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**NDG LINUX ESSENTIALS**

**Challenge B: Bash Scripting**

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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**

In the User Management challenge lab, you were tasked with creating users and groups. Using the commands one at a time from the command line can be a tedious process and could lead to potential errors in syntax. It is your duty, as an administrator, to make the process as seamless and efficient as possible.

**Objectives**

* Create a bash script to perform user management tasks as outlined below:
  + Create a new group. Each group must have a unique name. The script must check to ensure that no duplicate group names exist on the system. If a duplicate is found, an error needs to be reported, and the administrator must try another group name.
  + Create a new user. Each user must have a unique name. The script must check to ensure that no duplicate usernames exist on the system. If a duplicate is found, an error needs to be reported and the administrator must try another username. The user will have a Bash login shell and belong to the group that was created in the previous step.
  + Create a password for each user that is created.
  + Ensure that the new user created is a member of the new group created.
  + Create a directory at the root (/) of the file system with same name as the user created.
  + Set the ownership of the directory to the user and group created.
  + Set the permissions of the directory to full control for the owner and full control for the group created.
  + Set the permission to ensure that only the owner of a file can delete it from the directory.
  + Ensure that the script is executable.

This script should be designed to accept any username and any group name. **DO NOT hardcode commands to create specific usernames and group names**.

**Hints**

* Logical order is important
* There is a special wildcard that can be used to determine if the previous command is successful or not. This will be useful for this script.

**Curriculum Resources**

* Module 9 – Basic Scripting
* Module 14 – Create a New User
* Module 15 – Ownership and Permissions

**Deliverables**

* Execute the script for the instructor. Create a new unique user and new unique group.
* Execute the script for the instructor. Show the error when a duplicate user or duplicate group are created.

**Instructor Key**

Below is a sample of the bash script.

Keep in mind that this script is just an example; it may be done many different ways. Scripts developed by students to meet the objectives and deliverables of this lab will vary.

echo -n "Enter the username for the new user:"

read username

getent passwd $username >> /dev/null

while [ $? -eq 0 ]

do

echo -n "User already created\n"

echo -n "Please enter another username: "

read username

getent passwd $username >> /dev/null

done

echo -n "Enter a group name: \n"

read groupname

getent group $groupname >> /dev/null

while [ $? -eq 0 ]

do

echo -e "Group already exists\n"

echo -e "Please enter another group name: \n"

read groupname

getent group $groupname >> /dev/null

done

groupadd $groupname

useradd -m -s /bin/bash -g $groupname $username

passwd $username

echo -n "User created\n"

mkdir /$username

chown $username.$groupname /$username

chmod 1770 /$username