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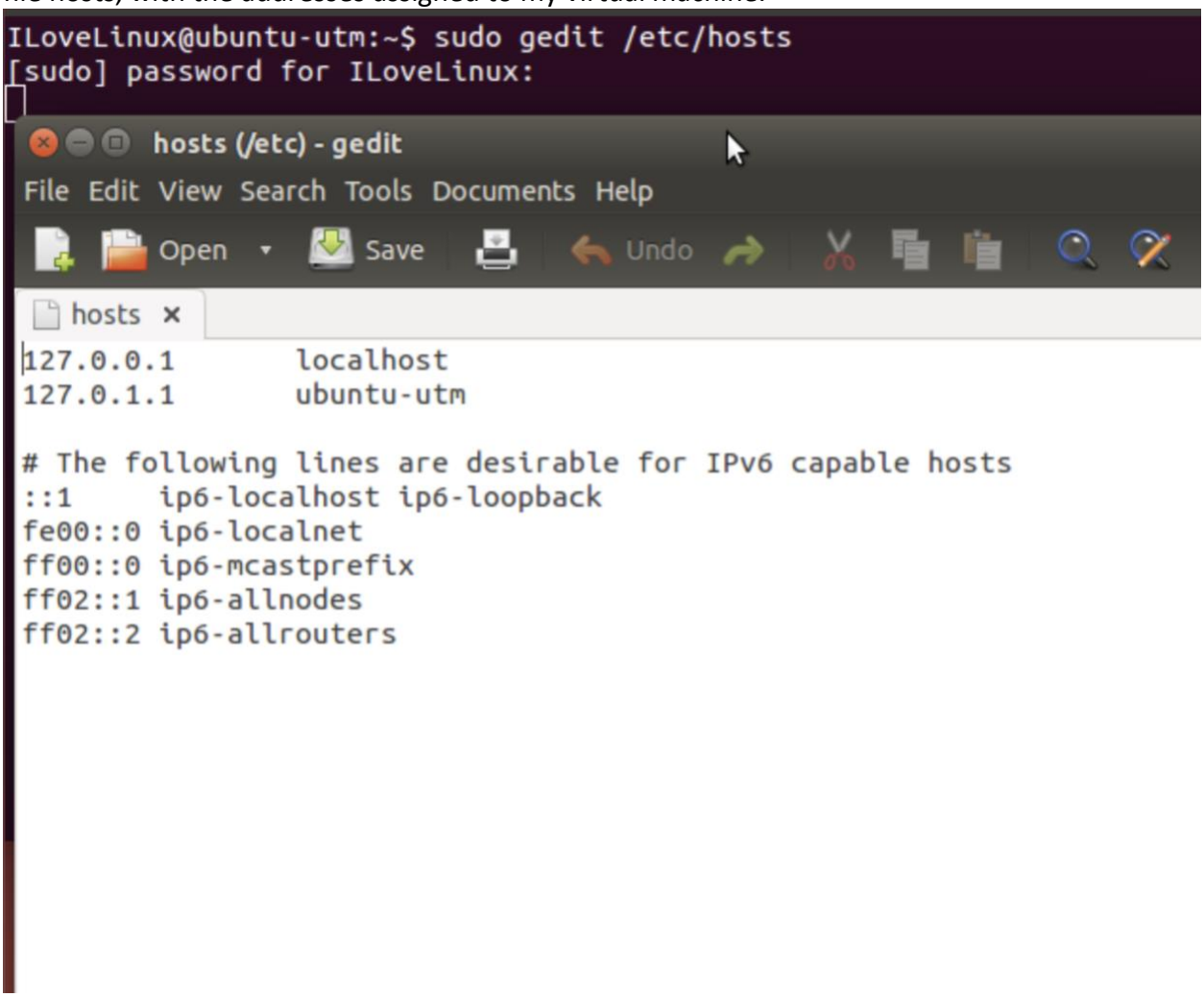
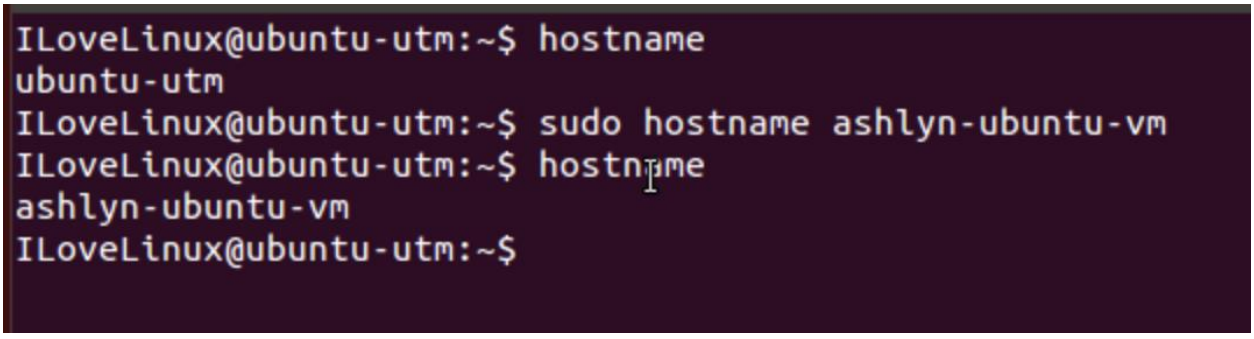
CPSC 4240 Activity 4

1. The machines IP address can be found in /etc/hosts. Here is a screenshot showing the file hosts, with the addresses assigned to my virtual machine.




2. To display my machines name, I can use the command **hostname**. Using **sudo hostname newname,** allows me to change the hostname of my machine to “newname.” In the screenshot below, I have changed my machines name from “ubuntu-utm” to “ashlyn-vm-ubuntu.”



3. Binary and Decimal COnversions
    a. 130.127.144.23
        i. To convert 130.127.144.23 to binary, we convert each section of the address into 8 bits of binary. To do this, we see which powers of 2, starting from 128, we can subtract from each number until we get to 0. For each power of 2 we can subtract, that represents the binary digit being a 1.
        ii. 130 – 128 – 2 = 0
            1. 130 = 10000010
        iii. 127 – 64 – 32 – 16 – 8 – 4 – 2 – 1 = 0.
            1. 127 = 01111111
        iv. 144 – 128 – 16 = 0.
            1. 144 = 10010000
        v. 23 – 16 – 4 – 2 – 1 = 0
            1. 23 = 00010111
        vi. So 130.127.144.23 = 10000010.01111111.10010000.00010111
    b. 0100 1100 0101 1011 0110 0110 1110 1001
        i. To convert from binary to decimal, we can use positional notation. Each digit in the binary string presents a power of 2 with the left most digit representing 2^0. We can then add together the digits denoted with a 1 by replacing them with their corresponding power of 2.
        ii. Adding each digit holding a 1 with its corresponding power of 2 we get:
        iii. 2^0 + 2^3 + 2^5 + 2^6 + 2^7 + 2^9 + 2^10 + 2^13 + 2^14 + 2^16 + 2^17 + 2^19 + 2^20 + 2^22 + 2^26 + 2^27 + 2^30
        iv. 1 + 8 + 32 + 64 + 128 + 512 + 1024 + 8192 + 16384 + 65536 + 131072 + 524288 + 1048576 + 4194304 + 67108864 + 134217728 + 1073741824
        v. Final = 1,281,058,537
4. Site Password Rules
    a. Site 1: google.com (Google and Gmail account)
        i. The only rule for Google accounts is that the password must be at least 8 characters in length and the password cannot be deemed “weak” by Google metrics, which are not fully disclosed by includes rules such as not having sequential numbers, being the username, or having repeating characters.
        ii. Reused passwords are not allowed.
        iii. Google uses lockout, but the time of the lockout depends on the nature of the suspected intrusion. A lockout can last a few hours to a few days.
        iv. Users do not have a set time after which they have to change their password.
        v. You can reset the password by using a secondary recovery email address or phone number that should be set up beforehand. Google uses the address or phone number to verify that it is you before bringing you to a password reset screen.

vi. Google uses CAPTCHA when you sign up for a new Google service, change your password, or setup Google services for a third party device or application.

b. Site 2: amazon.com
    i. Passwords must be between 6 and 16 characters in length and contain 3 of the following criteria, an uppercase, lowercase, numeric, and/or special characters.
    ii. You cannot use a password you previously used.
    iii. Amazon may lock you out of your account if it detects suspicious activities and the time the account is locked may vary.
    iv. There is not a set time after which you need to change your password.
    v. To reset your password, Amazon sends a one-time password to your email account registered to the account. After entering that code, you can enter and confirm a new password.
    vi. Amazon does not use CAPTCHA on login.
c. Site 3: Clemson iRoar Portal
    i. There are not password requirements, but there are recommendations for your password.
    ii. You can reuse a previous password
    iii. It does not lock you out of your account.
    iv. There is not a set time after which you need to change your password.
    v. To reset your password, you enter your username, Clemson CID number, and your date of birth before entering a new password.
    vi. IRoar does not use CAPTCHA.
d. I believe that Google has the strongest security due to the password reset process being much more difficult than the others and that it locks you out more quickly that the other services for failed attempts.