



Broken Glass

Perl on Windows

Chris 'BinGOs' Williams



"This is your last chance. After this, there is no turning back.

***You take the blue pill - the story ends, you wake up in your bed
and believe whatever you want to believe.***

***You take the red pill - you stay in Wonderland
and I show you how deep the rabbit-hole goes."***



A bit of history

- 5.003_24 - first Windows port
- 5.004 - first Win32 and Cygwin support, [MSVC++ and Borland C++]
- 5.005 - experimental threads, support for GCC and EGCS
- 5.6.0 - experimental fork() support
- 5.8.0 - proper pthreads, fork() support, 64bit Windows [Intel IA64]
- 5.8.1 - pthreads support for Cygwin
- 5.12.0 - AMD64 with Mingw gcc
- 5.16.0 - buh-bye Borland C++



**Time for some
real archaeology**

```
D:\I386\GNU\PERL>dir
Volume in drive D is NTRKSRV_40
Volume Serial Number is AE2A-A291

Directory of D:\I386\GNU\PERL

09/09/1996  22:02    <DIR>          .
09/09/1996  22:02    <DIR>          ..
16/05/1996  03:08                30,720 CMD32.EXE
16/05/1996  03:08                64,512 PERL.EXE
16/05/1996  03:08            521,216 PERL100.DLL
16/05/1996  03:08            22,016 PERLGLOB.EXE
16/07/1996  17:34                971 PL2BAT.BAT
               5 File(s)          639,435 bytes
               2 Dir(s)              0 bytes free

D:\I386\GNU\PERL>.\PERL.EXE -v

This is perl, version 5.001

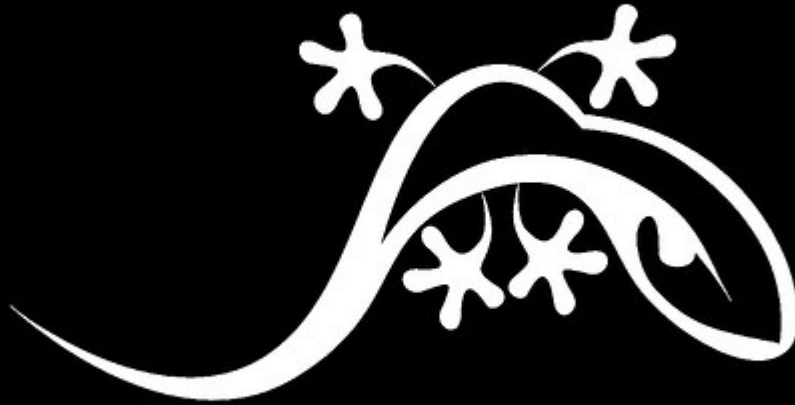
    unofficial patchlevel 1m.

Copyright 1987-1994, Larry wall
Win32 port Copyright (c) 1995 Microsoft Corporation. All rights reserved.
    developed by hip communications inc., http://info.hip.com/info/

    Perl for win32 Build 107
    Built Apr 29 1996@22:56:57
Perl may be copied only under the terms of either the Artistic License or the
GNU General Public License, which may be found in the Perl 5.0 source kit.

D:\I386\GNU\PERL>
Ready
```

Windows NT 4.0 Resource Kit CDRom



ActivePerl

<http://www.activestate.com/perl>

- **July 1998 - ActivePerl 5.005 Build 469**
- **March 2000 - ActivePerl 5.6.0 Build 613**
- **November 2002 - ActivePerl 5.8.0 Build 804**
- **November 2005 - ActivePerl 5.8.7 Build 815 [Mingw compilation support]**
- **August 2006 - ActivePerl 5.8.8 Build 817 [64bit]**
- **June 2012 - ActivePerl 5.16.0 Build 1600**

- **Built with MSVC++**
- **Can install or use MinGW**
- **PPM repositories of popular modules**
- **Commercial support**
- **PerlScript – Active Scripting engine**
- **Perl ISAPI**



Strawberry Perl

<http://strawberryperl.com>

- **July 2006 - Strawberry Perl 5.8.8 Alpha 1 released**
- **April 2008 - Strawberry Perl 5.10.0.1 and 5.8.8.1 released**
- **January 2009 - first portable release**
- **April 2010 - 64bit and 32bit releases**
- **May 2012 - Strawberry Perl 5.16.0.1 released**
- **August 2012 - Strawberry Perl 5.16.1.1 released**

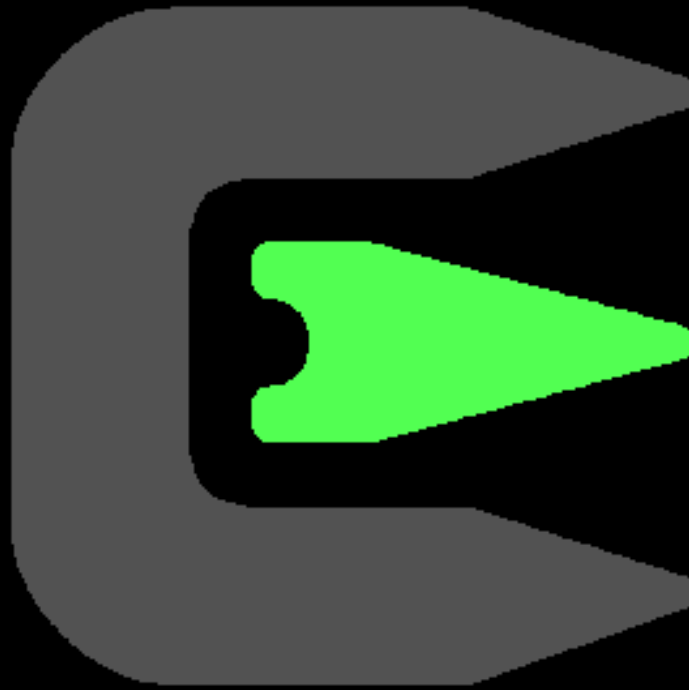
- Includes the MinGW compiler toolchain
- Development libraries for various things (libxml2, libssh2, openssl, mysql, postgresql, etc)
- 200+ non-core CPAN modules
- CPAN, CPANPLUS, cpanm work 'out of the box'
- Also includes command-line ppm utility

32
bit

64
bit

?

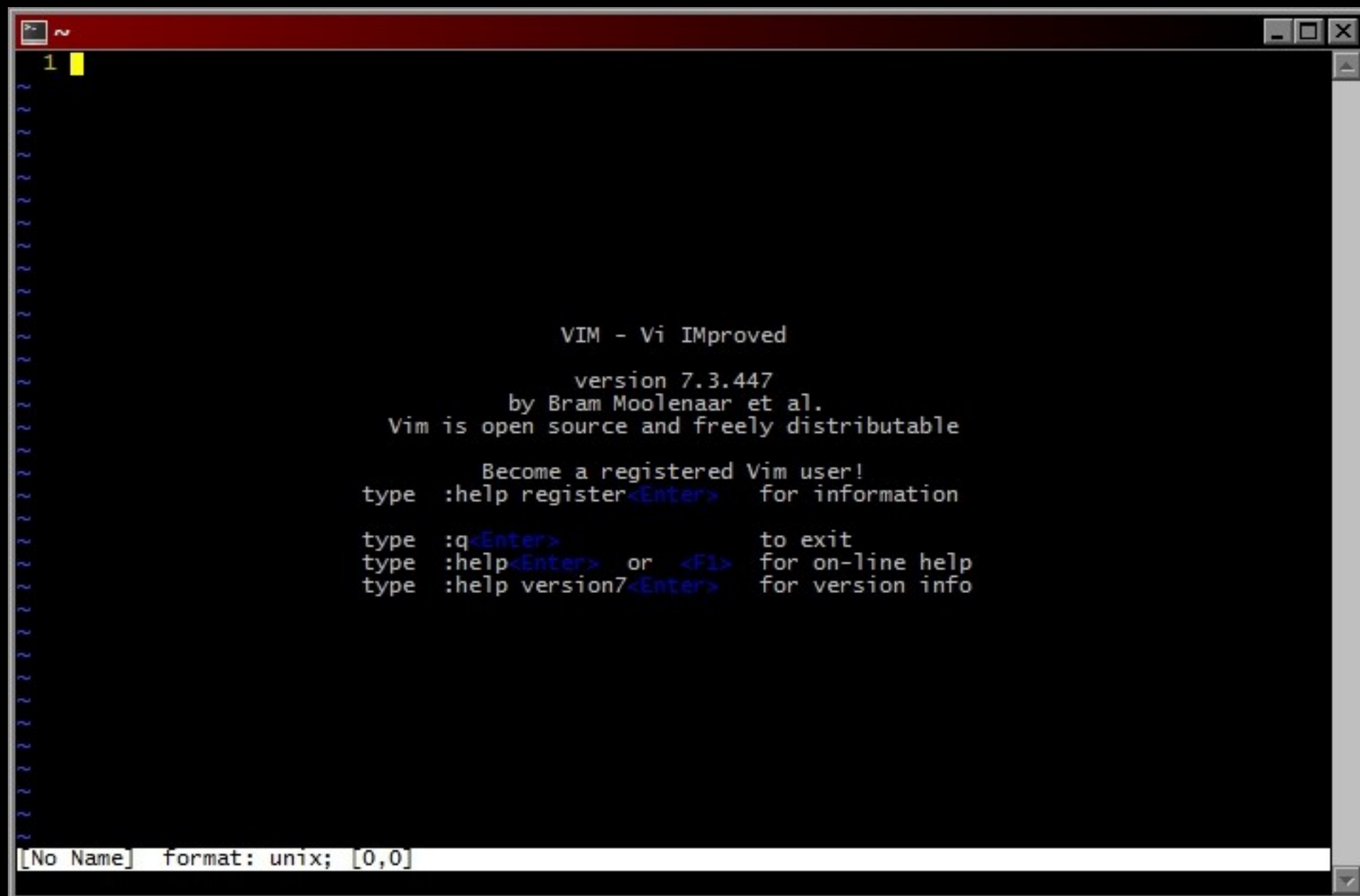
- **32bit Perl works fine on 64bit Windows**
- **Some modules have 'issues' with 64bit Perl**
- **ActivePerl doesn't has a Mingw package for 64bit**

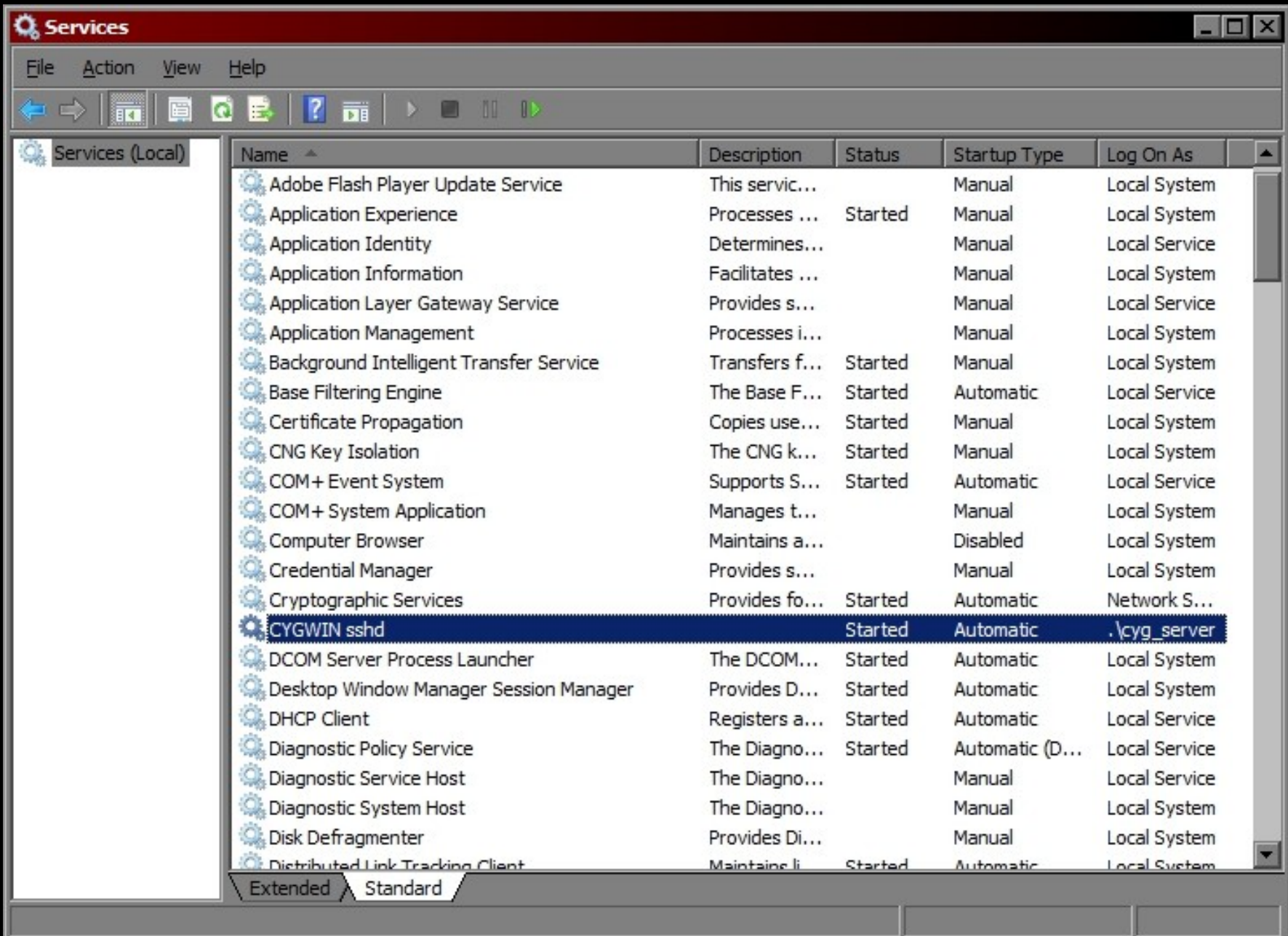


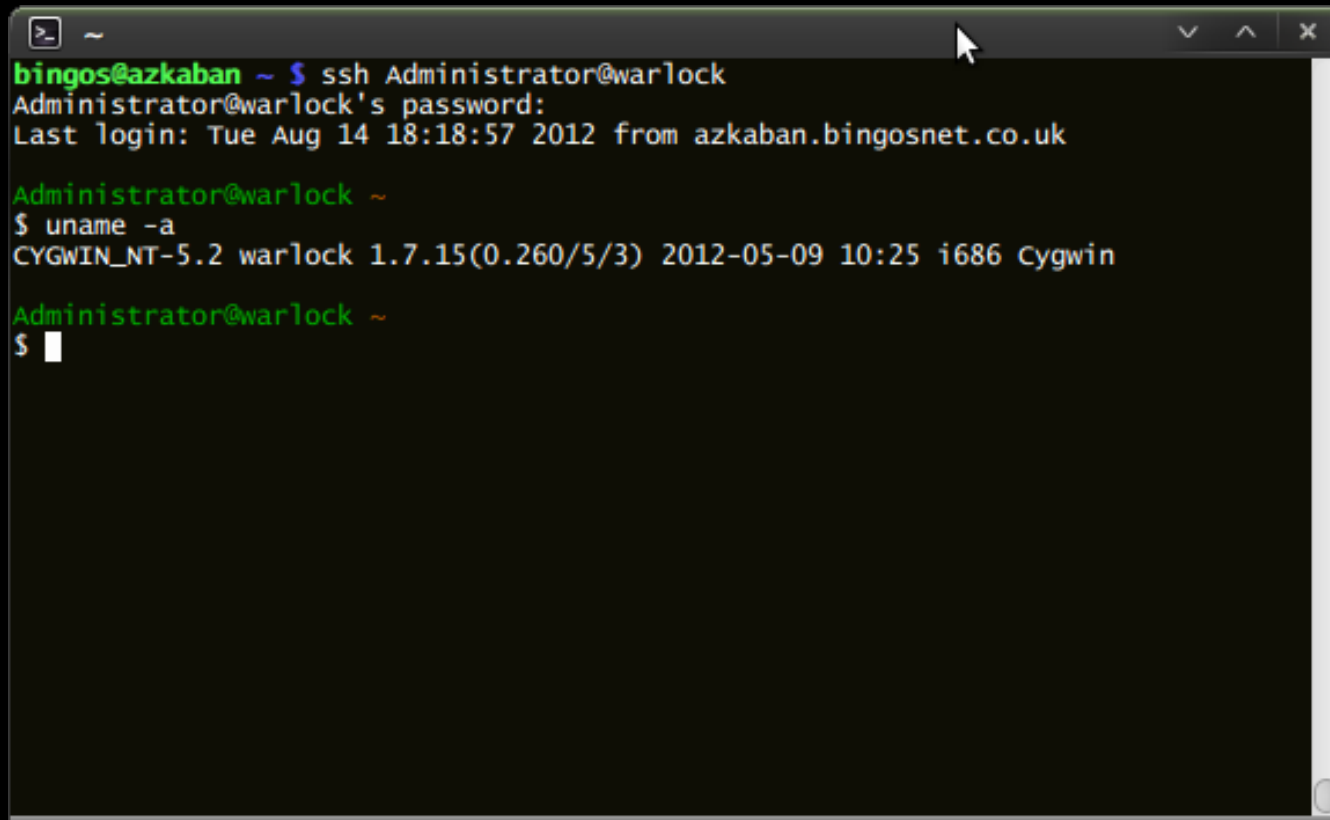
Cygwin

<http://cygwin.com>

- **Started in 1995**
- **POSIX API compatibility layer**
- **Shells, devtools, networking tools**
- **Cygwin/X – X Windows System**
- **Mintty – Terminal**
- **Perl included**
- **Package manager**







A terminal window with a dark background and light green text. The window title bar shows a standard Linux-style icon and window controls. The text inside the terminal shows a user named 'bingos' at a host 'azkaban' initiating an SSH connection to 'Administrator@warlock'. The connection is successful, and the user is prompted for a password. After authentication, the user runs the command 'uname -a', which returns system information including the kernel version 'CYGWIN_NT-5.2', the host 'warlock', the IP address '1.7.15(0.260/5/3)', the date and time '2012-05-09 10:25', the architecture 'i686', and the OS 'Cygwin'. The prompt returns to the user 'Administrator@warlock'.

```
bingos@azkaban ~ $ ssh Administrator@warlock
Administrator@warlock's password:
Last login: Tue Aug 14 18:18:57 2012 from azkaban.bingosnet.co.uk

Administrator@warlock ~
$ uname -a
CYGWIN_NT-5.2 warlock 1.7.15(0.260/5/3) 2012-05-09 10:25 i686 Cygwin

Administrator@warlock ~
$
```

- Cygwin SSHd How-To
- <http://www.noah.org/ssh/cygwin-sshd.html>



Other Choices

Do What I Mean Perl

<http://dwimperl.com/>

- Based on Strawberry Perl v5.14.2.1
- Includes Padre
- Includes Task::Kensho, Moose, Dancer, Plack and lots of other stuff



- **Originally OpenNT and Interix**
- **Included with Windows since 2003 R2 as “Subsystem for UNIX-based Applications” (SUA)**
- **Comes with UNIX tools and gcc**
- ***<http://www.suacommunity.com/>***

Administrator:Korn Shell

Welcome to the SUA utilities.

DISPLAY=localhost:0.0

```
=====
WARNING: One or more events have been logged in the Event Log
        that the system administrator should investigate.
=====
```

\$ perl -v

This is perl 5, version 14, subversion 1 (v5.14.1) built for genuineintel-interix

Copyright 1987-2011, Larry Wall

Perl may be copied only under the terms of either the Artistic License or the GNU General Public License, which may be found in the Perl 5 source kit.

Complete documentation for Perl, including FAQ lists, should be found on this system using "man perl" or "perldoc perl". If you have access to the Internet, point your browser at <http://www.perl.org/>, the Perl Home Page.

\$

UWIN

<http://www2.research.att.com/sw/download/>

- Emulates UNIX API on top of Win32 API
- Can mix UNIX and Win32 calls in code
- Supports various compilers (MSVC++, MinGW, Borland C++)

C:\ProgramData\Microsoft\Windows\Start Menu\Programs\UWIN 5.0\ksh 64 bit.lnk

\$ cd /usr/bin/

\$ ls

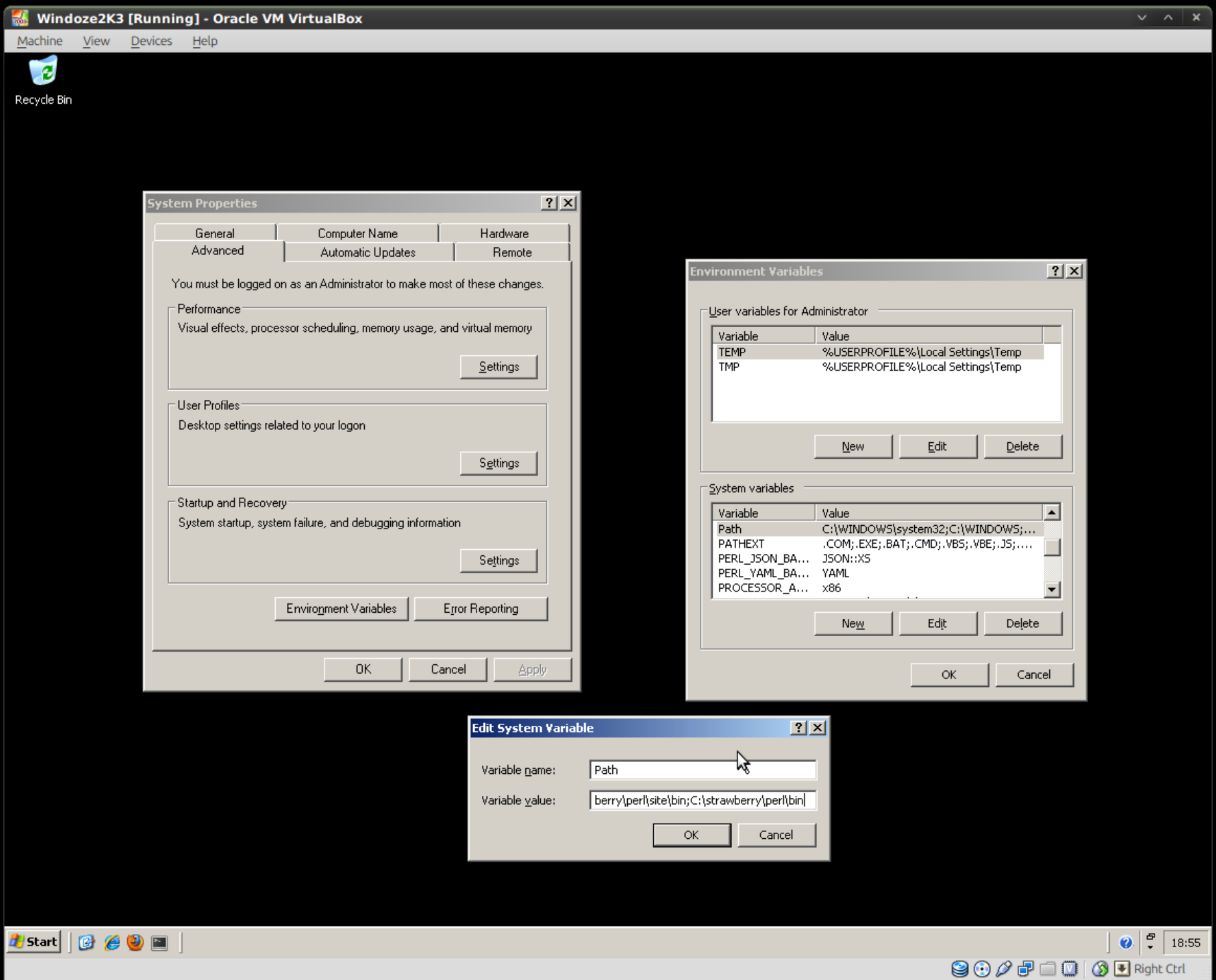
CC^1	dll10.dll	ln	pax	ssh-keygen
adduser	dlls	locale	pcat	ssh-keyscan
ar	dss	locate	pids	ssh-keysign
asa	dss10.dll	login	png10.dll	stdinstall
at	du	login-admin	pr	stdio.dll
awk	dumspd	loginp	preload10.dll	strings
banner	dumpstack	logins	print	strip
basename	echo	logname	printf	stty
batch	ed	logstat	probe	su
bc	edit10.dll	look	proto	sum
bunzip	egrep	lorder	ps	sync
bunzip2	env	lp	pthread.dll	tail
bz20.dll	ex	lpstat	pwd	tar
bzcat	exception	ls	pz10.dll	tc176.dll
bzip	expand	m4	ranlib	tcsh
bzip2	expr	mailx	ratz	tee
c89	expr20.dll	make	rcp	telnet
cal	false	mamake	rccs	test
cancel	fds	mamdot	rcsclean	tic
captoinfo	ffind	mamnew	rcsdiff	tipofday
cat	fgrep	mamold	rcsfreeze	tk42.dll
cc	file	mamsh	rcsmerge	tksh
cd	filter	mamstate	read	touch
cdb22.dll	find	man	readtags	tput
changes	flex	mapread	recsort10.dll	tr
chgrp	fmt	md5sum	rectify	trace
chmod	fold	merge	red	trace10.dll

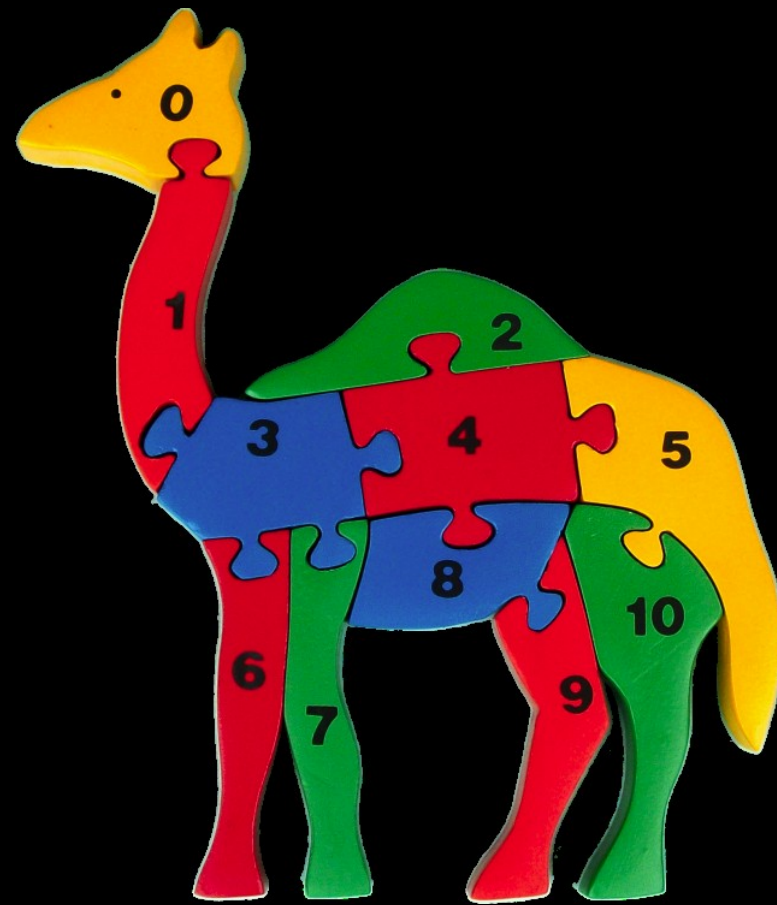


Environment Variables

(Don't cross the streams)

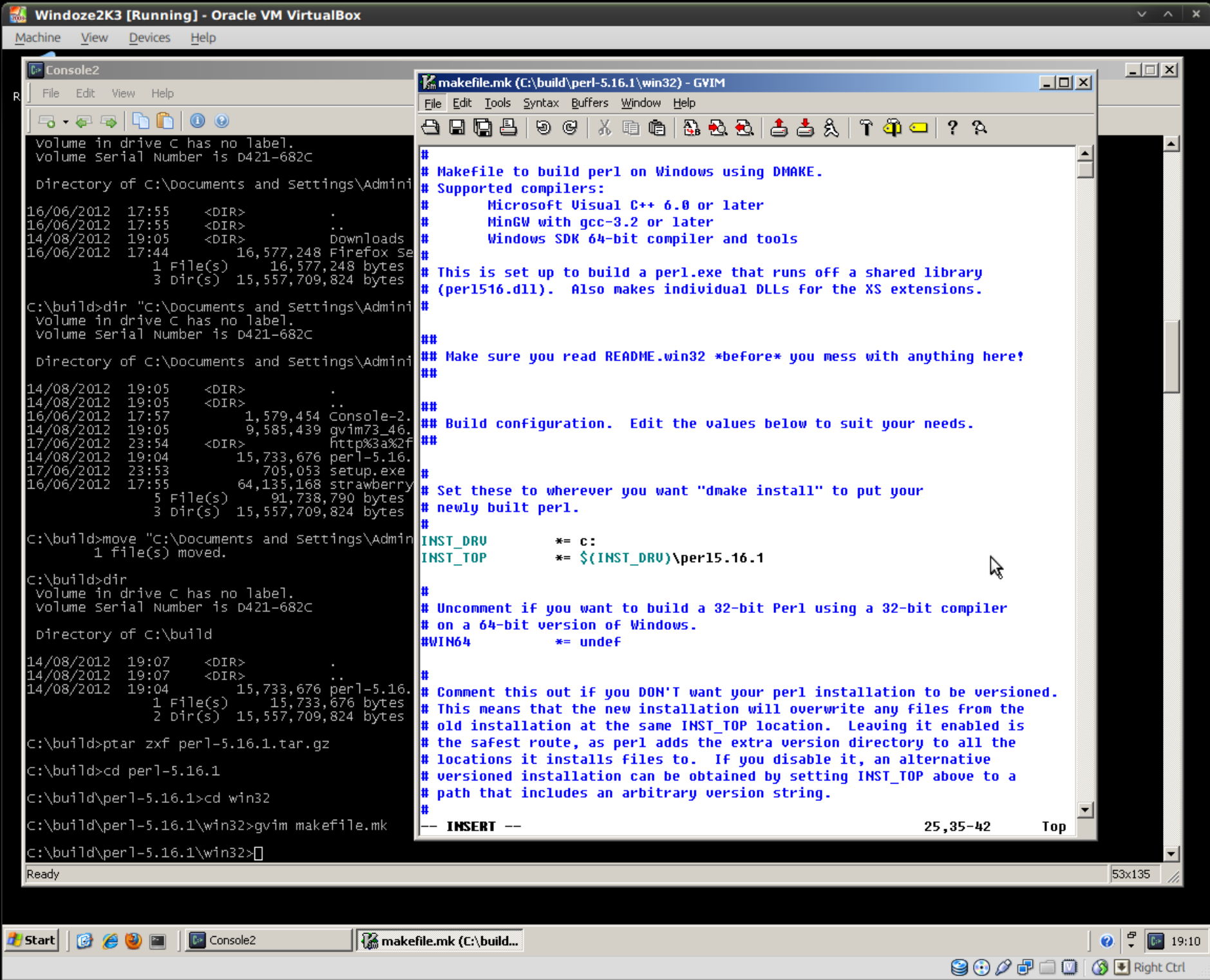
- Don't mix 'native' MSWin32 perl and Cygwin
- Adjust %PATH% for different perl installs
- Use batch files to set different environments
- Perl doesn't like an installation location that contains spaces (not Windows specific)





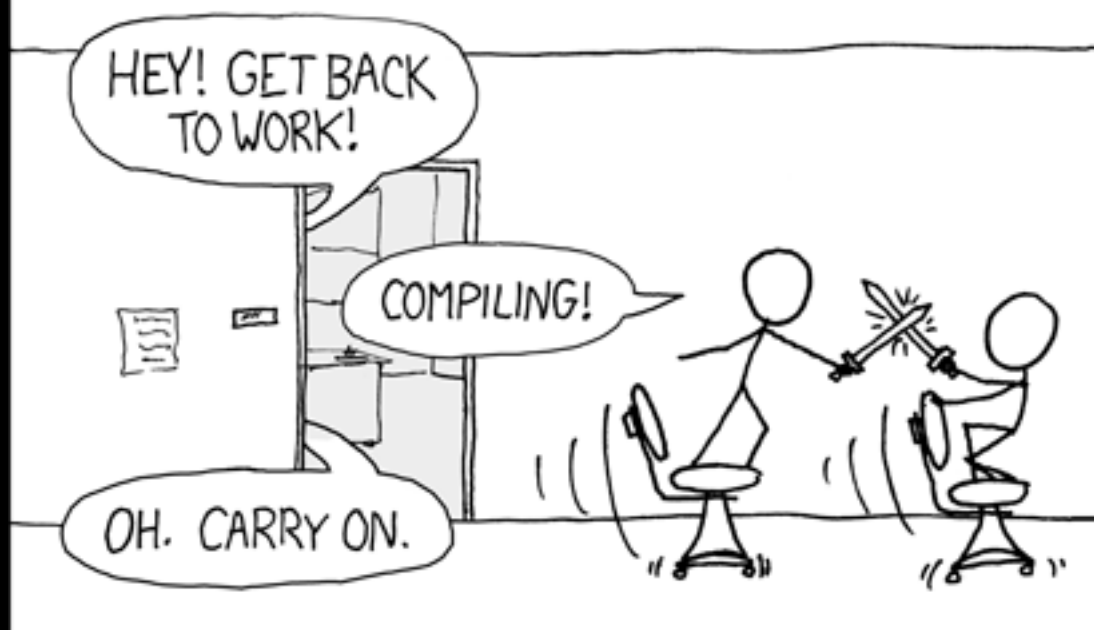
Building Perl

- **README.win32 / perlwin32**
- **Microsoft Visual C++ version 6.0 or later**
- **Gcc by mingw.org gcc version 3.2 or later**
- **Gcc by mingw-w64.sf.net gcc version 4.4.3 or later**



Ready

THE #1 PROGRAMMER EXCUSE
FOR LEGITIMATELY SLACKING OFF:
"MY CODE'S COMPILING."

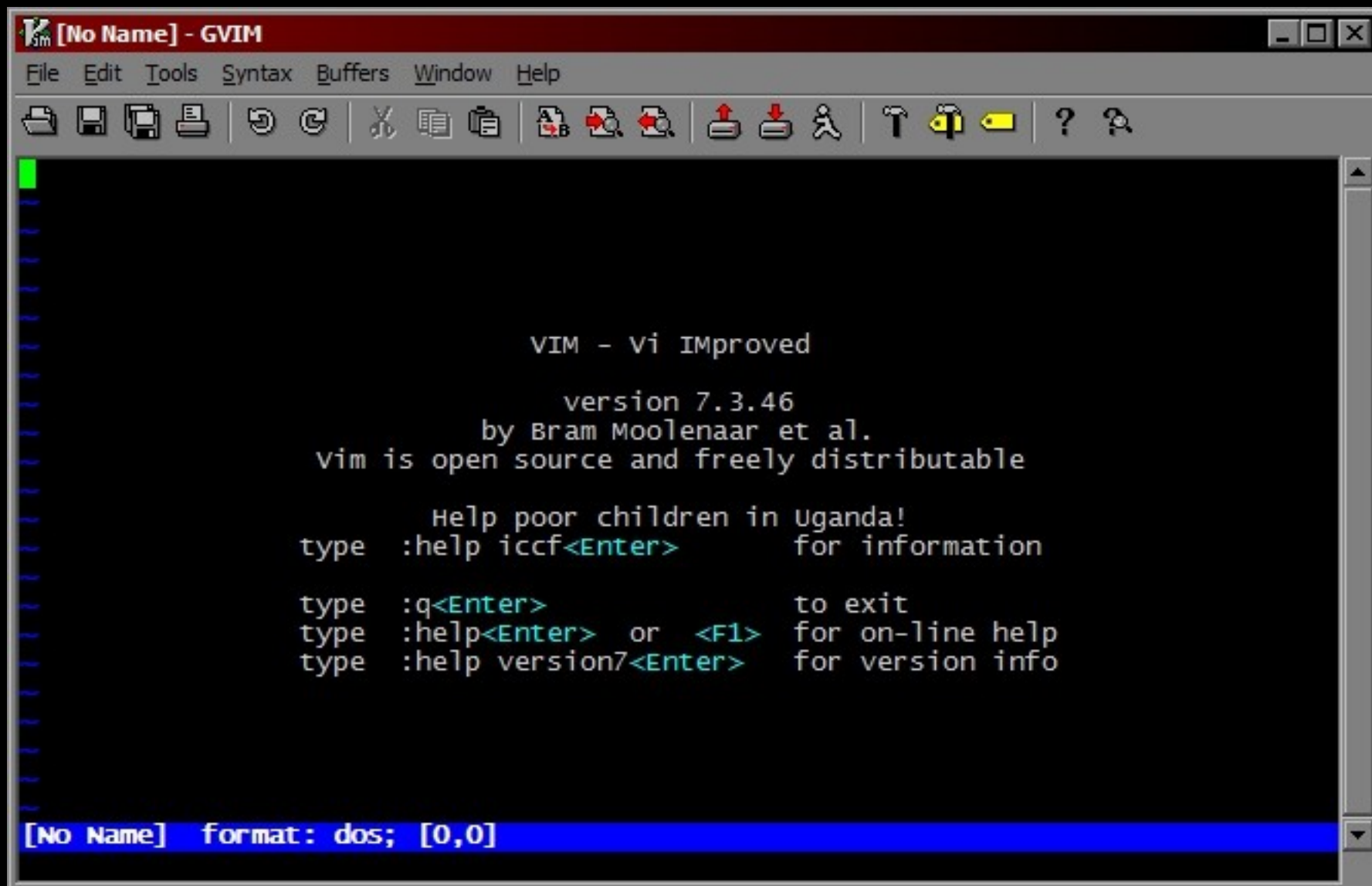




Editors

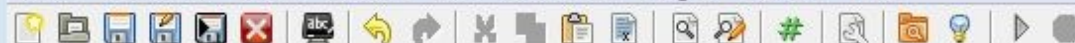


- Perl syntax highlighting
- Familiar if from a UNIX background
- GUI and command-line
- <http://www.vim.org/>

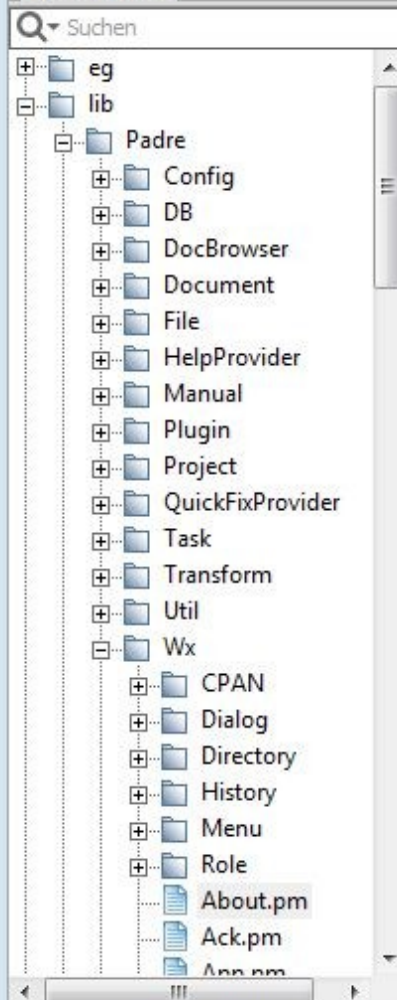




- **Padre Perl IDE**
- **Written in Perl 5**
- **Syntax highlighting and code completion**
- **Beginner friendly**
- **Multiplatform – Windows, Linux, Mac OS X**
- **<http://padre.perlide.org/>**



Verzeichnis



Makefile.PL

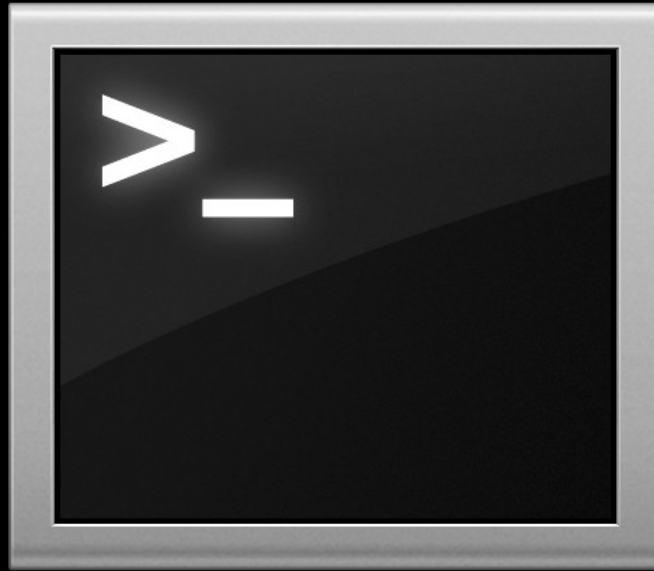
*Main.pm

```
184         sub {
185             $_[0]->on_aui_pane_close( $_[1] )
186         },
187     );
188
189     # Special Key Handling
190     Wx::Event::EVT_KEY_UP(
191         $self,
192         sub {
193             shift->key_up(@_);
194         },
195     );
196
197     Pa
198     Padre::Wx::ErrorList
199     Padre::Wx::FunctionList
200     Padre::Wx::Syntax
201     Padre::Wx::Output
202     Padre::Wx::Bottom
203     Padre::Wx::Right
204     Padre::Wx::Left
205     Padre::Wx::Notebook
206     Padre::Wx::StatusBar
207
208     Wx::Event::EVT_STC_UPDATEUI( $self, -1, \&on_stc_
209     Wx::Event::EVT_STC_CHANGE( $self, -1, \&on_stc_ch
210     Wx::Event::EVT_STC_STYLENEEDED( $self, -1, \&on_s
211     Wx::Event::EVT_STC_CHARADDED( $self, -1, \&on_stc
212     Wx::Event::EVT_STC_DWELLSTART( $self, -1, \&on_st
213
```

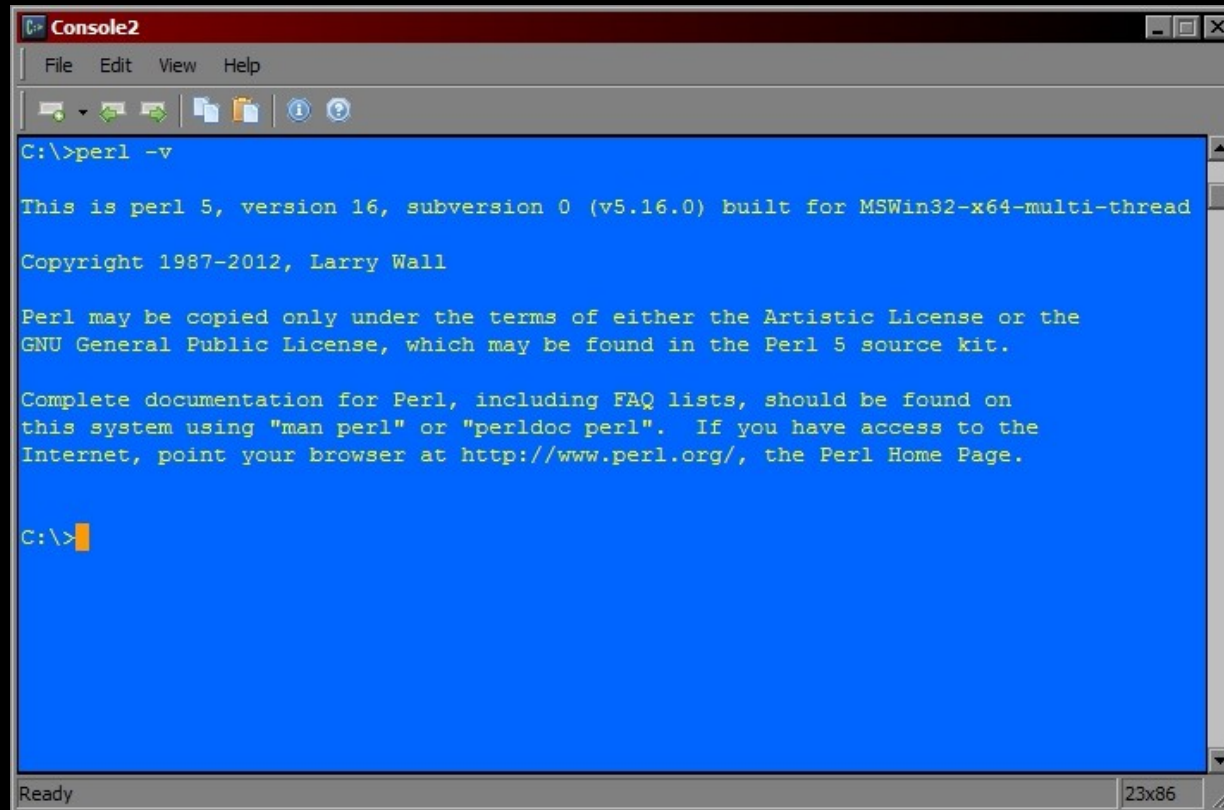
Funktionen zeigen

_save_buffer
_timer_post_init
about
capture_session
change_highlighter
change_locale
change_style
close
close_all
close_where
convert_to
create_tab
current
debug_perl
directory
directory_panel
documents
editors
error
fast_find
find
find_editor_of_file
find_id_of_editor
freezer
help
help_search
install_cpan
key_up
load_files
message
new
new_document_from_string
on_aui_pane_close
on_autocompletion
on_brace_matching
on_close
on_close_window





Consoles



```
Console2
File Edit View Help

C:\>perl -v

This is perl 5, version 16, subversion 0 (v5.16.0) built for MSWin32-x64-multi-thread

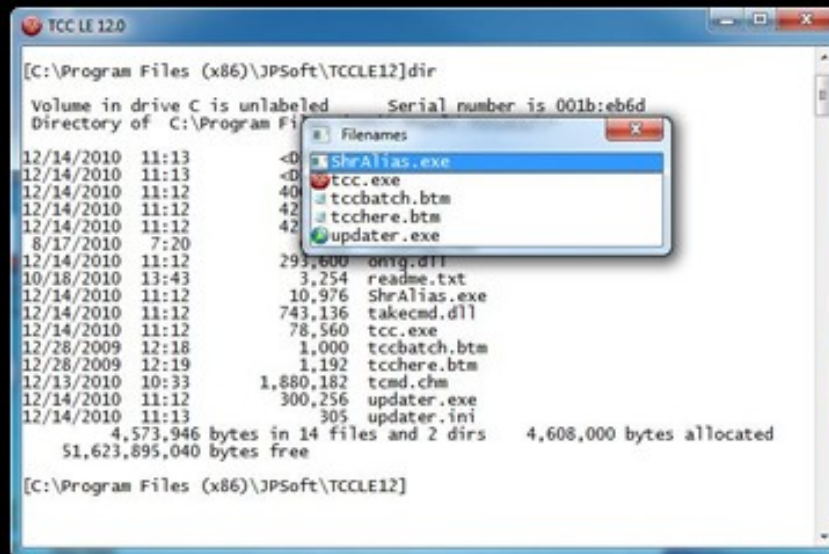
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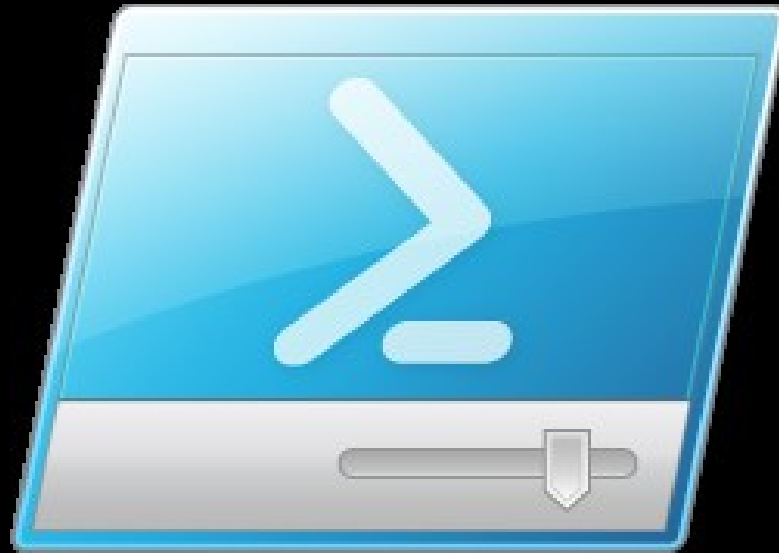
Complete documentation for Perl, including FAQ lists, should be found on
this system using "man perl" or "perldoc perl".  If you have access to the
Internet, point your browser at http://www.perl.org/, the Perl Home Page.

C:\>
```

- Console
- <http://sourceforge.net/projects/console/>
- Lots of shiny



- TCC/LE
- <http://jpsoft.com/tccle-cmd-replacement.html>
- From the makers of 4NT



- Powershell
- http://en.wikipedia.org/wiki/Windows_PowerShell
- Perl plays nicely with it

Administrator: Windows PowerShell

Windows PowerShell

Copyright (C) 2009 Microsoft Corporation. All rights reserved.

PS H:\> perl -v

This is perl 5, version 16, subversion 0 (v5.16.0) built for MSWin32-x64-multi-thread

Copyright 1987-2012, Larry Wall

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Complete documentation for Perl, including FAQ lists, should be found on this system using "man perl" or "perldoc perl". If you have access to the Internet, point your browser at <http://www.perl.org/>, the Perl Home Page.

PS H:\>

Administrator: Windows PowerShell ISE

File Edit View Debug Help

Untitled1.ps1 X

```
1
```

PS C:\PS> perl -v

This is perl 5, version 16, subversion 0 (v5.16.0) built for MSWin32-x64-multi-thread

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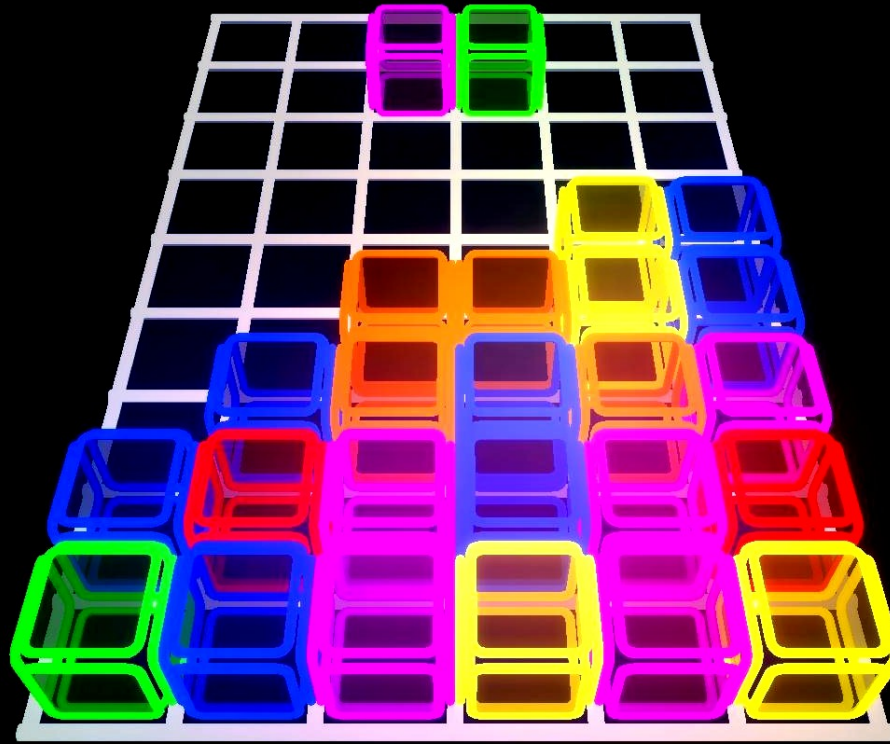
Complete documentation for Perl, including FAQ lists, should be found on this system using "man perl" or "perldoc perl". If you have access to the Internet, point your browser at <http://www.perl.org/>, the Perl Home Page.

PS C:\PS>

>

Completed

Ln 1 Col 1 12



Modules

- use Win32;
- functions to access Win32 APIs
- use Win32::OLE;
- interface to OLE Automation
- use Win32::Process; use Win32::Job;
- Work with processes
- use Win32::EventLog;
- Access the Windows Event log
- use Win32::TieRegistry;
- Manipulate the Windows registry

The CPAN Search Site - search.cpan.org - Mozilla Firefox

Firefox The CPAN Search Site - search.cpan.org

search.cpan.org/search?m=all&q=Win32&s=1

disencourage

CPAN

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Win32

All CPAN Search

Results 1 - 10 of 1303 Found

1 · 2 · 3 · 4 · 5 · 6 · Next >>

Page Size: 10 20 50 100

Win32
Interfaces to some Win32 API Functions
[Win32-0.44](#) - 12 Jan 2011 - [Jan Dubois](#)

Win32::UTCFileTime
Get/set UTC file times with stat/utime on Win32
[Win32-UTCFileTime-1.55](#) - 20 Mar 2012 - [Steve Hay](#)

Win32::RASE
managing dialup entries and network connections on Win32
[Win32-RASE-1.01](#) - 08 Mar 2000 - [Mike Blazer](#)

Win32/ProcFarm/Child.pl
procedural support code for child processes in the Win32-ProcFarm system
[Win32-ProcFarm-2.15](#) - 09 Jan 2004 - [Toby Ovod-Everett](#)

Win32::SerialPort
User interface to Win32 Serial API calls
[Win32-SerialPort-0.22](#) ★★☆☆☆ (1 Reviews) - 11 Jun 2010 - [Bill Birthisel](#)

Win32::CommandLine
Retrieve and reparses the Win32 command line
[Win32-CommandLine-0.4.4.269](#) - 04 Apr 2009 - [Roy Ivy III](#)

Win32::Daemon
Extension enabling Win32 Perl scripts to run as a true Win32 service.
[Win32-Daemon-20110117](#) - 17 Jan 2011 - [Jan Dubois](#)

Win32::SystemInfo
Memory and Processor information on Win32 systems
[Win32-SystemInfo-0.11](#) - 26 Aug 2008 - [Chad Johnston](#)

Win32::GUIRobot
send keyboard and mouse input to win32, analyze graphical output
[Win32-GUIRobot-0.05](#) - 22 Oct 2007 - [Dmitry Karasik](#)



Enterprise Administration

- **Win32::OLE**
- **Win32::NameTranslate**
- **Win32::ADRecurse**
- **Text::CSV**
- **Win32::EventLog**
- **Capture::Tiny**
- **Net::SSH2**

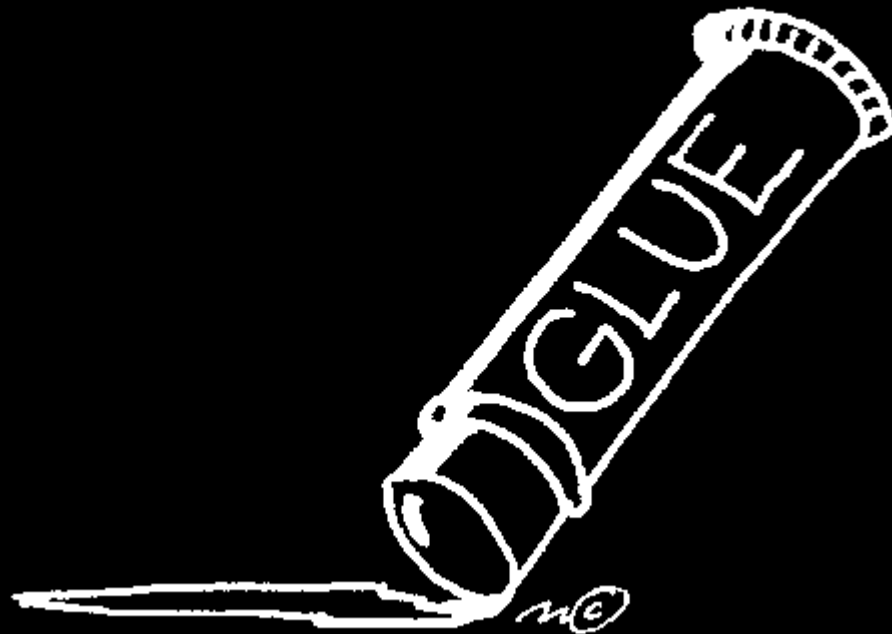


- Manipulating AD objects
 - Bulk amending user address details
 - Bulk amending user display names
 - Bulk moving users between OUs
 - Sanitising user telephone numbers
 - Bulk add users to groups
 - Recurse through AD group membership
- ID photos → thumbnail → AD attribute
- Parse IAS, IIS, TMG, McAfee WebGW logs
- Parse Checkpoint Firewall logs
- EventLog triggers and logging specific events

http://www

Useful links

- <http://stackoverflow.com/tags/perl/info>
- <http://perlmonks.org/>
- <https://metacpan.org/>
- <http://win32.perl.org/>
- <http://goo.gl/3aOZV> - MSDN ADSI
- <http://goo.gl/gwaQA> - ADSI Edit Utility



Perl the glue that mends

