Solution M5: Additional Techniques in AD

One possible solution of the homework could be:

1. In order to solve this task, you could do the following steps:
    a. Download the software from here: https://github.com/microsoft/XmlNotepad
    b. Copy the software on a place reachable by everyone, usually a shared folder on a server. In my case this will be reachable via (\\DC\Shared\XmlNotepad.msi)
    Same can be achieved by executing the following PowerShell commands:
    # Create a folder
    New-Item -Name "Shared" -Path "C:\" -ItemType Directory
    # Create a share
    New-SmbShare -Name "Shared" -Path "C:\Shared" -ReadAccess "Everyone"
    c. Create a WMI filter **Server Only** that returns only computers running a Server class OS. Not that there is no PowerShell way, but it is a complicated one. So, it is easier to do it in the **Group Policy Management Tool**. There we must click on the **WMI Filters** node and choose **New** from the context menu. For name enter **Server Only**. Then click the **Add** button. For the query we can use the **select * from Win32_Operatingsystem where caption like '%Server%'** statement
    d. Create a GPO **XmlNotepad Install** to install the required software
    Graphically we can do this by:
        - selecting the node **Group Policy Objects** and then select **New** from the context menu
        - for name enter **XmlNotepad Install** and click **OK**
        - then select the GPO and click on **Edit**
        - select **Software Installation** in **Computer Configuration > Policies > Software Settings**
        - select **New > Package** from its context menu
        - navigate to the file, for example \\DC\Shared\XmlNotepad.msi and click on **Open**
        - leave the default selection in the deployment method to **Assigned** and click **OK**
        - close the **Group Policy Management Editor**

    The PowerShell way to do this is:
        - create the GPO
          New-GPO -Name "XmlNotepad Install"
        - set the content of the GPO – because of the nature of this one, we will stick to the GUI way of doing things
    e. In WMI filtering section of the GPO select the filter you created earlier
    Graphically we can do this by:
        - select the GPO created earlier
        - in the **WMI Filtering** section select **Sever Only**

    The PowerShell way is:
        - select the GPO
          $g = Get-GPO -Name "XmlNotepad Install"
        - select the filter
          $f = Get-ADObject -Filter 'objectClass -eq "msWMI-Som"' -Properties "msWMI-Name","msWMI-Parm1","msWMI-Parm2" | Where -Property "msWMI-Name" -Eq "Server Only"
        - create a helper domain object
          $d = New-Object -Type Microsoft.GroupPolicy.GPDomain
        - build the path to the filter

$p = 'MSFT_SomFilter.Domain="' + $d.DomainName + '",ID="' + $f.Name + '"'

- modify the GPO
  $g.WmiFilter=$d.GetWmiFilter($p)

f. Link the GPO to the **Managed Computers** OU
Graphically we can do this by dragging the GPO over the **Managed Computers** OU
Linking with PowerShell can be done like this:
New-GPLink -Name "XmlNotepad Install" -Target "ou=Managed Computers,dc=wsa,dc=lab" -LinkEnabled Yes

2. In order to solve this task, you could do the following steps:
   a. Depending on the wallpaper used (available on each PC locally or remotely) we can place it on a shared folder or copy it on each machine (for example with a GPO). Let's use a wallpaper available on a shared resource. We will reuse the one used in the first part (\\DC\Shared) and the file there will be **cat.jpg**
   b. Define the corresponding GPO
   Graphically this can be done:
   - Create new GPO with name **Desktop Wallpaper** and open it for editing
   - Go to **User Configuration > Policies > Administrative Templates > Desktop > Desktop**
   - There edit the **Desktop Wallpaper** setting
   - Select **Enabled** and for **Wallpaper Name** enter **\\DC\Shared\cat.jpg**
   - Click **OK** and close the **Group Policy Management Editor**

   The PowerShell way is:
   - Create new GPO
     New-GPO -Name "Desktop Wallpaper"
   - Set the setting
     Set-GPRegistryValue -Name "Desktop Wallpaper" -Key "HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Policies\System" -ValueName "Wallpaper" -Type string -Value "\\DC\Shared\cat.jpg"

   c. Apply security filter for **GS IT**
   Graphically this can be done:
   - Select the policy, switch to the **Delegation** tab, and click on **Advanced**
   - Select **Authenticated Users** and remove the selection against **Apply group policy**
   - Click on **Add** and select **GS IT**
   - Ensure that **Read** and **Apply group policy** are **Enabled** for **GS IT**
   - Click **OK**

   The PowerShell way is:
   - Select the GPO
     $gpo = Get-GPO -Name "Desktop Wallpaper"
   - Change the **Authenticated Users** permissions
     $gpo | Set-GPPermissions -Replace -PermissionLevel GpoRead -TargetName 'Authenticated Users' -TargetType group
   - Add **GS IT**
     $gpo | Set-GPPermissions -PermissionLevel gpoapply -TargetName 'GS-IT' -TargetType group

   d. Link the GPO to **Managed Users** OU
   Graphically we can do this by dragging the GPO over the **Managed Users** OU
   Linking with PowerShell can be done like this:

New-GPLink -Name "Desktop Wallpaper" -Target "ou=Managed Users,dc=wsa,dc=lab" -LinkEnabled Yes

3. In order to solve this task, you could do the following steps:
    a. Create GPO with the stated requirements
    Graphically this can be done:
        - Create new GPO with name **Desktop Shortcut** and open it for editing
        - Go to **User Configuration > Preferences > Windows Settings > Shortcuts**
        - There from the context menu choose **New > Shortcut**
        - Leave the **Action** field to **Update**
        - For **Name** enter **SoftUni**
        - For **Target type** select **URL**
        - For **Location** select **Desktop**
        - For **Target URL** enter **http://softuni.bg**
        - Click **OK** and close the **Group Policy Management Editor**

    The PowerShell way is:
        - Create new GPO
        New-GPO -Name "Desktop Shortcut"
        - Set the setting – because of the content of this one, we will stick to the GUI way

    b. Change the delegation settings - add **GS IT** and turn on **Deny** for **Apply group policy** permission
    Graphically this can be done:
        - Select the policy, switch to the **Delegation** tab, and click on **Advanced**
        - Click on **Add** and select **GS IT**
        - Ensure that **Deny** is selected for **GS IT** under **Apply group policy**
        - Click **OK**

    The PowerShell way is:
        - Select the GPO
        $gpo = Get-GPO -Name "Desktop Shortcut"
        - Create helper object
        $adgpo = [ADSI]"LDAP://CN=`{$($gpo.Id.guid)`},CN=Policies,CN=System,DC=wsa,DC=lab"
        - Create the **Deny** rule for **Apply group policy**
        $rule = New-Object System.DirectoryServices.ActiveDirectoryAccessRule([System.Security.Principal.NTAccount]"WSA\GS-IT", "ExtendedRight", "Deny",[Guid]"edacfd8f-ffb3-11d1-b41d-00a0c968f939")
        - Create object security object
        $acl = $adgpo.ObjectSecurity
        - Add the rule
        $acl.AddAccessRule($rule)
        - Commit changes
        $adgpo.CommitChanges()

    c. Link the GPO to **Managed Users** OU
    Graphically we can do this by dragging the GPO over the **Managed Users** OU
    Linking with PowerShell can be done like this:
    New-GPLink -Name "Desktop Shortcut" -Target "ou=Managed Users,dc=wsa,dc=lab" -LinkEnabled Yes

4. In order to solve this task, you could do the following steps:

a. Create GPO with the stated requirements
   Graphically this can be done:
   - Create new GPO with name **Home Page** and open it for editing
   - Go to **User Configuration > Preferences > Control Panel Settings > Internet Settings**
   - There from the context menu choose **New > Internet Explorer 10**
   - In the **Home page** field enter **http://google.com**
   - Then, while the field is still on focus, hit F5 key to enable it (you will notice that the red line at the bottom is now green)
   - In the **Startup** section select the **Start with home page**
   - Click **OK** and close the **Group Policy Management Editor**

   The PowerShell way is:
   - Create new GPO
     New-GPO -Name "Home Page"
   - Set the setting – because of the content of this one, we will stick to the GUI way

b. Link the GPO to **Managed Users** OU
   Graphically we can do this by dragging the GPO over the **Managed Users** OU
   Linking with PowerShell can be done like this:
   New-GPLink -Name "Home Page" -Target "ou=Managed Users,dc=wsa,dc=lab" -LinkEnabled Yes

NOTE (1): Task 3 could be solved via policy (**User Configuration** > **Policies** > **Administrative Templates** > **Desktop** > **Desktop** > **Add/Delete items**) but this would be applicable if the Active Desktop technology is available and active

Please note that it will work on Windows Server 2003, Windows XP, and Windows 2000 only

NOTE (2): Task 4 can be solved via policy instead of preference. This way we can forbid our user to change their home page. We can do it by:

a. Create a GPO
   Graphically this can be done:
   - Create new GPO with name **Home Page** and open it for editing
   - Go to **User Configuration > Policies > Administrative Templates > Windows Components > Internet Explorer**
   - Double-click on **Disable changing home page**
   - Select **Enabled**
   - In the **Home page** field enter **http://google.com**
   - Click **OK** and close the **Group Policy Management Editor**

   The PowerShell way is:
   - Create new GPO
     New-GPO -Name "Home Page"
   - Set the setting (disallow to change)
     Set-GPRegistryValue -Name "Home Page" -Key "HKEY_CURRENT_USER\Software\Policies\Microsoft\Internet Explorer\Control Panel" -ValueName "HomePage" -Type DWord -Value 1
   - Set the setting (home page)
     Set-GPRegistryValue -Name "Home Page" -Key "HKEY_CURRENT_USER\Software\Policies\Microsoft\Internet Explorer\Main" -ValueName "Start Page" -Type String -Value "http://google.com"

b. Link the GPO to **Managed Users** OU
   Graphically we can do this by dragging the GPO over the **Managed Users** OU
   Linking with PowerShell can be done like this:
   New-GPLink -Name "Home Page" -Target "ou=Managed Users,dc=wsa,dc=lab" -LinkEnabled Yes

Of course, there are even more ways to solve this task.