



Puppet On Windows

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- Making your Windows world a better place
- Enjoys long walks on the beach...
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Agenda

- Puppet, Windows, and You
- Windows Module Pack
- Other Windows Modules
- Demo
- Questions



DevOps



DevOps Borat
@DEVOPS_BORAT



Following

To make error is human. To propagate error to all server in automatic way is #devops.



Puppet, Windows, and You

- “How does Puppet compare to <insert other Config Mgmt tool here> on Windows”?
- “How well does Puppet work on Windows?”

How Well Does Puppet Work On Windows?



Puppet – Windows Platforms

- Servers: Windows Server 2003+ (Puppet Agent 1.3.0/Puppet 4.3.0+ is Windows 2008+)
 - Microsoft Extended Support for 2003 ended 7/14/2015.
- Desktops: Windows Vista+
- Puppet comes as x86 or x64
- Windows since 2011

Puppet – Windows Details

- x64 as of Puppet 3.7.0
- Case-sensitive
- File system / registry redirection when using 32-bit Puppet on 64-bit Windows.
- File paths
- Built-in Windows Package Provider

Puppet is Case-Sensitive / Windows is Not

- `C:\Windows == c:\windows` in Windows
- `C:\Windows != c:\windows` in Puppet
- Puppet will see two resources with different case as different resources.
- What is the recommendation?
 - Use lowercase as much as possible (except where you care about the case e.g. creating folders)
 - Always match case for resource relationships (e.g. `subscribe/notify`).

File System Redirection

- C:\Windows\system32 is translated to C:\Windows\SysWOW64 where the 32 bit binaries are when using 32-bit Puppet on 64-bit Windows systems.
 - Thanks Microsoft!
- How do I avoid?
 - *Use 64-bit Puppet on 64-bit Windows systems*
 - SysNative (c:/sysnative) when you really want the 64 bit files.
 - \$system32 fact 3.7.3+.

File System Redirection Compensation

- http://docs.puppetlabs.com/puppet/latest/reference/lang_windows_file_paths.html#compensating-for-redirection

```
exec { '64_bit_cmd':  
  path      => "c:\\windows\\sysnative;c:\\windows\\system32;$::path",  
  command => 'cmd.exe /c echo process is %PROCESSOR_ARCHITECTURE%',  
}
```


Registry Redirection

- HKLM\SOFTWARE is redirected to HKLM\SOFTWARE\Wow6432Node
- How do I avoid?
 - *Use 64-bit Puppet on 64-bit Windows systems.*
 - Use the registry module, it disables redirection unless explicitly requested.
 - Use “| 0x100” in custom facts.

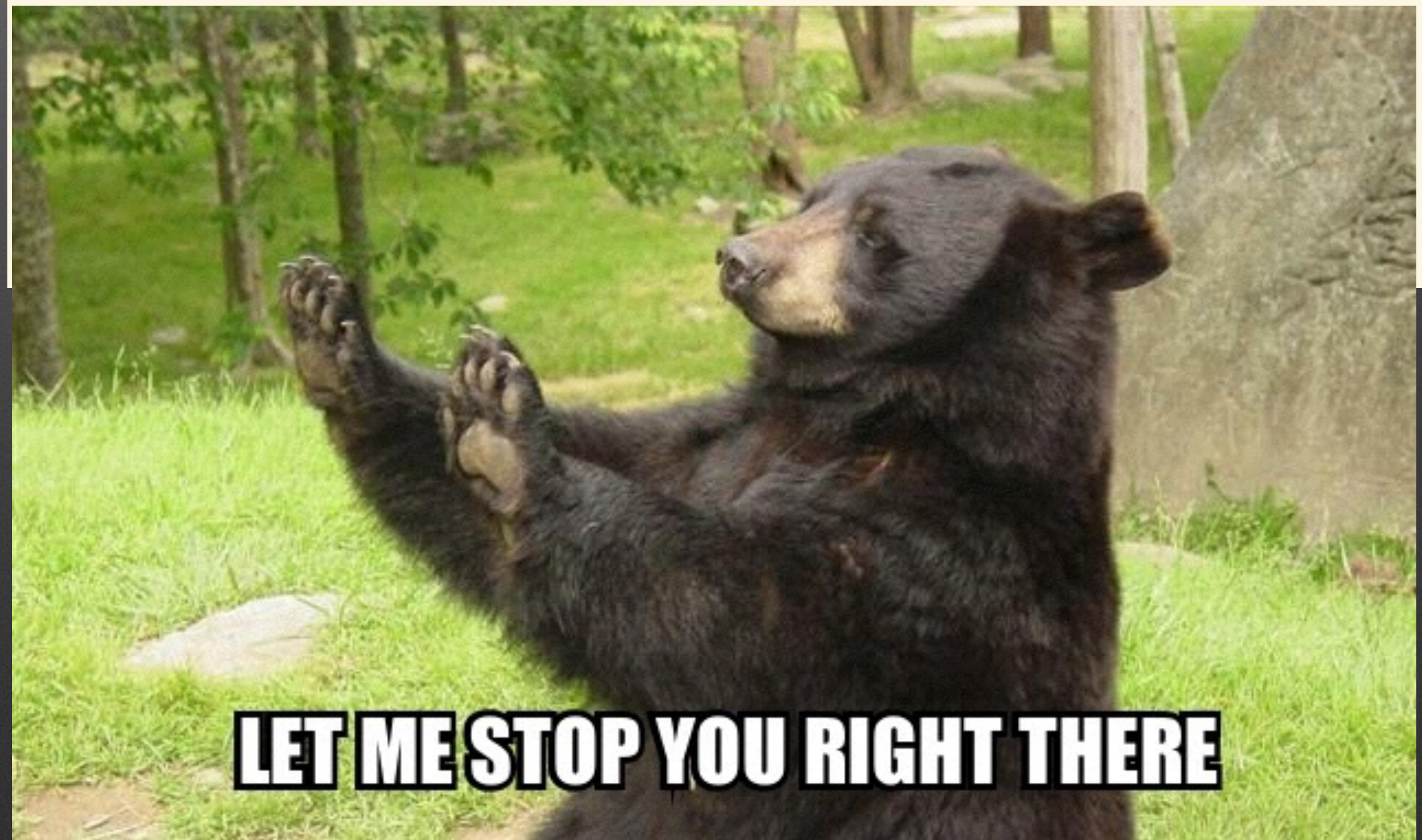
File Paths

- 'C:\Windows\system32'
- 'C:/Windows/system32'
- "C:\\Windows\\system32"
- What is the recommendation?
 - Always use forward slashes except when path is being given to a Windows program for evaluation.

Built-in Windows Package Provider

- Source is where the installer file is located
- Title must match exactly DisplayName
- Unicode characters may present an issue
- Not upgradeable
- Is there a better way?
 - Use Chocolatey provider instead.

```
package { "Git version 2.6.1":  
  ensure    => installed,  
  source     => 'C:\temp\Git-2.6.1-32-bit.exe',  
  install_options => ['/VERYSILENT']  
}
```

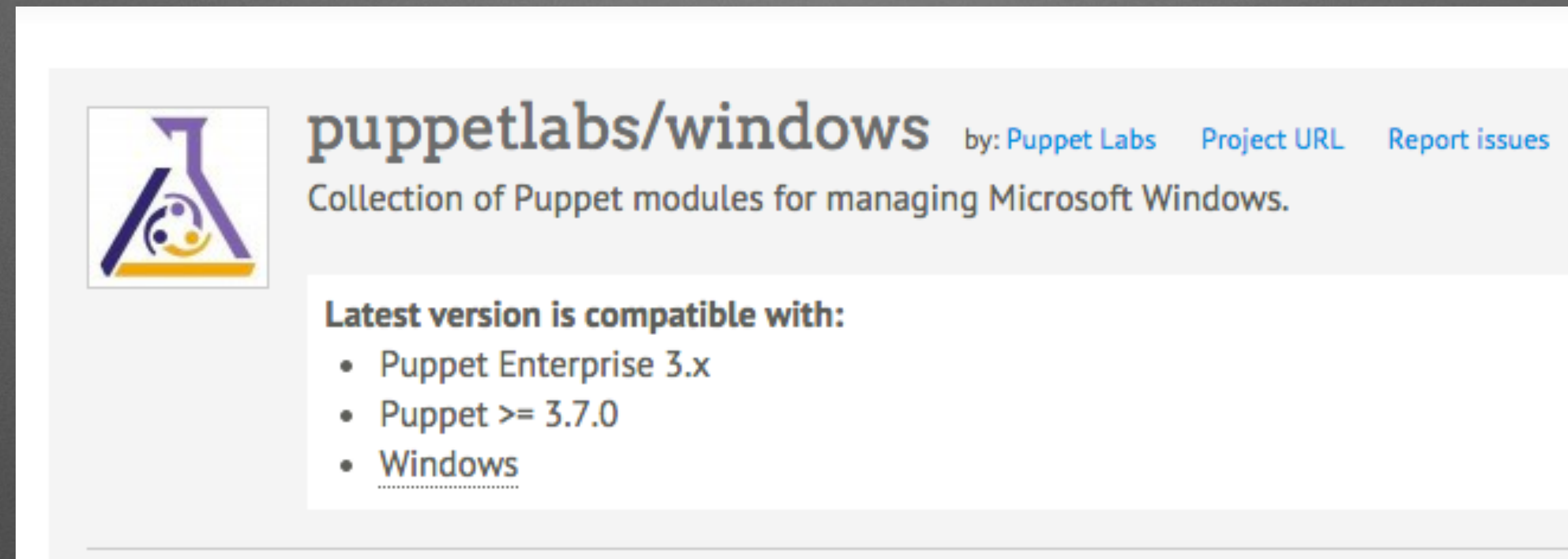


Chocolatey Package Provider

- Source is location for packages
- Title is the arbitrary name of the package
- Upgradeable / holdable
- Platform agnostic packaging
- Package resource default to provider
=> chocolatey for Windows.

```
package { "Git version 2.6.1":  
  ensure    => installed,  
  source     => 'C:\temp\Git-2.6.1-32-bit.exe',  
  install_options => ['/VERYSILENT']  
}  
  
package { 'git':  
  ensure    => latest,  
}
```


Windows Module Pack



- puppetlabs/registry
- puppetlabs/powershell
- puppetlabs/reboot
- puppetlabs/acl
- puppetlabs/wsus_client
- puppet/windowsfeature
- puppet/download_file
- puppet/iis
- chocolatey/chocolatey
- baderious/windows_env



Other Notable Windows Modules

- puppetlabs/dsc - PowerShell DSC Module



- cyberious/pget
- counsyl/windows
- 150+ Modules on the Forge supporting Windows!

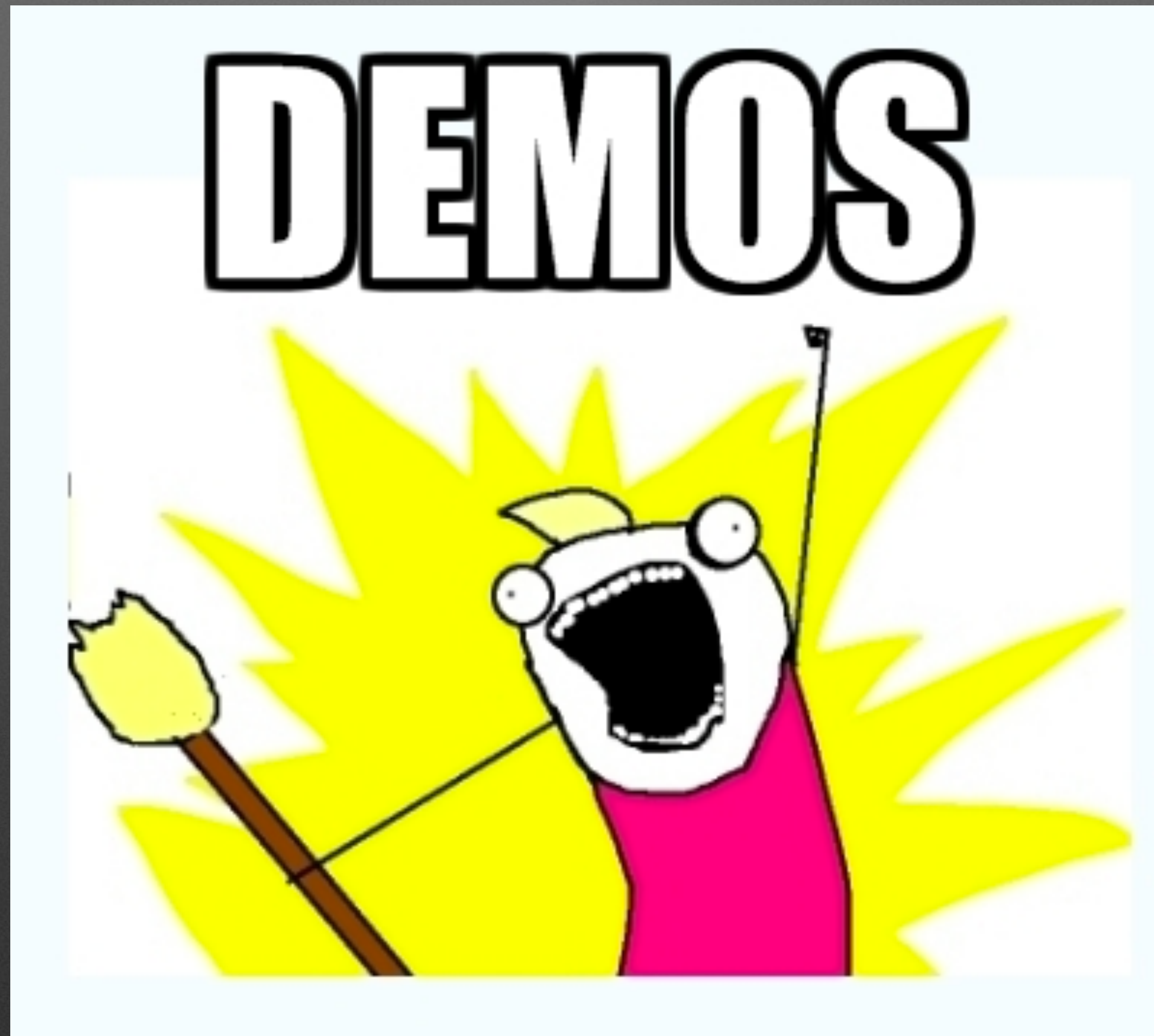
Core *Nix Resources

- › augeas
- › computer
- › cron
- › exec
- › file
- › filebucket
- › group
- › host
- › interface
- › k5login
- › macauthorization
- › mailalias
- › maillist
- › mcx
- › mount
- › nagios_command
- › nagios_contact
- › nagios_contactgroup
- › nagios_host
- › nagios_hostdependency
- › nagios_hostescalation
- › nagios_hostextinfo
- › nagios_hostgroup
- › nagios_service
- › nagios_servicedependency
- › nagios_serviceescalation
- › nagios_serviceextinfo
- › nagios_servicegroup
- › nagios_timeperiod
- › notify
- › package
- › resources
- › router
- › schedule
- › scheduled_task
- › selboolean
- › selmodule
- › service
- › ssh_authorized_key
- › sshkey
- › stage
- › tidy
- › user
- › vlan
- › yumrepo
- › zfs
- › zone
- › zpool

Windows Resources

- file
- user
- group
- scheduled_task
- package
- service
- exec
- host
- reboot
- acl
- windowsfeature
- windows_env
- iis:manage_site
- registry_key
- registry_value
- More w/modules

Demos



Questions / Reference

- <https://puppetlabs.com>
- <https://docs.puppetlabs.com>
- <https://docs.puppetlabs.com/windows>
- <https://forge.puppetlabs.com/puppetlabs/windows>
- @ferventcoder

