Puppet on Windows

Yes, it works.

Gabriel M. Schuyler

Hi.

Me:

- Professional Services engineer,
- Linux and Windows Admin,
- Keeping people honest.

You:

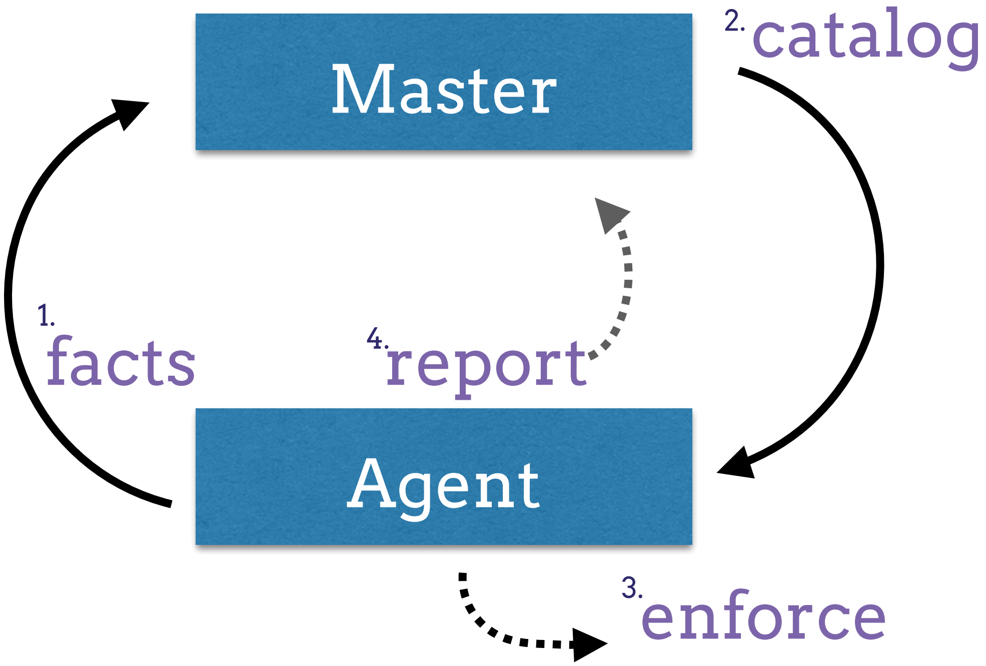
- Windows Admins?
- Puppet Users?

Overview

- Agents & Masters
- Built-In Types
- Package Management
- Service Management
- Managing the Registry
- Leveraging PowerShell
- Managing Reboots
- Using the Forge

Briefly

- Model individual "resources,"
- Grouped into reusable "classes."
- Compile a customized "catalog" so the
- Agent can enforce a "desired state"
- using the Resource Abstraction Layer.



Master

2. catalog

1. facts

4. report

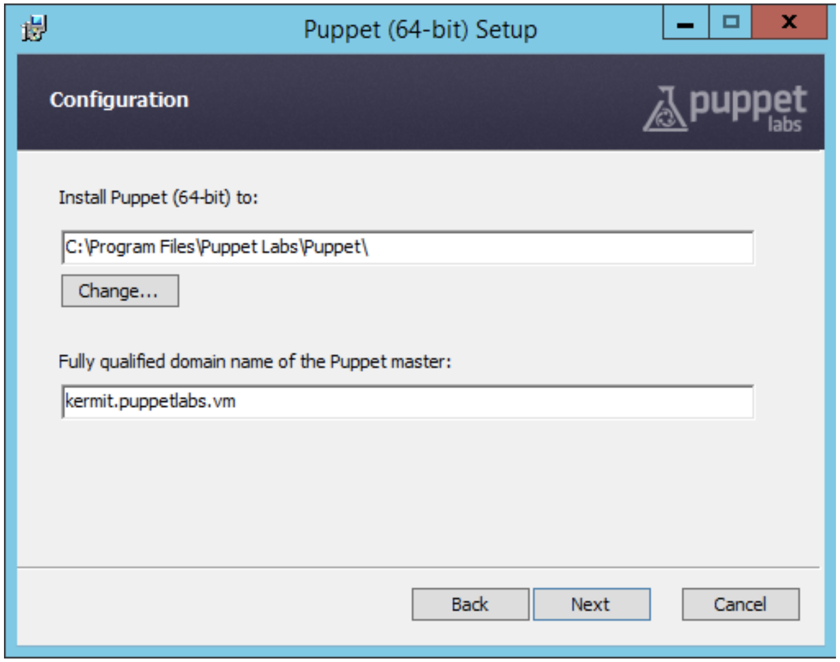
Agent

3. enforce

```
class render {

  user { 'wrangler':
    ensure => present,
    groups => ['Administrators']
  }
  package { 'maya3d':
    ensure => installed,
    provider => chocolatey,
  }
  file { 'C:/ProgramData/Maya':
    ensure => directory,
  }
  file { 'C:/ProgramData/Maya/lice
    ensure => file,
    source => 'puppet:///modules/r
  }
  service { 'maya-control':
    ensure => running,
    enable => true,
  }

}
```

Installation

Agent



Install Puppet (64-bit) to:

C:\Program Files\Puppet Labs\Puppet\

Fully qualified domain name of the Puppet master:

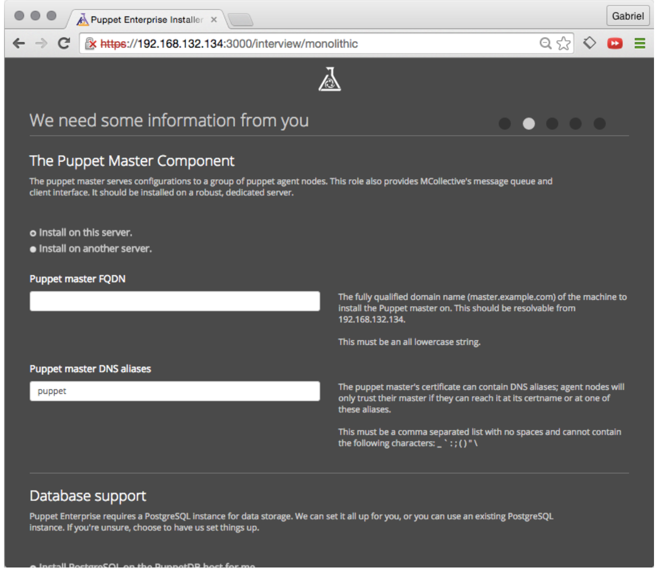
kermit.puppetlabs.vm

Master

free:

```
rpm -ivh http://yum.puppetlabs.com/...
yum install puppet-server
vi /etc/puppet/puppet.conf
# add firewall rules if needed
# start the services
```

enterprise:



https://192.168.132.134:3000/interview/monolithic

We need some information from you

The Puppet Master Component

The puppet master serves configurations to a group of puppet agent nodes. This role also provides MCollective's message queue and client interface. It should be installed on a robust, dedicated server.

○ Install on this server.

● Install on another server.

Puppet master FQDN

The fully qualified domain name (master.example.com) of the machine to install the Puppet master on. This should be resolvable from 192.168.132.134.

This must be an all lowercase string.

Puppet master DNS aliases: puppet

The puppet master's certificate can contain DNS aliases; agent nodes will only trust their master if they can reach it at its certname or at one of these aliases.

This must be a comma separated list with no spaces and cannot contain the following characters: _ ` : ; ( ) " \

Database support

Puppet Enterprise requires a PostgreSQL instance for data storage. We can set it all up for you, or you can use an existing PostgreSQL instance. If you're unsure, choose to have us set things up.

○ Install PostgreSQL on the PuppetDB host for me.

(10 nodes free)

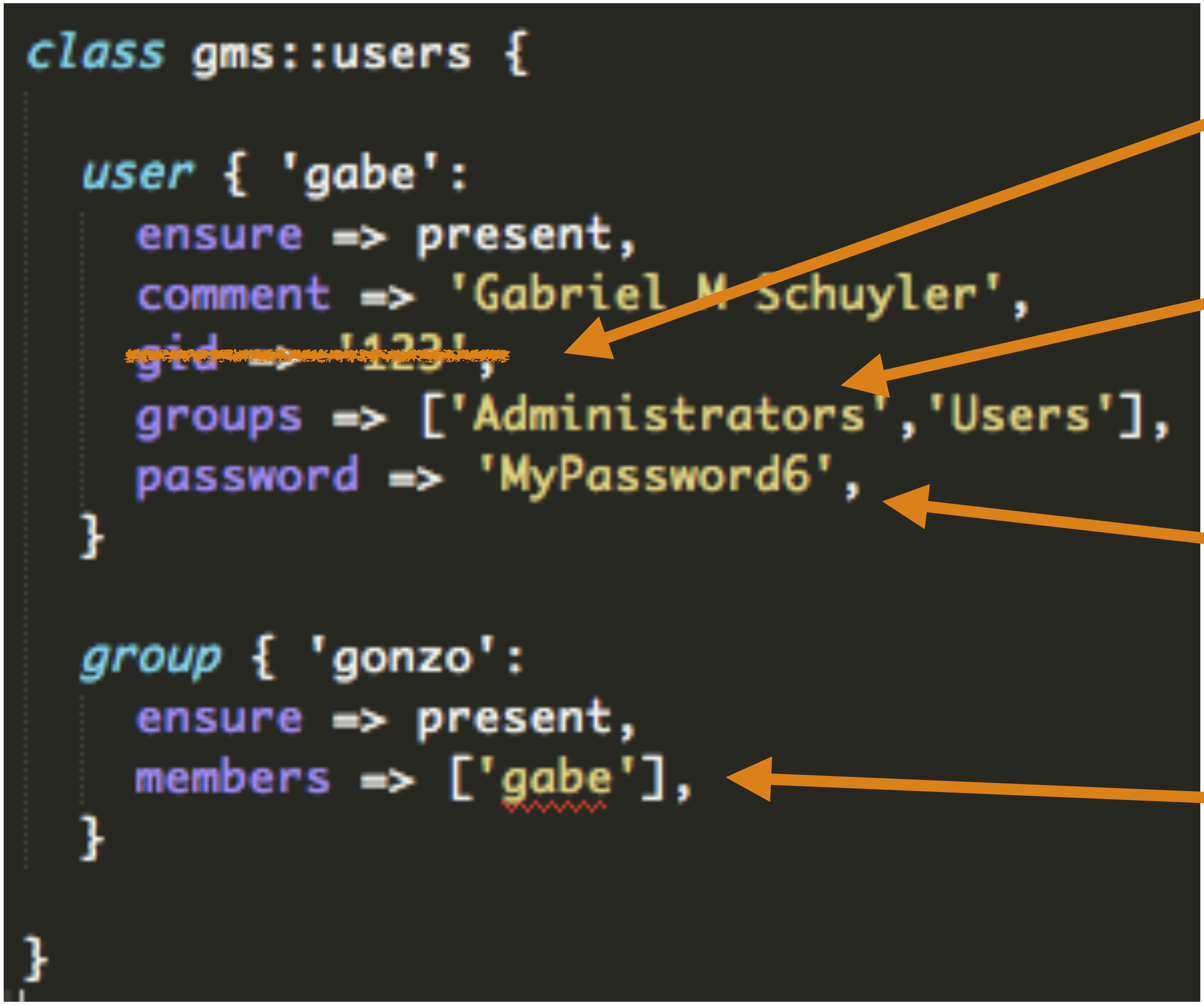
Command Prompt

```
puppet resource <type> [title]

puppet describe <type>

puppet apply <filename>

puppet agent -t
```

Built-In Types

"Mostly what you'd expect."

Users & Groups



```
class gms::users {

  user { 'gabe':
    ensure => present,
    comment => 'Gabriel M Schuyler',
    ~~gid => '123',~~
    groups => ['Administrators','Users'],
    password => 'MyPassword6',
  }

  group { 'gonzo':
    ensure => present,
    members => ['gabe'],
  }

}
```

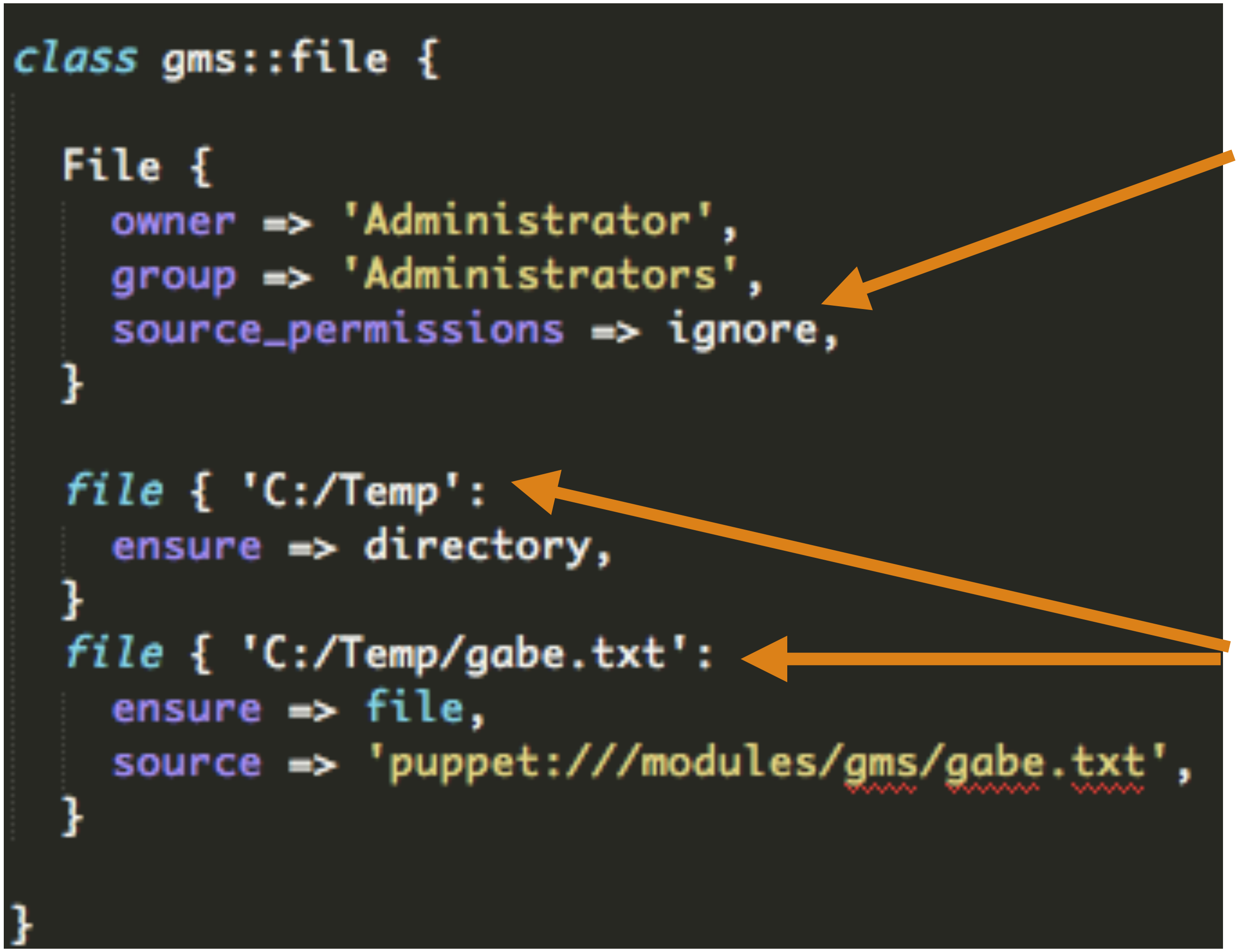
no 'gid'

'groups' instead

'password' required, to create

'groups' alternative

Files

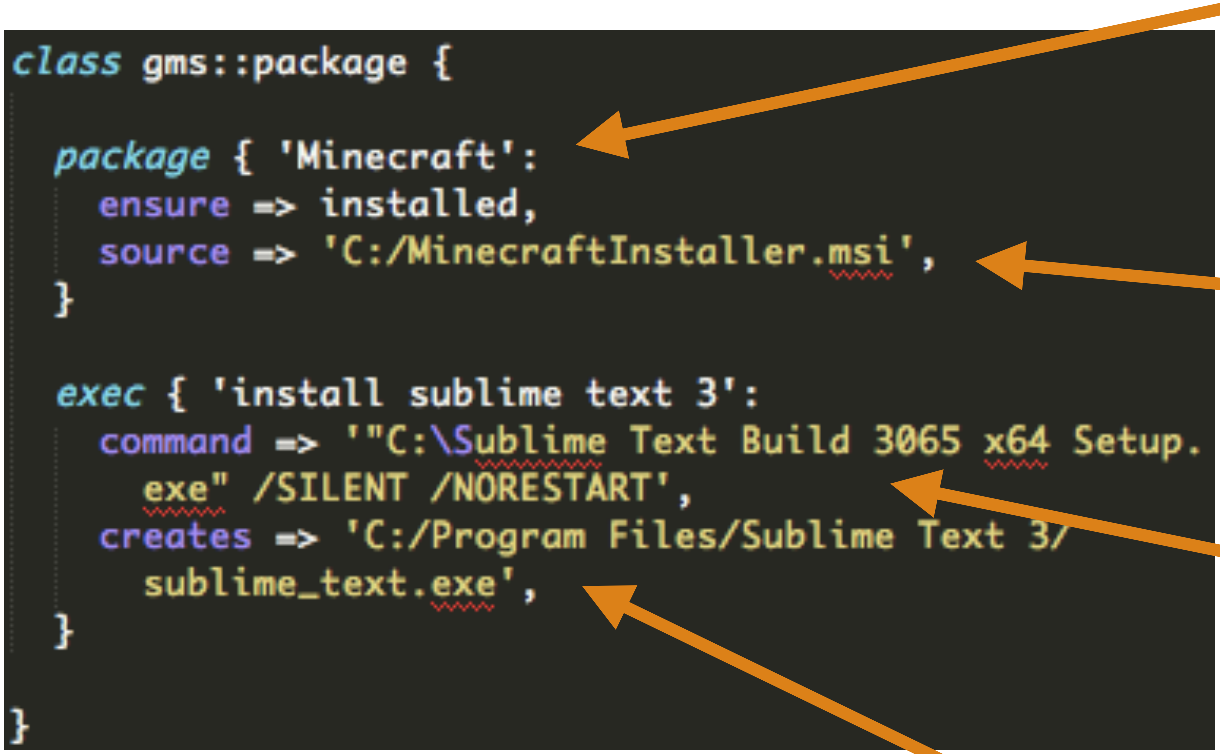


```
class gms::file {

  File {
    owner => 'Administrator',
    group => 'Administrators',
    source_permissions => ignore,
  }

  file { 'C:/Temp':
    ensure => directory,
  }
  file { 'C:/Temp/gabe.txt':
    ensure => file,
    source => 'puppet:///modules/gms/gabe.txt',
  }

}
```

don't try to use master's permissions

forward slashes & consistent capitalization

Packages



```
class gms::package {

  package { 'Minecraft':
    ensure => installed,
    source => 'C:/MinecraftInstaller.msi',
  }

  exec { 'install sublime text 3':
    command => '"C:\Sublime Text Build 3065 x64 Setup.
      exe" /SILENT /NORESTART',
    creates => 'C:/Program Files/Sublime Text 3/
      sublime_text.exe',
  }

}
```

must match DisplayName (in the registry)

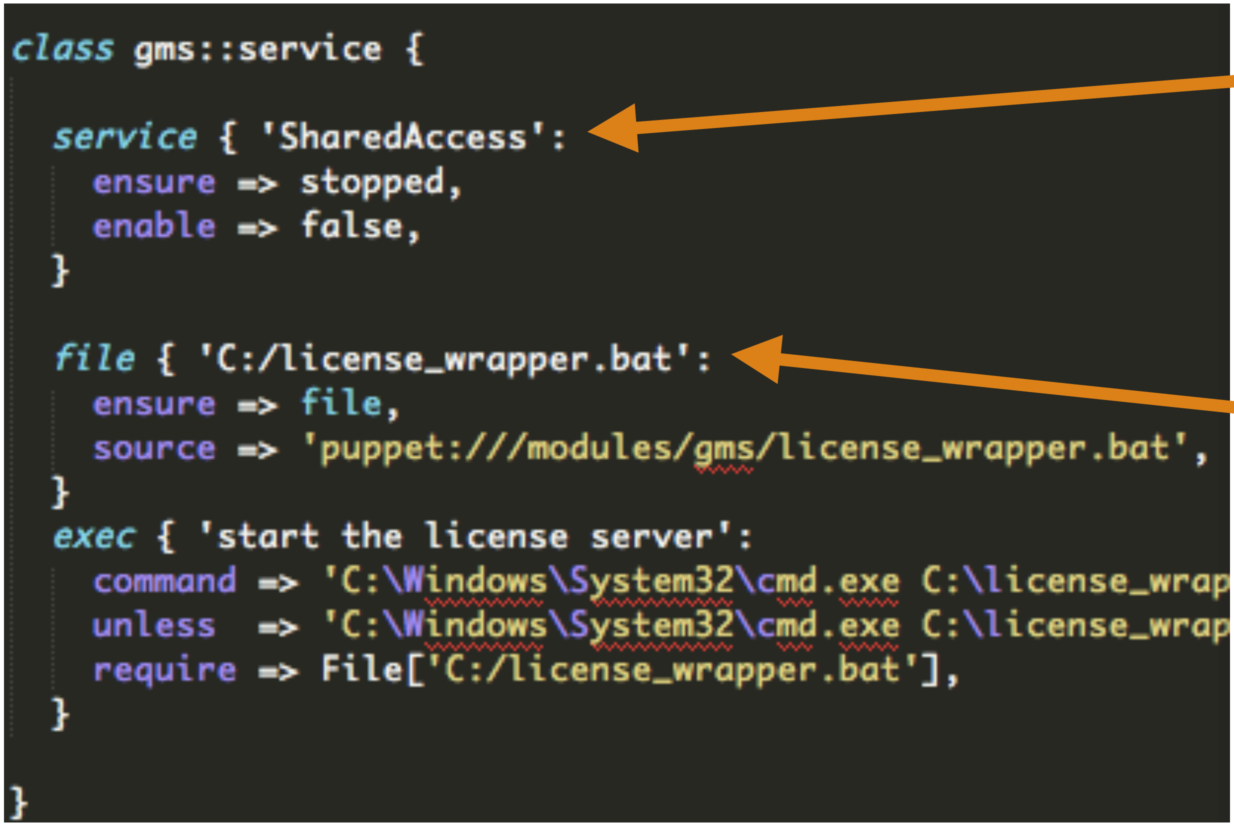
file on local disk or network mount

hardcoded command

best guess at whether it's installed

Don't panic! Help is on the way.

Services



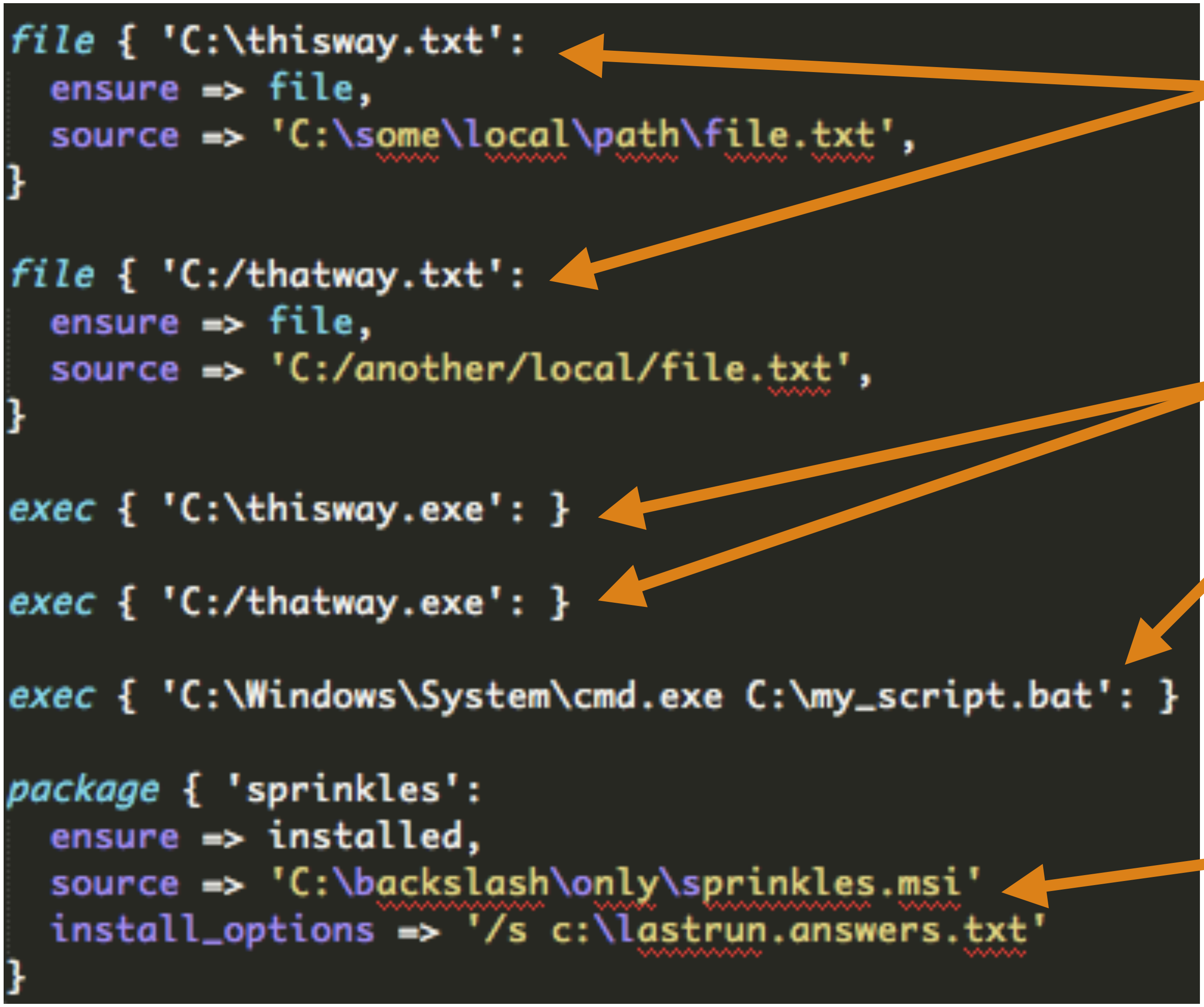
```
class gms::service {

  service { 'SharedAccess':
    ensure => stopped,
    enable => false,
  }

  file { 'C:/license_wrapper.bat':
    ensure => file,
    source => 'puppet:///modules/gms/license_wrapper.bat',
  }
  exec { 'start the license server':
    command => 'C:\Windows\System32\cmd.exe C:\license_wrap
    unless  => 'C:\Windows\System32\cmd.exe C:\license_wrap
    require => File['C:/license_wrapper.bat'],
  }

}
```

must match the Service Name

Do-it-yourself init script kludge

Start it, unless it's already running

Which Slash Where?



```
file { 'C:\thisway.txt':
  ensure => file,
  source => 'C:\some\local\path\file.txt',
}

file { 'C:/thatway.txt':
  ensure => file,
  source => 'C:/another/local/file.txt',
}

exec { 'C:\thisway.exe': }

exec { 'C:/thatway.exe': }

exec { 'C:\Windows\System\cmd.exe C:\my_script.bat': }

package { 'sprinkles':
  ensure => installed,
  source => 'C:\backslash\only\sprinkles.msi'
  install_options => '/s c:\lastrun.answers.txt'
}
```

Windows paths can be either way

Commands .. either way

but cmd.exe (e.g.) expects backslash

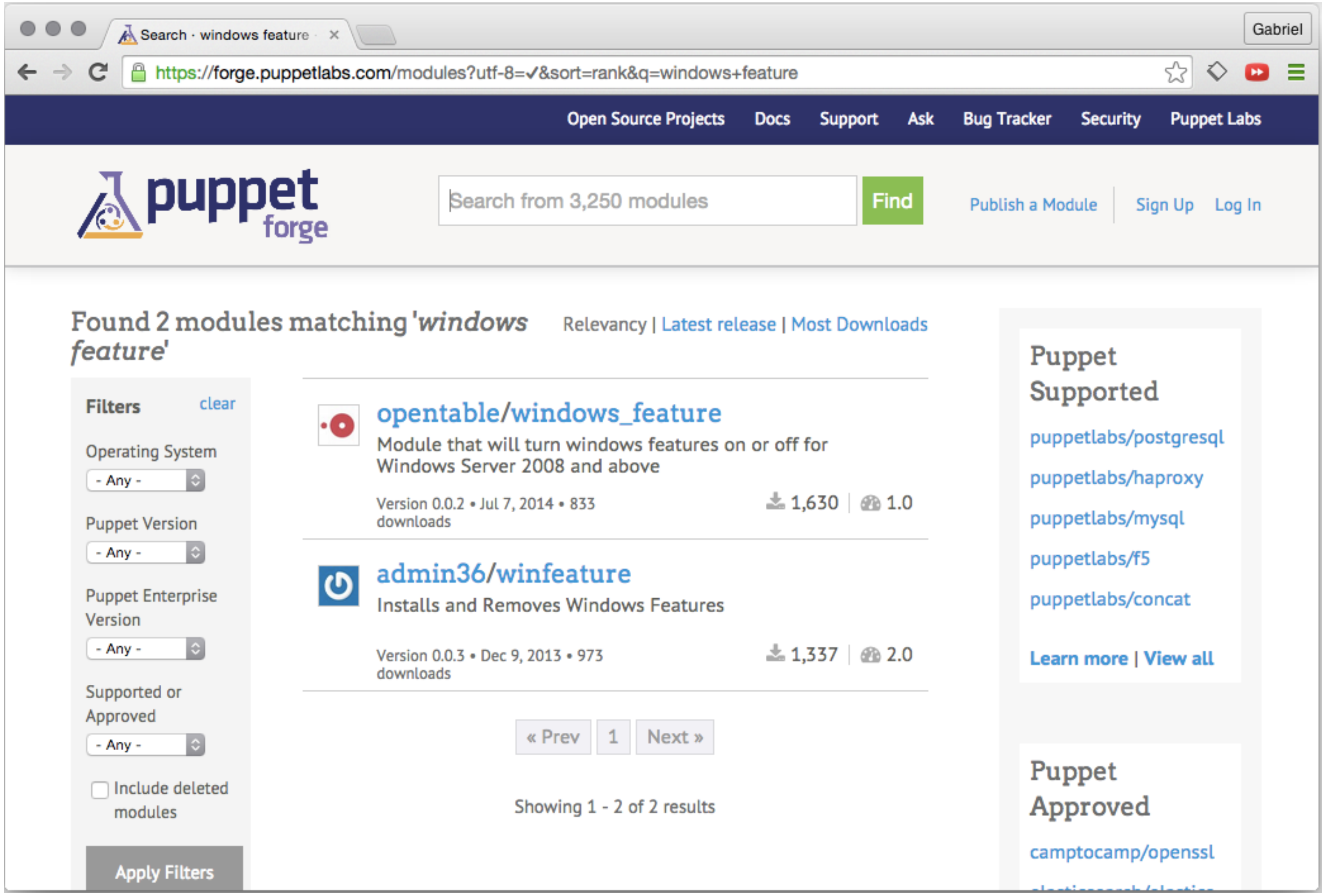
source and options must use backslash

Is there a drive letter? Use backslash.

Windows Specific

"Let's do some *real* administration, now."

The Forge


Search · windows feature ·
Gabriel
https://forge.puppetlabs.com/modules?utf-8=✓&sort=rank&q=windows+feature
Open Source Projects
Docs
Support
Ask
Bug Tracker
Security
Puppet Labs
puppet forge
Search from 3,250 modules
Find
Publish a Module
Sign Up
Log In

Found 2 modules matching '*windows feature*'

Relevancy | Latest release | Most Downloads

Filters clear

Operating System: - Any -

Puppet Version: - Any -

Puppet Enterprise Version: - Any -

Supported or Approved: - Any -

□ Include deleted modules

Apply Filters

opentable/windows_feature
Module that will turn windows features on or off for Windows Server 2008 and above
Version 0.0.2 • Jul 7, 2014 • 833 downloads
1,630 | 1.0

admin36/winfeature
Installs and Removes Windows Features
Version 0.0.3 • Dec 9, 2013 • 973 downloads
1,337 | 2.0

« Prev | 1 | Next »

Showing 1 - 2 of 2 results

Puppet Supported

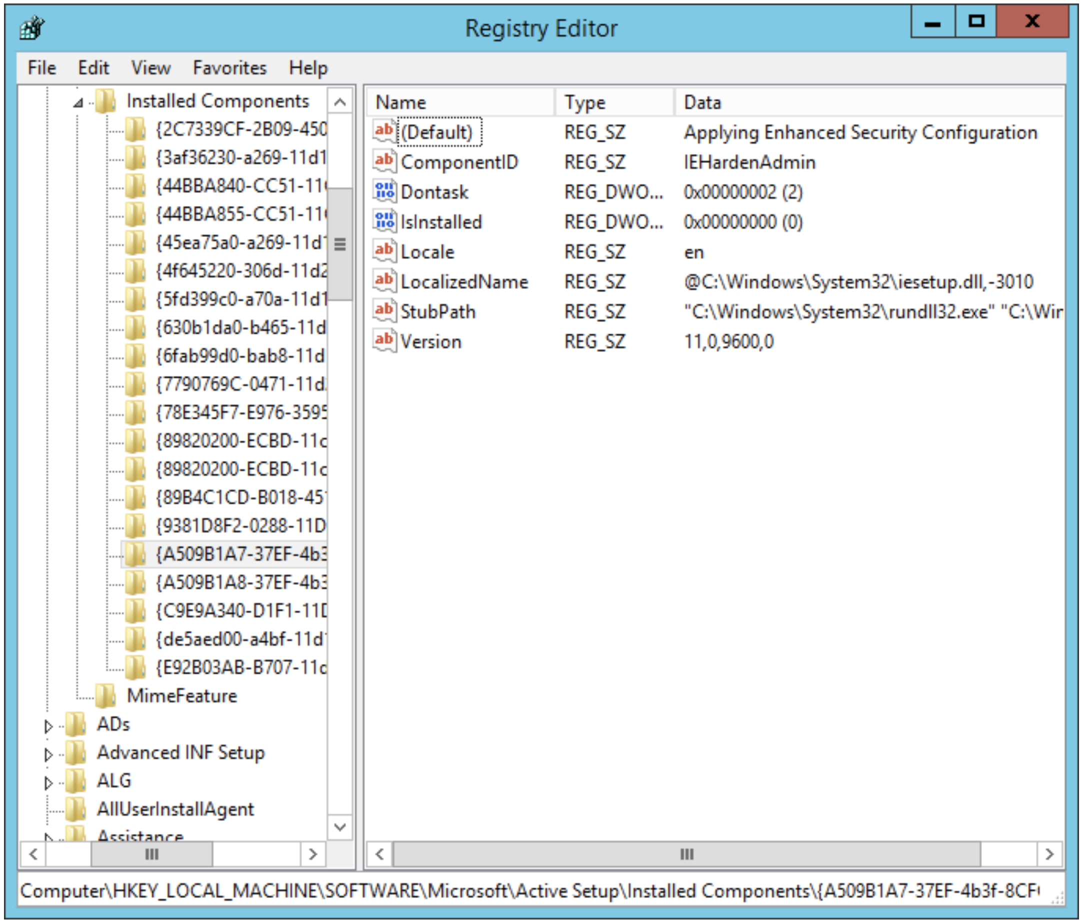
- puppetlabs/postgresql
- puppetlabs/haproxy
- puppetlabs/mysql
- puppetlabs/f5
- puppetlabs/concat

Learn more | View all

Puppet Approved

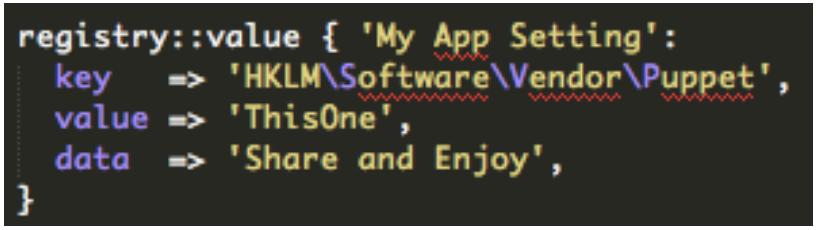
- camptocamp/openssl

puppetlabs-registry



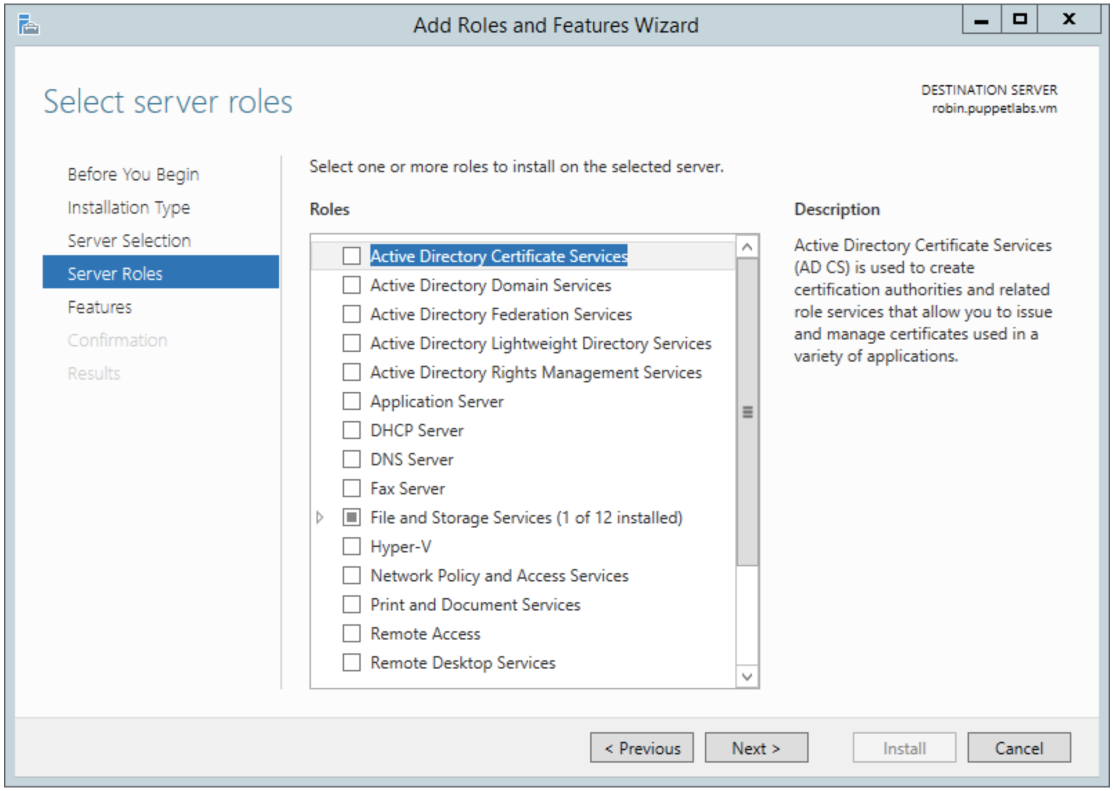
Name	Type	Data
(Default)	REG_SZ	Applying Enhanced Security Configuration
ComponentID	REG_SZ	IEHardenAdmin
Dontask	REG_DWO...	0x00000002 (2)
IsInstalled	REG_DWO...	0x00000000 (0)
Locale	REG_SZ	en
LocalizedName	REG_SZ	@C:\Windows\System32\iesetup.dll,-3010
StubPath	REG_SZ	"C:\Windows\System32\rundll32.exe" "C:\Wir
Version	REG_SZ	11,0,9600,0

Computer\HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Active Setup\Installed Components\{A509B1A7-37EF-4b3f-8CF



```
registry::value { 'My App Setting':
  key   => 'HKLM\Software\Vendor\Puppet',
  value => 'ThisOne',
  data  => 'Share and Enjoy',
}
```

puppetlabs-dism



Select server roles

DESTINATION SERVER
robin.puppetlabs.vm

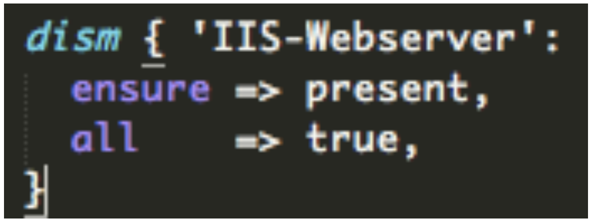
Select one or more roles to install on the selected server.

Roles

- □ Active Directory Certificate Services
- □ Active Directory Domain Services
- □ Active Directory Federation Services
- □ Active Directory Lightweight Directory Services
- □ Active Directory Rights Management Services
- □ Application Server
- □ DHCP Server
- □ DNS Server
- □ Fax Server
- ▣ File and Storage Services (1 of 12 installed)
- □ Hyper-V
- □ Network Policy and Access Services
- □ Print and Document Services
- □ Remote Access
- □ Remote Desktop Services

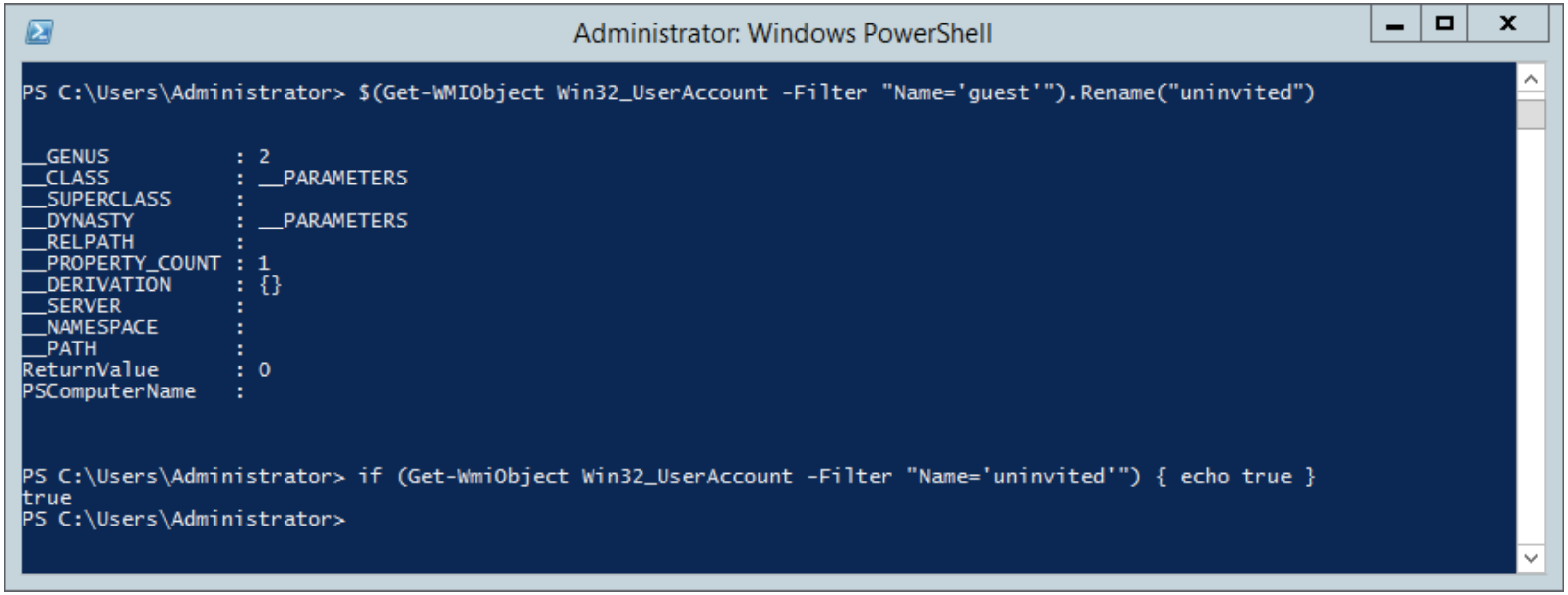
Description

Active Directory Certificate Services (AD CS) is used to create certification authorities and related role services that allow you to issue and manage certificates used in a variety of applications.



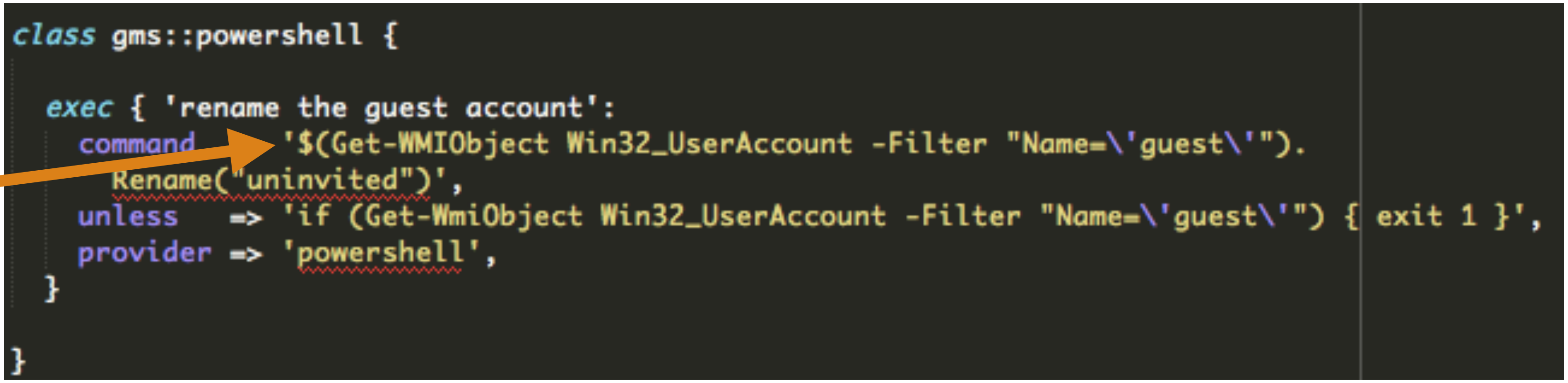
```
dism { 'IIS-Webserver':
  ensure => present,
  all    => true,
}
```

puppetlabs-powershell



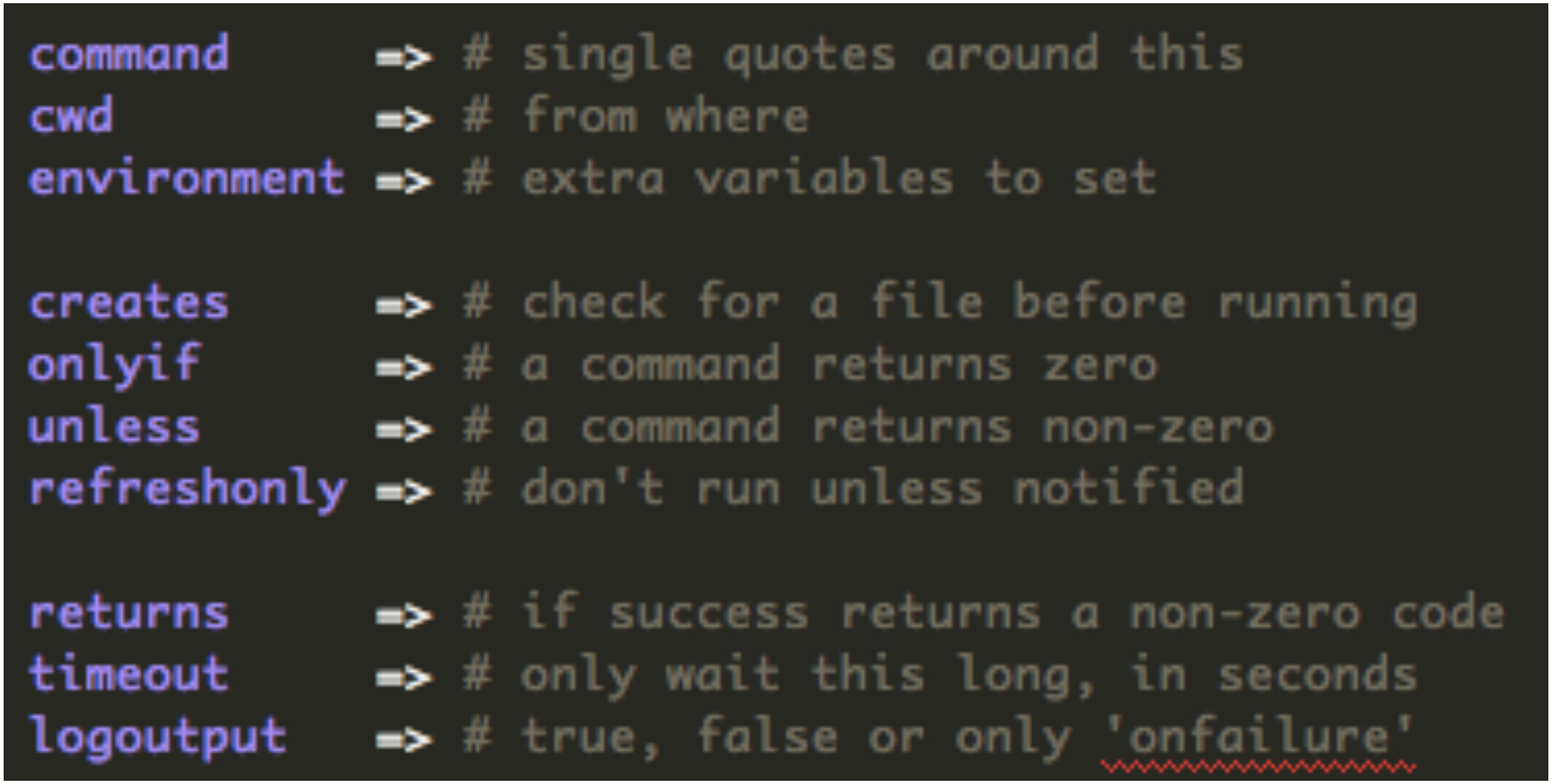
```
PS C:\Users\Administrator> $(Get-WMIObject Win32_UserAccount -Filter "Name='guest'").Rename("uninvited")


__GENUS          : 2
__CLASS          : __PARAMETERS
__SUPERCLASS     :
__DYNASTY        : __PARAMETERS
__RELPATH        :
__PROPERTY_COUNT : 1
__DERIVATION     : {}
__SERVER         :
__NAMESPACE      :
__PATH           :
ReturnValue      : 0
PSComputerName   :



PS C:\Users\Administrator> if (Get-WmiObject Win32_UserAccount -Filter "Name='uninvited'") { echo true }
true
PS C:\Users\Administrator>
```

single
quoted
'command'



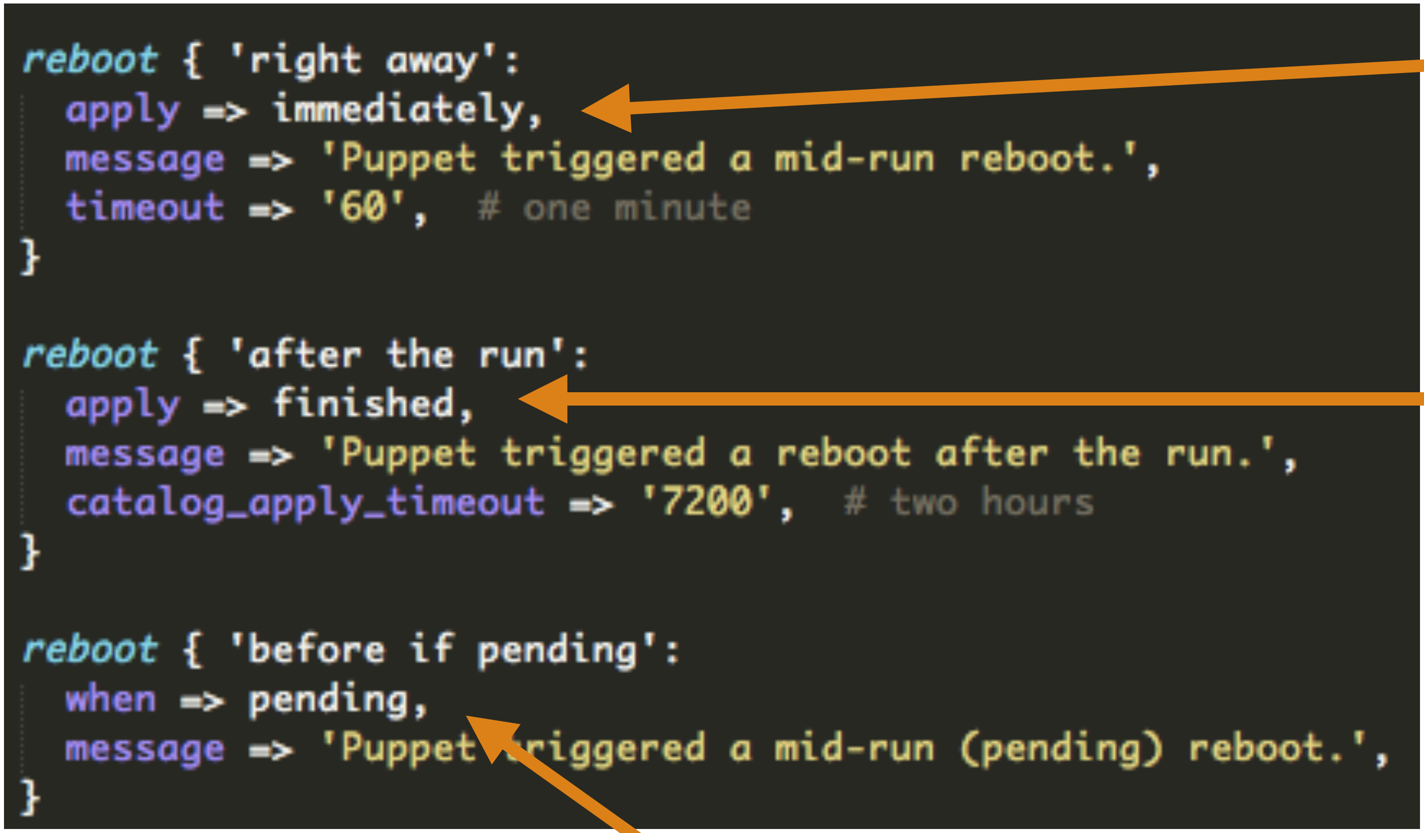
```
class gms::powershell {

  exec { 'rename the guest account':
    command     '$(Get-WMIObject Win32_UserAccount -Filter "Name=\'guest\'").
      Rename("uninvited")',
    unless   => 'if (Get-WmiObject Win32_UserAccount -Filter "Name=\'guest\'") { exit 1 }',
    provider => 'powershell',
  }

}
```

puppetlabs-powershell



```
command     => # single quotes around this
cwd         => # from where
environment => # extra variables to set

creates     => # check for a file before running
onlyif      => # a command returns zero
unless      => # a command returns non-zero
refreshonly => # don't run unless notified

returns     => # if success returns a non-zero code
timeout     => # only wait this long, in seconds
logoutput   => # true, false or only 'onfailure'
```

puppetlabs-reboot



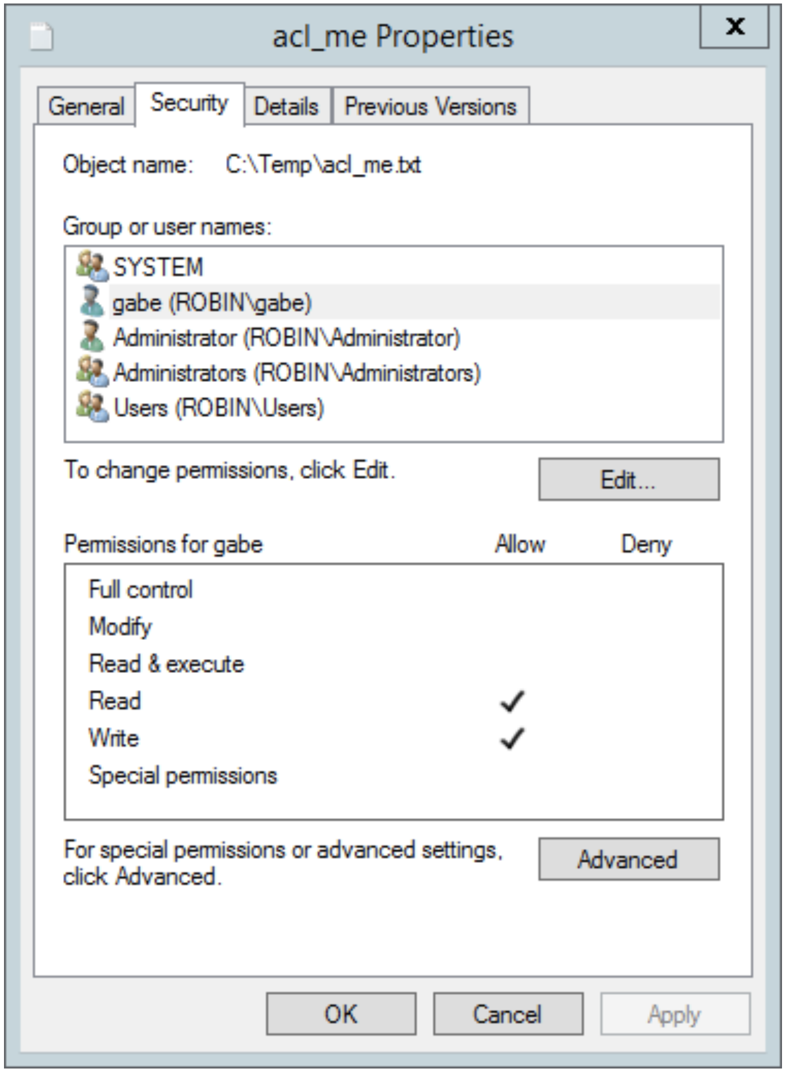
```
reboot { 'right away':
  apply => immediately,
  message => 'Puppet triggered a mid-run reboot.',
  timeout => '60',   # one minute
}

reboot { 'after the run':
  apply => finished,
  message => 'Puppet triggered a reboot after the run.',
  catalog_apply_timeout => '7200',   # two hours
}

reboot { 'before if pending':
  when => pending,
  message => 'Puppet triggered a mid-run (pending) reboot.',
}
```

skip the rest,
do it *now*.

it can wait ..

if someone said "it can wait,"
skip the rest and do it now *anyway*.

puppetlabs-acl



Object name: C:\Temp\acl_me.txt

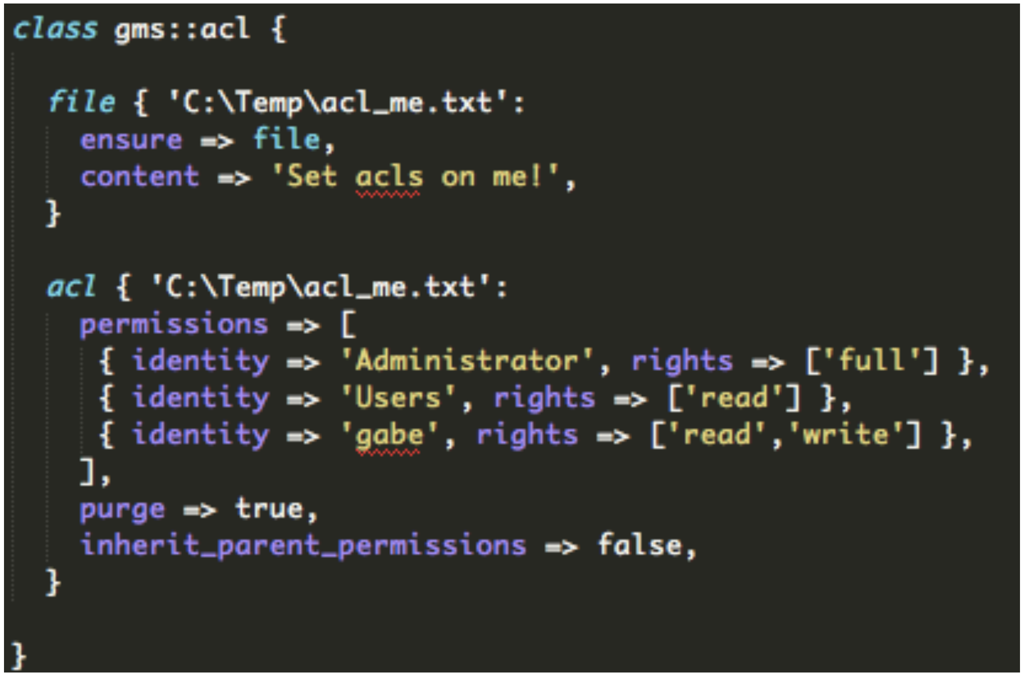
Group or user names:

- SYSTEM
- gabe (ROBIN\gabe)
- Administrator (ROBIN\Administrator)
- Administrators (ROBIN\Administrators)
- Users (ROBIN\Users)

To change permissions, click Edit.

Permissions for gabe	Allow	Deny
Full control		
Modify		
Read & execute		
Read	✓	
Write	✓	
Special permissions		

For special permissions or advanced settings, click Advanced.



```
class gms::acl {

  file { 'C:\Temp\acl_me.txt':
    ensure => file,
    content => 'Set acls on me!',
  }

  acl { 'C:\Temp\acl_me.txt':
    permissions => [
     { identity => 'Administrator', rights => ['full'] },
     { identity => 'Users', rights => ['read'] },
     { identity => 'gabe', rights => ['read','write'] },
    ],
    purge => true,
    inherit_parent_permissions => false,
  }

}
```

.. And More

liamjbennet-windows_autoupdate

liamjbennet-windows_firewall

trlinkin-domain_membership

opentable-iis

puppetlabs-sqlserver

nanliu-staging

Send Help

- Add windows compatibility -- or editions.
- Replace the "install and run away screaming" modules.
- Add more features that can be managed.

"Pull requests welcome."

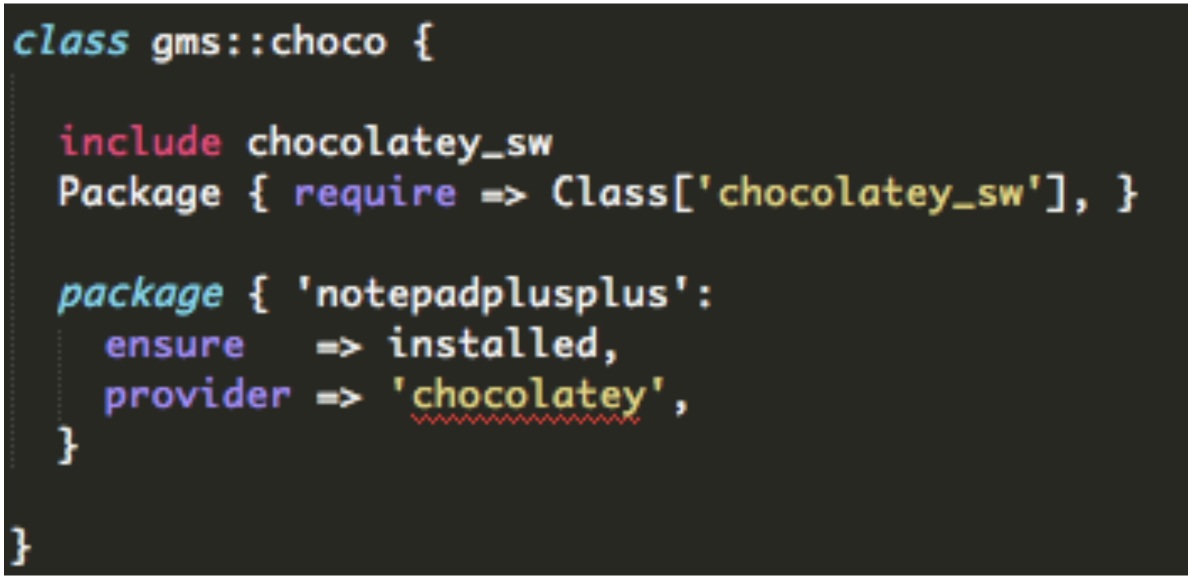
Tools

"When all you have is a hammer."

Package Management

chocolatey

www.chocolatey.org



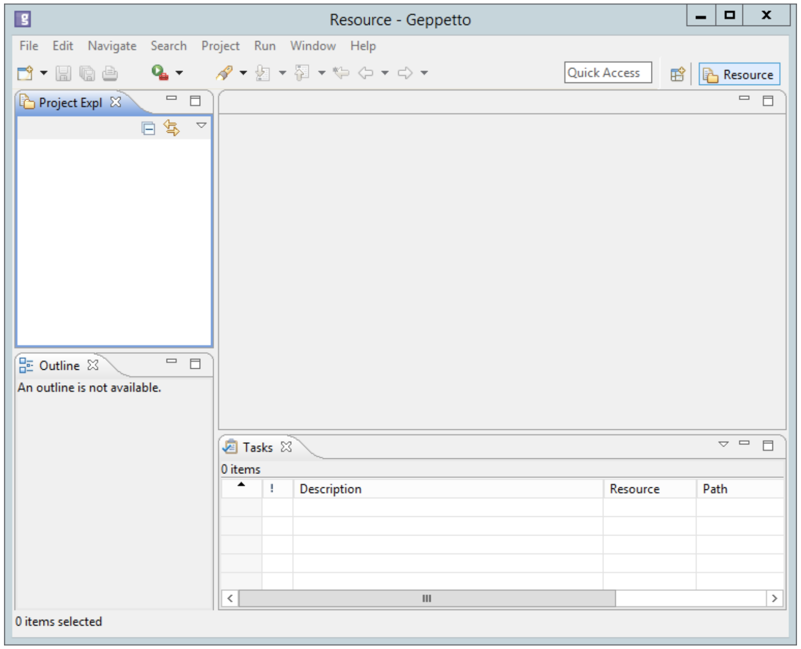
```
class gms::choco {

  include chocolatey_sw
  Package { require => Class['chocolatey_sw'], }

  package { 'notepadplusplus':
    ensure   => installed,
    provider => 'chocolatey',
  }

}
```

forge: ceritsc-chocolatey_sw

forge: rismoney-chocolatey

Coding

Geppetto



An outline is not available.

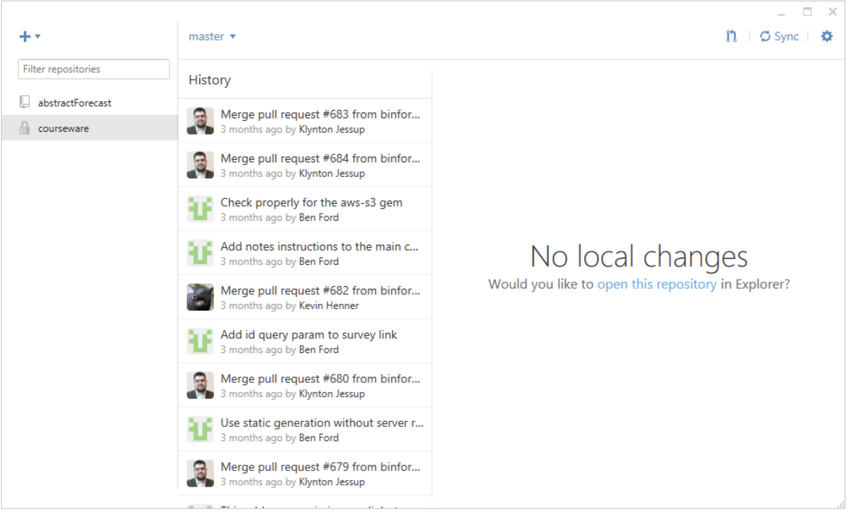
0 items

!	Description	Resource	Path

0 items selected

puppetlabs.github.io/geppetto/

GitHub



Merge pull request #683 from binfor...
3 months ago by Klynton Jessup

Merge pull request #684 from binfor...
3 months ago by Klynton Jessup

Check properly for the aws-s3 gem
3 months ago by Ben Ford

Add notes instructions to the main c...
3 months ago by Ben Ford

Merge pull request #682 from binfor...
3 months ago by Kevin Henner

Add id query param to survey link
3 months ago by Ben Ford

Merge pull request #680 from binfor...
3 months ago by Klynton Jessup

Use static generation without server r...
3 months ago by Ben Ford

Merge pull request #679 from binfor...
3 months ago by Klynton Jessup

No local changes

Would you like to open this repository in Explorer?

windows.github.com

Community

www.puppetlabs.com/community/PUG

www.puppetlabs.com/ptp

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@gabe_sky

github.com/fnaard/cascadia-puppetcode