

Exploring a Linux Filesystem

Overview

Background and Description

The object of this exercise is to gain some hands-on experience with navigating a Linux filesystem and some basic bash commands and operations such as `ls`, `cd`, `cat`, environmental variables, running a script and more.

For this exercise we will be using a very simple command line “adventure game” called `bashcrawl`. This is just a directory structure containing some very simple bash scripts and text files. This directory structure is organised in such a way so that you can navigate it like a very simple command line “game”.

For this exercise you will be in breakout rooms of small teams. Each person should download the filesystem onto their Linux machine using the “Git” tool (instructions below). You will then each navigate the filesystem according to the instructions given. There are some questions below that we would like each team to answer at the end of the exercise. While each person should download and explore the filesystem individually, you should work as a team to:

1. Introduce yourselves to each other!
2. Ensure that everyone on your team understands what you’re doing, if you’ve got no idea within the team then ask an instructor to come into your breakout room.
3. Try to get your whole group as far through the game as possible in the time available.
4. Work together to answer the questions at the end of the exercise

Instructions

The instructions below give you the steps to get started with bashcrawl, try to understand what you're actually doing rather than blindly following the steps. Talk to your teammates if you're unsure about any particular step

1. On your linux machine, go to your home directory and then download the bashcrawl filesystem with git:
 - `cd`
 - `git clone https://gitlab.com/slackermedia/bashcrawl.git`
2. You will now have a directory called bashcrawl, move into it and read the README.md file with less or cat
 - `cd bashcrawl`
 - `less README.md`
 - When reading a file with less use the arrows to move around and press 'q' to exit
 - You can ignore the first few instructions that describe "drag and drop the entrance directory"
3. To start your 'adventure' move into the 'entrance' directory and read the 'scroll' text file with cat. Each time you move to a new directory there should be a text file called 'scroll' that should give you instructions.
 - `cd entrance`
 - `cat scroll`
4. Some directories have a bash script e.g. 'treasure' or 'potion'. You can "execute" these files e.g:
`./treasure`
5. Play the game and answer the questions, try to actually understand the commands you are using, and help the other folks in your group as needed.

(Tip: you can "map" how far you've gone in the game at any time with: `tree -F ~/bashcrawl/entrance`)

(Tip: when the time comes, the order is **delta beta alpha gamma**)

Team Questions

1. We would like a map of the entire game as a directory tree. You can create this in a text file or draw in whiteboard or whatever your team prefers.
2. How do the script files (treasure, potion etc.) produce text and give an interactive prompt
3. When you first ``cd entrance`` you will notice there is only a 'cellar' subdirectory. Later there is more subdirectories e.g. entrance/chapel How are these new subdirectories created?

- 4 . Try to understand how the game works so that as a team you can explain any questions the instructors may ask.
- 5 . Bonus points for the team with the highest health points and biggest inventory at the end of the game.