3I installation on Windows 7. http://ctap.inhs.uiuc.edu/dmitriev/ © D. Dmitriev, 2003–2010

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The 3I installation package includes

- 1. Two Microsoft Access database files: **3i.mdb** database with blank standard tables and forms (to store information on nomenclature, characters, specimen records, bibliography, links to illustrations, etc.), and **3iVisit.mdb** database (to store preferences and visit statistics; this file may not be edited);
- 2. A set of ASP or Active Server Page files, which will display this information on the web site and allow the end user to query the database through the Internet;
- 3. Several DLL (Dynamically-Linked Libraries) files, which provide additional functionality facilitating, for example, creation of dynamic distribution maps.

To make your product accessible to end users through the Internet you will need to place all of these components plus, if desired, illustrations and custom maps on a Web server (ask your network administrator and/or webmaster to help with this). This should be done after the database has been populated with data on the nomenclature, morphology, and distribution of the included taxa. Building and modifying the database (i.e., entering data and illustrations) is done on your local computer. Data become accessible by copying the database files on the Web server. You may continue to build your database on your local computer. When ready to update the live, Internet-accessible version, simply replace the older database file on the server with a copy of the updated file from your local computer.

Because 3I relies on a Web server to create custom interfaces on the fly (e.g., for interactive keys, database searches, etc.), in order to view the interfaces during development (and before you provide live access through a Web server) it is necessary to set up your local computer so that you can view the interfaces on this computer, via a Web browser, exactly as they will appear on the Internet. This is strongly recommended so that problems may be identified and corrected before the files are moved to their final destination on a Web server. The following instructions describe how to set up the Internet Information Services on the Windows 7 operating system to work with your web product locally. Once these have been set up, you will be able to view and test your interactive key or database in your Web browser, whether your computer is online or offline. Other people will not be able to access the product via the Internet or local network at this stage, so you can work in peace. Before setting up the web services on your computer, make sure you have installed all critical Windows updates from Microsoft web site. So far, the 3I program was successfully installed on machines with Windows 7 Home Premium and Business editions. It should also work with Windows 7 Ultimate edition, but it is not supported by Windows 7 Home Basic edition which lacking components necessary for installation. The program can be also installed on Windows 2000 Professional, Windows XP Professional, and Windows Vista; but the installation process may be slightly different.

Installation.

 Start Internet Information Services on Windows 7: Start Menu > Setting > Control Panel > Programs and features > Click on Tab Turn Windows feature on or off > Tickle the checkbox near Internet Information Services (IIS) component; open Internet Information Services and check the checkbox near ASP, Server-Side Includes, Default Document, and Static Content.



Confirm selection pressing **OK** (sometimes Windows installation CD required to activate Internet Information Services).

- 2. Create a folder to store Web related databases. It can be any folder, with any name, placed on any drive. I recommend "**wwwDB**" folder on C: disk (C:\wwwDB).
- 3. Copy two databases (**3i.mdb** and **3iVisit.mdb**) and 3 DLL files (**dynimage.dll**, **NETDLL.dll**, **obout_ASPTreeView_XP.dll**) to the **C:\wwwDB** folder (all files from the 3I_internetDB folder of installation package).
- 4. Check the folder properties: **Start Menu > Control Panel > Folder Options >** Tab **View >** Option **Use Sharing Wizard** (last option) should be checked.



Close Folder Options.

5. Check the Properties of the wwwDB folder: My Computer > C: Disk > select wwwDB folder > File > Properties > Tab Security > Edit. Check if the group "Users" present there. If not, click Add button, type "Users", and press OK. Check option for Full Control for Users group and press OK again.

wwwDB Properties				
General Sharing Security Web	Sharing Custo	mize		
Group or user names:		·		
Administrators (HECALUS\Ad CREATOR OWNER Dmitry Dmitriev (HECALUS\ad SYSTEM Users (HECALUS\Users)	dministrators) Imitriev)			
	A <u>d</u> d	<u>R</u> emove		
Permissions for Users	Allow	Deny		
Full Control Modify Read & Execute List Folder Contents Read Write				
For special permissions or for adva click Advanced.	nced settings, _	Ad <u>v</u> anced		
OK	Cancel	Apply		

6. Check each database in **wwwDB** folder. Both of them should have **Full control** set up for **Users group**.

7. Register web databases: Start Menu > Control Panel > Administrative Tools > Data Sources (ODBS) > Tab System DSN (If you have Windows 7 64bit edition, launch the following file instead: c:\windows\SysWOW64\odbcad32.exe)

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User DS	N System DSN File DSN Driv	ers Tracing	Connection Pooling /	About
<u>S</u> ystem	Data Sources:			
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3	An ODBC System data source the indicated data provider. on this machine, including NT	stores informati A System data s services.	ion about how to conne ource is visible to all us	ect to ers
	OK	Cancel	Apply	Help

Click Add. Select Driver for Microsoft Access (*.mdb).



Type "3iVisit" into Data Source Name, then click Select.

ODBC Microsoft Acc	ess Setup	? ×
Data Source <u>N</u> ame:	3Misit	ОК
Description:		Cancel
Database:		<u>H</u> elp
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Select Database × Database N<u>a</u>me Directories: ΟК 3iVisit.mdb c:\wwwdb Cancel 3i.mdb /:o 🥱 . BiVisit.mdb 📂 wwwDB Help Cicadina.mdb db1.mdb db2.mdb 🔲 <u>R</u>ead Only DeltTribes.mdb Exclusive Ervthroneura.mdb Erythroneura_.mdb • List Files of <u>Type</u>: Drives: Network.. Access Databases (*.m 💌 🔳 c: Local Disk1 •

Click **OK** second time to finish the registration process. Click **Add** to register the second database. Select **Driver for Microsoft Access (*.mdb)**. **Data Source Name** (select any name for your database, for example the name of the taxon you are working with. This name will be a part of the Internet address for the interactive keys). Click **Select**, find **3i.mdb** database. Select it, click **OK** two times . Close Data Sources window.

8. Register DLL files. DLL's are Dynamically-Linked Libraries, program modules widely used in Windows. Three DLL's are used in 3I (for example to create dynamic maps). In order to work DLL's must be registered with Windows. There are two ways of DLL registration:

a. Using the Command prompt. In the **Run** command of the **Start Menu** type "**cmd**", then type the following commands in the opened window.



Close the window.

b. The easiest way to register DLL's is to download and use the **Emsa Register Dll Tool** (http://www.shareup.com/Emsa_Register_Dll_Tool-download-25772.html). After Emsa Register is installed and activated, the registration is simple: select one by one all DLL files from the C:\wwwDB folder (dynimage.dll, NETDLL.dll, obout_ASPTreeView_XP.dll) and click Register ActiveX.

Find C:\wwwDB folder, select 3iVisit.mdb database, click OK.



After all three files are registered close the registration tool window.

- Set up the Internet folder. Open the folder C:\Inetpub\wwwroot (this folder has been created as a part of the Internet Information Services). Create a new folder inside; for example, "key" (C:\Inetpub\wwwroot\key). Copy all the content from 3I_internet folder (from the installation package) into C:\Intetpub\wwwroot\key folder.
- 10. Set up the properties of the Internet folder. Start Menu > Control Panel > Administrative Tools > Computer Management.

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Computer Management (Local)	Name		Actions
E 👔 System Tools	1 System Tools		Computer Management (L +
B B Event Viewer	Storage	1	More Actions
🖲 🧱 Shared Folders	The same and applications		
E A Local Users and Groups Reliability and Performance			
Device Manager			
E Storage			
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Open Services and Applications List > Open Internet Information Services List > Open Web Sites List > Open Default Web Site List > Select key folder (this is the folder you created in step 9) > make a right mouse click on this folder and from the context menu select Convert into Application option.



Open **ASP** settings window and select **True** options for **Enable Parent Paths**, **Enable ASP server**side script debugging, **Enable ASP client-side script debugging**, and **Send detailed ASP error messages to client** > Press **Apply**.

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Internet Information Serv		Enable H11M, Fallback	True			
G Services		Enable Parent Paths	True			
WMI Control		El Linits Properties				
		Locale ID	0			
		Restart On Config Change	True			
		Compilation				
		Debugging Properties				
		Calculate Line Numbers	True			
		Catch COM Component Exceptions	True			
		Enable Client-side Debugging	True			
		Enable Log Error Requests	True			
		Enable Server-side Debugging	True			
		Log Errors to NT Log	False			
		Run On End Functions Anonymously	True			
		Script Error Message	An error occurred on the server when processing			
		Send Errors To Browser	True			
		Script Language	VBScript			
		E Services				
		Caching Properties				
		E Com Plus Properties				
		El Session Properties				
		Send Errors To Browser Specifies whether the Web server writes d description) to the client browser, in addition	sbugging specifics (file name, error, line number, in to logging them to the Windows Event Log.			

Return to the previous menu (to do this use Back arrow at the top of the central part of the screen) > Open Authentication settings > make right mouse click on Anonymous Authentication > select Edit > Select Application pool identity option > press OK.

Return to the previous menu (to do this use Back arrow at the top of the central part of the screen) > Open **Default Document** settings > add **index.asp** as a default web page > Click **Apply**.

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If you have Windows 7 64bit edition, an additional step is required:

Return to the previous menu (to do this use Back arrow at the top of the central part of the screen) > In the **Connections** part click the link to the **Application Pools**



In the Actions section click to the Set Application Pool Defaults > Set Enable 32-Bit Applications value to True.

Ар	pli	cation Pool Defaults	? <mark>×</mark>
	_	10 0	
	-	(General)	
		.NET Framework Version	v2.0
		Enable 32-Bit Applications	True
		Managed Pipeline Mode	Integrated
		Queue Length	1000
		Start Automatically	True 💌 =
6	-	СРО	
		Limit	0
		Limit Action	NoAction
		Limit Interval (minutes)	5
		Processor Affinity Enabled	False
		Processor Affinity Mask	4294967295
6	-	Process Model	
		Identity	ApplicationPoolIdentity
		Idle Time-out (minutes)	20
		Load User Profile	False
		Maximum Worker Processes	1
		Ping Enabled	True
		Ping Maximum Response Time (s	90
		Ping Period (seconds)	30 👻
	St [a is	t art Automatically utoStart] If true, the application po started. Starting an application po	ool is started upon creation, or when IIS ool sets this property to true, and stop OK Cancel

Close Computer Management window.

- 11. Change setting of your browser to display ASP error messages: Start Menu > Control Panel > Internet Options > Tab Advanced. Find an option that says "Show friendly HTTP error messages". Uncheck it.
- 12. Customize index.asp (starting page of your web site). Using NotePad editor open index.asp file from C:\inetpub\wwwroot\key\ folder. In two places replace the "Computer_Name" with the real name of your computer (If you do not know the name of your computer, make right click of the mouse on My Computer > Properties > Tab Computer Name). In two places replace the "Database_Name" with the nickname of your database (the name used to register 3i.mdb database in the step 7).

📋 index.asp - WordPad
<u>File Edit View Insert Format Help</u>
<html></html>
<head> <meta content="text/html; charset=utf-8" http-equiv="Content-Type"/> <link href="style.css" rel="stylesheet"/></head>
<title>3I links</title>
<body> <h1>3I links</h1></body>
 Interactive key
 Search the database
For Help, press F1

- 13. Restart the computer.
- 14. The Web site is now ready for use. Copy 3i.mdb database from C:\wwwDB folder into any other folder. You will now have two folders with the same database: server folder (C:\wwwDB) and local folder. Never edit the database from the server folder, only from your local folder. Once you have made some updates and want to see the changes using Internet services, just copy the database from your local folder into the server folder. Images illustrating the character states in the interactive key must be placed into C:\Inetpub\wwwroot\key\images folder. Images illustrating the taxa must be placed into C:\Inetpub\wwwroot\key\images1 folder.
- 15. To test for proper installation and access to your 3I database open an Internet Explorer (or other browser) window. In the address line type: http://Computer_Name/key/. Where the Computer_Name is the real name of your computer. Add this hyperlink to the Favorites for easier access.
- 16. Possible complications:

a. Browser gives and error message, stating that there is an error in **global.asa** file. This was most likely caused by an error during **3iVisit.mdb** database registration. For example, 3iVisit.mdb database does not have **Full access** for **Users** group (check step 5), or the name of the database was misspelled during database registration processes (check step 7).

b. You cannot see the content of the main page (two hyperlinks). This was most likely caused by a problem during **Internet Information Services** installation or configuration process (check steps 1 and 10).

c. You can see the main page, but hyperlinks do not work. Most likely the file index.asp was not

properly updated (see step 11), or the name of **3i.mdb** database was misspelled during the registration processes (check step 7).

d. First hyperlink opens the interactive key interface, but there are error messages in some frames. Most likely there is not enough data in the database to display the interactive key (an interactive key requires that several taxa be entered into the taxonomic form of the database, taxa should be marked with number 1 to be included in interactive key number 1; several characters and their states should be entered into the Character form of the database and marked with number 1 to be included in key number 1. Terminal taxa should be scored in the Character form and the checkboxes near to the taxon names should be checked in order for the scored taxa to be included in the interactive key. The database should be Updated for the Internet and copied into the **wwwDB** folder.

17. The **3I_example** folder contains **3i.mdb** database with an example interactive key, and two folders with images. To see this key, place **3i.mdb** database into the **C:\wwwDB** folder and copy both image folders into **C:\inetpub\wwwroot\key**\ folder. Then try the hyperlink from step 13.

Optional setup for web statistics.

- 1. Open the file script.txt using Notepad or another simple text editor and copy the text from this file into each html (or asp) document on your web site (using a word processor to do this may introduce hidden codes and is not recommended). This script collects visit statistics. If you have a frame structure and one of the frames (for example title, or menu) does not change during navigation, you must place the code only into this frame (in 3I, place the code at the end of the name.asp file before the tag </bd>

 the tag
 /body>). Do not include this script in the main page of the frameset. The script will generate a small transparent image file 1x1 pixel in size. In order to get more adequate statistics, you should place the script as close to the beginning of the document as possible (before any other illustration). It takes time to download illustrations, and users, especially those with modem connections, not always wait until the page is finished loading. If you have difficulty changing the html structure, you can always place the script at the very end of the document. Before the tags
- 2. The file **stat.asp** shows visit statistics.
- 3. **Optional**. In order for the program not to calculate numerous visits from the editor of the web site, you can open file global.asa (again, using a simple editor like Notepad). In one of the first lines you should input the IP address of your computer (visits from this address will be excluded from the statistics). You can also input several IP addresses, separating them with commas.

You should edit the line

myIP = "XXX.XXX.XXX.XXX,xxx.xxx.xxx" to

myIP = "111.111.111.111, 222.222.222.222"

where 111.111.111.111 or 222.222.222 are your valid IP addresses.

4. One month after you start using the program, it will start requesting registrations. In order to register, send me an e-mail containing the URL address of your web site and the name of the user. After I have received an e-mail with this information, I will register the program on-line and it will become accessible without any limitations.