Laboratory Course Material No. 2

ITP111– System Administration and Maintenance (Laboratory Manual)

Joseph D. Cartagenas
Course Instructor

Operating System Post Installation Setup

2

LEARNING OUTCOMES

At the end of this module the student be able to:

1. Create system credentials with administrative privileges on Windows 7.

2. Install essential drivers for hardware components.

3. Configure wired and wireless network connections.

4. Troubleshoot common issues related to system credentials, drivers, and network

MODULE CONTENTS

CREATING SYSTEM CREDENTIALS

Creating system credentials on Windows 7 typically involves creating a user account with administrative privileges. These credentials are necessary for tasks that require elevated permissions, such as installing software, making system changes, or accessing certain files.

Note: You will need administrative privileges to create new user accounts. Make sure you are logged in as an administrator or have administrative rights to perform these steps.

1. Open User Accounts:
   - Click on the **Start** button in the bottom-left corner of your screen.
   - Type "Control Panel" in the search box and press **Enter**.
   - In the Control Panel, click on the "User Accounts" option.
2. Create a New User Account:
   - In the User Accounts window, you'll see a link that says "Manage another account." Click on it.
3. Add a New User Account:
   - Click on the "Create a new account" link.
4. Enter Account Details:
   - Provide a name for the new account. This can be a descriptive name like "SystemAdmin."
   - Choose whether the account should be a "Standard user" or an "Administrator." For system credentials, select "Administrator" to grant administrative privileges to this account.
   - Click the "Create Account" button.
5. Set a Password (Optional):
   - You can set a password for the new account if desired. It's recommended to set a password to secure the account.
   - To set a password, click on the newly created account in the Manage Accounts window and then select "Create a password."
6. Log into the New Account:
   - Log out of your current user account or restart your computer.
   - On the Windows 7 login screen, you should see the newly created account.

7. Initial Configuration:
   - When you log in with the new account for the first time, you may need to go through an initial setup process.

8. Using the New Account:
   - Once logged in, you now have a new user account with administrative privileges. You can use this account for tasks that require elevated permissions.

Important Notes:

- Be cautious when using an administrator account, as it has full control over the system. Only use it for tasks that require administrative access and avoid using it for regular everyday activities.
- Make sure to keep the password of the administrator account secure and memorable, as it is essential for system maintenance and security.
- Always log out of the administrator account when you're done with administrative tasks and switch back to a standard user account for normal use. This helps protect your system from unintended changes.

Remember that Windows 7 reached its end of support on January 14, 2020. It is recommended to upgrade to a more recent and supported version of Windows for security reasons, as Windows 7 no longer receives security updates from Microsoft.

INSTALLING ESSENTIAL DRIVERS

Installing essential drivers on Windows 7 is crucial to ensure that your hardware components work properly. Here's a step-by-step guide on how to install essential drivers:

Note: Before you begin, make sure you have the necessary driver installation files or access to the internet to download drivers. Drivers are often available on the manufacturer's website.

1. Access Device Manager:
   - Click on the **Start** button in the bottom-left corner of your screen.
   - Right-click on **Computer** and select **Manage** from the context menu.

- In the Computer Management window, expand the "System Tools" category on the left, and then click on **Device Manager**.

2. Identify Missing Drivers:

- In Device Manager, you'll see a list of hardware categories with devices that may have missing drivers. These devices will typically have a yellow triangle icon next to them.

3. Download Drivers:

- Visit the official website of your computer's manufacturer (e.g., Dell, HP, Lenovo) or the component manufacturer's website (e.g., NVIDIA, Intel, AMD).
- Look for a "Support" or "Drivers" section on the website.
- Enter your computer's model number or select the appropriate hardware category and model to find the drivers.
- Download the latest drivers for each hardware component with missing drivers. Make sure to choose drivers compatible with Windows 7.

4. Install Drivers:

- After downloading the driver files, run the installer for each driver.
- Follow the on-screen instructions to install the drivers. This may involve accepting license agreements, specifying installation paths, or restarting your computer.

5. Windows Update:

- In some cases, Windows Update may automatically detect and install certain drivers. Make sure your computer is connected to the internet and check for updates.
- Go to **Control Panel** > **System and Security** > **Windows Update**.
- Click on "Check for updates" and let Windows search for any available driver updates. If it finds any, follow the prompts to install them.

6. Graphics Drivers:

- Graphics drivers (e.g., NVIDIA or AMD) may require special attention. It's often best to download and install them directly from the manufacturer's website to ensure you have the latest version for optimal performance.

7. Restart Your Computer:

- It's good practice to restart your computer after installing driver to ensure that the changes take effect.

8. Verify Driver Installation:
    - Return to Device Manager to confirm that all devices now have drivers installed correctly. The yellow triangles should be gone.
9. Test Hardware:
    - Test the functionality of your hardware components to ensure they are working correctly.
10. Backup and Driver Maintenance:
    - Consider creating a backup of your drivers using a tool like DriverBackup! to easily restore them if needed in the future.
    - Periodically check for driver updates, especially for critical components like graphics cards and network adapters.

You should be able to install essential drivers by following these steps for your hardware components on a Windows 7 system and ensuring optimal performance and functionality.

NETWORK CONFIGURATION

Configuring a network in Windows 7 involves setting up network connections both wired and wireless and adjusting network settings.

Wired Network Configuration:

1. Connect Hardware:
    - Ensure your computer is connected to your router or modem using an Ethernet cable.
2. Open Network and Sharing Center:
    - Click on the **Start** button in the bottom-left corner.
    - Click on **Control Panel**.
    - In the Control Panel, click on **Network and Sharing Center**.
3. Set Up a New Connection or Network:
    - In the Network and Sharing Center, click on "Set up a new connection or network."
4. Choose a Connection Type:
    - Select "Connect to the Internet" and click **Next**.
5. Choose a Broadband (PPPoE) Connection (If Required):

- If your internet connection requires a username and password (e.g., PPPoE), select this option and follow the on-screen instructions to enter your credentials.

6. Connect to the Network:
    - Windows will attempt to connect to the internet using the configured settings.

Wireless Network Configuration:

1. Ensure Wireless Adapter is Enabled:
    - Make sure your computer's wireless adapter is turned on. Most laptops have a physical switch or keyboard shortcut to enable/disable wireless.
2. Open Network and Sharing Center:
    - Follow the same steps as mentioned above for opening the Network and Sharing Center.
3. Manage Wireless Networks:
    - In the Network and Sharing Center, click on "Manage wireless networks" in the left-hand panel.
4. Add a Wireless Network:
    - Click on "Add" to add a new wireless network.
    - Windows will detect available wireless networks.
5. Select Your Network:
    - Choose your wireless network from the list and click **Next**.
6. Enter Network Key (Password):
    - If your network is secured with a password, enter the network security key (password) and click **Next**.
    - If the network is open, you'll connect without needing a password.
7. Connect Automatically:
    - You can choose whether to connect automatically when the network is in range.
8. Connect to the Network:
    - Click **Next** to complete the setup and connect to the wireless network.

Network Configuration and Settings:

1. Change Adapter Settings:
    - In the Network and Sharing Center, click on "Change adapter settings" on the left.
2. Configure Network Properties:
    - Right-click on the network connection you want to configure (e.g., Ethernet or Wi-Fi) and select "Properties."
    - Here, you can configure IP settings, DNS settings, and other properties. For most home networks, you can leave these settings as automatic (DHCP).
3. Advanced Network Settings:
    - In the network connection properties, click on the "Advanced" button to access more advanced network settings.
4. Configure Sharing and Discovery:
    - In the Network and Sharing Center, click on "Change advanced sharing settings" to configure file and printer sharing, network discovery, and public folder sharing.

You should be able to configure both wired and wireless network connections by following the steps mentioned above and customize network settings on your Windows 7 computer. Remember to keep your network security settings secure by using strong passwords and encryption for wireless networks.

ASSESSMENT TASK

Activity 1: Creating System Credentials (Duration: 30 minutes)

Objective: Create a new user account called "**sudo**" with administrative privileges on a Windows 7 computer.

Instructions:

1. You will be provided with a Windows 7 virtual machine.
2. Create a new user account with administrative privileges.
3. You should set a secure password for the account.
4. Once the account is created you should log in using the new credentials.
5. Demonstrate the ability to switch between user accounts.

Grading Rubrics:

Criteria	Excellent (4)	Proficient (3)	Basic (2)	Limited (1)
Successfully created a new user account	Created an account with administrative privileges and follow name define in the problem.	Created an account with administrative privileges.	Created a user account but lacked administrative privileges.	Failed to create a new user account.
Set a secure password for the account	Set a strong, complex password that adheres to security best practices.	Set a secure password that meets basic security standards.	Set a password but it lacks strength or security considerations.	Failed to set a password.
Successfully logged in using the new credentials	Logged in successfully using the new credentials without any issues.	Logged in successfully using the new credentials with minor issues.	Logged in but encountered difficulties during the login process.	Failed to log in using the new credentials.

Demonstrated the ability to switch between user accounts	Successfully demonstrated the ability to switch between user accounts seamlessly	Successfully switched between user accounts with ease.	Managed to switch between user accounts but encountered minor difficulties.	Demonstrated an inability to switch between user accounts.

Activity 2: Installing Essential Drivers (Duration: 30 minutes)

Objective: Identify missing drivers and download the necessary drivers if needed. Install them for hardware components on a Windows 7 computer.

Instructions:

1. Identify missing drivers in Device Manager.
2. Search and download the necessary device drivers from manufacturer websites.
3. Install the drivers following installation prompts and options.
4. Verify successful driver installation.

Grading Rubrics:

Criteria	Excellent (4)	Proficient (3)	Basic (2)	Limited (1)
Successfully identified missing drivers	Successfully identified missing drivers for the majority of hardware components in Device Manager.	Identified some missing drivers but missed others, indicating a partial understanding of the process.	Identified only a few missing drivers and lacked a clear understanding of the hardware components.	Failed to identify missing drivers in Device Manager.
Located and downloaded the necessary drivers	Successfully located and downloaded the majority of necessary drivers from manufacturer websites.	Located and downloaded some drivers, but some were incorrect or incompatible.	Had difficulty locating and downloading the necessary drivers, resulting in some incorrect downloads.	Failed to locate and download necessary drivers from manufacturer websites.

Properly installed the drivers	Installed the majority of drivers without major issues	Installed some drivers but encountered difficulties or made errors during installation.	Installed only a few drivers with significant issues or errors during the installation process.	Failed to install any drivers successfully.
Verified successful installation	Successfully verified the successful installation of the majority of drivers, with some minor issues.	Verified the successful installation of some drivers but had difficulty confirming the functionality of others.	Encountered difficulties verifying the installation of most drivers and their functionality.	Failed to verify the successful installation or functionality of any drivers.

Activity 3: Network Configuration (Duration: 1 hour)

Objective: Configure both wired and wireless network connections on a Windows 7 computer.

You need two Windows 7 virtual machines in this activity to configure networks.

Instructions:

1. Setup a wired network connection and configure IP and DNS settings.
2. You should also configure a wireless network connection with security settings (WPA2) if available.
3. Troubleshoot common wired and wireless network issues.
4. Configure network sharing and discovery settings.

Grading Rubrics:

Criteria	Excellent (4)	Proficient (3)	Basic (2)	Limited (1)
Successfully set up a wired network connection with configured IP and DNS settings	Successfully set up a wired network connection with correct IP and DNS settings.	Set up a wired connection but made minor errors in IP or DNS configuration.	Managed to set up a wired connection but with significant errors in IP or DNS settings.	Failed to set up a wired network connection correctly.

Configured a wireless network connection with appropriate security settings	Successfully configured a wireless network connection with appropriate security settings.	Configured a wireless connection with security but may have missed some important settings.	Set up a wireless connection with security but with notable security weaknesses or errors.	Failed to configure a wireless network connection securely.
Demonstrated troubleshooting skills for common network issues	Successfully troubleshooted and resolved common network issues with efficiency.	Demonstrated basic troubleshooting skills but struggled with some common network issues.	Attempted troubleshooting but had difficulty resolving common network problems.	Failed to troubleshoot or resolve common network issues effectively.
Configured network sharing and discovery settings	Successfully configured network sharing and discovery settings for effective device communication.	Configured sharing and discovery settings but encountered minor issues or missed some configuration options.	Attempted to configure sharing and discovery settings but faced difficulties or made significant configuration errors.	Failed to configure network sharing and discovery settings effectively.