

Unit Four: Portable Devices

Student Name		Member of Team		Team Lead		AM/PM
A+ Test	Comptia 801 Laptops are 11% of the exam objectives		<h2>A+ Certification Objectives Covered</h2> <ul style="list-style-type: none"> • 3.1 Install and configure laptop hardware and components. <ul style="list-style-type: none"> ○ Expansion options ○ Express card /34 ○ Express card /54 ○ PCMCIA ○ SODIMM ○ Flash • Hardware/device replacement <ul style="list-style-type: none"> ○ Keyboard ○ Hard Drive (2.5 vs. 3.5) ○ Memory ○ Optical drive ○ Wireless card ○ Mini-PCle ○ screen ○ DC jack ○ Battery ○ Touchpad ○ Plastics ○ Speaker ○ System board ○ CPU • 3.2 Compare and contrast the components within the display of a laptop. <ul style="list-style-type: none"> ○ Types <ul style="list-style-type: none"> ▪ LCD ▪ LED ▪ OLED ▪ Plasma ○ Wi-Fi antenna connector/placement ○ Inverter and its function ○ Backlight • 3.3 Compare and contrast laptop features. <ul style="list-style-type: none"> ○ Special function keys <ul style="list-style-type: none"> ▪ Dual displays ▪ Wireless (on/off) ▪ Volume settings ▪ Screen brightness ▪ Bluetooth (on/off) ▪ Keyboard backlight ○ Docking station vs. port replicator ○ Physical laptop lock and cable lock 			
<h2>Learning Targets</h2> <ol style="list-style-type: none"> 1. Be able to install and configure laptop hardware and components. 2. Be able to identify and compare components within the display of a laptop. 3. Compare and contrast laptop features. 4. Understand special power needs of laptops in different situations 5. Identify differences among mobile computing devices. 6. Understand the role an IT Technician will play in configuring different mobile computing devices. 7. Understand how to troubleshoot common laptop problems. 						

<i>Turn in for this unit</i>	Time Allotted	8 Days
Assignments (one per student)	Team Lead Check Off	Teacher Check Off
Notes (50)		
20 Flashcards on Quizlet (20)		
Lab 4-1 Configuring Power Options (10)		
Lab 4-2		
Unit Project (one per group)		
✓ Customer Overview		
✓ List of current needs		
✓ List of future needs		
✓ List of questions asked of customer		
✓ Written (at least 2 full page, double spaced) proposal that describes, in clear English, your solution.		
✓ Diagram of computer components		
✓ Worksheet from lab		
✓ Printout of spreadsheet showing complete cost of ALL computers and hardware and software		

Lab 4-1 Configuring Power Options

Learning Targets

- ★ Understand how to edit power options on a laptop
- ★ Understand how to change power options in Windows 7
- ★ Configure power options in Windows 8.1
- ★ Configure power options in Windows 10

Success Criteria

Team lead check off	Tory Check off	
		Success Criteria
		Configured laptop in Labsim
		Set up power configuration in Windows 7
		Set up power configuration in Windows 8
		Answered all questions
		Lab report

Power options are very important in laptops and netbooks because of the use of batteries. They aren't as important in desktops as most computers and monitors purchased now are "green".

Configuring a Laptop

1. Log into Labsim
2. Click on Section 8.0 Portable Devices
3. Click on 8.3
4. Click on 8.3.4 Edit Power Options
5. Read the directions.
6. Click Start
7. Complete the task 100%. (Hint, when you go to change the password settings, there is a link above that says "Change settings that are currently unavailable".)

Configure Windows 7

1. Log into Windows 7
2. Locate Power Management (under System Maintenance)
3. Select the High Performance power plan.
4. Change the plan settings.
 - a. Never turn off monitor, hard disk, etc.
 - b. Advanced settings
 - i. Set start menu power button to sleep
 - ii. Turn on the background slide show every 20 minutes
 - iii. Choose three other things to change and list them below

Option	What it does	Why you chose it
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5. Save the power plan as your first name.

Configure Windows 8

1. Log into Windows 8
2. Locate Power Management (under System Maintenance)
3. Select the High Performance power plan.
4. Change the plan settings.
 - a. Never turn off monitor, hard disk, etc.
 - b. Advanced settings
 - i. Set start menu power button to sleep
 - ii. Turn on the background slide show every 20 minutes
 - iii. Choose three other things to change and list them below

Option	What it does	Why you chose it

5. Save the power plan as your first name.

Configure Windows 10

Windows 10 offers the following plans:

Balanced—Full performance when you need it and saves power when you don't. This is the best for most people.

Power saver—Saves power by reducing the PC performance and screen brightness. Best when working just on battery.

High performance—Maximizes brightness and performance. Uses a lot of energy, so don't use when using battery.

Custom power plan—Some will be available on OEM devices, or if you create one. We'll be doing that later.

1. Locate the in control panels Power & Sleep settings, or right click on the battery icon in the notification area select Power options.

2. Click on High Performance and then click "Change plan settings".
3. Make two changes. What changes did you make?

4. Save changes.
5. Now go into Balanced Plan.
6. Click advanced power settings.
7. Click Change settings that are currently unavailable. Make five changes. What settings did you make?

Questions

1. What differences did you notice among Windows 7, 8, and 10?
2. What is the benefit of power settings?
3. Where do you use those most often?
4. Which option is best for laptops on battery?
5. Which option gets you the most power on a laptop plugged in?
6. I need to set up that my screen never goes to sleep because I use the camera on my laptop as surveillance. How would I do that?

Lab 4-2 Evaluating Power Options in Win7

Learning Targets

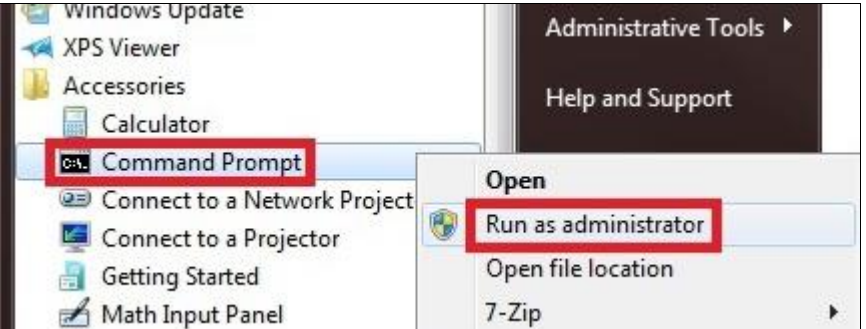
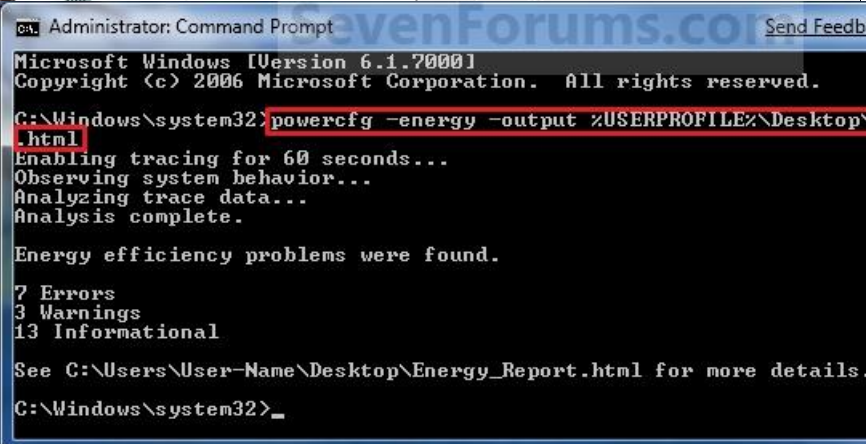
- ★ Understand the purpose of a power efficiency report

Success Criteria

Team Lead Check	Tory Check	Success Criteria
		Elevate command prompt
		Run report
		Read report
		Three findings
		Answer questions

You can create a Power Efficiency Report in Windows 7. Why would you do this? If you're using netbooks or laptops, you want them to be as efficient as possible. You also want to do the best you can to preserve energy both for the bottom line of your company or home, and for the environment.

Creating a Power Efficiency Diagnostics Report

<p>Open your command prompt elevated. Right click on Command Prompt Select run as administrator Tell it yes, you want to run it as an administrator. This is called "running a program in elevated mode."</p>	
<p>You're going to run the powercfg command. When you open the command prompt, you will be in System32. Type powercfg -energy -output %USERPROFILE%\Desktop\Energy_Report.html (if that doesn't work try powercfg -energy -output c:\energy_report.html) Powercfg is the program you're going to run -energy -output are the switches that tell it to create a report on the energy output</p>	

<p>%USERPROFILE% is a wildcard that tells the computer to save the report into YOUR user profile (the folder that stores all your user information). This way you don't need the entire path to your user profile. Adding \desktop says save it on the current user's desktop Energy_Report.html is the name of the report. When you're done you should find the report on your desktop.</p>	
<p>Go to your desktop and double click on the report. In the box over there → tell me three things your report tells you</p>	

Questions

1. What is the purpose of a power efficiency report?
2. What command do you use to run a power efficiency report?
3. What does it mean to open a command prompt elevated?

Lab 4-3 Export and Import Power Settings

Learning Targets

- ★ Understand how to export power plans
- ★ Understand how to import power plans
- ★ Understand the purpose of exporting and importing power plans


Team lead check	Tory Check	Success Criteria
		Export power plan to desktop

		Delete old plan
		Import plan
		Answer questions

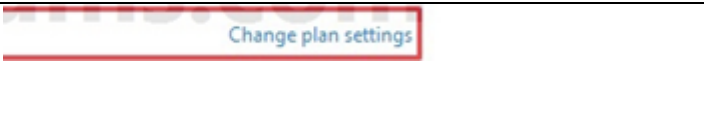
Your company has 100 laptops and you want to set them all to a specific power setting, and then lock them so they can't be changed. (There are security reasons to do this that we'll get into later.) Rather than going to each computer and manually setting the plan, you can create a plan on one computer, export it, then import it on the other computers either manually or through a script.


NOTE: You must have done the first two labs for this lab to work.

List all current power plans

<ol style="list-style-type: none"> 1. Log into Windows 7 2. Open your command prompt elevated (see last lab if you don't remember how). 3. At the command prompt type <code>powercfg list</code> 4. Press enter 5. You will see: <ol style="list-style-type: none"> a. The GUID (Globally Unique Identifier is the ID number for each "container" in a computer) b. Name of plan c. You should see one that is <i>yourname.pow</i>. That's the one we're going to export. 	 <p>Yeah...you have to type that ENTIRE GUID number, but you can try this.</p> <ul style="list-style-type: none"> • Highlight the GUID of YOUR power plan you created by clicking and dragging with the left mouse button. • Hit the ENTER key. It is now copied to the clipboard (in Win Vista and 7) <p>When you're ready to paste, type <code>POWERCFG -EXPORT</code> and right click → paste</p>
<ol style="list-style-type: none"> 6. The syntax of this command is <code>POWERCFG -EXPORT whereyou'regoingtosavetheplan\nameofplan.pow GUID</code> 7. Save your custom plan you created as your name (firstname.pow) on your desktop. 8. Check your desktop to make sure it's there. 	<p>So if I were doing the custom plan above I would type</p> <pre>Powercfg -export %userprofile%\Desktop\tory.pow 11eb7d0f-207d-455e-b86b-f0de0122ba90</pre>

Delete a Power Plan using the GUI

<ol style="list-style-type: none"> 9. Log into Windows 7 10. Go into power options. 11. Select "Balanced Plan" (or any other plan than your custom one). 	
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<ol style="list-style-type: none"> 12. Next to your custom plan click “Change plan settings” 13. Go into the plan and down below Change advanced power settings, click Delete this plan. 14. Sayonara plan! We loved you! 	<p>Change advanced power settings</p> 
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Import a Power Plan

<ol style="list-style-type: none"> 1. Log into Windows 7 2. Elevate your command prompt. 3. Use the syntax POWERCFG –IMPORT %userprofile%\desktop\yourname.pow 4. (Remember how you saved your plan with your first name, make sure that you name it that.) 5. It should say “Imported power plan successfully.” 	<p>Go into your power control panel and check to see that this setting is there.</p> <p>Answer questions</p> <p>Have me check off your lab.</p>
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Questions:

1. What does %userprofile%\desktop mean?
2. What is a GUID?
3. How does exporting power plans save an administrator time?

Lab 4-4 Configuring Power Options for a Presentation

Learning Targets

- ★ Understand how to tailor a power plan to a specific user’s need.

Success Criteria

Team Lead check off	Tory Check off	Success Criteria
		Labsim Lab
		Configure the power system
		Get 100% on the lab
		Answer questions

You have a user at work who has a presentation in front of a large crowd of people. Last time he presented, the laptop kept going to sleep when he'd stop and talk (his words). He wants it set up so that doesn't happen, even if he's not on power. However, we don't want it set up so it NEVER goes to sleep on battery.

Configuring a Laptop

1. Log into Labsim
2. Click on Section 8.0 Portable Devices
3. Click on 8.3
4. Click on 8.3.5 Create a Power Plan
5. Complete the lab
 - a. Note: It took me three times to do this one right because I didn't read the directions completely. You're going to START by creating a new power plan!
6. Answer the questions

Questions

1. Why was your user frustrated at first?
2. What did you do so this doesn't happen again?
3. How long, on battery, before the monitor turns off?
4. How long before it goes to sleep? (On battery).

Lab 4-5 Manage Mobile Devices

Learning Targets

- ★ Understand how to connect a mobile device to a wireless network
- ★ Understand how to manage mobile devices such as tablets, phablets, and phones

Success Criteria

Lead Check	Tory Check	Success Criteria
		Listen to lecture
		Answer the questions
		Complete the lab
		Lab report

1. Log into LabSim and watch/listen to the 10 minute lecture on maintaining mobile devices; 8.4.7.

Questions from lecture

- A. Do you need antivirus on an iPad?
- B. Why or why not?
- C. Do you need it with an Android tablet?
- D. Why or why not?
- E. Can you install just any antivirus software?
- F. What are two things you should do before performing an update on an iPad?
- G. What are two ways to install an iPad update?
- H. Look up and find the most up to date IOS (iPad/iPhone) version. What is it?
- I. Look up and find the most up to date Android phone and tablet versions.
- J. What is the difference between a local and remote backup?
- K. What is the remote backup tool installed in IOS?

Continue in Labsim

- 2. Now locate lab 8.4.8.

3. You are going to connect an iPad to a wireless network using a WPA2 key.
4. Take exam 8.4.9 and retake until you pass with 80%. Some of these questions will be on the test.

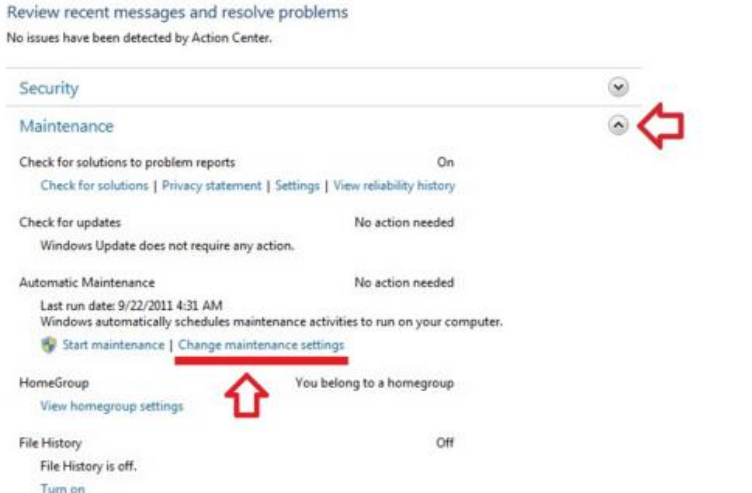
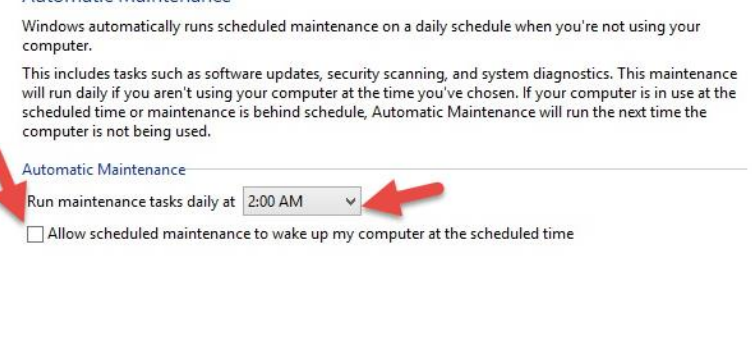
Lab 4-6 Change Automatic Maintenance in Windows 10

Learning Targets

- ★ Understand how to change automatic maintenance in Windows 10

Success Criteria

Lead Check	Tory Check	Success Criteria
		Open Automatic Maintenance in Windows 10
		Change the time AM happens
		Demonstrate how to start maintenance manually
		Answer ALL questions

<ol style="list-style-type: none"> 1. Boot into Windows 10. 2. Windows 10 runs maintenance tasks on its own without any help from you, but if you're, for example, a late night gamer you might want to change when it does things. 3. Open Control panel. 4. Click on Security and Maintenance. 5. Expand Maintenance. 6. Click Change Maintenance Settings. 	 <p>Review recent messages and resolve problems No issues have been detected by Action Center.</p> <p>Security</p> <p>Maintenance</p> <p>Check for solutions to problem reports On Check for solutions Privacy statement Settings View reliability history</p> <p>Check for updates No action needed Windows Update does not require any action.</p> <p>Automatic Maintenance No action needed Last run date: 9/22/2011 4:31 AM Windows automatically schedules maintenance activities to run on your computer. Start maintenance Change maintenance settings</p> <p>HomeGroup You belong to a homegroup View homegroup settings</p> <p>File History Off File History is off. Turn on</p>
<ol style="list-style-type: none"> 7. Here you can change the time you would like maintenance to run. Set it to run at 9:30 a.m. if you're in AM class and 11:30 a.m. if you're in PM class. 8. Check "Allow scheduled maintenance to wake up my computer..." On a laptop this would wake the laptop up. 9. Click OK. 10. Have checked off. 	 <p>Automatic Maintenance</p> <p>Windows automatically runs scheduled maintenance on a daily schedule when you're not using your computer.</p> <p>This includes tasks such as software updates, security scanning, and system diagnostics. This maintenance will run daily if you aren't using your computer at the time you've chosen. If your computer is in use at the scheduled time or maintenance is behind schedule, Automatic Maintenance will run the next time the computer is not being used.</p> <p>Automatic Maintenance</p> <p>Run maintenance tasks daily at 2:00 AM</p> <p><input type="checkbox"/> Allow scheduled maintenance to wake up my computer at the scheduled time</p>

Portable Device Project

A tech savvy personal trainer has come to you asking you to set up a mobile training suite for her. She has contracted with someone to set up the fitness gear, but needs the technical gear set up by you. She definitely has some ideas, but above all she wants her computing needs to be met with things that are:

1. Portable
2. High performance/quality
3. Work well together
4. Can be used all over the US

She has a custom built “motor home” type vehicle that contains the gear, a small area for a consultation office. She must travel from place to place in order to work with clients, and wants to be 100% self-sufficient. In other words, she does NOT want to have to depend on the client’s wireless connection, power, etc. While she may USE those things, she doesn’t want to depend on them.

You sit down with her to ask her specific questions about her needs.

You need to gather information on what she has, what she wants to work with (types of computers/ devices), how she wants to set up networking, how she wants to set up storage, etc.

Task one:

Email her a list of questions asking her what she’s currently using, and determine her current and future needs. Be sure to ask her if there is anything she wants to have available to customers as well as use herself. Ask her about different technologies she might be aware of that you’re not. (Almost every industry will have technology that is solely used by them. Fitness is no different.)

Remember services as well. She’s not going to travel with a server and routers, etc. She’s going to want to be lean and mean, but she probably still wants a website and needs storage that is offline.

Don’t forget security! What if someone steals her mobile unit? What happens to the data?

Task two:

Create a list of current needs.

Task three:

Create a list of future needs. Email both of these lists to her to ensure you are meeting her needs. Since you are building something “new” and exciting, there isn’t going to be a package out there. You get to build it!

Task four:

Research items that will fulfill her needs.

Put together a mobile fitness technology package where all devices integrate together and talk to each other that meets all of her current needs and addresses her future needs.

Task five:

Type up a CLEAR description in paragraph form. Describe:

- The needs you determined together
- The devices you chose for her and how each one works. Include a picture of each device.
- The services your client will subscribe to.
- How each thing fulfills her needs
- Plans for the future
- Training plans

Task six:

Create a spreadsheet with all of the devices listed, all services, and include 4-5% on top of that for installation.

Task seven: You realize while you're doing this that you could potentially package and sell this service to other trainers! Create a poster-sized advertisement with pictures of the devices, descriptions (bulleted points) and a total cost.

Rubric:

Task	Excellent!	Very good	Pretty okay	Sad	Not included (zero on project)
Emailed a list of questions to the client. Ensured that you met all of her needs by emailing your list of future and current needs back to her for clarification.	10	8	7	5	0
Created a list of current needs. Created a list of future needs. Lists are complete	10	8	7	5	0
Cover page	5	4	3	2	0
Proposal written in paragraph form, completely describing each need and how each need is met	20	16	14	10	0
Proposal includes description of how all devices work together. For example "The Bodybugg works with the Bluetooth on the iPad to communicate the current calorie burn to the user"	20	16	14	10	0
Pictures of all devices	10	8	7	5	0
Poster advertising the package	10	8	7	5	0
Spreadsheet of total cost, including installation	10	8	7	5	0
Presentation given in an appropriate manner	5	4	3	2	0
Total					100

