¿Cómo sería la certificación Linux LPIC1-101 para PowerShell? (posible equivalencia entre Linux y PowerShell)

System Architecture

->Determine and configure hardware settings

->->Key Knowledge Areas:

->->->Enable and disable integrated peripherals

```
Get-WmiObject Win32_USBControllerDevice |%{[wmi]($_.Dependent)} | Sort-Object Manufacturer,Description,DeviceID | ft -GroupBy Manufacturer Description,Service,DeviceID
```

```
Get-WmiObject -query "select * from Win32_PnPEntity where caption like '%cam%'"
```

->->->Configure systems with or without external peripherals such as keyboards

```
Get-WmiObject -query "select * from Win32_PnPEntity"
```

->->->Differentiate between the various types of mass storage devices

```
Get-WmiObject -Class win32_logicalDisk
```

->->->Know the differences between coldplug and hotplug devices

Get-WmiObject -query "select * from Win32_PnPEntity"

->->->Determine hardware resources for devices

Get-WmiObject -query "select * from Win32_PnPEntity"

->->->Tools and utilities to list various hardware information (e.g. lsusb, lspci, etc.)
->->->Tools and utilities to manipulate USB devices
->->->Conceptual understanding of sysfs, udev, dbus
->->The following is a partial list of the used files, terms and utilities:
->->->/sys/

#Serial Number, Vendor, information

Get-WmiObject -Class Win32_ComputerSystem

#Bios Information , including Version Number of BIOS

Get-WmiObject -Class win32_bios

#Battery Information

Get-WmiObject -Class win32_battery

#Serial Number, Capacity, Part Number of Installed Memory Stick

Get-WmiObject -Class win32_Physicalmemory

#Capacity, Serial Number of Drive and other info of the Hard-disk

Get-WmiObject -Class win32_DiskDrive

#Monitor Information including Resolutions

Get-WmiObject -Class win32_DesktopMonitor

#Information Related Cd Drive

Get-WmiObject -Class win32_cdromdrive

#Network Adaptor information contains, manufacturer, MAC ID etc

```
Get-WmiObject -Class win32_networkadapter

#Mouse related information

Get-WmiObject -Class win32_pointingdevice

#OS Name, OSArchitecture, Version Info

Get-WmiObject -Class win32_operatingsystem

#DeviceID, Free Space, Size of Partition

Get-WmiObject -Class win32_logicalDisk

#Mapped Network Drives

Get-WmiObject -Class Win32_NetworkConnection

#List of Installed Printers

Get-WmiObject -Class win32_printer

#List of Printer Drivers

Get-WmiObject -Class win32_PrinterDriver

#IP Adress, DHCP , DNS and other information of Network Drivers

Get-WmiObject -Class Win32_NetworkAdapterConfiguration

#Command that runs automatically when a user logs onto the computer system

Get-WmiObject -Class win32_startupCommand

#All Running Processes

Get-WmiObject -Class win32_process

#List of All Services

Get-WmiObject -Class win32_Service

#List of Installed Software

Get-WmiObject -Class win32_Product

->->->/proc/
```

Get-Process

Get-WmiObject -Class win32_process

->->->/dev/

Get-WmiObject -Class win32_cdromdrive

->->->modprobe
->->->lsmod
->->->lspci

Get-WmiObject -Class Win32_NetworkConnection

->->->lsusb

Get-WmiObject Win32_USBControllerDevice |%{[wmi]($_.Dependent)} | Sort-Object Manufacturer,Description,DeviceID | ft -GroupBy Manufacturer Description,Service,DeviceID

->Boot the system
->->Key Knowledge Areas:
->->->Provide common commands to the boot loader and options to the kernel at boot time
->->->Demonstrate knowledge of the boot sequence from BIOS to boot completion
->->->Understanding of SysVinit and systemd
->->->Awareness of Upstart
->->->Check boot events in the log files
->->Terms and Utilities:
->->->dmesg
->->->BIOS

Get-WmiObject -Class win32_bios

->->->bootloader

(gwmi -name root\wmi -list bcdstore)

->->->kernel

Get-Service http | fl *

```
Get-Service * | Select-Object name, ServiceType

->->->initramfs
->->->init

Get-Process Idle | select *

->->->SysVinit

Get-Process -Id 4 | select *

->->->systemd

->Change runlevels / boot targets and shutdown or reboot system
->->Key Knowledge Areas:
->->->Set the default runlevel or boot target
->->->Change between runlevels / boot targets including single user mode
->->->Shutdown and reboot from the command line
->->->Alert users before switching runlevels / boot targets or other major system events
->->->Properly terminate processes
->->Terms and Utilities:
->->->/etc/inittab
->->->shutdown

Stop-Computer

->->->init
->->->/etc/init.d/
->->->telinit
->->->systemd

Get-Service

->->->systemctl

Get-Service

->->->/etc/systemd/
```

Get-Service

->->->/usr/lib/systemd/

Get-Service

->->->wall

Linux Installation and Package Management

->Design hard disk layout
->->Key Knowledge Areas:
->->->Allocate filesystems and swap space to separate partitions or disks

Get-WmiObject -Class win32_logicalDisk

->->->Tailor the design to the intended use of the system
->->->Ensure the /boot partition conforms to the hardware architecture requirements for booting
->->->Knowledge of basic features of LVM
->->Terms and Utilities:
->->->/ (root) filesystem

Get-WmiObject -Class win32_logicalDisk

->->->/var filesystem
->->->/home filesystem
->->->/boot filesystem
->->->swap space

Get-WMIObject -class win32_physicalmemory | Format-Table devicelocator, capacity -a

->->->mount points
->->->partitions

Get-WmiObject -Class win32_logicalDisk

->Install a boot manager
->->Key Knowledge Areas:
->->->Providing alternative boot locations and backup boot options
->->->Install and configure a boot loader such as GRUB Legacy
->->->Perform basic configuration changes for GRUB 2
->->->Interact with the boot loader
->->The following is a partial list of the used files, terms and utilities:
->->->menu.lst, grub.cfg and grub.conf
->->->grub-install
->->->grub-mkconfig
->->->MBR

->Manage shared libraries
->->Key Knowledge Areas:
->->->Identify shared libraries

Get-Process -Module

->->->Identify the typical locations of system libraries
->->->Load shared libraries
->->Terms and Utilities:
->->->ldd
->->->ldconfig
->->->/etc/ld.so.conf
->->->LD_LIBRARY_PATH

->Use Debian package management
->->Key Knowledge Areas:
->->->Install, upgrade and uninstall Debian binary packages

Install-Package

Uninstall-Package

->->->Find packages containing specific files or libraries which may or may not be installed

Find-Package

->->->Obtain package information like version, content, dependencies, package integrity and installation status (whether or not the package is installed)

Get-Package

->->Terms and Utilities:
->->->/etc/apt/sources.list
->->->dpkg

Install-Package

->->->dpkg-reconfigure
->->->apt-get

Get-Package

->->->apt-cache
->->->aptitude

Install-Package

->Use RPM and YUM package management
->->Key Knowledge Areas:
->->->Install, re-install, upgrade and remove packages using RPM and YUM
->->->Obtain information on RPM packages such as version, status, dependencies, integrity and signatures
->->->Determine what files a package provides, as well as find which package a specific file comes from
->->Terms and Utilities:
->->->rpm

Install-Package

->->->rpm2cpio
->->->/etc/yum.conf

->->->/etc/yum.repos.d/
->->->yum

Install-Package

->->->yumdownloader

GNU and Unix Commands

->Work on the command line
->->Key Knowledge Areas:
->->->Use single shell commands and one line command sequences to perform basic tasks on the command line

powershell

powershell Start-Process cmd -Verb runAs

->->->Use and modify the shell environment including defining, referencing and exporting environment variables

Get-ChildItem Env:

->->->Use and edit command history

Get-History

->->->Invoke commands inside and outside the defined path
->->Terms and Utilities:
->->->bash

powershell

powershell Start-Process cmd -Verb runAs

->->->echo

Write-Host

->->->env

Get-ChildItem Env:

->->->export

Get-History | Out-File

->->->pwd

Get-Location

->->->set

Set-Location

->->->unset
->->->man

Get-Help

->->->uname

Get-CimInstance Win32_OperatingSystem | Select-Object Caption, InstallDate, ServicePackMajorVersion, OSArchitecture, BootDevice, BuildNumber, CSName | FL

Get-CimInstance Win32_OperatingSystem | FL *

->->->history

Get-History

->->->.bash_history

Get-History

->Process text streams using filters
->->Key Knowledge Areas:
->->->Send text files and output streams through text utility filters to modify the output using standard UNIX commands found in the GNU textutils package
->->Terms and Utilities:
->->->cat

```
Get-Content fichero.txt
```

```
->->->cut
```

```
("hola;adios").Split(";")[0]
```

```
->->->expand
```

```
"     hola" -replace ("     ","")
```

```
("     hola").Trim()
```

```
->->->fmt
->->->head
```

```
New-Item
```

```
->->->join
```

```
foreach ($partes1 in Get-Content fichero1.txt){foreach ($partes2 in Get-Content fichero2.txt){$partes1,$partes2 | Out-File ficherocompuesto.txt}}
```

```
->->->less
```

```
Out-Host -Paging
```

```
->->->nl
->->->od
```

```
[Convert]::ToString(19,16)
```

```
[Convert]::ToString(19,8)
```

```
->->->paste
->->->pr
```

```
"hola" | Out-Printer
```

```
->->->sed
```

```
"hola" -replace "o","O"
```

```
->->->sort
```

```
Get-ChildItem | Sort-Object
```

Get-ChildItem | Sort-Object -Descending

->->->split

("hola;adios").Split(";")

->->->tail

Get-Content -Tail

Get-Content -ReadCount 10

->->->tr

"hola" -replace "o","O"

->->->unexpand
->->->uniq

Get-Process | Select-Object Name -Unique

->->->wc

Get-Process | Group-Object | Select-Object count

->Perform basic file management
->->Key Knowledge Areas:
->->->Copy, move and remove files and directories individually

http://www.jesusninoc.com/2011/11/08/cmdlets-para-realizar-operaciones-con-archivos-y-directorios/

Copy-Item

Move-Item

Remove-Item

->->->Copy multiple files and directories recursively

Copy-Item -Recurse

->->->Remove files and directories recursively

Remove-Item -Recurse

->->->Use simple and advanced wildcard specifications in

commands

Copy-Item *

->->->Using find to locate and act on files based on type, size, or time

Get-ChildItem -File

Get-ChildItem | Where-Object Length -GT 1

Get-ChildItem | Where-Object LastWriteTime -GT (get-date).AddDays(-1)

->->->Usage of tar, cpio and dd

->->Terms and Utilities:

->->->cp

Copy-Item

->->->find

Get-ChildItem -File

->->->mkdir

New-Item -ItemType Directory

->->->mv

Move-Item

->->->ls

Get-ChildItem

->->->rm

Remove-Item

->->->rmdir

Remove-Item

->->->touch

New-Item -ItemType File -Value "hi"

->->->tar

Compress-Archive

->->->cpio

Compress-Archive

->->->dd

Copy-Item

->->->file

Get-ChildItem .\@TileEmpty1x1Image.png | select Extension

->->->gzip

Compress-Archive

->->->gunzip

Compress-Archive

->->->bzip2

Compress-Archive

->->->xz

Compress-Archive

->->->file globbing

->Use streams, pipes and redirects
->->Key Knowledge Areas:
->->->Redirecting standard input, standard output and standard error

Get-Process | Sort-Object

->->->Pipe the output of one command to the input of another command

Get-Process | Sort-Object

->->->Use the output of one command as arguments to another command

Get-Process | Sort-Object

->->->Send output to both stdout and a file

Get-Process | Tee-Object | Out-File

->->Terms and Utilities:
->->->tee

Get-Process notepad | Tee-Object -variable proc | Select-Object processname,handles

->->->xargs

Invoke-Command -ScriptBlock {Get-Process}

->Create, monitor and kill processes
->->Key Knowledge Areas:
->->->Run jobs in the foreground and background

Debug-Job

Get-Job

Receive-Job

Remove-Job

Resume-Job

Start-Job

Stop-Job

Suspend-Job

Wait-Job

->->->Signal a program to continue running after logout
->->->Monitor active processes

Get-Process

->->->Select and sort processes for display

Get-Process

->->->Send signals to processes

Stop-Process

->->Terms and Utilities:
->->->&
->->->bg
->->->fg
->->->jobs

Debug-Job

Get-Job

Receive-Job

Remove-Job

Resume-Job

Start-Job

Stop-Job

Suspend-Job

Wait-Job

->->->kill

Stop-Process

->->->nohup

Start-Job

Resume-Job

->->->ps

Get-Process

->->->top

```
Get-Process
```

```
->->->free
```

```
(Get-WmiObject -Class Win32_ComputerSystem).TotalPhysicalMemory/1gb
```

```
->->->uptime
```

```
Get-CimInstance -ClassName win32_operatingsystem | select *
```

```
Get-CimInstance -ClassName win32_operatingsystem | select csname, lastbootuptime
```

```
->->->pgrep
```

```
(Get-Process -Name powershell_ise).Id
```

```
->->->pkill
```

```
Stop-Process -Name notepad
```

```
->->->killall
```

```
Stop-Process -Name notepad
```

```
->->->screen
```

```
->Modify process execution priorities
->->Key Knowledge Areas:
->->->Know the default priority of a job that is created
```

```
Get-WmiObject Win32_process -filter 'name = "notepad.exe"' | foreach-object {$_.SetPriority(32)}
```

```
->->->Run a program with higher or lower priority than the default
->->->Change the priority of a running process
->->Terms and Utilities:
->->->nice
```

```
Get-WmiObject Win32_process -filter 'name = "notepad.exe"' | foreach-object {$_.SetPriority(32)}
```

```
->->->ps
```

Get-Process

->->->renice
->->->top

Get-Process

->Search text files using regular expressions
->->Key Knowledge Areas:
->->->Create simple regular expressions containing several notational elements

Get-Process | Select-String "Notepad"

->->->Use regular expression tools to perform searches through a filesystem or file content
->->Terms and Utilities:
->->->grep

Get-Process | Select-String "Notepad"

->->->egrep
->->->fgrep
->->->sed
->->->regex(7)

Get-Process | select-string -pattern idle, svchost -notmatch

->Perform basic file editing operations using vi
->->Key Knowledge Areas:
->->->Navigate a document using vi

New-Item -Name nombre -Value "Hi"

->->->Use basic vi modes
->->->Insert, edit, delete, copy and find text
->->Terms and Utilities:
->->->vi

New-Item -Name nombre -Value "Hi"

->->->/, ?
->->->h,j,k,l

->->->i, o, a
->->->c, d, p, y, dd, yy
->->->ZZ, :w!, :q!, :e!

Devices, Linux Filesystems, Filesystem Hierarchy Standard

->Create partitions and filesystems

Get-WmiObject Win32_LogicalDisk

->->Key Knowledge Areas:
->->->Manage MBR partition tables
->->->Use various mkfs commands to create various filesystems such as:
->->->->-ext2/ext3/ext4
->->->->-XFS
->->->->-VFAT
->->->Awareness of ReiserFS and Btrfs
->->->Basic knowledge of gdisk and parted with GPT
->->Terms and Utilities:
->->->fdisk
->->->gdisk
->->->parted
->->->mkfs
->->->mkswap

->Maintain the integrity of filesystems

Get-WmiObject Win32_LogicalDisk

->->Key Knowledge Areas:
->->->Verify the integrity of filesystems

Get-FileHash

->->->Monitor free space and inodes
->->->Repair simple filesystem problems
->->Terms and Utilities:

Get-WmiObject win32_logicaldisk

Get-PSDrive C | Select-Object Used,Free

->->->du
->->->df
->->->fsck
->->->e2fsck
->->->mke2fs
->->->debugfs
->->->dumpe2fs
->->->tune2fs
->->->XFS tools (such as xfs_metadump and xfs_info)

->Control mounting and unmounting of filesystems
->->Key Knowledge Areas:
->->->Manually mount and unmount filesystems

New-PSDrive

->->->Configure filesystem mounting on bootup
->->->Configure user mountable removable filesystems
->->Terms and Utilities:

New-PSDrive

->->->/etc/fstab
->->->/media/
->->->mount
->->->umount

->Manage disk quotas
->->Key Knowledge Areas:
->->->Set up a disk quota for a filesystem
->->->Edit, check and generate user quota reports

->->Terms and Utilities:
->->->quota
->->->edquota
->->->repquota
->->->quotaon

->Manage file permissions and ownership
->->Key Knowledge Areas:
->->->Manage access permissions on regular and special files as well as directories

http://www.jesusninoc.com/2015/08/19/anadir-permiso-ntfs-a-una-carpeta/

Get-Acl

Set-Acl

->->->Use access modes such as suid, sgid and the sticky bit to maintain security
->->->Know how to change the file creation mask
->->->Use the group field to grant file access to group members
->->Terms and Utilities:
->->->chmod

Get-Acl

Set-Acl

->->->umask
->->->chown
->->->chgrp

->Create and change hard and symbolic links
->->Key Knowledge Areas:
->->->Create links

New-Item -ItemType SymbolicLink

->->->Identify hard and/or soft links
->->->Copying versus linking files

->->->Use links to support system administration tasks
->->Terms and Utilities:

New-Item -ItemType SymbolicLink

->->->ln
->->->ls

->Find system files and place files in the correct location
->->Key Knowledge Areas:
->->->Understand the correct locations of files under the FHS
->->->Find files and commands on a Linux system
->->->Know the location and purpose of important file and directories as defined in the FHS
->->Terms and Utilities:
->->->find

Get-ChildItem

Select-String

->->->locate

Get-ChildItem

Select-String

->->->updatedb
->->->whereis

Get-ChildItem

Select-String

->->->which

Get-ChildItem

->->->type

Get-ChildItem | Get-Member

->->->/etc/updatedb.conf