from one input language to another, in this case from English to Arabic. Right clicking on the blue EN block and then left clicking on Properties… or Settings… will allow you easy access to enabling additional input languages and keyboard layouts on your PC.

**Step 5: How to enable the On-Screen Arabic Keyboard in Windows**

- Now that Arabic is enabled on your PC, how do you know which Arabic keys correspond to the English keys that are on your English keyboard? You can purchase sticky, transparent keys to place over your existing keyboard keys from a number of on-line companies. Or you can use Microsoft’s virtual keyboard. Left click on Start. Left click on Programs. Left click on Accessories. Left click on Accessibility. Left click on On-Screen Keyboard. You probably will want to create a shortcut to the On-Screen Keyboard and place it on your desktop or Quick Launch Toolbar. Microsoft Windows 98 SE, Windows 98, Windows 95b and Windows 95a do not have On-Screen Keyboard capabilities. If your Windows version does not belong to this class, then it may be the case that this feature either has been disabled or was never installed from your Windows CDs.

- To enable this feature in Windows, begin by left clicking on Start. Left click on Settings. Left click on Control Panel. Double-left click on Add/Remove Programs. Left click on the tab labeled Windows Setup. Scroll down the list of options. Tick the following boxes: Accessibility and Multilanguage Support. Left click on Apply. If you are asked to insert your Windows CDs, do so. Restart the computer. Now go back up to the previous instruction set and try enabling the On-Screen Keyboard again. If this does not work, then contact an IT specialist to help you.

- With the On-Screen Keyboard now open, open a new Microsoft Word document. Left click on the EN and left click again on Arabic. Hovering your mouse over the On-Screen Keyboard will change it to an Arabic typeface. Now you know where the Arabic keys are! You can type Arabic directly on a document by left clicking the keys with your mouse! Who said typing in Arabic was difficult?

- Those users running Windows XP will want to enable Arabic in a host of other programs in addition to their favorite word-processing program. To do so, begin by left clicking on Start. Left click on Control Panel. Double-left click on Regional and Language Options. Left click on the Languages tab at the top of the box that appears. Under Text Services and Input Languages, left click on the Details… button. Left click on the Advanced tab at the top of the new box that appears. Tick the box that says Extend Support of Advanced Text Services to All...
Programs. Left click on the Apply button at the bottom of the box. Restart your computer if asked to do so.

Step 6: Arabic Keypop Labels, US English/Arabic Keyboards & Arabic Keyboards
- For a more permanent solution to Arabic typing, consider purchasing either Arabic keyboard stickers (otherwise known as keytop labels) or a US English/Arabic Keyboard with both US English and Arabic letters factory-printed on the keys. Both the keyboard stickers and the US Arabic keyboard are available from Fingertip Software [http://www.fingertipsoft.com/arabic.html].
- The Microsoft Keyboard Layout Creator (MSKLC), available here for download: [http://www.microsoft.com/globaldev/tools/msklc.mspx] allows you to define your own keyboard layout for the Arabic language or Arabic romanization symbols. Doing so will also allow you to quickly and easily enter symbols with a simple keystroke. The MSKLC is only compatible with computers running Windows 2000 and Windows XP though.
- If you can not get accustomed to the Arabic keyboards provided by Microsoft and you do not want to define your own Arabic keyboard from scratch, I suggest using this Arabic keyboard available for download at the bottom of this web site: [http://zsigri.tripod.com/fontboard/arabic.html]. This Arabic keyboard created by Zsigri Gyula more closely resembles the sounds and shapes of the QWERTY keyboard. It is extremely helpful if you do not type in Arabic on a regular basis, and it is without a doubt more intuitive than the Microsoft Arabic keyboards.

Step 7: How to enable right-to-left typing of Arabic in Microsoft Word
- You will be typing in Arabic backwards unless you enable the right-to-left cursor shift on your Microsoft Word toolbar. First open a new document in Microsoft Word. Hover your mouse over the word File on the top left of the toolbar. Right click. Move your mouse to the very bottom of the menu and left click on Customize… Left click on the Commands tab at the top of the box that appears. In the left Categories pane, scroll down and left click on the word Format. In the right Commands pane, scroll down until you find the Keyboard Language icon. It should look similar to the EN we saw earlier. Left click on the Keyboard Language icon and drag it to the toolbar and deposit it directly under the word File. Do the same with the Right-to-Left and Left-to-Right icons found directly beneath the Keyboard Language icon. These toolbar icons will serve as your shortcuts for switching between languages and typing directions as you compose your multilingual documents.

Step 8: How to enable Arabic Proofing Tools in Word; Hindi vs. Arabic numerals
- Did you know that spelling and grammar checking is also available in Arabic? Arabic Proofing Tools work best when using Microsoft Word 2002 (XP). Type some gibberish in Arabic, depress the F7 key, and see what happens. If the language is not recognized, then reinstalling the Office XP Proofing Tools is...
necessary. Insert the Office XP Proofing Tools CD-ROM. Left click Start and then left click Run. Browse to find the following on the inserted CD-ROM: Ptksetup.exe. In the Proofing Tools Setup, select Custom for the type of Setup that you want to perform. Select the Arabic language Proofing Tools and then left click Run All from My Computer. After the installation finishes, reboot the computer.

- The stress free method of using Arabic in Microsoft Word is to set it to automatically detect the language of the text that it is being typed. To do this, first open Microsoft Word. Left click on the Tools menu at the top of the screen, select Language, and then left click on Set Language. Left click on the box that says Detect Language Automatically. Finally left click on the OK button. Microsoft Word XP can now detect the Arabic that was installed by the Arabic Proofing Tools installation. Word also can check the spelling and grammar of text written in Arabic.

- For Windows XP users, typing Hindi numerals is now easier than ever. Within the same new Microsoft Word document, left click on the word Tools on the top toolbar. Move to the bottom of the menu, and left click on Options…. Left click on the tab labeled Complex Scripts at the top of the new box. Under General and to the right of Numeral, scroll down the menu and select Context. Left click on the OK button. The Context feature will allow XP users to use Arabic numbers (1, 2, 3, etc.) when typing in the EN input language (English) and Hindi Numbers when typing in the AR (Arabic) input language.

Step 9: Arabic Fonts

- The favored Arabic font in Microsoft Word 2002? “Simplified Arabic” of course. All the diacritics appear separated from (i.e. not touching) the letters to which they belong, a rare find in the Arabic typing business.

- Arabic fonts for purchase can be found on many font vendors’ web sites. The Summer Institute of Linguistics, now commonly known as SIL International, hosts not only Arabic fonts for purchase [http://www.sil.org/computing/fonts/] but also resources for acquiring free Arabic fonts [http://www.sil.org/computing/fonts/Lang/archives.html].

- Although not as pretty to the eye as purchased Arabic founts, free Arabic fonts are available for download from numerous web sites. The best are included here. Professor Luc Devroye [http://jeff.cs.mcgill.ca/~luc/arab.html] hosts links and resources to many Arabic language fonts as does Professor Berlin [http://user.dtcc.edu/~berlin/fonts.html]. Alan Wood provides Unicode Arabic fonts for Windows and Macintosh platforms [http://www.alanwood.net/unicode/fonts.html] in addition to a test for Unicode support in Web browsers [http://www.alanwood.net/unicode/arabic.html].

- The Type Directors Club, an international typography organization, recently selected two winning entries in Arabic currently on display on their web site here: http://www.tdc.org/news/2003Results/Arabictype.html and here: http://www.tdc.org/news/2003Results/Sakkal.html. The entries reflect the work of Mamoun Sakkal, an international expert in Arabic and Islamic Art, Arabic
Calligraphy, and Graphic and Web Design. His beautiful, award-winning web site is located here: [http://www.sakkal.com/](http://www.sakkal.com/)

- Those interested in Arabic transliteration may be interested in purchasing or upgrading to Microsoft Word 2003 when it becomes available since it will include for the first time a font titled “Microsoft Arabic Typesetting,” an impressive solution to the Arabic romanization quagmire. Unfortunately for us all, Microsoft Arabic Typesetting currently is not available for earlier versions of Word due to licensing restrictions. Samples of this award winning font are available here: [http://www.middleeastmedievalists.org/compute.html](http://www.middleeastmedievalists.org/compute.html) and here: [http://www.tdc.org/news/2003Results/Arabictype.html](http://www.tdc.org/news/2003Results/Arabictype.html).

**Step 10: How to enable Arabic Web Browsing**

- And what about the Internet? Netscape Navigator versions 7.x, Mozilla versions 1.3 and above, and Internet Explorer (IE) versions 5.5 and above all support viewing and composing Arabic on the Internet.

  - Directions on how to Arabicize IE follow. First check what version of IE you have. You can do this by opening IE and left clicking on the word Help on the top of the page within the toolbar. Left click on About Internet Explorer. If the version number is above 5.5, then continue. If not, consider updating your web browser. Left click on Tools on the toolbar. Left click again on Internet Options…. Left click on the General tab on the top of the box that appears. At the bottom of the box, left click on the Languages… button. Left click on the Add… button within the Language Preference box that appears. Find all the varieties of Arabic listed, select them all by depressing the Ctrl key on your keyboard while left clicking on them simultaneously, and then click on the OK button. They should now appear within the Languages pane. Left click on the OK button within the Language Preference box. Finally, left click on the OK button within the Internet Options box. Finally, restart the computer. Now try it by surfing to [http://www.aljazeera.net/](http://www.aljazeera.net/).

  - Netscape and Mozilla look and operate very similarly. First check what version of Netscape you have. You can do this by opening Netscape and left clicking on the word Help on the top of the page within the toolbar. Left click on About Netscape. If the version number is above 7.0, then continue. If not, consider updating your web browser. Left click on Edit on the toolbar. Left click again on Preferences…. Double-left click on the word Navigator in the Category pane. Left click on the word Languages. Left click on the Add… button within the Languages for Web Pages box that appears. Find all the varieties of Arabic listed, select them all by depressing the Ctrl key on your keyboard while left clicking on them simultaneously, and then click on the OK button. They should now appear within the Languages pane. Left click on the OK button within the Languages pane. Finally, left click on the OK button within the Preferences box. Finally, restart the computer. Now try it by surfing to [http://www.aljazeera.net/](http://www.aljazeera.net/).

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5 For an understanding of the issues related to Unicode and Arabic romanization/transliteration fonts used in Microsoft Word 2000, see “Software and Technology Review: Multilingual Computing in Middle East Studies” by Josef W. Meri available here: [http://fp.arizona.edu/mesassoc/Bulletin/meri%20software.htm](http://fp.arizona.edu/mesassoc/Bulletin/meri%20software.htm).
appear within the Languages for Web Pages pane. Left click on the OK button within the Languages for Web Pages pane. Finally, restart the computer. Now try it by surfing to http://www.aljazeera.net/.

What next?
- Now that complete writing, reading, and word-processing capabilities in Arabic are available on the home PC, and now that Arabic is easily accessible on the Internet, a world of language training activities has opened to the field of teaching Arabic as a foreign language. We can finally expect our students to submit typed drafts of long compositions in Arabic, just as we would expect them to do in any language course. Our students can join Arabic chat rooms and virtually interact with Arabic-writers from all over the world. Finding electronic, Arabic-writing, pen pals is no longer a challenge due to the technological efforts of http://www.maktoob.com/ Sending and receiving Arabic e-mails have never been easier. Even Arabic on-line proficiency tests are being developed and tested by a number of Arabic language institutions. The possibilities, as you can see, are tremendous. And it all starts with enabling Arabic in Windows.

About the author
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