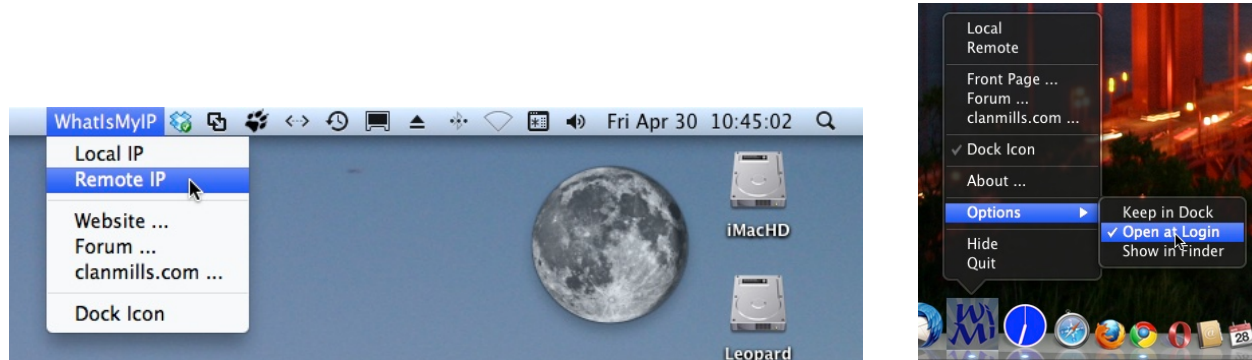


MENUBAR TUTORIAL

WORKING WITH THE MENU BAR IN MAC OS X

This tutorial's about working with the menu bar in Mac OS X. The menu bar is the row of items that populate the top right of the User Interface in MacOS X. It performs a similar function to Window's tray icons. The menu bar is for system status information.



The application here is called "WhatIsMyIP" because I'm a moderator on a forum "What Is My IP?" <http://forum.whatismyip.com/>

I'm not too sure why so many users are concerned about their IP address. The forum is very busy keeping up with questions relating to IP addresses. This little application does several things:

- 1 You can get your local or remote IP address
The local IP address is obtained from the ifconfig system utility
The remote IP address is obtain from <http://whatismyip.com/automation/n09230945NL.asp>
(I use curl to do and HTTP get on the web site, and the string returned in the IP address)
- 2 I provide menu items to bring up the default browser on the Forum, the web site and clanmills.com
- 3 I provide a menu item to enable a "Dock Item".
- 4 You can get the "About Box" for this application when the Dock item is enabled.

I recommend that you run this program and set it from the Dock to Options/Open at Login. When you've been using it for a while, you'll probably want to disable the "Dock Icon" and this will avoid taking up pointless space on your desktop.

It is usual for MenuBar items are paired with a System Preferences Panel and an installer. The installer adds the control panel to the System Preferences (in /System/Library/PreferencePanes/*.*.prefPane or ~/Library/PreferencePanes/*.*.prefPane) and the application is set to start up user login automatically.

However in this tutorial I don't want to deal with System Preferences, installers or setting up programs to run automatically at user login. None of these are complicated, however they are a distraction from the matter at hand which is the Menu Bar application.

In truth this program simply executes UNIX commands and displays the result in the Menu Bar. It would be a lot of fun to add a System Preferences application to enable you to run any command and display the output. Adding menu items to report processor load (w), disk volume utilization (df), time since boot up (uptime). I'm sure you'll think of many others.

Remarkably, the program reconfigures itself by executing a UNIX command! This is because the decision to show a Dock Item is taken by Finder/Launch Services before the program starts. It inspects the key LSUIElement in the application's Info.plist file. When this is set "true", the application is treated as a "daemon" and does not have a user interface. You can interact with the user courtesy of the StatusMenu you have provided - however you can't display a window or an About Box.

So when you want to change from Dock Icon to (no) Dock Icon, I use "killall" to kill WhatIsMyIPapp, "PlistBuddy" to modify the Info.plist program and "open" to restart the application. Good isn't it?

You can download the code from: <http://clanmills.com/files/MenuBar.zip>

ACKNOWLEDGMENT

The inspiration for this little application came from a request for assistance on www.cocoaforum.com from Mike. He'd written something like this and needed a little help with Cocoa. Thank you, Mike for the idea. You can see that I've taken your code and built it from being useful to being very useful. If somebody wants to add the System Preferences Panel and an installer; then this would be very helpful indeed. If fact - good enough to be a shareware product.

CODE DISCUSSION

I usually begin my tutorials with a a step by step recipe for how to create the UI. XCode and Interface Builder take quite a lot of learning. So usually, I explain how to do the job with the tools, and encourage you to simply copy my code from the zip. Today, I'm going to do things the other way. I'm going to discuss the code first of all, and then provide the step-by-step instructions.

1) What are the files:

Code		Resources	
main.mm	Generated by Wizard	AboutBox.xib	Our About Box
WhatIsMyIPAppDelegate.h	ditto	English.lproj/MainMenu.xib	The Main UI
WhatIsMyIPAppDelegate.mm	ditto	WhatIsMyIP-Info.plist	Our Plist file
WhatIsMyIP_Prefix.pch	ditto	WhatIsMyIP.icns	Our icon
WhatIsMyIP.h	Our header file	Robin.jpg	Graphic for AboutBox
WhatIsMyIP.mm	This is our code	clanmills.gif	Graphic for AboutBox

Total code, (not counting prologs and blank lines) is about 200. Very easy, isn't it.

1) How does it all work

Well, the application is simple. We have almost no User Interface - well, we don't have a window. However we do have a menu. So that's in MainMenu.xib. The menu provides the item's to be displayed when the program starts.

The menu is added to the Global NSStatusBar and also to the Application Dock. So the Menu (Local, Remote etc...) are available from either the StatusBar or the Dock Menu. You can see those in the graphics on page 1 of the tutorial.

Connecting up the Menu to the actions in the UI is very simple in Interface Builder. There are two ways. I prefer method 1 which arrived with Interface Builder in XCode 3 (Leopard). Veterans may prefer method 2 - the effect is identical.

- 1 Right click on our object (the blue cube in the IB), and drag the blue rubber to the menu items.
- or
- 2 Ctrl-drag the blue rubber from the menu items to the object (the blue cube). When you release the mouse, you'll be offered a menu of actions.

2) What is the NIB file?

The NIB is quite difficult to understand. It's not only the layout of dialogs and menus and stuff. It "seems" to contain objects. Of course, it can't contain an object as objects only live in memory. However you can add placeholders for objects. When the NIB is loaded (using loadFromNib:), the objects are created in memory and you get the awakeFromNib: call to complete your initialization.

3) How does the program start?

On page one of this tutorial, I explained that the decision to

TO BE WRITTEN

I have a lot more work to do on this document. The code has been done. I hope to complete the text by April 30, 2010.

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```
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Revision History

20100428 Initial placeholder version. I've written a description of the tutorial and the code's done.