

Deploying WebPageTest

Justin Phelps | @Linuturk

SALTCONF 15



About Me



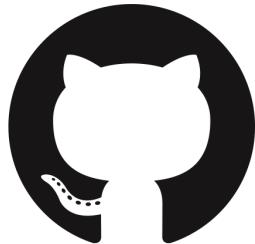
Linuturk on Twitter & Github onitato.com

Follow Along

States: github.com/linuturk/webpagetest

Slides: onitato.com

About WebPageTest



Browsers / Devices



Web Page Performance Test for www.onitato.com

From: Chicago, IL - Chrome - Cable
1/13/2015, 5:04:17 PM



[Summary](#) [Details](#) [Performance Review](#) [Content Breakdown](#) [Domains](#) [Screen Shot](#)

Tester: CHICAGO-198.38.92.101

[Re-run the test](#)

[Raw page data - Raw object data](#)

[Export HTTP Archive \(.har\)](#)

[See in ShowSlow](#)

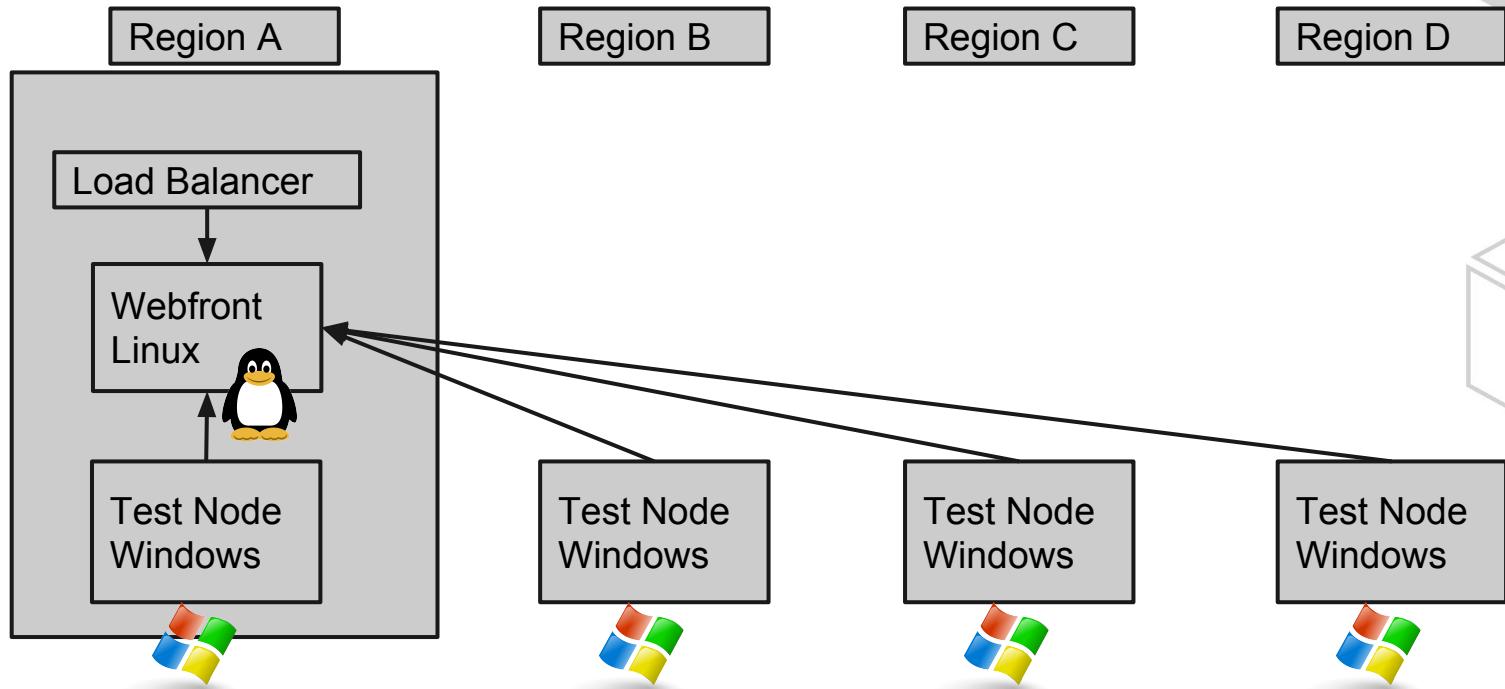
[View Test Log](#)

	Load Time	First Byte	Start Render	Speed Index	DOM Elements	Document Complete			Fully Loaded		
						Time	Requests	Bytes In	Time	Requests	Bytes In
First View	3.747s	1.192s	3.262s	3304	269	3.747s	20	68 KB	4.025s	20	152 KB
Repeat View	0.721s	0.649s	0.576s	604	269	0.721s	1	0 KB	0.721s	1	0 KB

Waterfall		Screen Shot	Video
First View (3.747s)		 Linuturk's Natter No Hassle Blog Automation Redux ...is it the official blog for Linuturk's Natter? I have decided to make my blog official in this section because I have been getting a lot of traffic from search engines. Many people are not sure what this blog exactly describes the web site and I am not sure either. So I have decided to make this blog official. Requirements There are two requirements for this setup: • A blog • A blog plugin • Global account • Other informational knowledge • The blog must have my username . Bugs There are two options here for using themes. Recent Filmstrip View Watch Video	
Repeat View (0.721s)		 Linuturk's Natter No Hassle Blog Automation Redux ...is it the official blog for Linuturk's Natter? I have decided to make my blog official in this section because I have been getting a lot of traffic from search engines. Many people are not sure what this blog exactly describes the web site and I am not sure either. So I have decided to make this blog official. Requirements There are two requirements for this setup: • A blog • A blog plugin • Global account • Other informational knowledge • The blog must have my username . Bugs There are two options here for using themes. Recent Filmstrip View Watch Video	



Private Instance Architecture



The Easy Parts



Salt-Cloud

Providers

Profiles

Maps

Salt Cloud - Provider

```
1 my-rackspace-config:  
2     # Set the location of the salt-master  
3     #  
4     minion:  
5         master: <IP or Hostname>  
6  
7         # Configure Rackspace using the OpenStack plugin  
8         #  
9         identity_url: 'https://identity.api.rackspacecloud.com/v2.0/tokens'  
10        compute_name: cloudServersOpenStack  
11        protocol: ipv4  
12  
13        # Set the compute region:  
14        #  
15        compute_region: IAD  
16  
17        # Configure Rackspace authentication credentials  
18        #  
19        user: <username>  
20        tenant: <tenant>  
21        apikey: <apikey>  
22  
23        provider: openstack
```

Salt Cloud - Profile

```
1 wpt-linux:
2     provider: my-rackspace-config
3     size: 2 GB Performance
4     image: Ubuntu 14.04 LTS (Trusty Tahr) (PVHVM)
5 wpt-windows:
6     provider: my-rackspace-config
7     size: 4 GB Performance
8     image: 59901295-8ae6-4ab4-a697-01261799c8ac
9     win_installer: /root/Salt-Minion-2014.1.7-AMD64-Setup.exe
10    files:
11        'C:\cloud-automation\bootstrap.cmd':
12            /root/bootstrap.cmd
13    grains:
14        wpt_location: Location
15        wpt_label: Label
16        wpt_group: Group
17        wpt_browsers: "Chrome,Firefox,IE"
```

Salt Cloud - Bootstrap

```
1 netsh advfirewall firewall add rule name="SaltBootstrap" dir=in protocol=TCP localport=445 action=allow
```

```
1 $CurrentVal = Get-NetFirewallRule -DisplayName SaltBootstrap
2
3 if ($CurrentVal.Enabled -eq "True") {
4     Disable-NetFirewallRule -DisplayName SaltBootstrap
5     Write-Output "changed=yes comment='Port 445 Disabled.'"
6 } Else {
7     Write-Output "changed=no comment='Port 445 Already Disabled.'"
8 }
```

Salt Cloud - Map File

```
1 wpt-linux:  
2     - web01.webpagetest.example.com  
3     - web02.webpagetest.example.com  
4 wpt-windows:  
5     - win01.webpagetest.example.com  
6     - win02.webpagetest.example.com
```

Pillar

```
1 webpagetest:
2   sitename: "webpagetest.example.com"
3   zipurl: "https://github.com/WPO-Foundation/webpagetest/releases/do"
4   zipsha: "sha256=19ee9df78205f99153c6fa80b6e6e98394cc680c4a9e13b31b
5   http: "apache2" # nginx or apache2
6   php: "php5" # php5 or php5-fpm
7   win:
8     user: "webpagetest"
9     pass: "changeme"
10    install_dir: 'C:\webpagetest'
11    temp_dir: 'C:\wpttemp'
12    zip_file: "webpagetest_2.15.zip"
13 packages:
14   - imagemagick
15   - libimage-exiftool-perl
16   - libjpeg-turbo-progs
17   - php5-curl
18   - php5-gd
19   - php5-sqlite
20   - php5-apcu
21   - python-software-properties
22   - unzip
```

Pillar

```
23   phpvars:
24     upload_max_filesize: "12M"
25     post_max_size: "12M"
26     memory_limit: "512M"
27     fpm: "unix:/var/run/php5-fpm.sock"
28   settings:
29     product: "WebPageTest"
30     contact: "contact@domain.com"
31     maxruns: 9
32     allowPrivate: 0
33     key: "changeme" #Do not use an & in your key
34   locations:
35     - name: TestLocation
36       label: TestLabel
37       group: TestGroup
38       browsers: "Chrome,Firefox,IE"
39       drivers:
40         - wptdriver
41         - urlblast
42       default: True
```

Powershell States

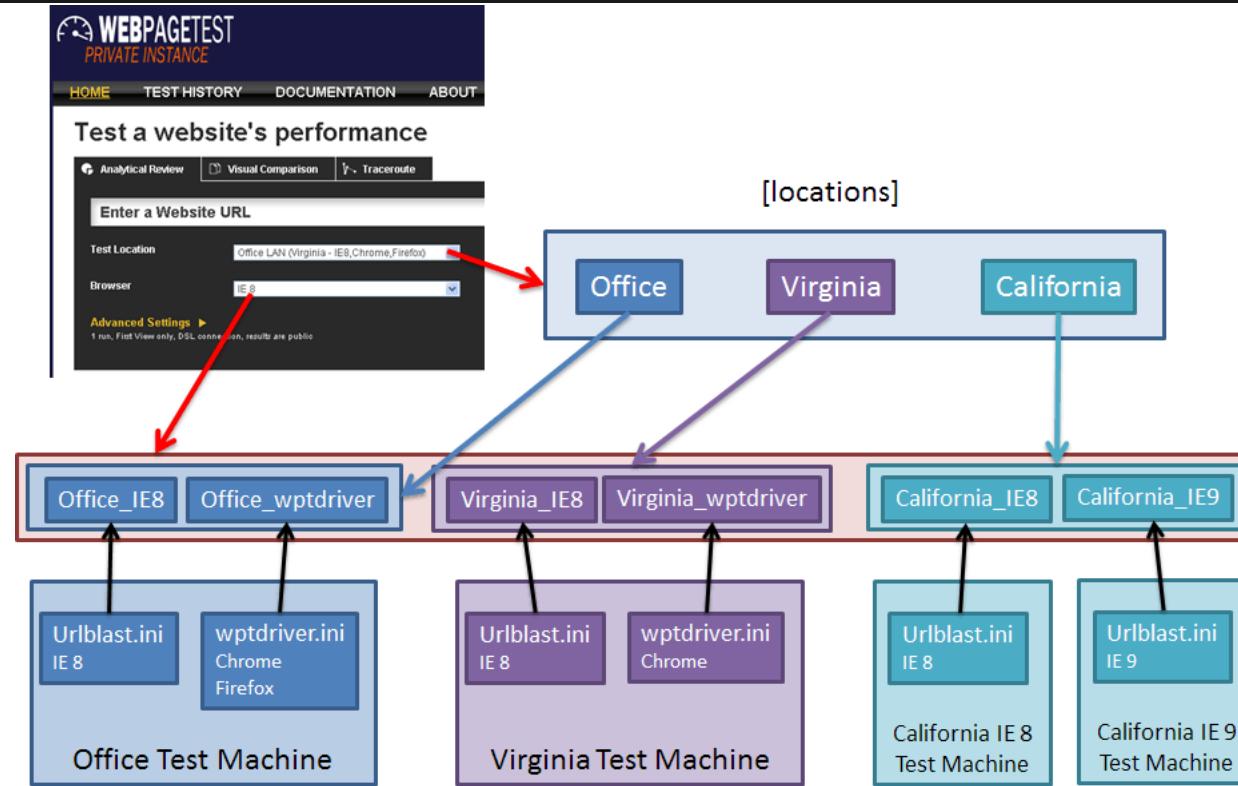
```
1 close-port-445:  
2   cmd.script:  
3     - source: salt://webpagetest/powershell/Set-ClosePort445.ps1  
4     - shell: powershell  
5     - stateful: True
```

```
1 $CurrentVal = Get-NetFirewallRule -DisplayName SaltBootstrap  
2  
3 if ($CurrentVal.Enabled -eq "True") {  
4   Disable-NetFirewallRule -DisplayName SaltBootstrap  
5   Write-Output "changed=yes comment='Port 445 Disabled.'"  
6 } Else {  
7   Write-Output "changed=no comment='Port 445 Already Disabled.'"  
8 }
```

WebPageTest Challenges



Configuring Locations



Configuring Locations

Pillar	Grains
webpagetest.locations.name	wpt_location
webpagetest.locations.label	wpt_label
webpagetest.locations.group	wpt_group
webpagetest.locations.browsers	wpt_browsers

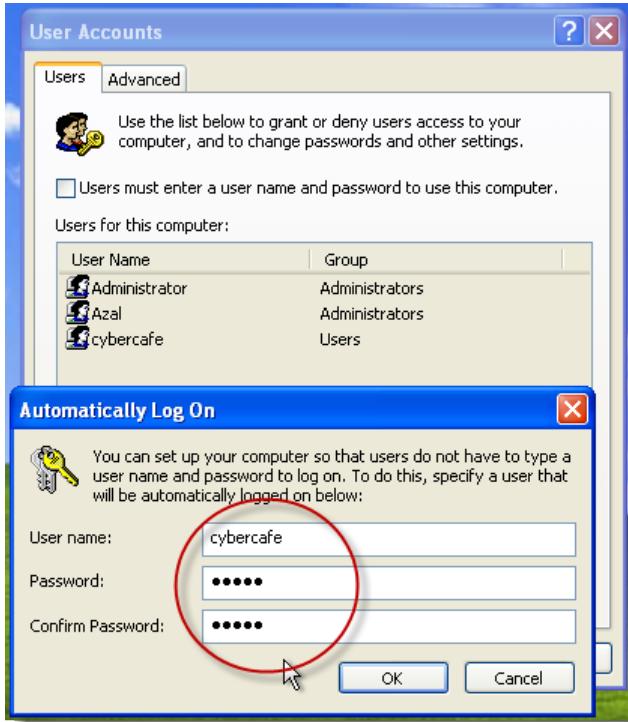
```
34   locations:
35     - name: TestLocation
36       label: TestLabel
37       group: TestGroup
38       browsers: "Chrome,Firefox,IE"
39       drivers:
40         - wptdriver
41         - urlblast
42       default: True
43
44   windows:
45     provider: my-rackspace-config
46     size: 4 GB Performance
47     image: 59901295-8ae6-4ab4-a697-01261799c
48     win_installer: /root/Salt-Minion-2014.1.
49     files:
50       'C:\cloud-automation\bootstrap.cmd':
51         /root/bootstrap.cmd
52     grains:
53       wpt_location: Location
54       wpt_label: Label
55       wpt_group: Group
56       wpt_browsers: "Chrome,Firefox,IE"
```

Xen + DummyNET Driver



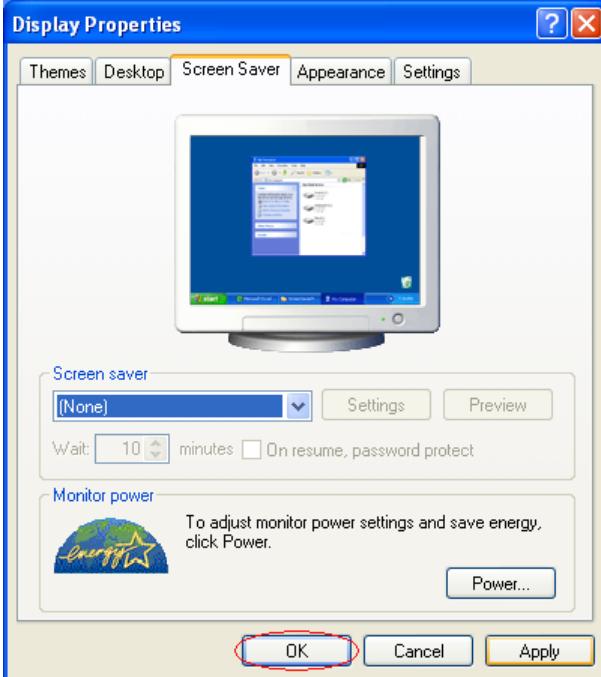
UPPSALA
UNIVERSITET

Auto Logon



```
1 $LogonPath = 'HKLM:\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon'
2 $LastUser = 'HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\Authentication\LogonUI'
3 $Domain = "{$grains.host}"
4 $Username = "{$pillar['webpagetest']['win']['user']}"
5 $Password = "{$pillar['webpagetest']['win']['pass']}"
6
7 $CurrentVal = Get-ItemProperty -Path $LogonPath -Name AutoAdminLogon
8
9 If ($CurrentVal.AutoAdminLogon -eq "1") {
10     $CurrentUser = Get-ItemProperty -Path $LogonPath -Name DefaultUserName
11     $CurrentPass = Get-ItemProperty -Path $LogonPath -Name DefaultPassword
12
13     If ($CurrentUser.DefaultUserName -ne $Username -Or $CurrentPass.DefaultPassword -ne $Password) {
14         Set-ItemProperty -Path $LogonPath -Name DefaultUserName -Value "$Username"
15         Set-ItemProperty -Path $LogonPath -Name DefaultPassword -Value "$Password"
16         Write-Output "changed=yes comment='Credentials Updated.'"
17     } Else {
18         Write-Output "changed=no comment='AutoLogon already enabled.'"
19     }
20 } Else {
21     Set-ItemProperty -Path $LogonPath -Name AutoAdminLogon -Value "1"
22     Set-ItemProperty -Path $LogonPath -Name DefaultDomainName -Value "$Domain"
23     New-ItemProperty -Path $LogonPath -Name DefaultUserName -Value "$Username"
24     New-ItemProperty -Path $LogonPath -Name DefaultPassword -Value "$Password"
25     New-ItemProperty -Path $LogonPath -Name DontDisplayLastUserName -Value 1
26     Set-ItemProperty -Path $LastUser -Name LastLoggedOnUser -Value "$Username"
27     Set-ItemProperty -Path $LogonPath -Name LastUsedUsername -Value "$Username"
28     Write-Output "changed=yes comment='AutoLogon enabled.'"
29 }
```

Disable Screensavers



```
1 $Path = 'HKCU:\Control Panel\Desktop'  
2  
3 Try {  
4     $CurrentVal = Get-ItemProperty -Path $Path -Name ScreenSaveActive  
5     Write-Output $CurrentVal  
6 } Catch {  
7     $CurrentVal = False  
8 } Finally {  
9     if ($CurrentVal.ScreenSaveActive -ne 0) {  
10         Set-ItemProperty -Path $Path -Name ScreenSaveActive -Value 0  
11         Write-Output "changed=yes comment='Screensaver Disabled.'"  
12     } Else {  
13         Write-Output "changed=no comment='Screensaver Already Disabled.'"  
14     }  
15 }
```

Disable Shutdown Tracker



```
1 $Path = 'HKLM:\Software\Microsoft\Windows\CurrentVersion\Reliability'  
2  
3 Try {  
4     $CurrentVal = Get-ItemProperty -Path $Path -Name ShutdownReasonUI  
5     Write-Output $CurrentVal  
6 } Catch {  
7     $CurrentVal = False  
8 } Finally {  
9     if ($CurrentValShutdownReasonUI -ne 0) {  
10         New-ItemProperty -Path $Path -Name ShutdownReasonUI -Value 0  
11         Write-Output "changed=yes comment='Shutdown Tracker Disabled.'"  
12     } Else {  
13         Write-Output "changed=no comment='Shutdown Tracker Already Disabled.'"  
14     }  
15 }
```

IE Browser Plugin

The screenshot shows an Internet Explorer window displaying the MSN homepage (<http://tw.msn.com/>). The page includes the MSN logo, navigation links (首頁 | 新聞 | 圖片 | 影片), a Bing search bar, and various links for Hotmail, Messenger, and IE9. At the bottom of the page, there is a news feed and a red notification bar. A red arrow points to this notification bar, which contains the text: "The 'TmIEPlugInBHO Class' add-on from 'Trend Micro, Inc.' is ready for use." Below this text are two buttons: "Enable" and "Don't enable".

Mobile Devices



The Ampersand (&) Bug

&

The Ampersand (&) Bug

```
/work/getwork.php?  
shards=1&location=Virginia_wptdriver&key=secret1  
23&software=wpt&version=2.15.0.183  
&ver=183&pc=COMPUTERNAME&dns=69.20.0.164-  
69.20.0.196&freedisk=17.036&GPU=0
```

The Ampersand (&) Bug

/work/getwork.php?
shards=1&location=Virginia_wptdriver&key=secret123&software=wpt&version=2.15.0.183
&ver=183&pc=COMPUTERNAME&dns=69.20.0.164-
69.20.0.196&freedisk=17.036&GPU=0

The Ampersand (&) Bug

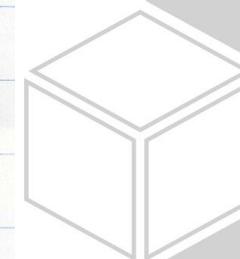
```
/work/getwork.php?  
shards=1&location=Virginia_wp  
et123&software=wpt&version=2  
&ver=183&pc=COMPUTERNAME&dns=  
69.20.0.196&freedisk=17.036&G
```



SaltStack Challenges



SALTSTACK

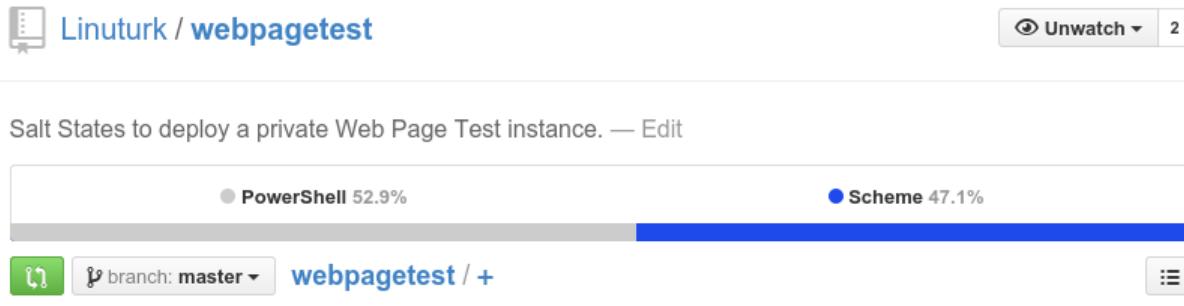


Windows Salt-Cloud

Bootstrapping Windows with salt-cloud today is a weird experience:

- Use Password from OpenStack API - PR14748
- Fingerprint Mismatch, Map File Broke - #14593
- Discussion on new bootstrap method - #15984

Windows State Modules



Learning PowerShell



```
PS C:\> Get-ChildItem 'MediaCenter:\Music' -rec |  
    >>     Where { -not $_.PSIsContainer -and $_.Extension -match '\.mp3' } |  
    >>     Measure-Object -property length -sum -min -max -ave  
  
Count : 1307  
Average : 5491226.09563887  
Sum : 7172097857  
Maximum : 22985267  
Minimum : 3235  
Property : Length  
  
PS C:\> Get-WmiObject CIM_BIOSElement | select biosv*, man*, ser* | Format-List  
  
BIOSVersion : TOC CPL - 6040000, Ver 1.00PARTITBL  
Manufacturer : TOSHIBA  
SerialNumber : M62ii16H  
  
PS C:\> (IwmiSearcher){  
    >> SELECT * FROM CIM_Job  
    >> WHERE Priority > 1  
    >> '{0}'.get() | Format-Custom  
    >>  
class ManagementObject#root\cimv2\Win32_PrintJob  
<  
    Document = Monad Manifesto - Public  
    JobId = 6  
    JobStatus =  
    Owner = User  
    Priority = 42  
    Size = 1027088  
    Name = Epson Stylus COLOR 740 ESC/P 2, 6  
>  
  
PS C:\> $rssUrl = 'http://blogs.msdn.com/powershell/rss.aspx'  
PS C:\> $blog = [System.Net.WebClient]::DownloadString($rssUrl)  
PS C:\> $blog.rss.channel.item | select title -first 3  
  
title  
MMS: What's Coming In PowerShell V2  
PowerShell Presence at MMS  
MMS Talk: System Center Foundation Technologies  
  
PS C:\> $host.version.ToString().Insert(0, 'Windows PowerShell: ')  
Windows PowerShell: 1.0.0.0  
PS C:\>
```

Try WebPageTest

Give WebPageTest a try using:



SALTSTACK

Questions?

Submit Feedback!

Slides at: onitato.com

States and PowerShell at:

www.github.com/linuturk/webpagetest

