

4.5 Lab: Troubleshoot a Malfunctioning Computer

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Time Spent: 42:14

Score: 100%

Task Summary

Required Actions

- ✓ Boot to Windows

Explanation

Complete this lab as follows:

1. Observe the symptoms.
 - a. Select the **power button** on the computer.

The computer fails to turn on.
 - b. Select **OK** to close the prompt.
 - c. Switch to the **Back** view of the computer.

Since the computer is plugged in and the power switch on the power supply is on, you can assume there is an issue with the power supply.
2. Test the power supply.
 - a. Switch to the **Motherboard** view of the computer.
 - b. Under Inventory, expand **Tools**.
 - c. Drag the **Power Supply Tester** to the Workspace (on the left side of the computer).
 - d. From the motherboard, drag the:
 - **20+4** pin power supply connector to the 24-pin port on the Power Supply Tester.
 - **8-pin** CPU power connector to the 8-pin port on the Power Supply Tester.
 - e. Select the power supply. From the Selected Item pane, drag an unconnected **Connector**, **SATA**, **15-pin** power connector to the SATA port on the Power Supply Tester.

The readings on the Power Supply Tester indicate the power supply is bad.
3. Remove the power supply from the computer.
 - a. Drag the **power connector** from the video card to the Workspace.
 - b. Switch to the **Back** view of the computer.
 - c. Drag the **power cord** from the power supply to the Workspace.
 - d. Switch to the **Drive Bays** view of the computer.
 - e. Drag the **SATA 15-pin** connectors from both the SATA hard drive and the optical drive to the Workspace.
 - f. From the Workspace, drag the **connectors** from the Power Supply Tester to the Workspace.
 - g. Switch to the **Motherboard** view of the computer.
 - h. Drag the power supply to the inventory.
4. Install a new power supply and provide power to all the essential components.

- a. Under Inventory, expand **Power Supplies**.
 - b. Drag the **Power Supply, ATX, 20+4 pin, PCIe** power supply to the space above the motherboard.
 - c. From the Selected Item pane:
 - Drag the **20+4-pin connector** to the motherboard to provide power to the motherboard.
 - Drag an **8-pin connector** to the CPU power connector to provide power to the CPU.
 - Drag the **6-pin connector** to the video card.
 - d. Switch to the **Drive Bays** view of the computer.
 - e. Select the **Workspace** tab, open the **System Case**, and select the **Power Supply**.
 - f. From the Selected Item pane:
 - Drag an unconnected **SATA, 15-pin** power connector to the hard drive.
 - Drag an unconnected **SATA, 15-pin** power connector to the optical drive.
 - g. Switch to the **Back** view of the computer.
 - h. Select each power cable in the wall outlet. One is connected to the monitor, and the other is connected to nothing.
 - i. From the Selected Item pane, drag the unconnected **AC Power Connector** to the power supply.
 - j. On the power supply, select the power supply **switch** to set it to the on position.
5. Test the solution.
 - a. Switch to the **Front** view of the computer.
 - b. Select the **power button** on the computer.

Notice that:

 - The computer powers on, so you know the power supply was bad.
 - The computer continues to beep, indicating there is an issue with the memory.
 - c. From the upper left, select **Bench** to return to the hardware view.
 - d. On the computer, select the **power button** to turn it off and stop the infernal beeping.
 6. Test and, if necessary, replace the memory modules.
 - a. Switch to the **Motherboard** view of the computer.
 - b. Under Inventory, expand **Tools**.
 - c. Drag the **Memory Tester** to the Workspace.
 - d. Drag a **memory module** from the computer to the correct slot on the memory tester.
 - e. Select **Test**. (Notice the size, speed, and type of memory indicated on the memory tester.)
 - If the memory tester indicates BAD, drag the module to the Workspace.
 - If the memory tester indicates OK, return the module to the computer.
 - f. Repeat steps 6d–6e for each memory module in the computer.
 - g. Under Inventory, expand **Memory Modules**.
 - h. Plug the **memory module** of the same size, speed, and type as the other memory modules into the computer.
 7. Test the solution.
 - a. Switch to the **Front** view of the computer.
 - b. Select the **power button** on the computer to power it on.

The computer boots successfully.