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**NDG ONLINE**

**NDG LINUX ESSENTIALS**

**Challenge D: Pipes, Redirection, and REGEX**

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This challenge lab is designed as an extension of the course, to be used for instructor-led training. Instructors may distribute this lab to students as a supplemental assignment.

An answer key is included at the end of the lab, to assist the instructor in evaluating student deliverables.

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**Case Scenario**

A staff member has requested a list of the names of the services recognized by the current Linux image. A file named **/etc/services** has been located that contains the pertinent information; however it is not organized to easily determine all of the services.

Using a combination of pipes, redirects and control statements, produce output that contains only the service names. The entire task must be accomplished without using any intermediary files. Each service should only be listed once and captured to a file named **uniqueservices.txt**, located in the home directory. Remove any blank lines or lines that are deemed to be comments.

There could be more than one possible solution for obtaining the desired results.

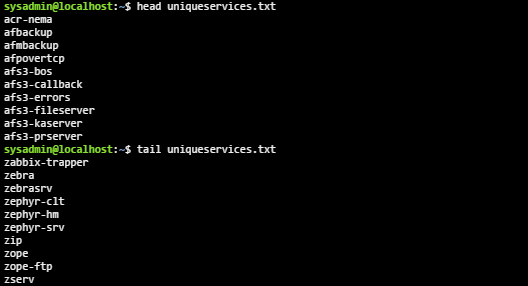
**Objectives**

* Extract all the service names from the file.
* Sort the names alphabetically removing any duplicates.
* Remove any blank lines or lines that do not begin with a letter of the alphabet.
* Capture the final output to a file named **uniqueservices.txt**.
* Count the lines in the file using a conditional command that is only executed if the previous combined commands are successful.

**Curriculum Resources**

* Module 4 - Command Line Skills
* Module 5 - Getting Help
* Module 8 - Pipes, Redirection, and REGEX

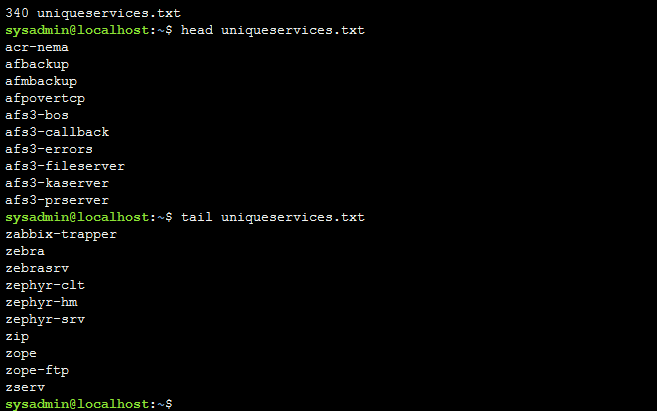
**Deliverables**

* Provide the final command line for successful completion.
* The final result should match the following:
* 340 uniqueservices.txt
* 

**Instructor Key**

Below are screenshots of the commands that can be used to accomplish this lab, as well as the commands used to verify the objectives.





Both cut commands are necessary, since there are both spaces and tabs used for the field delimiter in the **/etc/services** file.

It may be advisable to have the students try the commands independently so they can see the results. Encourage the use of the man pages to explore the options for cut, sort and grep.