



expect-lite

Automation for the rest of us

by Craig Miller

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Agenda

- What is expect-lite
- Introduction
- Installation in 60 seconds
- IDE
- Demo 1 – Install & Instant Script
- Self Running scripts
- Example Script/Demo 2

What is expect-lite

- A script written in Don Libe's Expect
- Very portable
 - Runs everywhere Expect does
- Keep it Simple
 - > to send
 - < to expect
- Plays well with Bash

Introduction: Example 1

- Checking an IP Address

```
>ifconfig
```

```
<192\.168\.1\.1
```

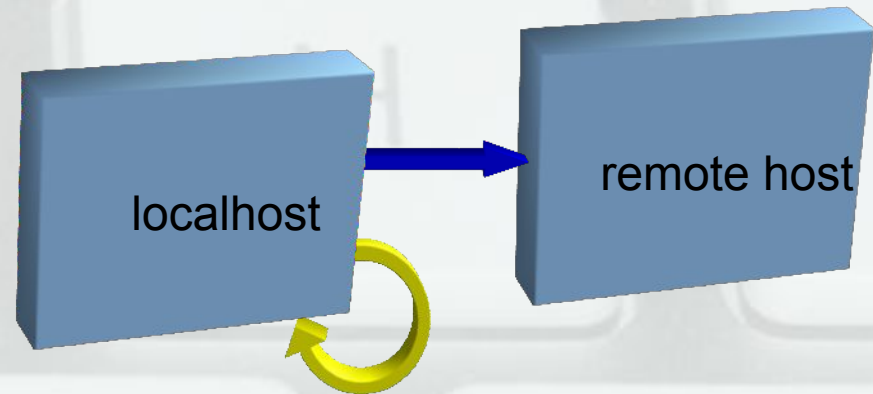
- Or

```
>ifconfig
```

```
<192\.168\.1\.[0-9]+
```

Intro: Automatic Remote Login

- Designed for server farm
- Modes of operation
 - Local or none
 - Loopback
 - Remote Host
 - telnet, ssh, ssh with keys



Intro: Variables & Constants

- All variables begin with \$
 - assignment `$IP=192.168.1.1`
 - use `>telnet $IP`
- Constants are parameters passed on the command line at invocation
 - Are immutable override existing variable values
 - Allows changing script behaviour

Introduction: Example 2

- Setting an IP Address in a script

```
$IP=192.168.1.1
```

```
>ifconfig eth0 $IP
```

- Setting a Constant on the command line

```
example2.elc IP=172.30.1.1
```

- Constants override the variable

Intro: Plays well with Bash

- Passes unknown \$var to bash
- Supports bash loops
 - for i in {1..5} { echo \$i;}
- Can Mix Variables (expect-lite & bash)
 - \$start=1
 - \$end=5
 - >for i in {\$start..\$end} { echo \$i;}

Intro: Other commands

Char	Action
>>	send string to remote host, without waiting for prompt
<<	literal string MUST be received NOT expect; string/regex must NOT be received from the remote host
-<	used to indicate comment lines, and have no effect are also used to indicate comment lines, but are printed to stdout (for logging)
#	similar to above, but no extra newlines are printed (useful for printing script help)
;	changes the expect timeout to num of seconds
::	static variable assignment at script invocation
@	dynamic variable assignment
\$var=	math functions, perform bitwise and arithmetic operations: << >> & ^ * / % + -
+\$var=	
=\$var	

Intro: Other commands (cont)

Char	Action
	c-style if/then/else in the format ?cond?
?	action::else_action
%	label - used for jumping to labels
~fname	includes a expect-lite automation file, fname
!	embedded expect (native tcl)

Integrated Debugger (IDE)

- Breakpoint = `*INTERACT`
- See Variables with `*SHOW VARS`
- Assign Variables with `$var=value`
- Control logging levels: `*INFO`, `*WARN`

Integrated Debugger (IDE) cont.

- Instant-Interact, creates breakpoint on the fly
 - Requires package TclX
- All IDE functions available
- Auto Pass Feature

60 second install: expect-lite

- Requisites: Expect, openssh-server, tclx
- Download expect-lite from:
 - <http://expect-lite.sf.net/>
- tar xvzf package
- Run `./expect-lite`

Demo 1

- Take a minute and install expect-lite
- Capture some text and turn it into a Script
 - exploring /proc

Applications

- Managing Temporary files

```
>echo tfile_$RANDOM  
+$temp_file=\n(tfile_[0-9]+)
```

- Packet Testing

- Crafting packets with Scapy & capturing with tcpdump

- Verifying CLI based menus

Self Running

- A script inside a script
 - A bash script at the top of the script
 - Calls itself as a c=parameter to expect-lite
 - Afterwards, returns return code to caller

Example Script

- Web client & server identification

Demo 2

- Running the Example Script

Conclusion

- Easy to Use, Very Portable, Executables
- Advanced Features: Variables, Constants, Conditionals, Regex Evaluation, Multiple Sessions
- Easy to Debug with IDE
 - Set Breakpoints, assign variables
- Automation for the rest of us!

Questions?

<http://expect-lite.sf.net/>
cvmiller@users.sourceforge.net

This Presentation:
<http://expect-lite.sf.net/ols/>