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| **Session Objectives** | * Configure systems to boot into a specific target automatically * Boot systems into different targets manually |
| **Key Points** | * What are boot targets   + Explain to the students that targets are a group of units and configuration files that allow us to boot Linux, specifically how we want them to boot.   + Show the students how to search for them in systemd, using systemctl     - Systemctl list-units –type=target --all * Why is it important to learn how to manually and automatically use targets in Linux   + Explain to the students that targets can be manually and/or automatically assigned to resolve an issue.     - Show live examples of manual and automatic targets on your system. * Real-world examples   + Train students to identify real-world use of targets in their personal or work environment. * Mini Roleplay:   + Using what the students learn about .target, ask students what they would do to resolve an issue if CentOS 8 kept restarting on boot. |
| **Mindsets** | * Persistence – In this lesson plan, it is vital to mentation examples of why to be persistent when Systems don’t boot as intended. |
| **Behavioral skills** | * Detail orientation – Remind students that a tiny misspell or mistake can stop your system from booting. Make sure to encourage them if they make mistakes. |

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| **Time** | **Activity** |
| 4 minutes | **Opening**   * Explain to students today’s objectives   + Configure systems to boot into a specific target automatically   + Boot systems into different targets manually * **Ask** students about the last lesson about Systemd and what keywords are used in interacting with it.   + Keywords: systemctl start|stop|enable|disable [service].service * **Discuss** to the students that we will be using systemctl again to interact with systemd, and we will be getting into detail about .target. |
| 5 minutes | **What is a target**   * **Show** the students on the command line and use systemctl list-units –type=target --all and explain what it is and how to view them on your system. Explain to the students what are targets   + **Target**- are a group of units and configurations that runs when a system boots. * **Ask** the students what they think would start the computer with a GUI. * **Answer** graphical. target * **Discuss** Why it is essential to be persistent when searching for information. Example looking at a list of targets. |
| 7 minutes | **How to specifically select a target automatically**   * **Show** the students on your command line how to use systemctl get-default | set-default [target].target   + First, show systemctl get-default, which allows us to see what target we are currently running.   + Second, show systemctl set-default, which allows us to run this target when booting automatically. * **Ask** the students how to make your VM automatically start in emergency mode.   + Recommend students to use google to find the most common .targets.     - Rescue.target     - Reboot.target     - Emergency.target     - Multi-user.target     - Graphical.target   + When the solution is found, please set it to emergency. target and reboot it to show the students the results. * **Discuss** Why it is crucial to have orientation detail when using the correct target. What could happen if we use the wrong target? |
| 5 minutes | **How to select a specific target manually**   * **Show** the students on your command line how to use systemctl isolate [target].target   + Explain that we will be manually selecting back to multi-user. target or graphical. target. Whichever the instructor prefers. * **Ask** the students real-world examples of why manually selecting a specific target can be significant.   + Example1# Needing to change the systems function for maintenance   + Example2# Fixing an issue when CentOS does not load its GUI. * **Discuss** what mindset and behavioral skills would help us using what we just learned in the workplace. |
| 5 minutes | **Mini-Roleplay: Fixing the target**   * **Roleplay** with the students on how to fix a CentOS8 that keeps running in reboot.target automatically. * **Setup** your VM to reboot. target automatically and explain to your students how we can fix this using google or asking the right questions to the instructor or teacher assistant (TA).   + Setting it up on your command line is systemctl set-default reboot. target.     - Warning: This will make your VM reboot until it is manually edited on the GRUB loader. * **Ask** the students to help you fix your vm from automatically rebooting. Give tips and clues as this should take 5 mins to resolve. If not, show the answer.   + Examples of tips and clues     - Use google     - Ask the instructor or Tas for help. * **Answer** interrupt the GRUB Loader and go into edit mode (Click on “e” on CentOS Stream ). Right after the text “\quitet” insert systemd.unit=multi-user.target. This will boot the system into multi-user, allowing you to change the default target automatically. Systemctl set-default multi-user.target. This is an exam question on the Red Hat Certification. |
| 4 minutes | **Closing**   * **Explain** to the students what they learned today.   + What is a target   + How to automatically change a specific target.   + How to manually change a specific target * **Discuss** to the students how they would use this in the workforce. |