



AWS
re:Start
LAB

The Bash Shell



WEEK 2





Overview

The Bash Shell is a command-line interface prevalent in Unix-like systems, renowned for its flexibility and efficiency. It manages environment variables that store system information used by programs and scripts. Essential variables like `$PATH` determine executable locations, enabling seamless command execution from any directory.

Users leverage the `env` command to manipulate environment variables, set new ones temporarily, or view existing ones. Bash's alias feature creates custom shortcuts for commands, configured either through the `alias` command or the `.bashrc` file, executed on each Bash launch. System-wide configurations reside in `/etc/profile`, while key variables like `$HOME` (user's directory) and `$SHELL` (default shell) enhance user customization and navigation within the Bash environment.

Note: This lab was made using Windows Subsystem for Linux.

Topics covered

- Create and work with an alias to backup a complete folder
- Work the `PATH` variable and add a new folder to it



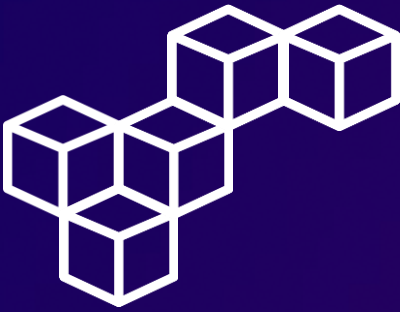
Initial Preparations

Download the **private key file** `labsuser.pem`. Change to the Downloads directory and modify the permissions on the key to be read-only (`r-----`).

Connect to the instance using SSH

Establish a connection to the EC2 instance using the `ssh` command, the key and the instance's public IPv4 address.





Task 2

Create an alias for a backup operation

Create an alias

Create an alias named **backup** that utilizes the **tar** command with the **-cvzf** options to create backups of files.

```
[ec2-user@ip-10-0-10-199 ~]$ pwd
/home/ec2-user
[ec2-user@ip-10-0-10-199 ~]$ alias backup='tar -cvzf'
[ec2-user@ip-10-0-10-199 ~]$
```

Use the alias

Use the **backup** alias to back up the **CompanyA** folder. Then, to verify that the archive is created, enter the **ls** command.

```
[ec2-user@ip-10-0-10-199 ~]$ backup backup_companyA.tar.gz CompanyA
CompanyA/
CompanyA/Management/
CompanyA/Management/Sections.csv
CompanyA/Management/Promotions.csv
CompanyA/Employees/
CompanyA/Employees/Schedules.csv
CompanyA/Finance/
CompanyA/Finance/Salary.csv
CompanyA/HR/
CompanyA/HR/Managers.csv
CompanyA/HR/Assessments.csv
CompanyA/IA/
CompanyA/SharedFolders/
CompanyA/bin/
CompanyA/bin/hello.sh
[ec2-user@ip-10-0-10-199 ~]$ ls
CompanyA  backup_companyA.tar.gz
[ec2-user@ip-10-0-10-199 ~]$
```



Task 3

Explore and update the PATH environment variable

Run the script

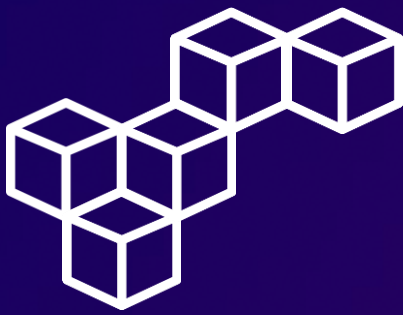
Execute the **hello.sh** script from three different locations: in two instances, specify its absolute path, and in the third, attempt to run it as a regular command.

```
[ec2-user@ip-10-0-10-199 ~]$ cd /home/ec2-user/CompanyA/bin
[ec2-user@ip-10-0-10-199 bin]$ ./hello.sh
Hello ec2-user
[ec2-user@ip-10-0-10-199 bin]$ cd ..
[ec2-user@ip-10-0-10-199 CompanyA]$ ./bin/hello.sh
Hello ec2-user
[ec2-user@ip-10-0-10-199 CompanyA]$ hello.sh
-bash: hello.sh: command not found
[ec2-user@ip-10-0-10-199 CompanyA]$
```

Add a folder to the PATH

Add the **/home/ec2-user/CompanyA/bin** folder to the **PATH** variable so that the **hello.sh** script can be executed from any location in the file system.

```
[ec2-user@ip-10-0-10-199 CompanyA]$ echo $PATH
/usr/local/bin:/usr/bin:/usr/local/sbin:/usr/sbin:/home/ec2-user/.local/bin:/home/ec2-user/bin
[ec2-user@ip-10-0-10-199 CompanyA]$ PATH=$PATH:/home/ec2-user/CompanyA/bin
[ec2-user@ip-10-0-10-199 CompanyA]$ hello.sh
Hello ec2-user
[ec2-user@ip-10-0-10-199 CompanyA]$
```



Conclusions

Environment variables

Environment variables play a crucial role in system configuration and customization. They store information about the environment and are used by programs and scripts to determine behavior, making them essential for managing system settings efficiently.

The \$PATH variable

The \$PATH environment variable is particularly significant as it specifies directories where executable files are located. This enables users to run commands and programs from any location within the terminal without specifying the full path, enhancing ease of use and productivity.

Aliases

Aliases in Bash provide a convenient way to create custom shortcuts for frequently used commands. They improve command-line efficiency by reducing the need to type long commands repeatedly, making complex tasks more manageable and speeding up workflow.



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