**Task 1**

A computer screen shot of a program

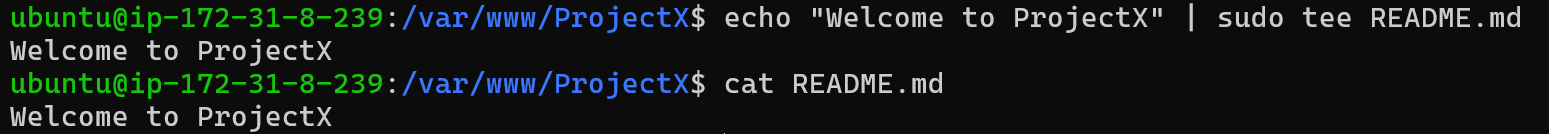
AI-generated content may be incorrect.

A screen shot of a computer program

AI-generated content may be incorrect.

A screen shot of a computer

AI-generated content may be incorrect.

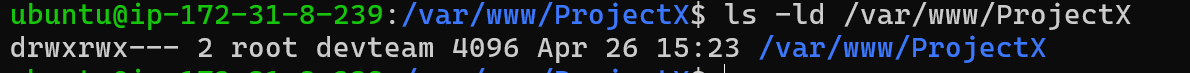


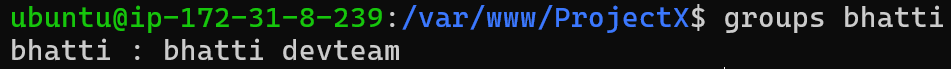
| **Command** | **What It Does** |
| --- | --- |
| mkdir /var/www/ProjectX | Creates a new directory ProjectX at /var/www for the project files. |
| cd /var/www/ProjectX | Changes the current working directory to /var/www/ProjectX. |
| touch index.html app.py README.md | Creates three empty files: index.html, app.py, and README.md inside ProjectX. |
| pwd | Prints the full path of the current working directory (should be /var/www/ProjectX). |
| ls -l | Lists the files in ProjectX with detailed information (permissions, ownership, timestamps). |
| df -h | Shows disk space usage across mounted filesystems in a human-readable format (MB, GB). |
| echo "Welcome to ProjectX" > README.md | Writes "Welcome to ProjectX" into the README.md file (overwrites if any content exists). |
| cat README.md | Displays the contents of README.md on the screen. |

**Task 2: User and Group Permission Management**

A screen shot of a computer screen

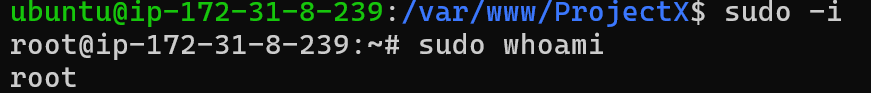
AI-generated content may be incorrect.





| **Command** | **What It Does** |
| --- | --- |
| groupadd devteam | Creates a new group called devteam for the development team members. |
| useradd bhatti | Creates a new user named bhatti. |
| useradd malik | Creates another user named malik. |
| usermod -aG devteam bhatti | Adds bhatti to the devteam group without removing him from other groups. |
| usermod -aG devteam malik | Adds malik to the devteam group. |
| chgrp -R devteam /var/www/ProjectX | Changes the group ownership of ProjectX (and its contents) to devteam. |
| chmod -R 770 /var/www/ProjectX | Sets permissions so owner and group can read/write/execute everything in ProjectX, but others have no access. |
| ls -ld /var/www/ProjectX | Lists detailed info of the ProjectX directory to confirm group ownership and permissions. |
| groups bhatti | Shows the groups that user bhatti belongs to (should include devteam). |

**Task 3: Change Ownership**



A black screen with white text

AI-generated content may be incorrect.

A screen shot of a computer

AI-generated content may be incorrect.

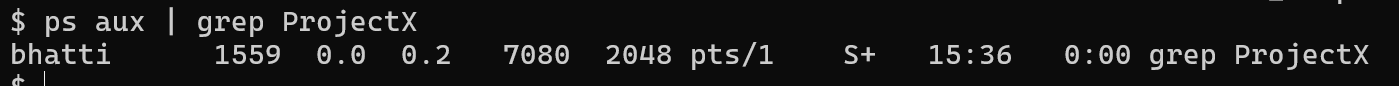
| **Command** | **What It Does** |
| --- | --- |
| chown -R bhatti:devteam /var/www/ProjectX | Changes both the owner to bhatti and the group to devteam for ProjectX and all its files. |
| ls -l /var/www/ProjectX | Lists all files in ProjectX showing the new ownership (bhatti:devteam). |
| su - bhatti | Switches the active user session to bhatti. |
| cd /var/www/ProjectX | After switching to bhatti, navigates back to the ProjectX directory. |
| touch config.yaml | As bhatti, creates a new file called config.yaml inside ProjectX. |
| ls -l | Lists files to confirm that config.yaml was created and owned by bhatti. |

**Task 4: System-Level Commands**

| **Command** | **What It Does** |
| --- | --- |
| top | Displays real-time CPU, memory, process usage — useful for system performance monitoring. |
| `ps aux | grep ProjectX` |
| tail -n 50 /var/log/syslog | Shows the last 50 lines of the system log (syslog) for troubleshooting or auditing system issues. |

A screenshot of a computer

AI-generated content may be incorrect.

root@ip-172-31-8-239:/var/www/ProjectX# tail -n 50 /var/log/syslog

2025-04-26T15:00:10.100666+00:00 ip-172-31-8-239 systemd[1]: Finished sysstat-collect.service - system activity accounting tool.

2025-04-26T15:02:44.354107+00:00 ip-172-31-8-239 systemd[1]: Starting systemd-tmpfiles-clean.service - Cleanup of Temporary Directories...

2025-04-26T15:02:44.442201+00:00 ip-172-31-8-239 systemd[1]: systemd-tmpfiles-clean.service: Deactivated successfully.

2025-04-26T15:02:44.442786+00:00 ip-172-31-8-239 systemd[1]: Finished systemd-tmpfiles-clean.service - Cleanup of Temporary Directories.

2025-04-26T15:05:01.156926+00:00 ip-172-31-8-239 CRON[1256]: (root) CMD (command -v debian-sa1 > /dev/null && debian-sa1 1 1)

2025-04-26T15:10:10.092250+00:00 ip-172-31-8-239 systemd[1]: Starting sysstat-collect.service - system activity accounting tool...

2025-04-26T15:10:10.099548+00:00 ip-172-31-8-239 systemd[1]: sysstat-collect.service: Deactivated successfully.

2025-04-26T15:10:10.100685+00:00 ip-172-31-8-239 systemd[1]: Finished sysstat-collect.service - system activity accounting tool.

2025-04-26T15:15:01.167473+00:00 ip-172-31-8-239 CRON[1332]: (root) CMD (command -v debian-sa1 > /dev/null && debian-sa1 1 1)

2025-04-26T15:17:01.174714+00:00 ip-172-31-8-239 CRON[1349]: (root) CMD (cd / && run-parts --report /etc/cron.hourly)

2025-04-26T15:17:45.135751+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: 2025-04-26 15:17:45.1320 WARN EC2RoleProvider Failed to connect to Systems Manager with instance profile role credentials. Err: retrieved credentials failed to report to ssm. Error: EC2RoleRequestError: no EC2 instance role found

2025-04-26T15:17:45.136006+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: caused by: EC2MetadataError: failed to make EC2Metadata request

2025-04-26T15:17:45.136083+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: <?xml version="1.0" encoding="iso-8859-1"?>

2025-04-26T15:17:45.136175+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"

2025-04-26T15:17:45.136237+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: #011"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

2025-04-26T15:17:45.136301+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: <html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en" lang="en">

2025-04-26T15:17:45.136365+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: <head>

2025-04-26T15:17:45.136392+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: <title>404 - Not Found</title>

2025-04-26T15:17:45.136414+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: </head>

2025-04-26T15:17:45.136436+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: <body>

2025-04-26T15:17:45.136458+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: <h1>404 - Not Found</h1>

2025-04-26T15:17:45.136480+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: </body>

2025-04-26T15:17:45.136503+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: </html>

2025-04-26T15:17:45.136553+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: #011status code: 404, request id:

2025-04-26T15:17:45.236085+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: 2025-04-26 15:17:45.1718 ERROR EC2RoleProvider Failed to connect to Systems Manager with SSM role credentials. error calling RequestManagedInstanceRoleToken: AccessDeniedException: Systems Manager's instance management role is not configured for account: 091541383189

2025-04-26T15:17:45.236186+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: #011status code: 400, request id: 5b2a6dc9-3c08-4433-8616-6af32c54ebce

2025-04-26T15:17:45.336444+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: 2025-04-26 15:17:45.1718 ERROR [CredentialRefresher] Retrieve credentials produced error: no valid credentials could be retrieved for ec2 identity. Default Host Management Err: error calling RequestManagedInstanceRoleToken: AccessDeniedException: Systems Manager's instance management role is not configured for account: 091541383189

2025-04-26T15:17:45.336543+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: #011status code: 400, request id: 5b2a6dc9-3c08-4433-8616-6af32c54ebce

2025-04-26T15:17:45.437135+00:00 ip-172-31-8-239 amazon-ssm-agent.amazon-ssm-agent[953]: 2025-04-26 15:17:45.1718 INFO [CredentialRefresher] Sleeping for 28m35s before retrying retrieve credentials

2025-04-26T15:20:10.094015+00:00 ip-172-31-8-239 systemd[1]: Starting sysstat-collect.service - system activity accounting tool...

2025-04-26T15:20:10.102261+00:00 ip-172-31-8-239 systemd[1]: sysstat-collect.service: Deactivated successfully.

2025-04-26T15:20:10.102576+00:00 ip-172-31-8-239 systemd[1]: Finished sysstat-collect.service - system activity accounting tool.

2025-04-26T15:24:10.093871+00:00 ip-172-31-8-239 systemd[1]: Starting fwupd-refresh.service - Refresh fwupd metadata and update motd...

2025-04-26T15:24:10.138809+00:00 ip-172-31-8-239 dbus-daemon[580]: [system] Activating via systemd: service name='org.freedesktop.fwupd' unit='fwupd.service' requested by ':1.17' (uid=990 pid=1379 comm="/usr/bin/fwupdmgr refresh" label="unconfined")

2025-04-26T15:24:10.147957+00:00 ip-172-31-8-239 systemd[1]: Starting fwupd.service - Firmware update daemon...

2025-04-26T15:24:10.639791+00:00 ip-172-31-8-239 fwupd[1384]: 15:24:10.639 FuMain Daemon ready for requests (locale C.UTF-8)

2025-04-26T15:24:10.641468+00:00 ip-172-31-8-239 dbus-daemon[580]: [system] Successfully activated service 'org.freedesktop.fwupd'

2025-04-26T15:24:10.641746+00:00 ip-172-31-8-239 systemd[1]: Started fwupd.service - Firmware update daemon.

2025-04-26T15:24:10.643691+00:00 ip-172-31-8-239 fwupd[1384]: 15:24:10.643 FuPluginLinuxSleep could not open /sys/power/mem\_sleep: Error opening file /sys/power/mem\_sleep: No such file or directory

2025-04-26T15:24:10.658103+00:00 ip-172-31-8-239 fwupdmgr[1379]: Updating lvfs

2025-04-26T15:24:11.859546+00:00 ip-172-31-8-239 fwupdmgr[1379]: Successfully downloaded new metadata: 0 local devices supported

2025-04-26T15:24:11.866901+00:00 ip-172-31-8-239 systemd[1]: fwupd-refresh.service: Deactivated successfully.

2025-04-26T15:24:11.867192+00:00 ip-172-31-8-239 systemd[1]: Finished fwupd-refresh.service - Refresh fwupd metadata and update motd.

2025-04-26T15:25:01.180925+00:00 ip-172-31-8-239 CRON[1427]: (root) CMD (command -v debian-sa1 > /dev/null && debian-sa1 1 1)

2025-04-26T15:29:14.370047+00:00 ip-172-31-8-239 systemd[1]: fwupd.service: Deactivated successfully.

2025-04-26T15:29:14.370922+00:00 ip-172-31-8-239 systemd[1]: fwupd.service: Consumed 1.411s CPU time.

2025-04-26T15:30:09.294148+00:00 ip-172-31-8-239 systemd[1]: Starting sysstat-collect.service - system activity accounting tool...

2025-04-26T15:30:09.303248+00:00 ip-172-31-8-239 systemd[1]: sysstat-collect.service: Deactivated successfully.

2025-04-26T15:30:09.303585+00:00 ip-172-31-8-239 systemd[1]: Finished sysstat-collect.service - system activity accounting tool.

2025-04-26T15:35:01.188875+00:00 ip-172-31-8-239 CRON[1555]: (root) CMD (command -v debian-sa1 > /dev/null && debian-sa1 1 1)