Using GadgetPC as a Web Server

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Overview

GadgetPC can be used as a light-duty web server with the possibility of layered applications such as file server and mail server.

GadgetPC Linux has a built-in web server (httpd) based on the popular open-source Apache web server.

Parts Required

- 1 x GadgetPC
- 1 x ADP-5V1A-MiniUSB Power Adapter
- 1 x DUB-E100 Ethernet card
- 1 x Ethernet Cable
- 1 x USB Flash Drive running Linux (optional)

Connect the various components as shown in *Figure 1*.



Figure 1.

Software Setup

We need to edit the Linux vars.sh file to enable certain configuration options.

NOTE: Every time you access vars.sh file, you either need to have a temporary copy on your computer so that you can replace the actual copy on the USB Flash Drive or remove the USB Flash Drive from the GadgetPC and insert the USB Flash Drive into the computer for direct editing.

1) Open Linux Control Panel that comes with GadgetPC setup. (Start Menu -> All Programs -> GadgetPC -> Linux Control Panel)

		Accessories	•	-25	Windows Messenger
		Accessories	ĺ		Visio 2000
		Atmen AVR Tools			
		ATMEL Corporation			
		Brother HL-5250DN			
		Dino Digital Microscope			
		EAGLE Layout Editor 4.16r2			
		GadgetPC	-	Ē.	Configure GadgetPC Linux
		Games	•	P	Quick Start Guide
		GNUARM	•	6	Uninstall GadgetPC
👰 Internet		Matrix Orbital	≁	₽	Linux Control Panel
🥣 Mozilla Firefox		MCS Electronics	•	Ξ	Manually Configure GadgetPC Linux
🧑 E-mail	(iii)	Micro-IDE	•		
Sy Mozilla Thunder	•	Microsoft Office Tools	►		
		Mozilla Firefox	►		
SALIDA 72.0	6	Mozilla Thunderbird	≁		
	6	OpenOffice.org 2.4	►		
Micro-IDE		OpenOffice.org 3.1	►		
\frown		Skype	→		
S Skype		Startup	►		
~~~~		TightVNC	►		
Linux Control Pa		WebCat	→		
		WinAVR-20090313	►		
🦞 Paint	6	WinSCP	→		
	6	Yahoo! Messenger	→		
Notepad	人	Acrobat.com			
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W Microsoft Word	۲	Internet Explorer			
Bernand Contraction of Contraction		Microsoft Access			
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	8	Microsoft FrontPage			
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File View Help	
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2) Click File -> Open. By default, program will start from folder where GadgetPC was installed. Go to **sh** folder and select **vars.sh** file.

Open					? 🔀
Look jn:	🗀 sh		•	🗢 🗈 💣 🗉	
My Recent Documents Desktop	<ul> <li>ftp_server.sh</li> <li>init_at91sam_a</li> <li>init_dlink_usb_i</li> <li>init_dlink_usb_i</li> <li>init_dlink_usb_i</li> <li>init_dm9161a.s</li> <li>init_ftdi_usb_si</li> <li>init_ftdi_usb_si</li> <li>init_gspca_usb</li> <li>init_j2c_pcf857</li> </ul>	adc.sh eth.sh wifi.sh sh erial.sh _webcam.sh '4.sh	<ul> <li>spca_video_serve</li> <li>ssh_server.sh</li> <li>system.sh</li> <li>telnet_server.sh</li> <li>usb_utils.sh</li> <li>user_cmds.sh</li> <li>vars.sh</li> <li>web_server.sh</li> </ul>	r.sh	
My Documents	init_microsd.sh init_ports.sh mail_agent.sh motion_server.	.sh		Type: UNIX Shell ( Date Modified: 6/3 Size: 2.40 KB	Document 30/2009 2:12 PM
My Computer	ntpd_server.sh	ו 			
<b>S</b>	File <u>n</u> ame:	vars.sh		•	<u>O</u> pen
My Network Places	Files of <u>type</u> :	Unix Shell fi	iles (*.sh) read-only	•	Cancel



3) Double-click Hardware and Peripherals and enable DUB-E100 (Turned ON).

۳V	ariables Dialog	×
	Network	
	DM9161A Ethernet adapter	OFF
	D-Link DUB-E100 Ethernet Adapter	ON
	D-Link WUA-1340 USB Wi-Fi adapter	OFF
	Sierra Compass855 AirCard USB Modem	OFF
	1/O Subsystem	
	FTDI USB serial adapter	OFF
	PCF857412C Controller on MINI-MAX/ARM9 Series Boards	OFF
	Initialize unused I/O ports on the hardware	YES
	Peripherals	
	GSPCA USB web camera	OFF
	ADC hardware on MINI-MAX/ARM9 Series Boards	OFF
	Mount MicroSD	NO
	USB to SERIAL generic adapter	OFF
	Vendor code for USB to SERIAL generic adapter	0x12d1
	Product code for USB to SERIAL generic adapter	0x1001
	GSPCA USB web camera ADC hardware on MINI-MAX/ARM9 Series Boards Mount MicroSD USB to SERIAL generic adapter Vendor code for USB to SERIAL generic adapter Product code for USB to SERIAL generic adapter	OFF OFF NO OFF 0x12d1 0x1001

4) Double-click **Network** and assign an IP address, subnet mask, and gateway IP address under **TCP/IP Options.** 

۲,	ariables Dialog	×
	Network	
	Install PPP	NO
	GPRS Connection	
	Start Life:) GPRS Internet Connection	NO
	Send PIN code to unlock SIM card in GPRS modem	NO
	PIN code of SIM card	1111
	GPRS device name	/dev/ttyUSB3
	Delay before sending PIN (in seconds)	3
	Delay for registration modern on GPRS network (in seconds)	15
	Delay before start PPP service (in seconds)	3
	TCP/IP Options	
	IP Address of Device	192.168.1.26
	Subnet Mask	255.255.255.0
	IP Address of Gateway	192.168.1.254
	3G Connection	
	Start People.Net 3G Internect Connection	NO
	Delay before start 3G connection (in seconds)	45
	Delay after start 3G connection (in seconds)	3
	3G device name	/dev/ttyUSB0
	DynDNS	
	Username for dyndns.org account	GadgetPC
	Pasword for dyndns.org account	gadgetpcpassword
	Update period (in milliseconds)	600000
	Alias for the host	gpcgprs.dyndns.org
	Path to logging file	/mnt/usb/inadyn/log/inadyn.log
IP BI	Address of Device POMVAR_HOST_IP	1
		OK Cancel

5) Double-click **Software** and enable **Run Web HTTP Server** (set to YES) and assign a **HTTP port** (default: 80).

Note: Path to configuration file is useful for accessing httpd.conf which allows the user to change the directory storing web pages and the default index file with Micro-IDE.



Va	ariables Dialog	
Ξ	SPCA Video Server	<b></b>
	Run SPCA Video Server	NO
Ξ	Telnet Server	
	Run Telnet Server	YES
Ξ	USB Utilities	
	Create links to support USB utilities	YES
Ξ	Web HTTP Server	
	Run Web HTTP Server	YES
	Path to configuration file	/mnt/usb/httpd/httpd.conf
	HTTP port	80
Ξ	Motion Server	
	Run Motion Server	NO
Ξ	FTP Server	
	Run FTP Server	YES
	FTP username	ftp
	FTP password	ftppassword
	Source path to configuration file for FTP server	/mnt/usb/vsftpd/vsftpd.conf
Ξ	OpenSSH Server	
	Run OpenSSH Server	YES
	Port of SSH server	22
	SSH username	sshd
	SSH password	sshdpassword
	Path to file with Host key for SSH	/mnt/usb/openssh/etc/ssh
	Path to file with DSA key for SSH	/mnt/usb/openssh/etc/ssh
	Path to file with RSA key for SSH	/mnt/usb/openssh/etc/ssh
	Path to configuration file for motion server	/mnt/usb/motion/etc/motion 🦕
	<u> </u>	
		Cancel

## 6) Double-click **System** and assign a root password.

	٧ā	riables Dialog	
Г	Ξ	Drivers	
		Source path of system drivers	/mnt/usb/drivers
		Destination path of system drivers	/lib/modules/2.6.24
	Ξ	System Users	
		Password for user root	newpassword

7) Save the vars.sh file.

**NOTE:** Every time you access vars.sh file, you either need to have a temporary copy on your computer so that you can replace the actual copy on the USB Flash Drive or remove the USB Flash Drive from the GadgetPC and insert the USB Flash Drive into the computer for direct editing.

8) Insert the USB Flash drive to GadgetPC.

9) Apply or cycle power to GadgetPC (Turn OFF/ON).

10) After about 30-45 seconds, Linux will boot up and Httpd will start and listen for incoming HTTP requests from web browsers.

11) You may open a browser and type in your IP to make sure the Web Server is working.

💛 GadgetPC WebServer Start Page - Mozilla Firefox	<u>_ 문 ×</u>
Eile Edit <u>Vi</u> ew Hi <u>s</u> tory <u>B</u> ookmarks <u>T</u> ools <u>H</u> elp	
C × ☆ http://192.168.1.210/	☆ • Google
🖻 Most Visited 🏇 Getting Started 🔝 Latest Headlines	

GadgetPC WebServer Start Page

You should replace this page with your own page. It will be opened when user access your web server. <u>BiPOM Electronics, Inc.</u> 2009

## Implementing HTML with Microsoft FrontPage

#### 1) Open Microsoft FrontPage.

2) Use **Normal Mode** as an easy way to create and edit a web page or add your own HTML code in **HTML Mode**.





You can switch back-and-forth between both modes freely.

3) Preview your web page under Preview Mode.



4) **Save** your HTML file to **\myweb** directory of the USB Flash Drive containing Linux. The user may choose to save it as a different html or create a new directory within **\myweb** (in this example, we will replace index.html with the created web page).

Save As						?×
Save in:	🛅 myweb		- 🗢 🗈	🝳 🗙 🖆 🎟 -	Too <u>l</u> s 👻	
() History	index.html					
My Documents						
Desktop						
Favorites						
	Page title:	Hello		<u>C</u> hange		
Mv Network	File <u>n</u> ame:	index.html		•	<b>   </b> 5	ave
Places	Save as <u>t</u> ype:	Web Pages (*.htm;*.htm	nl;*.shtml;*.shtn	n;*.stm;*.asp;*.c💌	Ca	ancel

5) If using pictures on the web page, you may choose the name of the picture and location to save the pictures.

Save Embedded Fil	es		<u>? ×</u>
Embedded files to sa	ve:		Picture preview:
Name	Folder E:\myweb\	Action Save	
<u>R</u> ename	Change Folder	Set Action	
			OK Cancel

6) You may open a browser and type in your IP to make sure the web page you created is working.

🕘 Hello - Mozilla Firefox	
Eile Edit Yiew History Bookmarks Iools Help	
C X 🔥 http://192.168.1.26/	🗘 • 🔀• Google 🔎
🙋 Most Visited 🌘 Getting Started 🔝 Latest Headlines	
Hello *	-

Hello. This is an example index webpage using HTML.



This is an example JPEG photo.

Done

## Implementing HTML with Adobe Dreamweaver

#### 1) Open Adobe Dreamweaver.

2) Create HTML file.

3) Create a web page using the middle-left window or edit the HTML code found at the top-left window. Top-right window gives some common web page functions. Bottom-left window allows user to edit the formatting of the web page. Bottom-right window shows directory and allows management of multiple web pages.

Dw File Edit View Insert Modify Format Commands Site Window Help   📰 🔻 🌣 🐇   DESIGNER 🕶	Q	_ @ ×
Untitled-1* ×	8	INSERT *=
🖸 Code 🔛 Split 🔄 Design 🖉 Live View 🔻 📝 Live Code 🛛 Title: Untitled Document 🖓 🚱 C 🗉 🗞	⊳?, [	
1 html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"</td	-	N Huperlink
<pre>"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd"&gt;</pre>		
3 <head></head>		Email Link
3 4 <meta content="text/html; charset=utf-8" http-equiv="Content-Type"/>		🚜 Named Anchor
6		Horizontal Rule
		EE Table
8 <body> 9   (m)Hello. This is an example index webnage using HTML </body>		
(j) 10 <ing 175"="" alt="" src="file:///C /Documents and Settings/Hakan/My Documents/untitled.jpg" width="150&lt;/td&gt;&lt;td&gt;)″  &lt;/td&gt;&lt;td&gt;insert biv rag&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;height="></ing>	_	⊥ • Images
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		CSS STYLES AP ELEMENTS T
	1	FILES ASSETS *=
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		FTP & RDS Servers
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	*=	
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ESS ID None Link D G Target		
Page Properties		

4) **Save** your HTML file to **\myweb** directory of the USB Flash Drive containing Linux. The user may choose to save it as a different html or create a new directory within **\myweb** (in this example, we will replace index.html with the created web page).

Save As			<u>?</u> ×
Save in:	i myweb	🔽 🔇 🤌 🔛 -	
My Recent Documents	index.html ■ index.html ■ style.css		
My Documents			
My Network Places	File <u>n</u> ame: Save as <u>t</u> ype:	index.htm	<u>S</u> ave Cancel
Site Root Unicode Normalization Eorm:		C (Canonical Decomposition, followed by Cant 💌	

6) You may open a browser and type in your IP to make sure the web page you created is working.

🕘 Hello - Mozilla Firefox				
Eile Edit Yiew History Bookmarks Iools Help				
C X 🔥 http://192.168.1.26/	🗘 • 🔀• Google 🔎			
🙋 Most Visited 🌮 Getting Started 🔊 Latest Headlines				
Hello *	-			

Hello. This is an example index webpage using HTML.



This is an example JPEG photo.

Done