Unix System Administration

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Lecture 23 – Tuesday Apr 17

CSCI 4113, Spring 2007

Logistics

- Guest lectures – Please show up!
- Talk by Chris Triolo Thursday April 19
  - Vulnerability scanning with Nessus/Nmap
  - Will perform an attack on a webserver
- Talk by Matthew Woitaszek Tuesday April 24
  - Supercomputing and clustering as well as monitoring
- Grades only through the DNS lab
  - Will most likely have them updated this weekend
- Perl a little more in depth today

Perl Basics

- Variables
  - @var – array, $var – scalar, %var – hashmap
- Special variables @_ and $_
  - Default variables for many functions
  - Reading a file puts each line into $_
  - Calling 'print' without a variable prints $_
  - Subroutines put arguments into array @_
- Open and read file syntax
  - open(HANDLE, “</path/to/file_to_read.txt”);
  - while(<HANDLE>) { .... }

Perl Regular Expressions

- Are the bomb
- Can match on variables or on $_
  - if(/some regex/) { ... } -- uses $_
  - if($var =~ /regex/) { ... } -- uses $var
- Can capture parts of the regex into variables
  - if($var =~ /re(ge)x/ { print $1; } -- prints 'ge'
- Can also ignore case with options at the end
  - /another ReGeX/i   -- 'i' ignores case
- Do straight substitution
  - 's/shit to replace/new shit to replace it with/'

Harder stuff in Perl

- Arrays as values in hashes
- Set an array reference in hash entry
  - $hash{$key} = [$val];
- Append to array reference
  - Push @{$hash{$key}}, $newval;
  - Useful for appending new IP addresses to a user
- Loop control – continue and break?
  - Actually are '**next**' and '**last**' in Perl
  - While(1) { if ($var == 12) { last; } ... }

Log Rotation

- How does it happen?
  - Happens once a week
- Combination of both Cron and logrotate script
  - /etc/logrotate.conf
- Logrotate allows configuration for all log files
  - Can even add in your own if you want
- Includes configurations from /etc/logrotate.d
- Sometimes things are omitted but still work

Cron

- Runs commands periodically
  - All starts in `/etc/crontab`
- Users have their own crontab file
  - Edit with `crontab -e`
- Syntax is fairly simple
- [min] [hr] [day] [week] [mon] <command>
- `01 */4 * * * /usr/bin/ls`
  - Run 'ls' on the first minute of **every fourth hour** of every day of every week of every month
- You specify a user in /etc/crontab