Installing Windows 8 from the network

For the free video please see
http://itfreetraining.com/installwindows#network-quick

This video will look at installing Windows 8 completely from the network. No media needs to be taken to the computer in order to perform the install. The video itself does not go into much detail about how the process works rather it offers pre-configured download files and doesn't look at how these files are configured. If you are after a quick network solution, this is the video for you. If you want to understand the process fully, we have a second video which covers the process in a lot more detail. This can be found at the following address.

http://itfreetraining.com/installwindows#dvd-usb-network

Demonstration

Demonstration configuration TFTPd
In order to install Windows 8 over the network, the administrator requires DHCP and TFTP. DHCP (Dynamic Host Configuration Protocol) configures the client using the network. It provides information like an IP Address, gateway and most importantly it provides details of where additional code required to install over the network can be found and the configuration for network installs. TFTP (Trivial File Transfer Protocol) is required to transfer the files needed for the network install. In this demonstration, the free software TFTP32d will be used to provide DHCP and TFTP. This software can be found at the following address http://tftpd32.jounin.net/
The software needs to be download from the following location http://tftpd32.jounin.net On this page select the option download and select the option TFTPd stand edition (installer) or the 32bit version if you are using 32bit hardware. Once downloaded, run the installer to start the wizard.
From the wizard of the TFTPD32 install, accept all the defaults except on the component screen tick the option "Start TFTPd64". You may also receive a dialog from Windows Firewall asking if the software should be added to the firewall rules. If this window appears you should press the allow access button.
Once the install has completed and TFTPd has started, press the settings button at the bottom right to configure TFTPd.
TFTPd comes with a lot of different components. The only ones required in this case are "TFTP Server" and "DHCP Server". Deselect all the other components. You can leave the option "Enable IPv6" ticked.

The next set is to configure TFTP. This is done by selecting the TFTP tab in the settings dialog. The first setting to be configured is the base directory. In this case I will use the base directory c:\tftp. The only change that needs to be made from the default settings is to select the option "PXE Compatibility". Your network card may work without this option, however ticking this option will improve compatibility particularly with older network cards.

The next set is to configure DHCP by selecting the DHCP tab. First you need to configure a start IP Address which in this case is 192.168.2.50. Regardless of which option you choose, you need to make sure that you use options that are not in use on your network. Choose the number of IP Addresses that you want to use in the pool on that network. Next you need to configure the boot file. This contains the boot code that will be used by the client. In this case it should be set to "pxelinux.0". Lastly the DNS, default router and mask should be configured. In this case they were configured to 192.168.2.2, 192.168.2.1 and 255.255.255.0. You should also untick the option "ping address before assignation". If the firewall is not configured correctly on Windows to allow ping requests through the firewall, this will effectively prevent any responses to come back and will prevent DHCP from allocating any IP Addresses.

The pre-configured files that TFTPd uses have been made available on the ITFreeTraining web site. You can download it from http://itfreetraining.com/downloads/tftpdfiles.zip These files need to be copied to the c:\tftp directory.

Demonstration creating the Windows PE isos
Windows PE is a lightweight version of Windows that is required to boot the computer into a basic operating system that can be used to run the setup and thus install Windows. In order to create the Windows PE files, they can be created using the Windows Assessment and Deployment Kit (ADK)

To install Windows ADK, download and run it from the following location.
http://www.microsoft.com/en-au/download/details.aspx?id=30652
Accept all the default options in the setup except on the features screen. As each feature needs to be downloaded from the internet, you do not want to download features that are not required. To create Windows PE, you only require the two options "Deployment Tools" and "Windows Preinstallation Environment (Windows PE)" to be ticked.

Once the install is complete, press the start menu and then select the icon "Deployment and Imaging Tools".

From the command prompt, run the command "copype x86 c:\WinPEx86" and "copype amd64 c:\WinPEx64"

The previous command only creates the files required for Windows PE, they still need to be combined together to create an iso. This is done by running "MakeWinPEMedia /iso c:\WinPEx86 c:\tftp\WinPEx86.iso" and "MakeWinPEMedia /iso c:\WinPEx64 c:\tftp\WinPEx64.iso". This will create a 32bit iso image and 64bit iso image.

Demonstration sharing the media
In order for the client to access the setup files for the install these files need to be made available on the network.
Insert the source DVD in the optical drive, right click the drive and select the option properties. In the properties select the sharing tab and then select the option advanced sharing. In the advanced sharing dialog box, tick the option "Share this folder". The default permissions are everyone has read access so it is safe to accept these and exit out of the properties.

Demonstration installing from the network
This demonstration will install Windows 8 from the network on a client that has nothing on the hard disk and no media placed in the computer.
A lot of bios have the option to select which device you want to boot from. This is generally simpler than going into the bios and changing the boot order for the install. In the case of VMWare, the escape key needs to be pressed during start up to access the boot menu.
When a network boot is performed, a menu will appear asking which Windows PE iso you want to boot from, either 32bit or 64bit. Once you select the version of Windows PE that you want to use, this will be downloaded over the network and stored in the RAM of the computer.
Windows PE will run wpeinit and initializes the networking and obtain an IP Address from DHCP.
The next step is to run "net use * \\192.168.2.42\d" The IP Address should be changed to the IP Address of the computer that the DVD was shared on to the name of the share.
Once the share has been setup, you can next run setup from the network share. Setup will now run the same way as if you had booted from the DVD from the local computer.

For the full version of this video, which goes into all the details of the install, see.
http://itfreetraining.com/installwindows#network-install

See http://YouTube.com/ITFreeTraining or http://itfreetraining.com for our always free training videos. This is only one video from the many free courses available on YouTube.

References
"TFTPD" http://tftpd32.jounin.net
"TFTPD Files" http://ITfreeTraining.com/downloads/tftpdfiles.zip
"Windows Assessment and Deployment Kit (ADK) for Windows 8"
http://www.microsoft.com/en-au/download/details.aspx?id=30652