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-----------------------------PRACTICAL 14-----------------------------

» **Question 1 : Ensure that whenever a new user is created in the system, they will be having the a folder name "welcome" created by default in the home directory.**

Commands :

`su -`

`mkdir /etc/skel/welcome`

`useradd tushar ; passwd tushar`

`su tushar`

`cd`

`ls`

explanation of each command:

1. **su -**:

    - This command stands for "switch user" and the hyphen (-) option indicates that the environment variables of the new user should be loaded. When you execute **su -**, you switch to the root user and load its environment.

2. **mkdir /etc/skel/welcome**:

    - This command creates a new directory named "welcome" inside the **/etc/skel** directory. The **/etc/skel** directory is typically used to store default user profile settings and files that are copied to a new user's home directory when the user account is created.

3. **useradd tushar ; passwd tushar**:

    - These are actually two commands separated by a semicolon.

        - **useradd tushar**: This command adds a new user named "tushar" to the system.

        - **passwd tushar**: This command sets a password for the newly created user "tushar".

4. **su tushar**:

    - This command switches the user to "tushar". After executing this command, you will be prompted to enter the password for the user "tushar".

5. **cd**:

    - This command stands for "change directory" and when used without any arguments, it takes you to the user's home directory.

6. **ls**:

    - This command lists the contents of the current directory. When executed after **cd**, it will list the contents of the user's home directory.
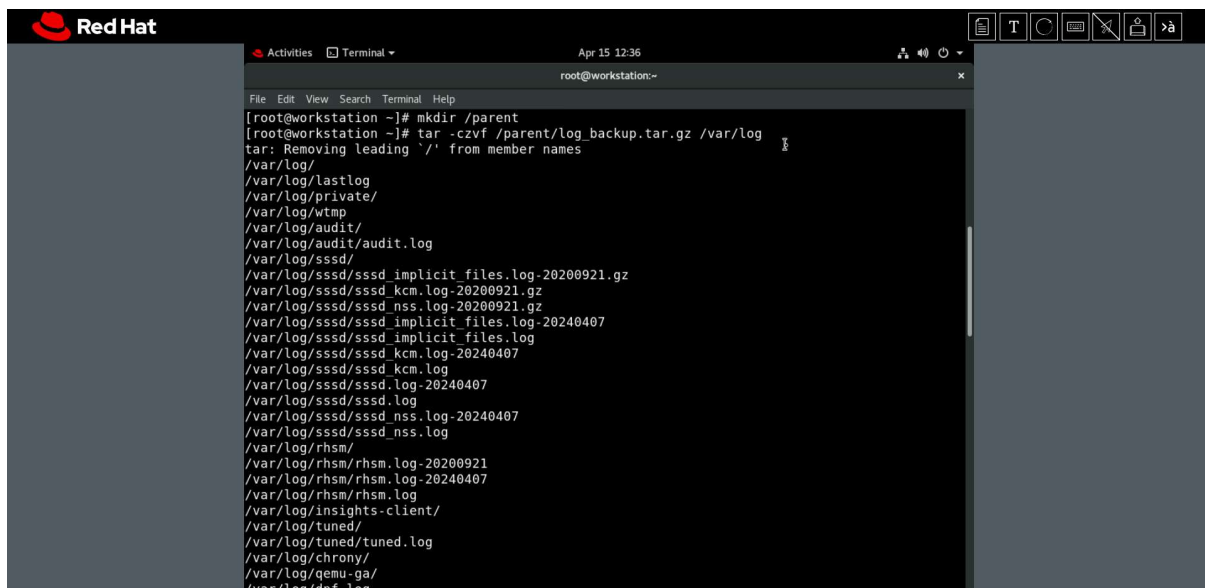
» <u>Question 2 : Create an Archive- Create an archive file in /parent/</u>

<u>- It containes backup of /var/log.</u>

<u>- verify the same</u>

<u>-extract the same file</u>

<u>-create three different files and zip and unzip it.</u>

<u>Commands :</u>

`mkdir /parent`

`tar -czvf /parent/log_backup.tar.gz /var/log`
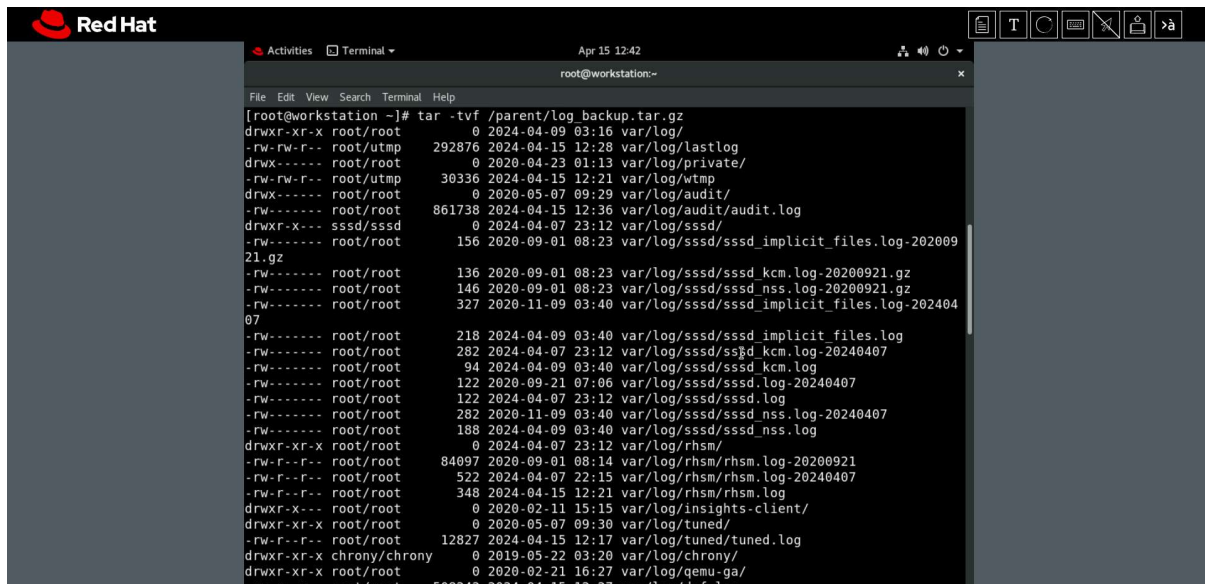
explanation of each command:

1. **mkdir /parent**:

   - This command creates a new directory named "parent" in the root directory ("/"). The **-p** option isn't used here, so if the parent directories don't exist, it will throw an error.

2. **tar -czvf /parent/log_backup.tar.gz /var/log**:

   - **tar**: This is the command-line utility for tape archiving, but it's often used to manipulate archive files.

   - **-czvf**: These are options used with the **tar** command:

- **-c**: Create a new archive.

- **-z**: Compress the archive using gzip.

- **-v**: Verbose mode, which outputs the progress of the operation.

- **-f**: Specifies the filename of the archive.

- **/parent/log_backup.tar.gz**: This is the filename and path of the archive file to be created. It will be located in the "/parent" directory and named "log_backup.tar.gz".

- **/var/log**: This is the directory or files you want to include in the archive. In this case, it's the "/var/log" directory, which typically contains system log files.
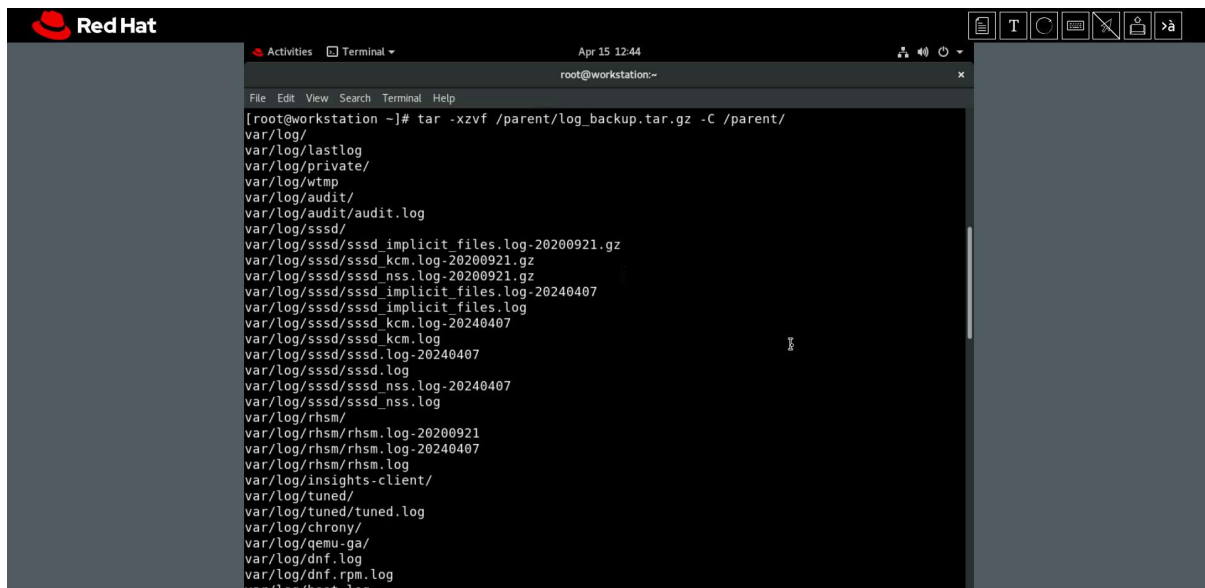

Command :

`tar -tvf /parent/log_backup.tar.gz`

explanation of each command:

- **tar**: The command-line utility for tape archiving, often used to manipulate archive files.

- **-t**: Specifies that tar should list the contents of an archive.

- **-v**: Stands for "verbose", it outputs additional information about the operation, such as filenames as they are processed.

- **-f**: Specifies the filename of the archive to operate on.

- **/parent/log_backup.tar.gz**: This is the filename and path of the archive file to list the contents of. It's located in the "/parent" directory and named "log_backup.tar.gz".

Command :

```
tar -xzvf /parent/log_backup.tar.gz -C /parent/
```

explanation of each command:

- **tar**: The command-line utility for tape archiving, often used to manipulate archive files.

- **-x**: Stands for "extract", it tells tar to extract files from the archive.

- **-z**: Specifies that the archive is compressed using gzip.

- **-v**: Stands for "verbose", it outputs additional information about the operation, such as filenames as they are extracted.

- **-f**: Specifies the filename of the archive to operate on.

- **/parent/log_backup.tar.gz**: This is the filename and path of the archive file to extract files from. It's located in the "/parent" directory and named "log_backup.tar.gz".

- **-C /parent/**: Changes the directory to /parent/ before performing the extraction. This option is used to specify the target directory for extraction.

Commands :

`ls /parent`

`ls /parent/var/log`

explanation of each command:

1. **ls /parent**:

   - This command lists the contents of the "/parent" directory.

2. **ls /parent/var/log**:

   - This command lists the contents of the "/parent/var/log" directory.

Commands :

`touch /parent/file1 /parent/file2 /parent/file3`

`tar -cvf /parent/files.tar /parent/file1 /parent/file2 /parent/file3`

`tar -tvf /parent/files.tar`

`tar -xvf /parent/files.tar -C /parent`

explanation of each command:

1. **touch /parent/file1 /parent/file2 /parent/file3**:

- This command creates three empty files named "file1", "file2", and "file3" within the "/parent" directory.

2. **tar -cvf /parent/files.tar /parent/file1 /parent/file2 /parent/file3**:

   - **tar**: The command-line utility for tape archiving.

   - **-c**: Stands for "create", it tells tar to create a new archive.

   - **-v**: Stands for "verbose", it outputs additional information about the operation.

   - **-f**: Specifies the filename of the archive to create.

   - **/parent/files.tar**: This is the filename and path of the archive file to create. It's located in the "/parent" directory and named "files.tar".

   - **/parent/file1 /parent/file2 /parent/file3**: These are the files to be included in the archive.

3. **tar -tvf /parent/files.tar**:

   - **-t**: Specifies that tar should list the contents of an archive.

   - **-v**: Stands for "verbose", it outputs additional information about the operation.

   - **-f**: Specifies the filename of the archive to operate on.

   - **/parent/files.tar**: This is the filename and path of the archive file to list the contents of.
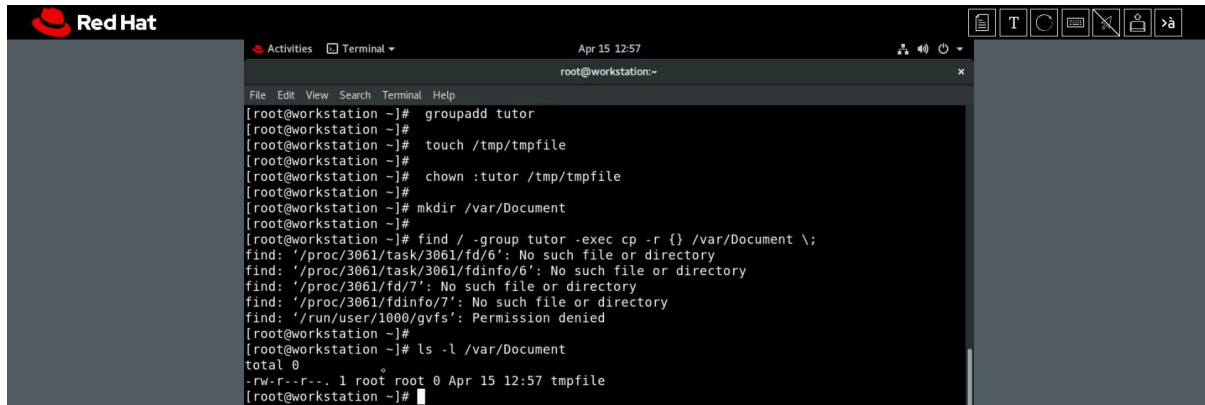
4. **tar -xvf /parent/files.tar -C /parent**:

   - **-x**: Stands for "extract", it tells tar to extract files from the archive.

   - **-v**: Stands for "verbose", it outputs additional information about the operation.

   - **-f**: Specifies the filename of the archive to operate on.

   - **/parent/files.tar**: This is the filename and path of the archive file to extract files from.

- **–C /parent**: Changes the directory to "/parent" before performing the extraction.

» Question 3 : Find all files & directories that is owned by group tutor.

– Copy all files & directories to /var/Document folder.

– verify the same.

Commands :

`groupadd tutor`

`touch /tmp/tmpfile`

`chown :tutor /tmp/tmpfile`

`mkdir /var/Document`

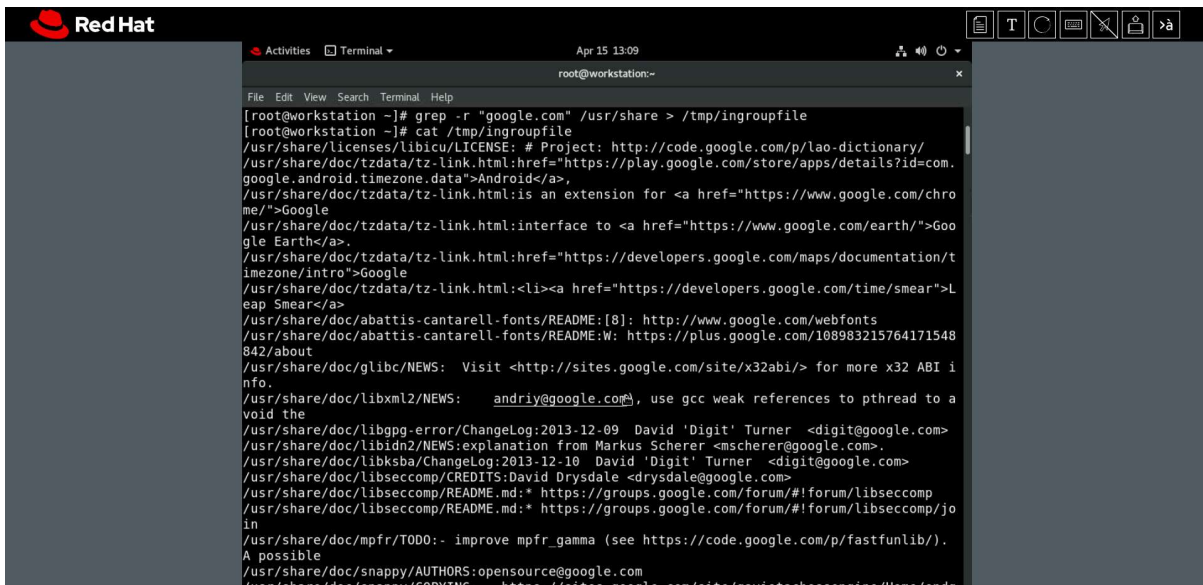`find / -group tutor -exec cp -r {} /var/Document \;`

`ls -l /var/Document`

explanation of each command:

1. **groupadd tutor**: Creates a new group named "tutor".

2. **touch /tmp/tmpfile**: Creates an empty file named "tmpfile" in the "/tmp" directory.

3. **chown :tutor /tmp/tmpfile**: Changes the group ownership of the file "/tmp/tmpfile" to the group "tutor".

4. **mkdir /var/Document**: Creates a new directory named "Document" in the "/var" directory.

5. **find / -group tutor -exec cp -r {} /var/Document ;**: Searches the entire filesystem ("/") for files and directories owned by the group "tutor" and copies them recursively to the "/var/Document" directory.

6. **ls -l /var/Document**: Lists the contents of the "/var/Document" directory, showing detailed information including ownership and permissions.

» Question 4 : Search a string in from the file /usr/share/- Store output to a file /tmp/ingroupfile.

Commands :

```
grep -r "google.com" /usr/share > /tmp/ingroupfile
cat /tmp/ingroupfile
```

explanation of each command:

1. **grep -r "google.com" /usr/share › /tmp/ingroupfile**:
   - This command searches recursively (**-r**) for the string "google.com" within all files under the directory **/usr/share** and redirects (**›**) the output to the file **/tmp/ingroupfile**.

2. **cat /tmp/ingroupfile**:
   - This command prints the contents of the file **/tmp/ingroupfile** to the terminal.