Sample Operating System Configuration Template Files

This chapter contains the following sections:

Encrypting the Root Password

Password encryption in the Kickstart configuration template file is supported. The root password is not encrypted if the OS template in the BMA does not support password encryption. Password encryption is supported only for ESXi, RHEL OS, and CentOS catalogs.

Sample Configuration Template Files

This section includes the sample configuration template files for different operating systems.

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Important The sample configuration files included in this guide may not suite all the deployment scenarios. Review and modify the configurations based on your deployment environment.

Sample Linux Configuration Template Files

Sample Kickstart Configuration Template File for Linux Operating Systems

The following example shows the Kickstart configuration template file with password encryption (`ks.cfg`) that is required for Linux operating system images:

```
auth  --useshadow  --enablemd5
bootloader --append="rhgb quiet" --location=mbr --driveorder=sda
clearpart --all --initlabel

zerombr
ignoredisk --only-use=sda
```

```
text
firewall --disabled
firstboot --disable
keyboard us
lang en_US
logging --level=info
url --url=http://$PXE_NATIVE_WEBSERVER/IMAGECATALOGNAME
reboot
$PXE_DHCP_IP_TYPE network --bootproto=dhcp --device=eth0 --hostname=$PXE_NAME --onboot=on
$PXE_STATIC_IP_TYPE network --bootproto=static --device=eth0 --ip=$PXE_IP
--netmask=$PXE_NETMASK --gateway=$PXE_GATEWAY --vlanid=$PXE_MGMTVLAN --hostname=$PXE_NAME
--onboot=on
rootpw $ENCRYPTED $PXE_PASSWD
selinux --disabled
timezone --isUtc $PXE_TIMEZONE
install
part biosboot --fstype=biosboot --size=1 --ondisk=sda
part /  --fstype="ext3" --size=8000

%packages --nobase
wget
%end

%post

## Notifying back to Cisco UCS Director once the blade is up ##
wget http://$PXE_WEBSERVER/$PXEID/notify.html
%end

~
```

The following example shows the Kickstart configuration template file with password encryption
(ks-uefi.cfg) that is required for Linux operating system images:

```
auth  --useshadow  --enablemd5
bootloader --append="rhgb quiet" --location=mbr --driveorder=sda
clearpart --all --initlabel

zerombr
ignoredisk --only-use=sda
text
firewall --disabled
firstboot --disable
keyboard us
lang en_US
logging --level=info
url --url=http://$PXE_NATIVE_WEBSERVER/IMAGECATALOGNAME
reboot
$PXE_DHCP_IP_TYPE network --bootproto=dhcp --device=eth0 --hostname=$PXE_NAME --onboot=on
$PXE_STATIC_IP_TYPE network --bootproto=static --device=eth0 --ip=$PXE_IP
--netmask=$PXE_NETMASK --gateway=$PXE_GATEWAY --vlanid=$PXE_MGMTVLAN --hostname=$PXE_NAME
--onboot=on
rootpw $ENCRYPTED $PXE_PASSWD
selinux --disabled
timezone --isUtc $PXE_TIMEZONE
install

part /boot/efi --fstype=efi --grow --maxsize=200 --size=50
part /boot --fstype=ext3 --size=500

part swap --fstype="swap" --size=1024
part pv.01 --size=10240
volgroup vg0 pv.01
logvol /home --vgname=vg0 --size=500 --name=home
```

```
logvol / --vgname=vg0 --grow --size=1 --name=root




%packages --nobase
wget
%end

%post

## Notifying back to Cisco UCS Director once the blade is up ##
wget http://$PXE_WEBSERVER/$PXEID/notify.html
%end
```

Sample PXE Configuration Template File for Linux Operating Systems

The following example shows the PXE configuration template file (pxe.cfg) that is required for Linux
operating system images:

```
default linux

label linux
kernel vmlinuz

append initrd=initrd.img ramdisk_size=9216 noapic acpi=off ip=dhcp ks=$PXE_KS_URL

prompt 0
timeout 0
```

Sample iPXE Configuration Template File for Linux Operating Systems

The following example shows the iPXE configuration template file (ipxe.cfg) that is required for Linux
operating system images:

```
default linux
label linux
kernel http://$PXE_NATIVE_WEBSERVER/$PXE_OS/isolinux/vmlinuz
append initrd=http://$PXE_NATIVE_WEBSERVER/$PXE_OS/isolinux/initrd.img ramdisk_size=9216
noapic acpi=off ip=dhcp ks=$PXE_KS_URL ksdevice=eth0
inst.repo=http://$PXE_NATIVE_WEBSERVER/$PXE_OS net.ifnames=0 biosdevname=0
prompt 0
timeout 0
```

Sample VMware vSphere ESXi Configuration Template Files

Sample Kickstart Configuration Template File for VMware vSphere ESXi Operating Systems

The following example shows the Kickstart configuration template file with password encryption (ks.cfg)
that is required for VMware vSphere ESXi operating system images:

```
vmaccepteula
rootpw $ENCRYPTED $PXE_PASSWD
#for Local boot
install --firstdisk --overwritevmfs
#for SAN boot
```

```
#install --firstdisk=remote --overwritevmfs

$PXE_DHCP_IP_TYPE network --bootproto=dhcp --vlanid=$PXE_MGMTVLAN
$PXE_STATIC_IP_TYPE network --bootproto=static --ip=$PXE_IP --netmask=$PXE_NETMASK
--gateway=$PXE_GATEWAY --vlanid=$PXE_MGMTVLAN  --nameserver=$PXE_NS --hostname=$PXE_NAME


#we poweroff ourselves in the 'post' section, and ucs will later power us on after changing
 the service profile
#reboot

%pre --interpreter=busybox
hwclock -d %LIVE_VAR_DATE_1% -t %LIVE_VAR_TIME_UTC_1%
date -s %LIVE_VAR_DATE_TIME_UTC_1%
cd /tmp

%firstboot --interpreter=busybox
cd /tmp


esxcfg-vswitch -A 'VM Network' vSwitch0



###############################
# enable & start remote ESXi Shell  (SSH)
###############################
vim-cmd hostsvc/enable_ssh
vim-cmd hostsvc/start_ssh

###############################
# enable & start ESXi Shell (TSM)
###############################
vim-cmd hostsvc/enable_esx_shell
vim-cmd hostsvc/start_esx_shell

$PXE_DHCP_IP_TYPE esxcli system hostname set --host=$PXE_NAME




%post --interpreter=busybox --ignorefailure=true

cd /tmp
localcli network firewall set --default-action true
localcli network firewall set --enabled false

## Notifying back to Cisco UCS Director once the blade is up ##
wget http://$PXE_WEBSERVER_MGMT_VLAN_IP/$PXEID/notify.html -O /tmp/notify.html
localcli network firewall set --default-action false
localcli network firewall set --enabled true

# Let us poweroff/shutdown our selves.
Poweroff
```

Sample PXE Configuration Template File for VMware vSphere ESXi Operating Systems

The following example shows the PXE configuration template file (`pxe.cfg`) that is required for VMware vSphere ESXi operating system images.

> **Important** You can customize the configuration based on your requirements.

```
default image_name/menu.c32
menu title PXE Boot Home
timeout 70

label image_name
menu label Install VMware image_name
kernel image_name/mboot.c32
append -c /web/ks-repository/$PXE_ID/boot.cfg  +++
IPAPPEND 1
```

Sample iPXE Configuration Template File for VMware vSphere ESXi Operating Systems

The following example shows the iPXE configuration template file (`ipxe.cfg`) that is required for VMware vSphere ESXi operating system images:

```
default 1
timeout 100
prompt 1
label 1
KERNEL ipxe.lkrn
Append dhcp && chain http://$PXE_NATIVE_WEBSERVER/$PXE_WINDOWS_OS_REPOSITORY_LINK/boot.ipxe
```

Sample iPXE UEFI Configuration Template File for Windows

The following example shows the iPXE UEFI configuration template file (`ipxe-uefi.cfg`) that is required for windows:

```
#!ipxe
kernel ../wimboot
initrd ../Boot/BCD BCD
initrd ../Boot/boot.sdi boot.sdi
initrd ../Boot/WinPE.wim WinPE.wim
boot
```

Sample Windows Answer File

The following is an example of a Windows answer file, named `AUTOUNATTEND.XML`, that can be used to set up a Windows Server 2008 R2 OS image for use with Cisco UCS Director Bare Metal Agent.

```
<unattend>
 <servicing>
  <package action="configure">
    <assemblyIdentity name="Microsoft-Windows-Foundation-Package" version="6.1.7600.16385"

    processorArchitecture="amd64" publicKeyToken="xxxf3856ad364xxx" language=""/>
    <selection name="IIS-WebServerRole" state="false"/>
    <selection name="IIS-WebServer" state="false"/>
    <selection name="Microsoft-Hyper-V" state="true"/>
    <selection name="Microsoft-Hyper-V-Management-Clients" state="true"/>
    <selection name="Microsoft-Hyper-V-Management-Clients" state="true"/>
```

```xml
      <selection name="MultipathIo" state="true"/>
      <selection name="TelnetClient" state="true"/>
     </package>
  </servicing>
 <settings pass="windowsPE">
  <component name="Microsoft-Windows-Setup" processorArchitecture="amd64"
     publicKeyToken="xxxf3856ad364xxx" language="neutral" versionScope="nonSxS">
    <ComplianceCheck>
  <DisplayReport>OnError</DisplayReport>
   </ComplianceCheck>
 <Display>
     <VerticalResolution>600</VerticalResolution>
     <RefreshRate>60</RefreshRate>
     <HorizontalResolution>800</HorizontalResolution>
     <ColorDepth>32</ColorDepth>
   </Display>
   <EnableFirewall>false</EnableFirewall>
 <UserData>
  <ProductKey>
    <WillShowUI>Never</WillShowUI>
    <Key>XXXXX-XXXXX-KQT8W-PMXWJ-XXXXX</Key>
  </ProductKey>
  <AcceptEula>true</AcceptEula>
  <FullName>Cisco</FullName>
  <Organization>CiscoUCSD</Organization>
  </UserData>
 <DiskConfiguration>
  <WillShowUI>OnError</WillShowUI>
 <Disk wcm:action="add">
 <CreatePartitions>
 <CreatePartition wcm:action="add">
  <Order>1</Order>
  <Type>Primary</Type>
  <Size>40000</Size>
  </CreatePartition>
  </CreatePartitions>
  <DiskID>0</DiskID>
  <WillWipeDisk>true</WillWipeDisk>
 <ModifyPartitions>
 <ModifyPartition wcm:action="add">
  <Active>true</Active>
  <Extend>false</Extend>
  <Format>NTFS</Format>
  <Label>OS</Label>
  <Letter>C</Letter>
  <Order>1</Order>
  <PartitionID>1</PartitionID>
  </ModifyPartition>
  </ModifyPartitions>
  </Disk>
  </DiskConfiguration>
 <ImageInstall>
 <OSImage>
 <InstallTo>
  <DiskID>0</DiskID>
  <PartitionID>1</PartitionID>
  </InstallTo>
  <WillShowUI>Never</WillShowUI>
 <InstallFrom>
 <MetaData wcm:action="add">
  <Key>/IMAGE/NAME</Key>
  <Value>Windows Server 2008 R2 SERVERDATACENTER</Value>
  </MetaData>
  <Path>\\000.00.90.31\bits\sources\install.wim</Path>
```

```
</InstallFrom>
</OSImage>
</ImageInstall>
</component>
<component name="Microsoft-Windows-International-Core-WinPE" processorArchitecture="amd64"

 publicKeyToken="nnnf3856ad364nnn" language="neutral" versionScope="nonSxS">
<SetupUILanguage>
<UILanguage>en-US</UILanguage>
</SetupUILanguage>
<UserLocale>en-US</UserLocale>
<UILanguage>en-US</UILanguage>
<SystemLocale>en-US</SystemLocale>
</component>
</settings>
<settings pass="specialize">
<component name="Microsoft-Windows-International-Core" processorArchitecture="amd64"
 publicKeyToken="nnnf3856ad364nnn" language="neutral" versionScope="nonSxS">
<SystemLocale>en-US</SystemLocale>
<UILanguage>en-US</UILanguage>
<UILanguageFallback>en-US</UILanguageFallback>
<UserLocale>en-US</UserLocale>
</component>
<component name="Microsoft-Windows-TerminalServices-LocalSessionManager"
 processorArchitecture="amd64" publicKeyToken="nnnf3856ad364nnn"
 language="neutral" versionScope="nonSxS">
<fDenyTSConnections>false</fDenyTSConnections>
</component>
<component name="Microsoft-Windows-Deployment" processorArchitecture="amd64"
 publicKeyToken="31bf3856ad364nnn" language="neutral" versionScope="nonSxS">
<RunSynchronous>
<RunSynchronousCommand wcm:action="add">
 <Description>Disable IPv6</Description>
 <Path>reg add HKLM\SYSTEM\CurrentControlSet\Services\tcpip6\Parameters /v DisabledComponents
 /t
  REG_DWORD /d 255 /f</Path>
 <Order>1</Order>
 </RunSynchronousCommand>
<RunSynchronousCommand wcm:action="add">
 <Description>Disable Shutdown Tracker</Description>
 <Path>reg add "HKLM\SOFTWARE\Policies\Microsoft\Windows NT\Reliability" /v ShutdownReasonOn
 /t
  REG_DWORD /d 0 /f</Path>
 <Order>2</Order>
 </RunSynchronousCommand>
 </RunSynchronous>
</component>
<component name="Networking-MPSSVC-Svc" processorArchitecture="amd64"
 publicKeyToken="nnnf3856ad364nnn" language="neutral" versionScope="nonSxS">
<DomainProfile_EnableFirewall>false</DomainProfile_EnableFirewall>
<PrivateProfile_EnableFirewall>false</PrivateProfile_EnableFirewall>
<PublicProfile_EnableFirewall>false</PublicProfile_EnableFirewall>
</component>
<component name="Microsoft-Windows-ServerManager-SvrMgrNc" processorArchitecture="amd64"
 publicKeyToken="nnnf3856ad364nnn" language="neutral" versionScope="nonSxS">
<DoNotOpenServerManagerAtLogon>true</DoNotOpenServerManagerAtLogon>
</component>
<component name="Microsoft-Windows-OutOfBoxExperience" processorArchitecture="amd64"
 publicKeyToken="nnnf3856ad364nnn" language="neutral" versionScope="nonSxS">
<DoNotOpenInitialConfigurationTasksAtLogon>true</DoNotOpenInitialConfigurationTasksAtLogon>

</component>
<component name="Microsoft-Windows-powercpl" processorArchitecture="amd64"
 publicKeyToken="nnnf3856ad364nnn" language="neutral" versionScope="nonSxS">
```

```
<PreferredPlan>8c5e7fda-e8bf-4a96-9a85-a6e23a8c635c</PreferredPlan>
</component>
<component name="Microsoft-Windows-Shell-Setup" processorArchitecture="amd64"
publicKeyToken="nnnf3856ad364nnn" language="neutral" versionScope="nonSxS">
<ComputerName>*</ComputerName>
<ProductKey>XXXXX-XXXXX-KQT8W-PMXWJ-XXXXX</ProductKey>
</component>
</settings>
<settings pass="oobeSystem">
<component name="Microsoft-Windows-Shell-Setup" processorArchitecture="amd64"
publicKeyToken="nnnf3856ad364nnn" language="neutral" versionScope="nonSxS">
<Display>
<ColorDepth>32</ColorDepth>
<HorizontalResolution>800</HorizontalResolution>
<VerticalResolution>600</VerticalResolution>
<RefreshRate>60</RefreshRate>
</Display>
<OOBE>
<HideEULAPage>true</HideEULAPage>
<HideWirelessSetupInOOBE>true</HideWirelessSetupInOOBE>
<NetworkLocation>Work</NetworkLocation>
<ProtectYourPC>3</ProtectYourPC>
</OOBE>
<VisualEffects>
<FontSmoothing>ClearType</FontSmoothing>
</VisualEffects>
<WindowsFeatures>
<ShowInternetExplorer>true</ShowInternetExplorer>
</WindowsFeatures>
<TimeZone>Pacific Standard Time</TimeZone>
<RegisteredOrganization/>
<ShowWindowsLive>false</ShowWindowsLive>
<UserAccounts>
<AdministratorPassword>
<Value>987654321abc???=</Value>
<PlainText>false</PlainText>
</AdministratorPassword>
</UserAccounts>
<AutoLogon>
<Password>
<Value>123456abc???</Value>
<PlainText>false</PlainText>
</Password>
<Enabled>true</Enabled>
<LogonCount>1</LogonCount>
<Username>Administrator</Username>
</AutoLogon>
<FirstLogonCommands>
<SynchronousCommand wcm:action="add">
<CommandLine>cmd /c winrm quickconfig -quiet -transport:HTTP</CommandLine>
<Description>Enable WinRS over HTTP to communicate with CPA</Description>
<Order>1</Order>
<RequiresUserInput>false</RequiresUserInput>
</SynchronousCommand>
<SynchronousCommand wcm:action="add">
<CommandLine>cmd /c winrm set winrm/config/client @{TrustedHosts="*"}</CommandLine>
<Description>Adding trusted hosts value for winrm client</Description>
<Order>2</Order>
<RequiresUserInput>false</RequiresUserInput>
</SynchronousCommand>
<SynchronousCommand wcm:action="add">
<CommandLine>cmd /c net use R: \\000.00.90.31\bits /user:smbuser cisco123</CommandLine>
<Description>Mapping the share to save the notification file</Description>
<Order>3</Order>
```

```
 <RequiresUserInput>false</RequiresUserInput>
 </SynchronousCommand>
<SynchronousCommand wcm:action="add">
 <CommandLine>cmd /c ipconfig /all | findstr "Physical" >>
R:\notifications\completed.html</CommandLine>
 <Description>Writing the completed notification log with MAC address at
  Share mapped in previous step</Description>
 <Order>4</Order>
 <RequiresUserInput>false</RequiresUserInput>
 </SynchronousCommand>
<SynchronousCommand wcm:action="add">
 <CommandLine>cmd /c R:\notifications\completed.bat</CommandLine>
 <Description>executing powershell batch file like as wget</Description>
 <Order>5</Order>
 <RequiresUserInput>false</RequiresUserInput>
 </SynchronousCommand>
 </FirstLogonCommands>
 </component>
 </settings>
<settings pass="offlineServicing">
<component name="Microsoft-Windows-LUA-Settings" processorArchitecture="amd64"
 publicKeyToken="nnnf3856ad364nnn" language="neutral" versionScope="nonSxS">
 <EnableLUA>false</EnableLUA>
 </component>
 </settings>
 <cpi:offlineImage cpi:source="wim:D:/win2k8r2x64sp1/sources/install.wim#Windows
  Server 2008 R2 SERVERDATACENTER"/>
 </unattend>
```