Message Sending: Mail Submit (Client/Server) And Mail Injection

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Part I

Message Sending – Submit Client/Server – Direct Injection

1. Messaging Injection

2. Submit Server

3. Submit Clients

Messaging Injection

- Queuing For The Spooler
- Spooling
- Send Attempts
- Temporary Send Failures
- Permanent Send Failures
- Logging
- Non-Delivery Reports

Submit Server

- Frontmail
- Bellevue College's Submit SMTP Server

Submit Clients

- qmail-inject – with smtproutes
- Various MUAs – Gnus
- ssmtp
- swaks
- blat (Windows)

Part II

Message Sending Logs Analysis

Part 2: Message Sending Logs Analysis

Where Are The Log Files

- /var/log/
- /var/log/qmail

Tools For Analyzing Log Files

- tai64nlocal

Part III

Class Activities

Part 3: Class Activities

6. Blee And Emacs Proficiency
   - Using Emacs As An IDE
   - YASnippet

7. Bash Scripting – Mail Injector Exercise
   - MailInjector Development
   - MailInjector Evolution
   - MailInjector Functional Specification
   - MailInjector Design Specification Topics – Your Assignment
   - MailInjector Deeper Dive
   - Extending Our MailInjector
   - lcaMailfrontHosts.sh – Walkthrough

Using Emacs As An IDE

- Programming Language Modes – (Bash, Python, Lisp, C/C++, Html, CSS, JavaScript – TeX, Beamer)
- YASnippet http://www.emacswiki.org/emacs-test/Yasnippet
  Useful Video: http://www.youtube.com/watch?v=ZCGmZK4V7Sg
- Dynamic Evaluation
- Linting and Style Enforcement
- Debugging

YASnippet

- Using Snippets
- Creating Your Own Snippet

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MailInjector Development

- Requirements / Functional Specification – (Mohsen)
- Design – (Students)
- Design Review – (Joint)
- Coding / Implementation – Very Evolutionary And Layered (Students)
- Verification – (Joint)
- Iteration – (Joint)

Keeping It All Together – Inside Of Your Script

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Bash Scripting – Mail Injector Exercise

Adding An iimPanel to Our iimBash Examples

- cd ⁊isit442
- mv mailInjector mailInjector.20160209
- cp -r -p /opt/public/osmt/bin/mailInjector .

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MailInjector Functional Specification

- Read In A File Structured As: /opt/public/osmt/bin/mailInjector.data
- 4 Comma Sepated Fields. Example: mohsen.banan@bellevuecollege.edu,nn,Mohsen,Banan
- Create A Message (Header and Body) Based On Fields (2,3,4)
- Send That Message To content of Field 1
- Produce A Report/Log Of All successful and failed injection/sends

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MailInjector Design Specification – Things To Consider

- How will you read the input file? stdin? parameter? argument?
- How will you parse the file?
- How will you create the message?
- How will you submit the message? (manual-entry "qmail-inject")
- How will you specify the From: line?
- How will you specify the Envelope Address?
- How Will you determine the message injection was successful?
- How Will you determine the message was not delivered?
- How will you produce a report?

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MailInjector Deeper Dive

- Top-Down Design, Bottom-Up Implementation
- Managing Complexity, Cohision, Consistency – mailInjector.sh
- Panel.org Omni-Available Features
- Iim Omni-Available Features
- Bashing – Procedural vs Functional Vs Object-Oriented

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Extending Our MailInjector

- New Templates – for example "nn"
- Multiple invokation of the same line – Or repetition of the full input
- Commenting the functions

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- Disabling Of Other Components
- Creation Of The Run Commands
- Keys Generation
- Structure And Commonality Of Iim

Part IV

Assignments

Part 4: Assignments

- Design Your MailInjector.sh Based On The Functional Spec
  Do It However You Wish. Pseudo Code, High Level Bash, Flow Chart,
  English Description.
  Include Error Handling and Data Analysis – How Should Input Be
  Delivered To It?
  Consider Making It Parallel Vs Serial/Linear.
  Consider Scaling

- Google "qmail Log Analyzers"
- apt-cache search qmail | grep -i log
- qmailanalog
- man syslog (3)
- man logger (1)
- man splogger (8)
- Take mailInjector.sh and comment it out so it makes more sense.

Two Teams Of 3.
Team 1 uses swaks. Team 2 uses ssmtp
Customize the mailInjector.sh to hit lightly against Bellevue College with your
student mail credentials.