

What do you love about technology?

“I like for them to have an opportunity to share what they're passionate about, even if it has nothing to do with the job.” - Michele Casey, Director of Product Management, Oracle.



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Group Policy

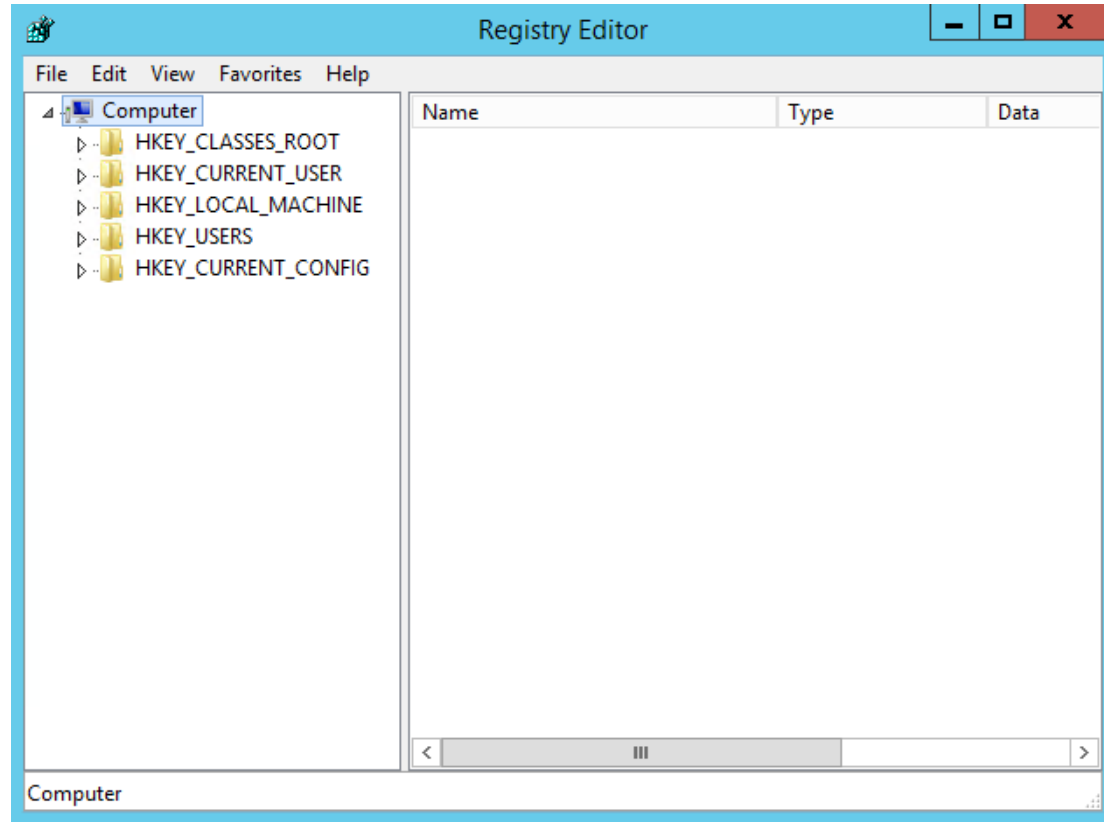


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The Registry

DB that contains
configuration setting and
options

Create one robust place to
take place of .ini files of old



Good Old Days (circa Windows 3.11)

autoexec.bat & config.sys

Every application came with its own .ini file or files for initialization

Registry now handles software, hardware, user, and security settings

Very rare to have to manually change anything



Structure

Hives

HKEY_LM – machine specific settings

HKEY_Users – User profile info for every user

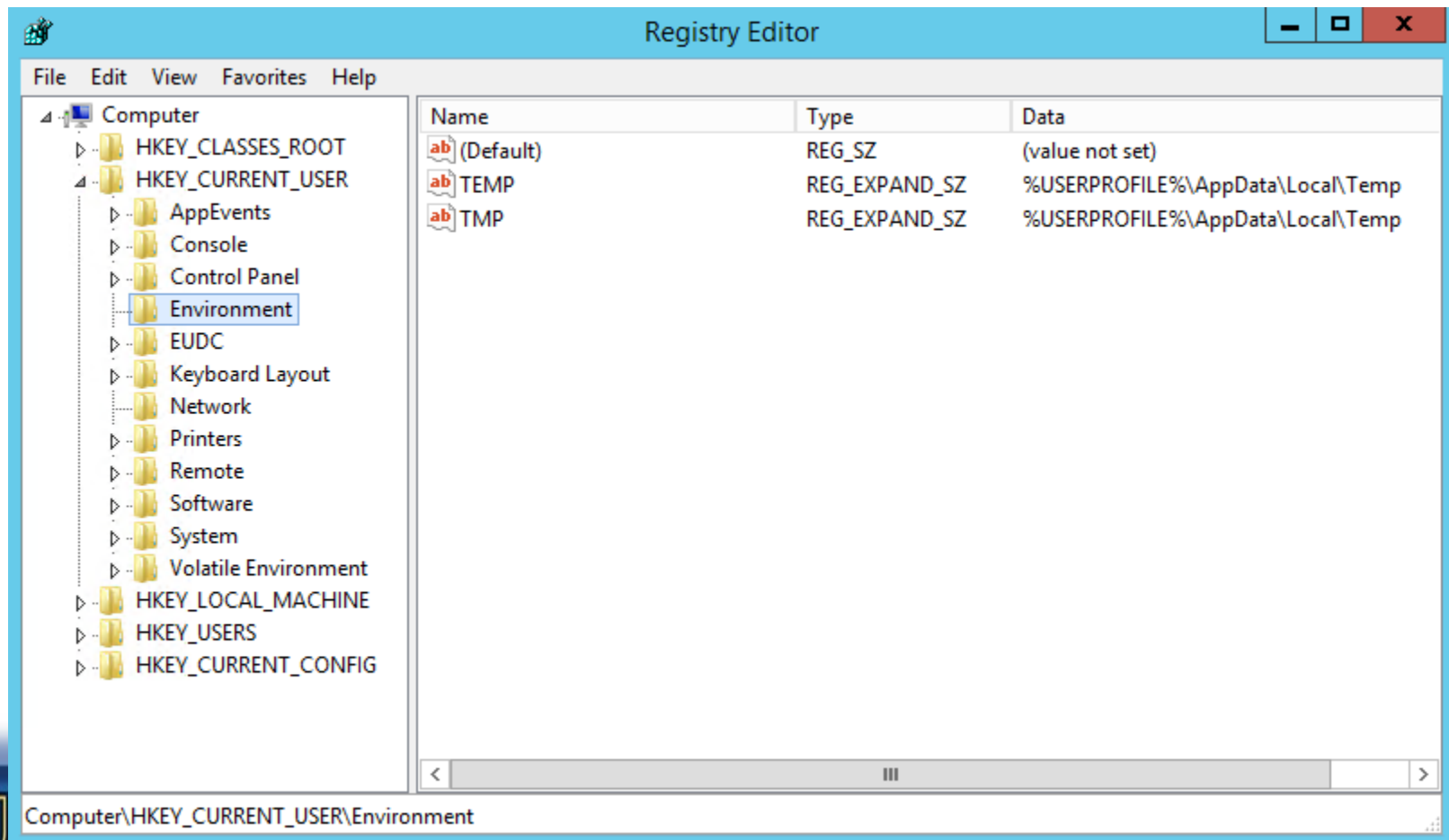
HKEY_Current_User – profile for user that is currently logged in

Keys and Values

Created at runtime or stored in C:\Windows\System32\config



Structure



Warning:

Be **very careful** mucking around in the Registry

Always **make a backup** of the Registry before changing any values

It's wise to create a **restore point** in Windows before even launching the registry editor (regedit.exe)

Even then, you still run a risk of **bricking** your machine



Introduction to Group Policy

Group policy

Standardize the working environment of clients and servers by setting policies in Active Directory

Set for many environments

Windows Only

Defining characteristics of group policy

Can be set for a site, domain, OU, or local computer

Cannot be set for non-OU folder containers



Introduction to Group Policy

Defining characteristics of group policy

Settings are stored in **group policy objects (GPO)**

GPOs can be local and/or remote (server)



Introduction to Group Policy

Can be set up to affect user accounts and computers

When group policy is updated:

- Old policies are removed or updated for all clients

- Setting are pulled every 90 minutes

- Force using **gpupdate**



Processing Order

1. Local GP objects
2. Site
3. Domain
4. Organizational Unit

Admin can block inheritance at any level

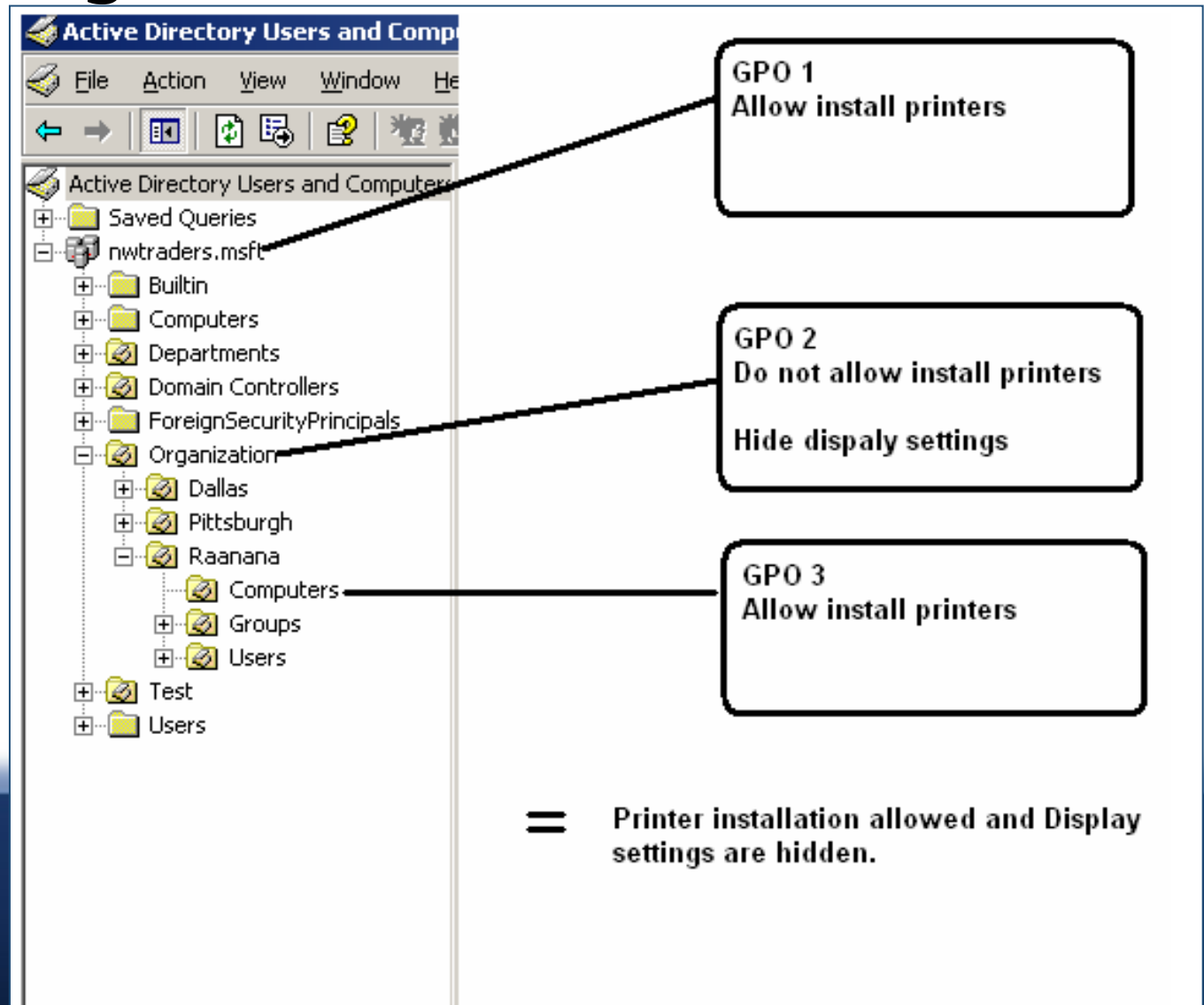
Group Policy Management Console (GPMC) can be accessed by:

Admin Tools -> Group Policy Management



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GP Nesting



GP - Two Sections

Computer configuration

Settings that configure the computer prior to the user login box

User Configuration

Settings take effect after user logs in

Applied to groups of users



Further Drill Down

Each of the two previous sections has two more sub folders

Software and Windows settings

Configs how SW runs on the system

Administrative Templates

Configure local registry



GP Extensions

Administrative templates. These include registry-based Group Policy, which you use to mandate registry settings that govern the behavior and appearance of the desktop, including the operating system components and applications

Security settings. You use the Security Settings extension to set security options for computers and users within the scope of a Group Policy object. You can define local computer, domain, and network security settings



GP Extensions

Software installation. You can use the Software Installation snap-in to centrally manage software in your organization. You can assign and publish software to users and assign software to computers



GP Extensions

Scripts. You can use scripts to automate computer startup and shutdown and user logon and logoff. You can use any language supported by Windows Script Host. These include the Microsoft Visual Basic® development system, Scripting Edition (VBScript); JavaScript; PERL; and MS-DOS®-style batch files (.bat and .cmd)

Remote Installation Services. You use Remote Installation Services (RIS) to control the behavior of the Remote Operating System Installation feature as displayed to client computers



GP Extensions

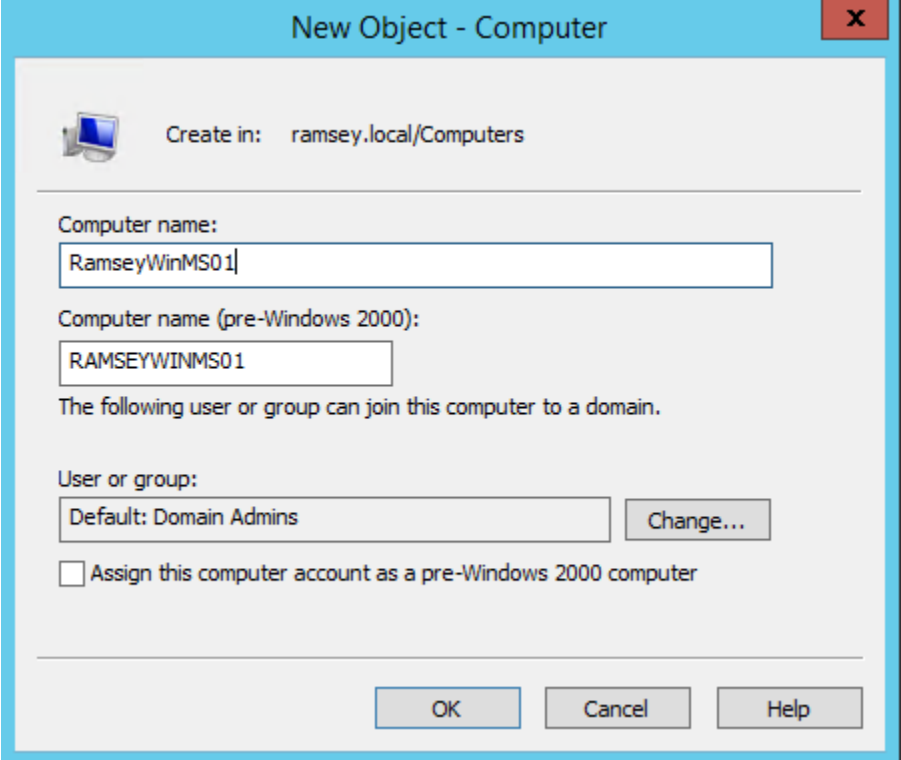
Internet Explorer maintenance. You use Internet Explorer Maintenance to manage and customize Microsoft® Internet Explorer on Windows 2000-based computers

Folder redirection. You use Folder Redirection to redirect Windows 20xx special folders from their default user profile location to an alternate location on the network. These special folders include My Documents, Application Data, Desktop, and the **Start** Menu



Add Computer to Domain (not using PS)

Create a computer account in AD



New Object - Computer

Create in: ramsey.local/Computers

Computer name:
RamseyWinMS01

Computer name (pre-Windows 2000):
RAMSEYWINMS01

The following user or group can join this computer to a domain.

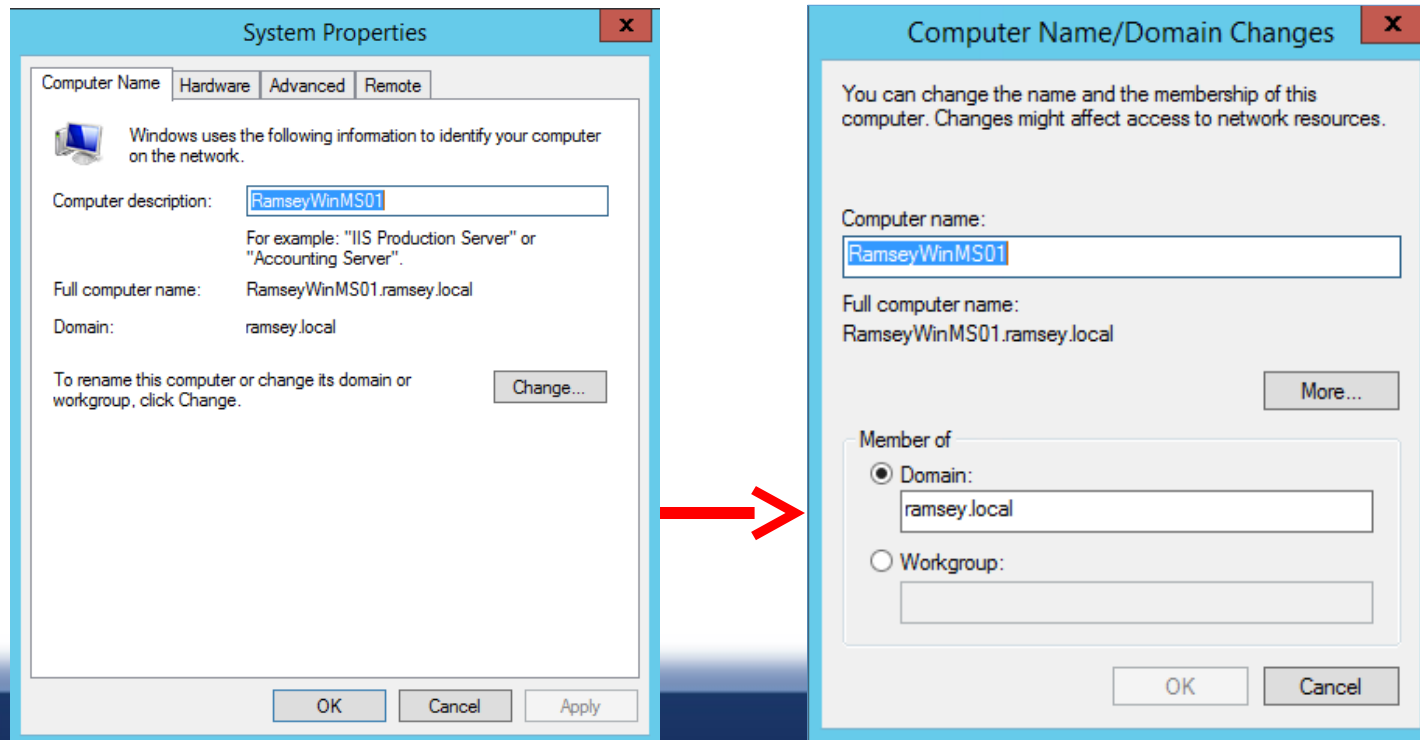
User or group:
Default: Domain Admins Change...

☐ Assign this computer account as a pre-Windows 2000 computer

OK Cancel Help

Win 7

Change computer properties to add to domain



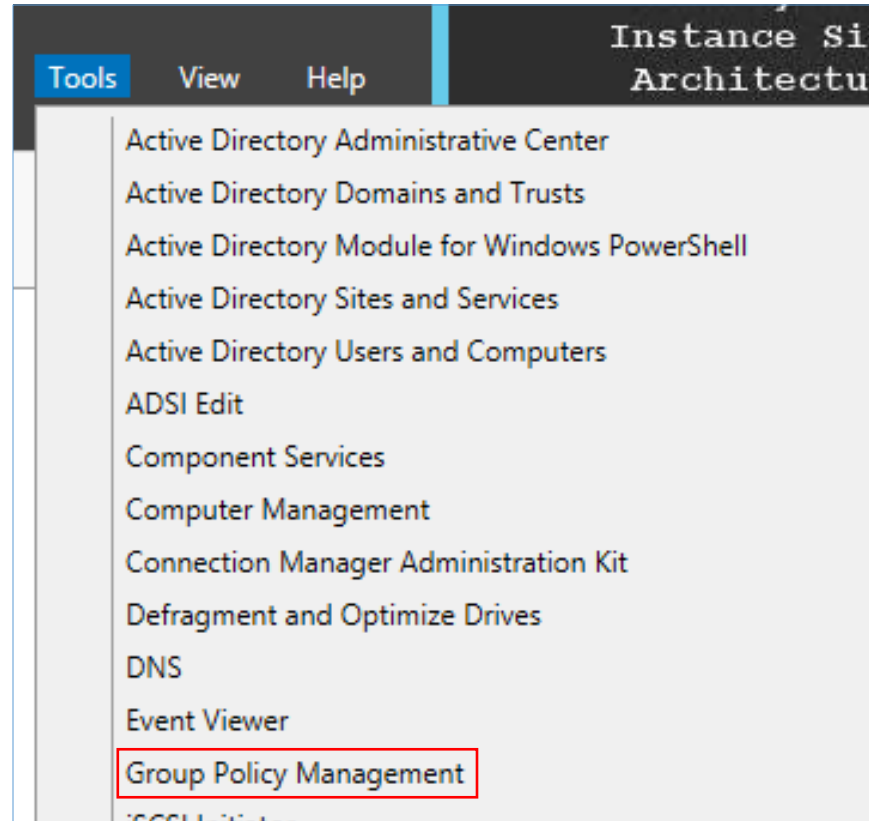
Client Computers

Once a client computer is added to a domain, AD can be used to push out GP settings

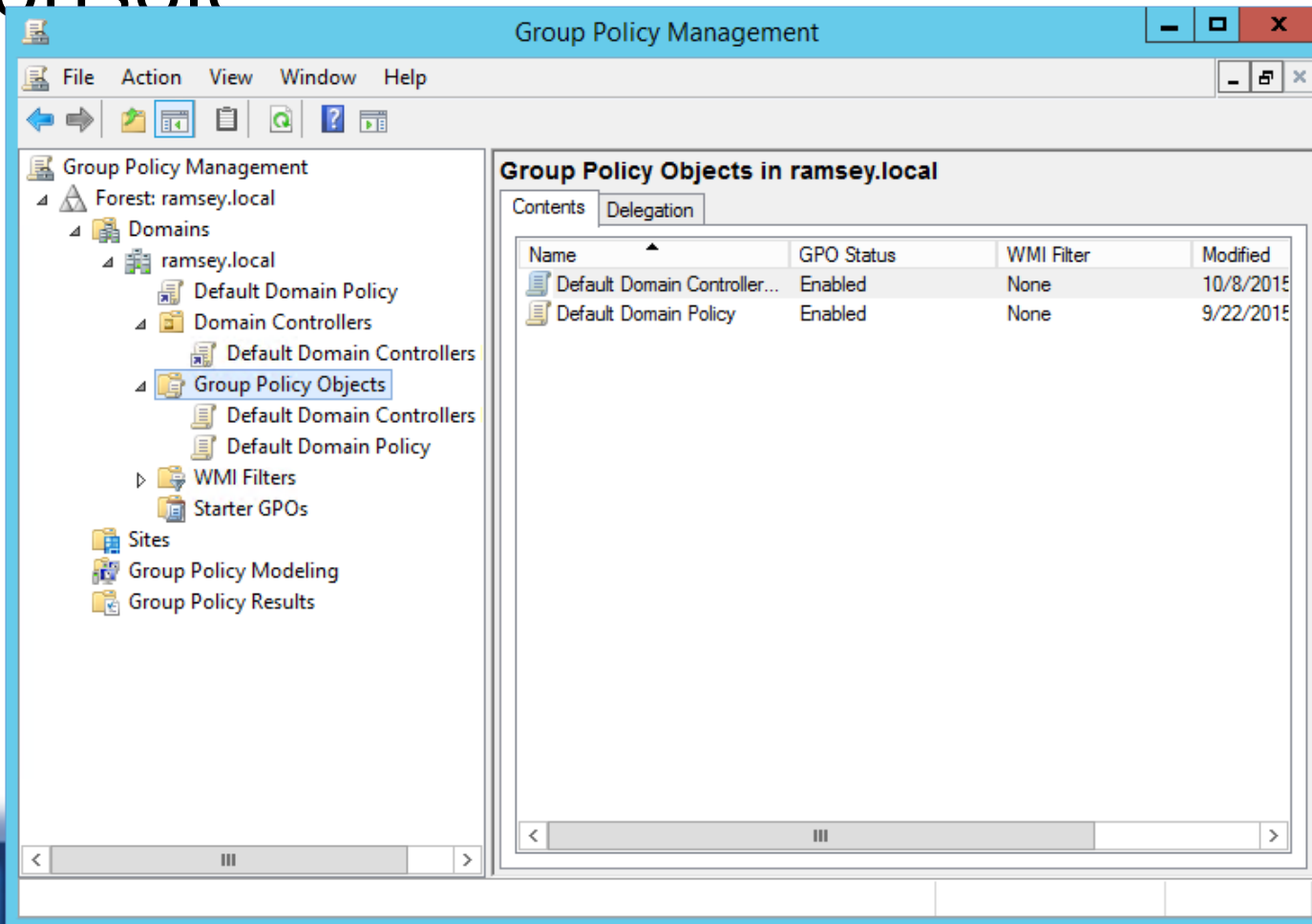
Need Admin rights to add computers to a domain



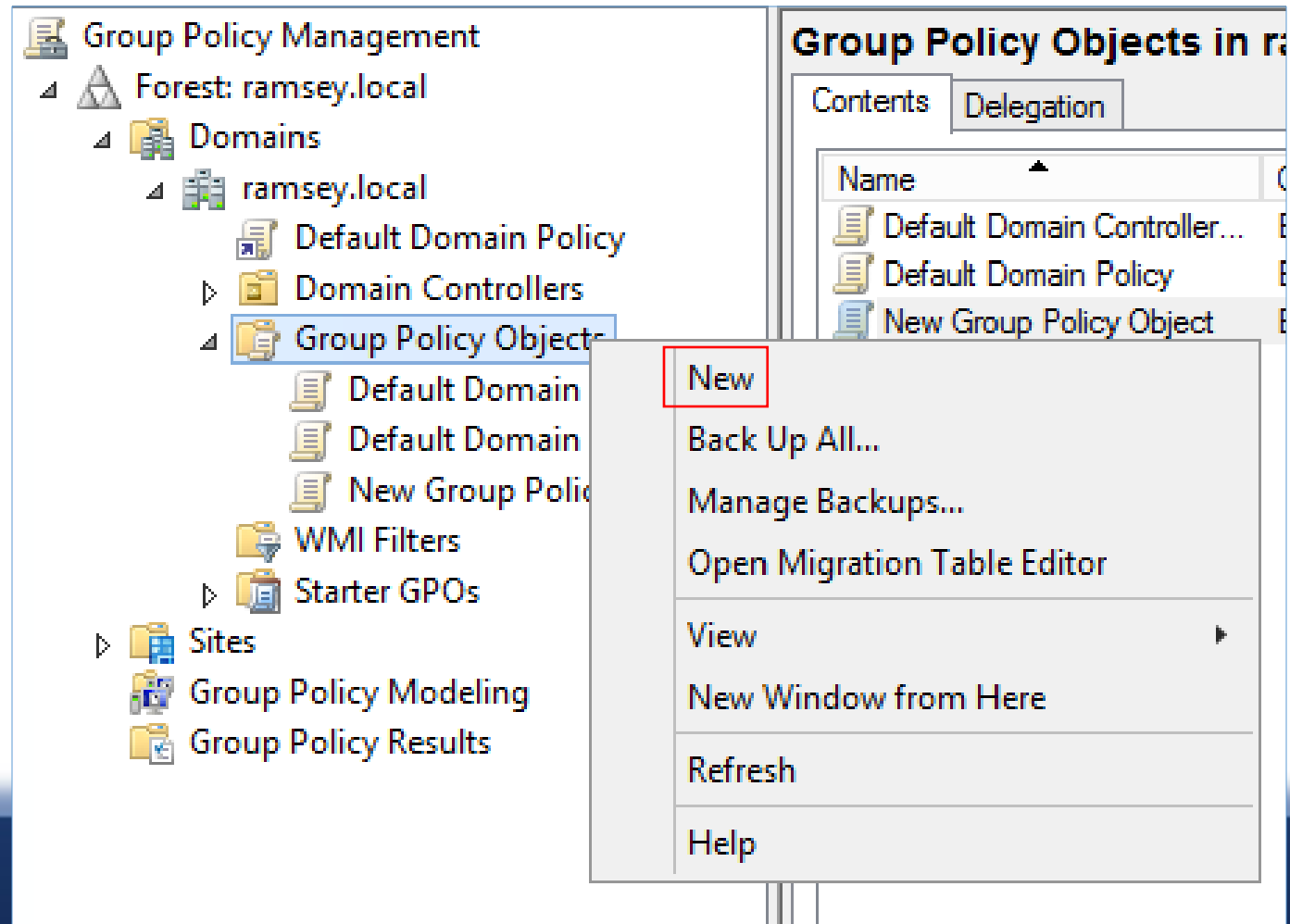
Access Group Policy Management Console



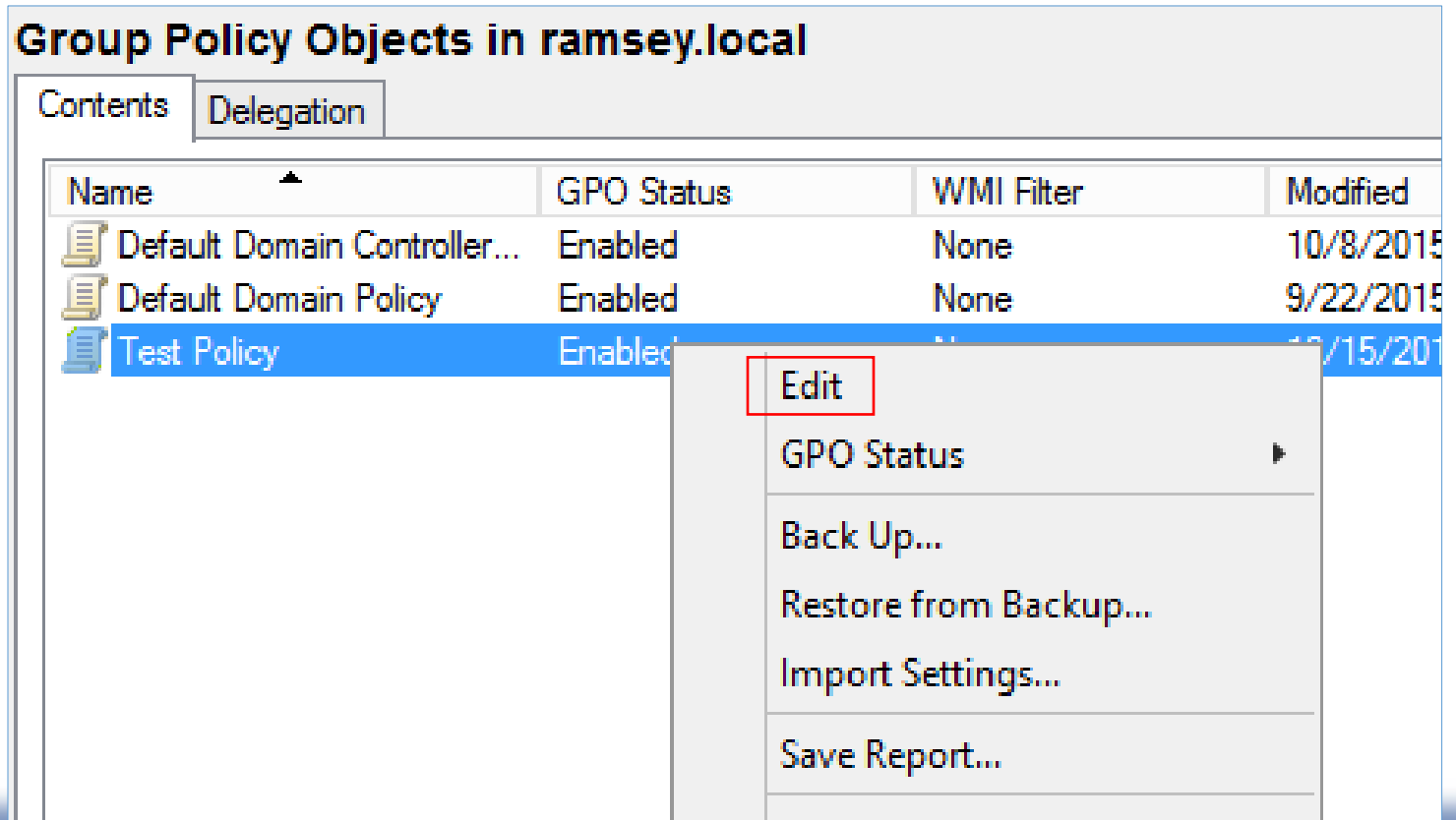
Access Group Policy Management Console



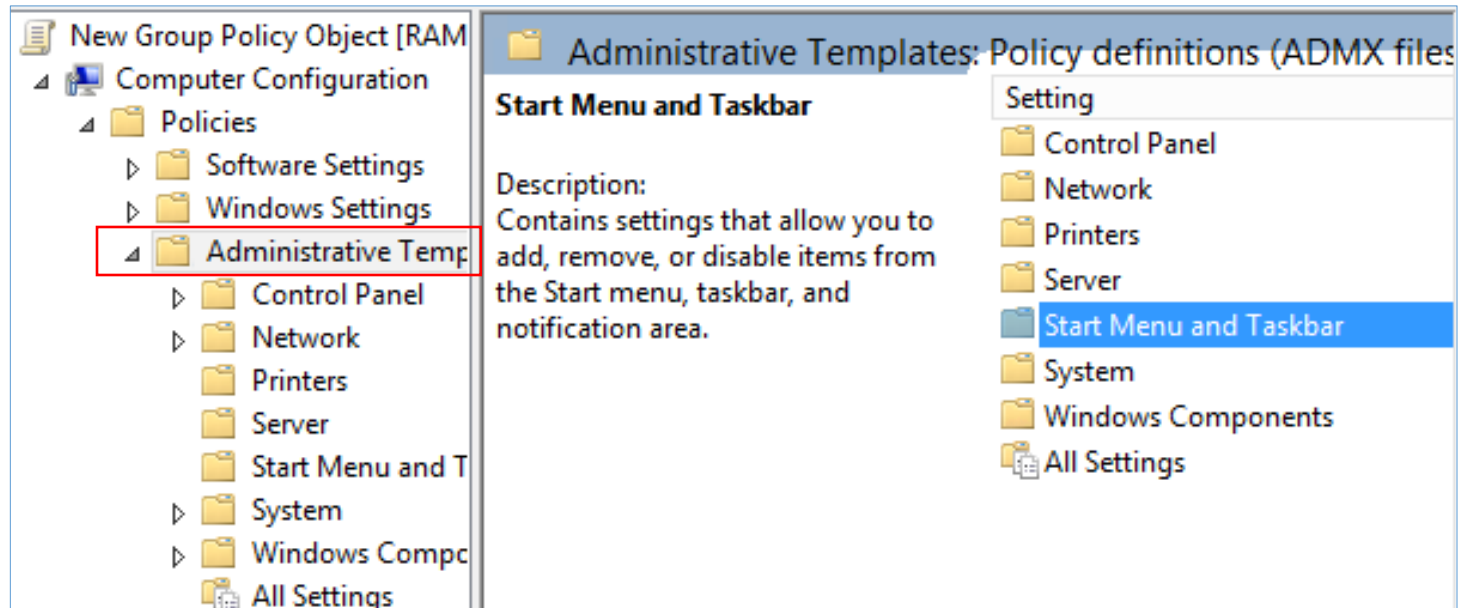
Create New GPO



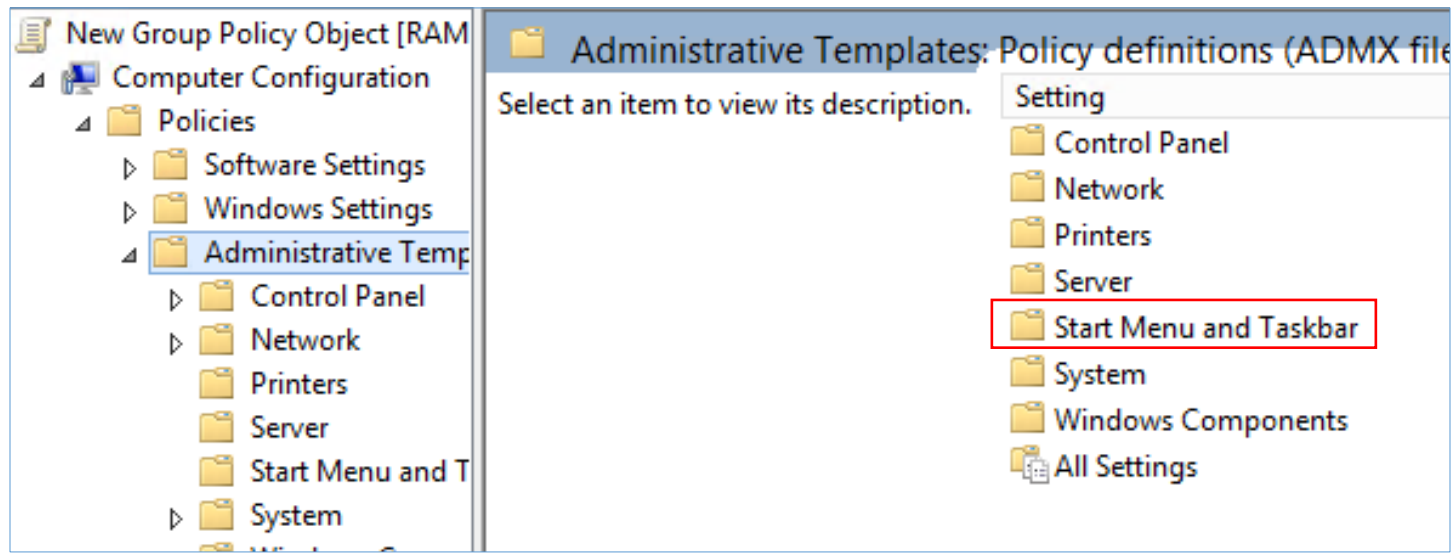
Edit New GPO



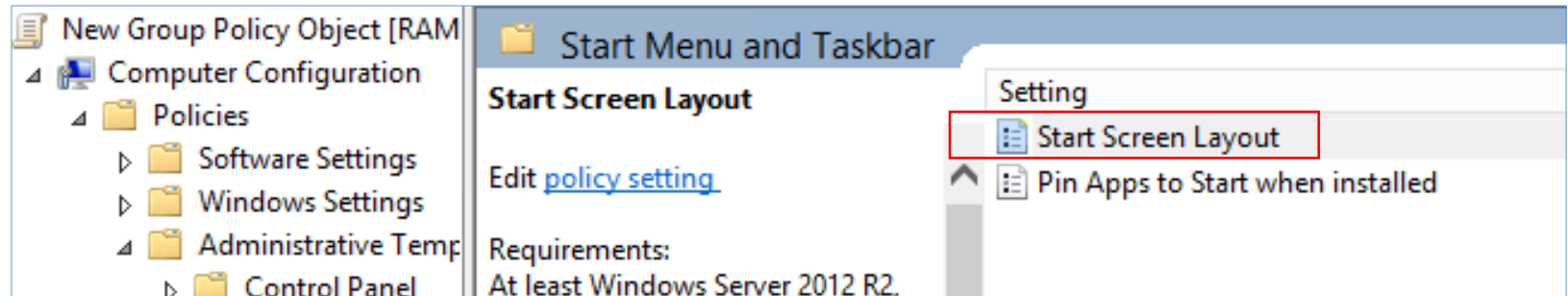
Go to Administrative Templates



Select Start Menu and Taskbar



Go to Administrative Templates



Note that by default it is not configured

Start Screen Layout

Previous Setting Next Setting

☒ Not Configured Comment:

☐ Enabled

☐ Disabled

Supported on: At least Windows Server 2012 R2, Windows 8.1 or Windows RT 8.1

Options: Help:

Start Layout File

Specifies the Start screen layout for users.

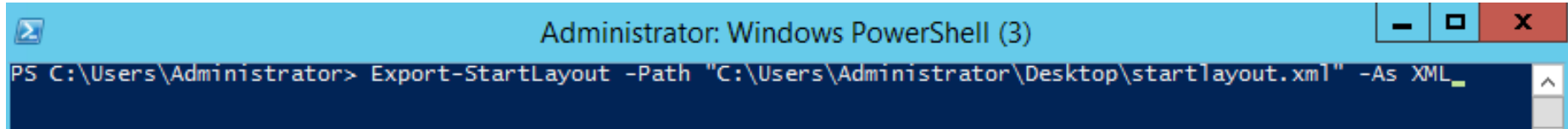
This setting lets you specify the Start screen layout for users and prevents them from changing its configuration. The Start screen layout you specify must be stored in an XML file that was generated by the Export-StartLayout PowerShell cmdlet. To use this setting, you must first manually configure a device's Start screen layout to the desired look and feel. Once you are done, run the Export-StartLayout PowerShell cmdlet on that same device. The cmdlet will generate an XML file representing the layout you configured.

Once the XML file is generated and moved to the desired file path, type the fully qualified path and name of the XML file. You can type a local path, such as C:\StartLayouts\myLayout.xml or a UNC path, such as \\Server\Share\Layout.xml. If the specified file is not available when the user logs on, the layout won't be changed. Users cannot customize their Start screen while this setting is enabled.

If you disable this setting or do not configure it, the Start screen

OK Cancel Apply

Select Start Screen Layout



```
Administrator: Windows PowerShell (3)
PS C:\Users\Administrator> Export-StartLayout -Path "C:\Users\Administrator\Desktop\startlayout.xml" -As XML
```

The instructions for the GPO (last slide) say to configure the display in the desired fashion and, using PowerShell, export the settings into an XML formatted file using the Export-StartLayout cmdlet. This command saves the file to the Administrator account's Desktop



Select Start Screen Layout

Start Screen Layout

Previous Setting Next Setting

☐ Not Configured Comment: Sets the default wallpaper to abstract-widescreen-backgrounds.jpg

☒ Enabled

☐ Disabled

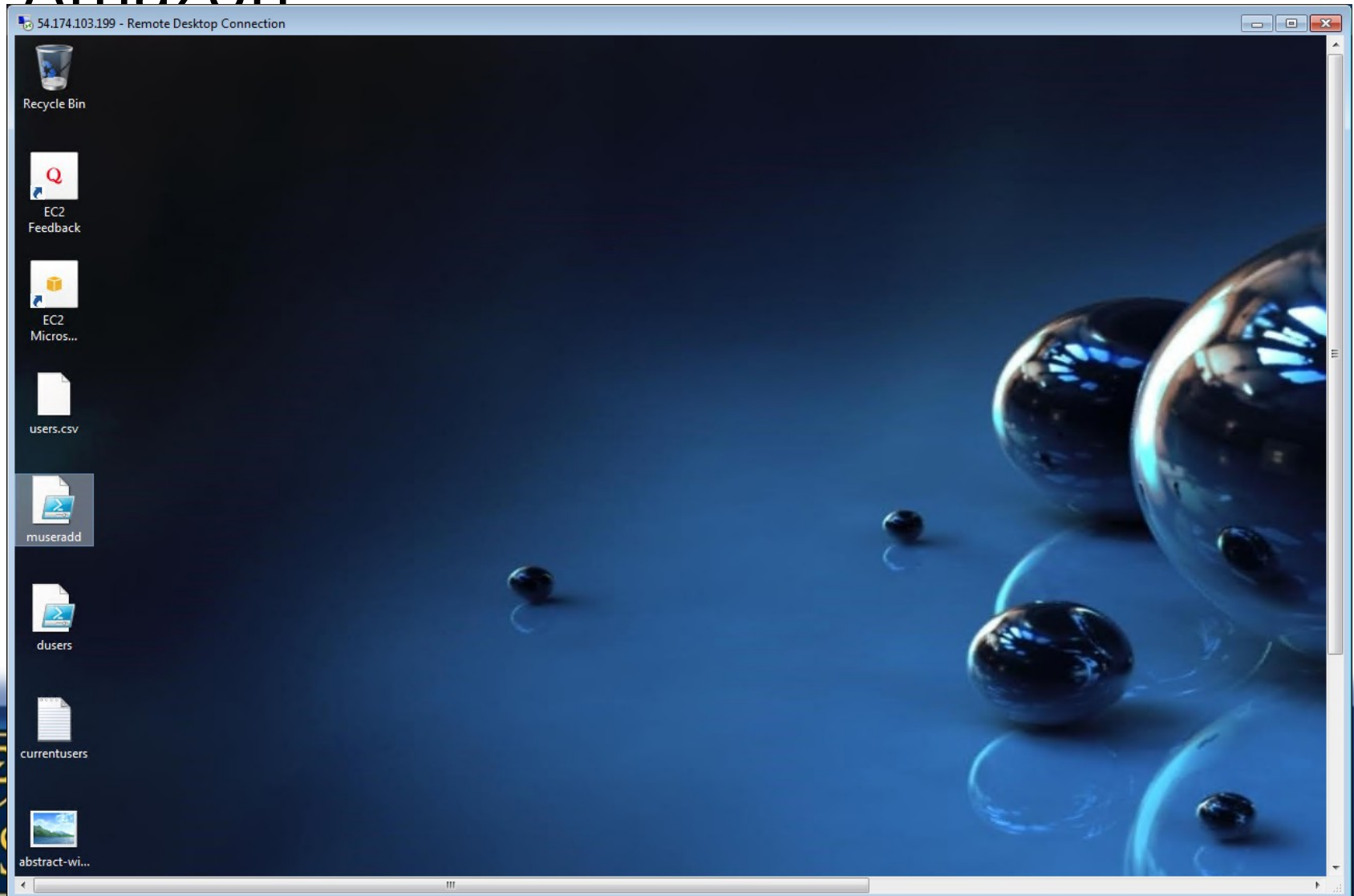
Supported on: At least Windows Server 2012 R2, Windows 8.1 or Windows RT 8.1

Options: Start Layout File C:\Users\Administrator\startlayout.xml

Help: Specifies the Start screen layout for users. This setting lets you specify the Start screen layout for users and prevents them from changing its configuration. The Start screen layout you specify must be stored in an XML file that was generated by the Export-StartLayout PowerShell cmdlet.

Click on OK or Apply and exit out to the GPMC

Reboot, and, Voila! We've Outfoxed Amazon



Other GP Examples

Use GP to push SW to clients

Assign SW to a PC or user

Publish SW in Add or Remove Programs

Create an .msi installer package

Package the installer in a deployable format

Share the .msi file on the network

Assign SW in the Software setting of AD



Other GP Examples

Security

Assign minimum password characteristics

Remove last login name login box

Set screen saver password

Remove options from

- Control panel

- Run command

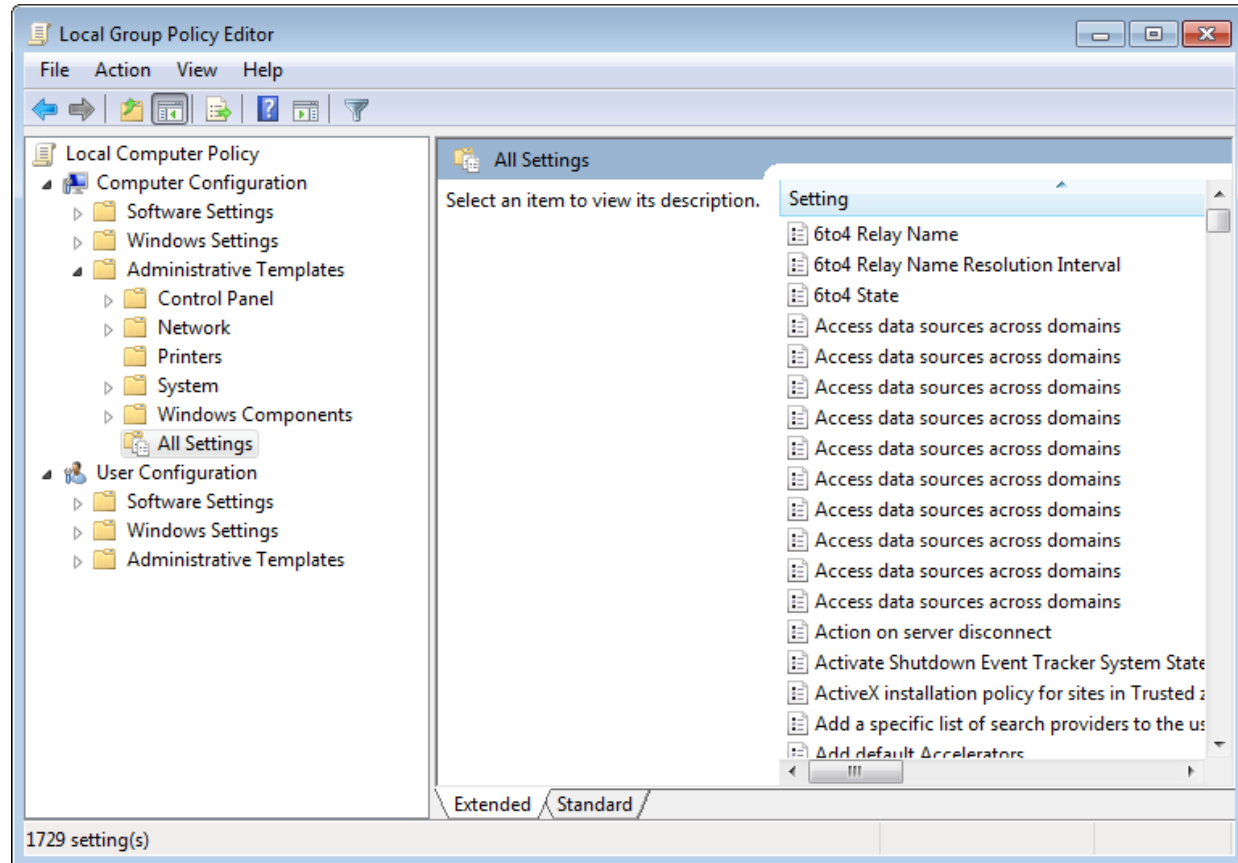
- Computer Properties Applet



GP in Win7

Gpedit.msc

Config local or
AD GP settings



GP Win7 – Computer Config

Set policies that are applied to the computer, regardless of who logs on to the computers

Contains sub-items for

- Software settings

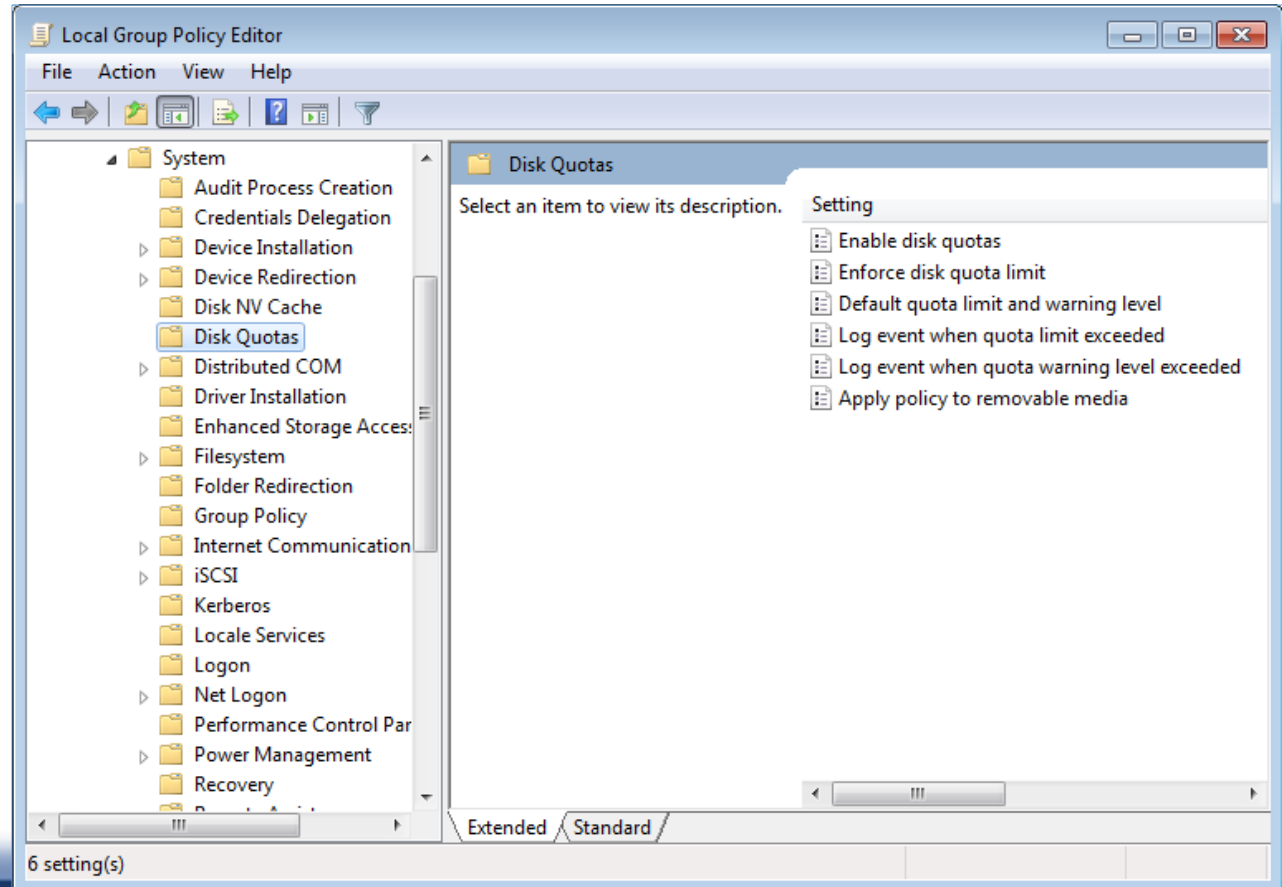
- Windows settings

- Administrative templates



Enabling Disk Quotas

Turn on disk quotas
for every user on a
particular machine



GP Win7 – User Config

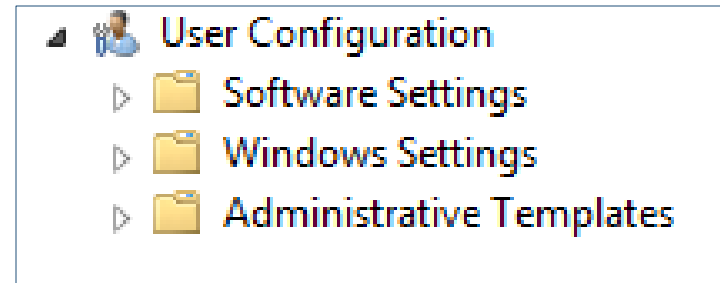
Set policies that apply to users, regardless of which computer they log on to

Contains sub-items for

Software settings

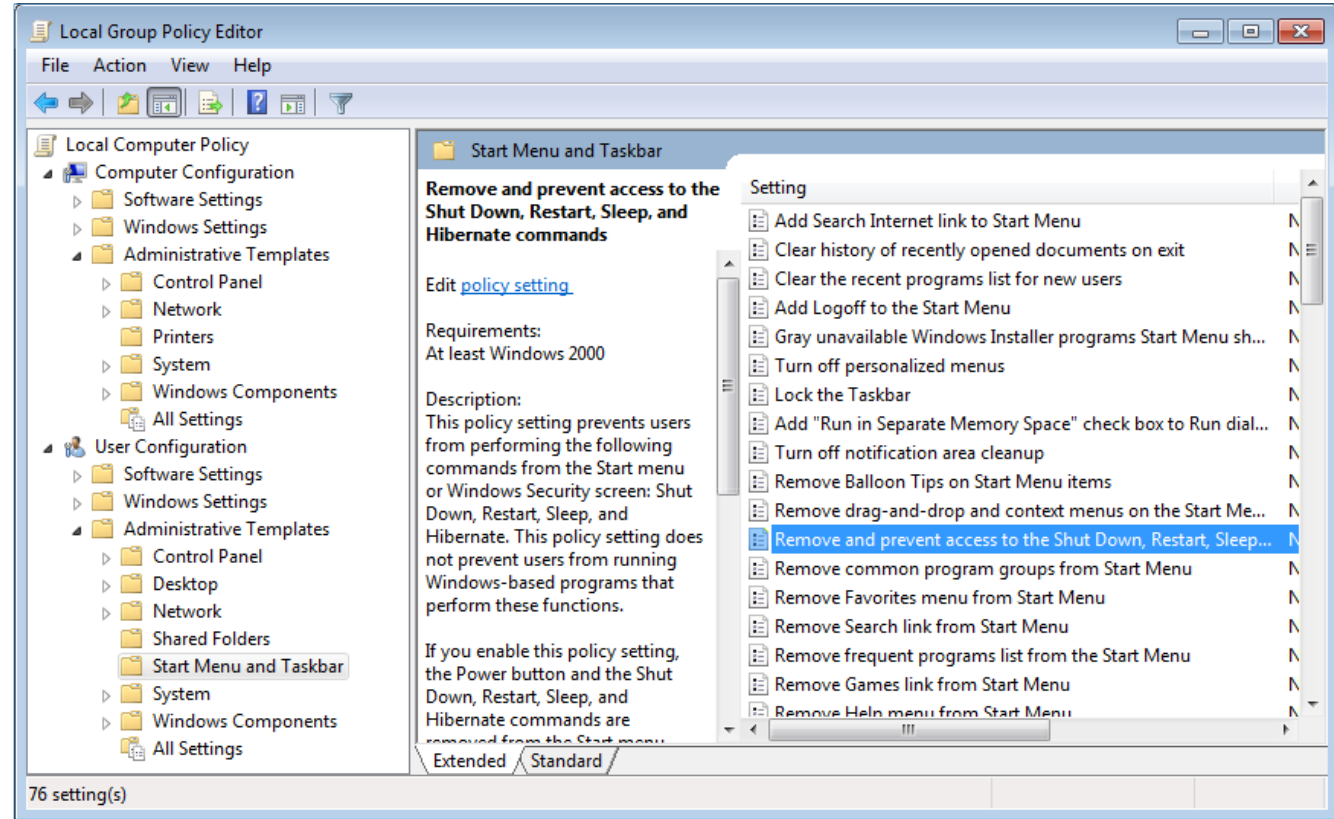
Windows settings

Administrative templates



Disable Shutdown

Removing the ability to shutdown a system



Advanced Group Policy Management

Used for deploying large scale group policy

Enables configuring GP offline

Testing new GP and examining changes

Version Tracking

Included in the Desktop Optimization Pack



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3rd Party Tools

Extend the management capabilities of default GP

Reporting features

Comparing different GPOs

Alerting if potential problems

Rollback functionality

Change management

Avecto, BeyondTrust, PolicyPak



GP Management Console

Unifies GP Management into one tool

- AD Users and Computers

- AD Sites and Services

- Resultant Set of Policy tool

- GPMC Delegation Wizard

- ACL Editor

Backup and restore functionality

Programming APIs

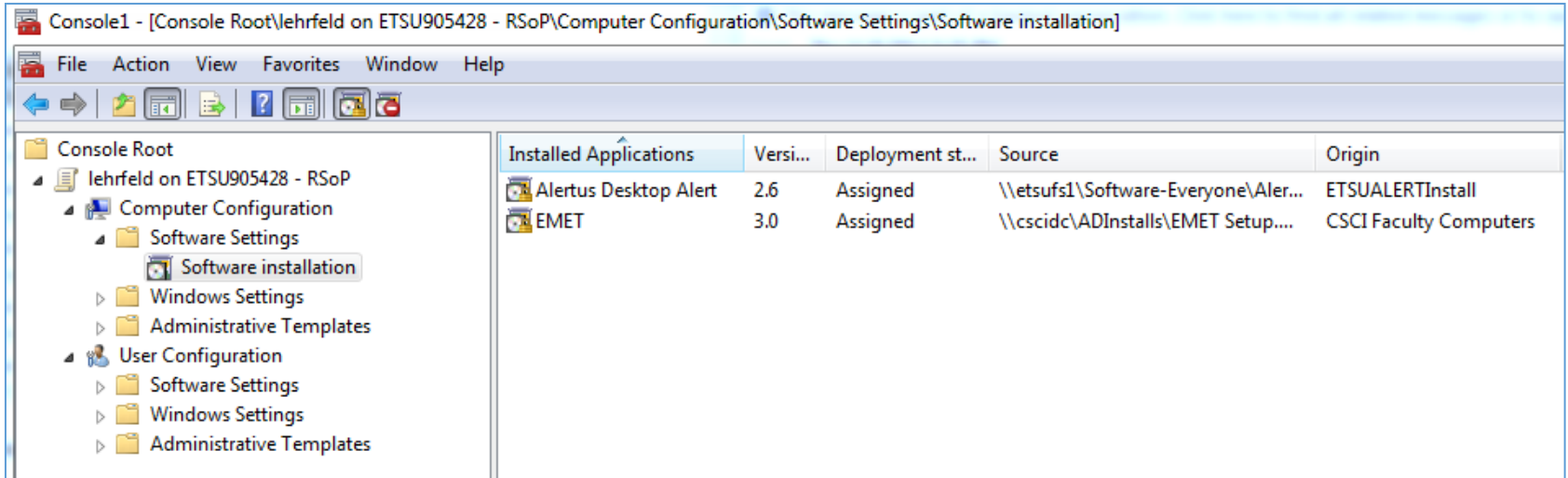


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Resultant Set of Policy

Computer's perspective of how GP is being applied

MMC snap-in



gpresult

More comprehensive tool than RSoP

Command line

Must run from elevated command prompt

```
gpresult /h report.html
```

Create an html file

<http://www.404techsupport.com/2010/05/rsop-and-gpresult-must-know-tools-when-using-group-policy/>



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gpresult

Firefox

ETSU\lehrfeld on ETSUCS\ETSU905428

file:///C:/Users/lehrfeld.ETSU/report.html

Google

Group Policy Results

ETSU\lehrfeld on ETSUCS\ETSU905428
Data collected on: 11/8/2012 5:29:35 PM

Computer Configuration Summary

General

Computer name	ETSUCS\ETSU905428
Domain	ETSUCS.etsu.edu
Site	Main-Campus
Last time Group Policy was processed	11/8/2012 3:56:27 PM

Group Policy Objects

Applied GPOs

Name	Link Location	Revision
LUP_certificate_settings	ETSUCS.etsu.edu	AD (5), Sysvol (5)
ETSUALERTInstall	ETSUCS.etsu.edu	AD (30), Sysvol (30)
CSCI Default Domain Policy	ETSUCS.etsu.edu	AD (264), Sysvol (264)
CSCI Faculty Computers	ETSUCS.etsu.edu/FacultyComputers	AD (18), Sysvol (18)

Denied GPOs

Name	Link Location	Reason Denied
Local Group Policy	Local	Empty

Security Group Membership when Group Policy was applied

BUILTIN\Administrators
Everyone
ETSU905428\SQLServerMSSQLServerADHelperUser\$ETSU905051
BUILTIN\Users
NT AUTHORITY\NETWORK
NT AUTHORITY\Authenticated Users
NT AUTHORITY\This Organization



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GP in 7

Config GP aware applications

Search

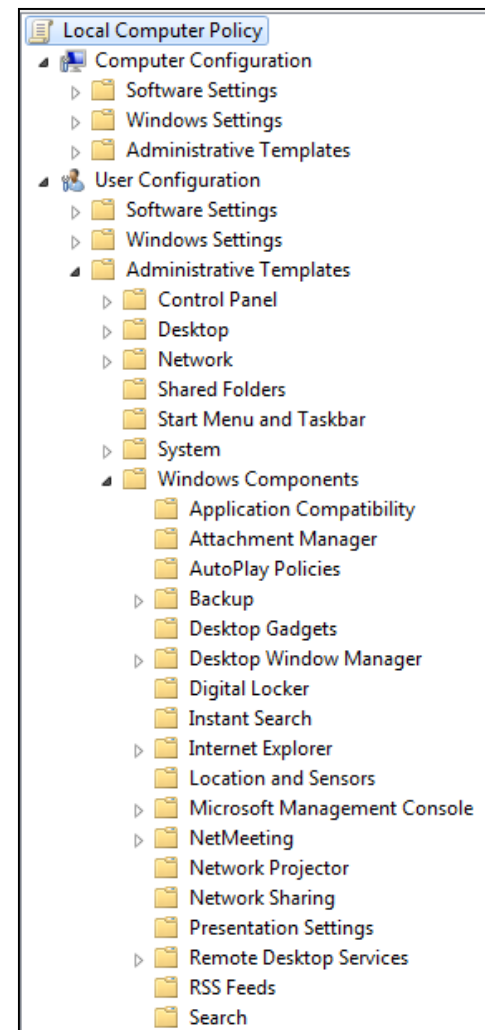
Win update

Remote Desktop

Internet Explorer

Backup

AutoPlay Settings



Create MSI Files

Installer format that utilizes the MS Installer framework

Registers installed SW for consistency

Allows advanced features like rollback and versioning

Registers the installed SW with Add/Remove Programs

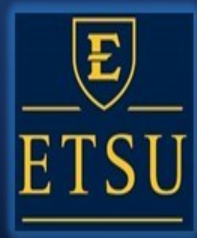
Allows administrative deployment options

- Install silently (Quiet Install)

- Supply an answer file to installer questions

 - Name

 - Key



Create MSI Files

Third Party Package creation tools

Visual Studio

Wise Installer

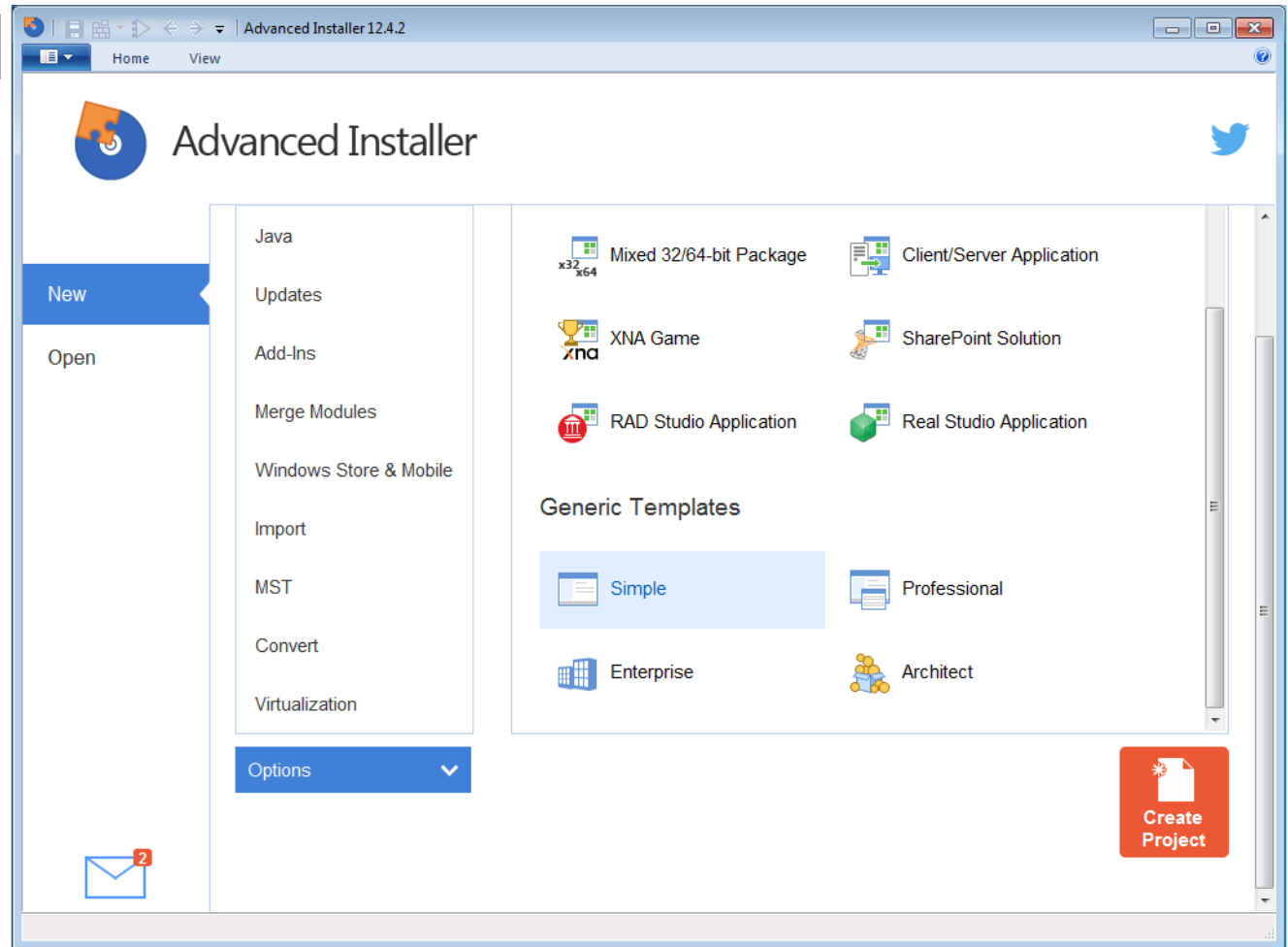
InstallShield

Allows for the easy deployment of applications Vs. creating a ripped CD image

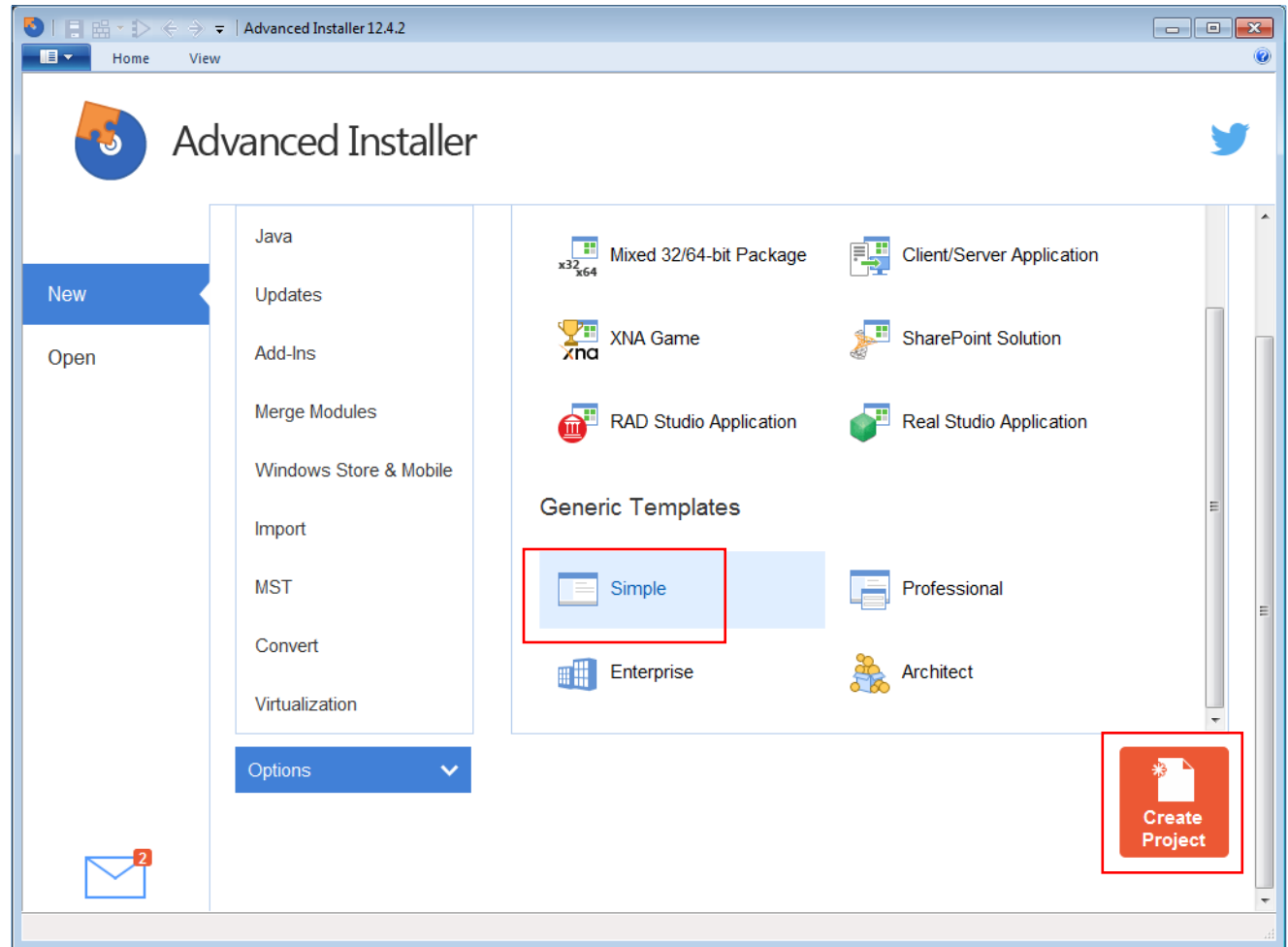


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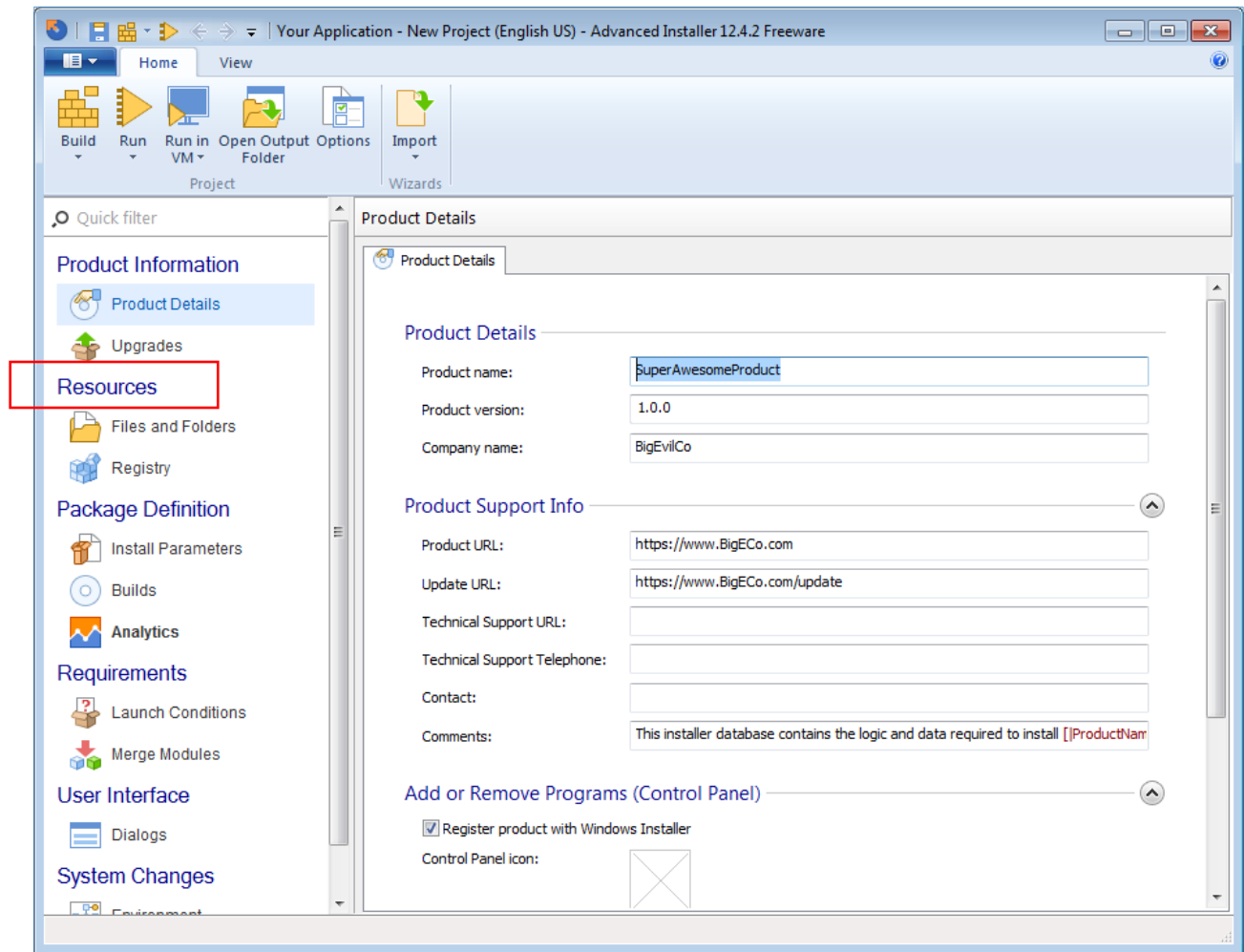
Advanced Installer



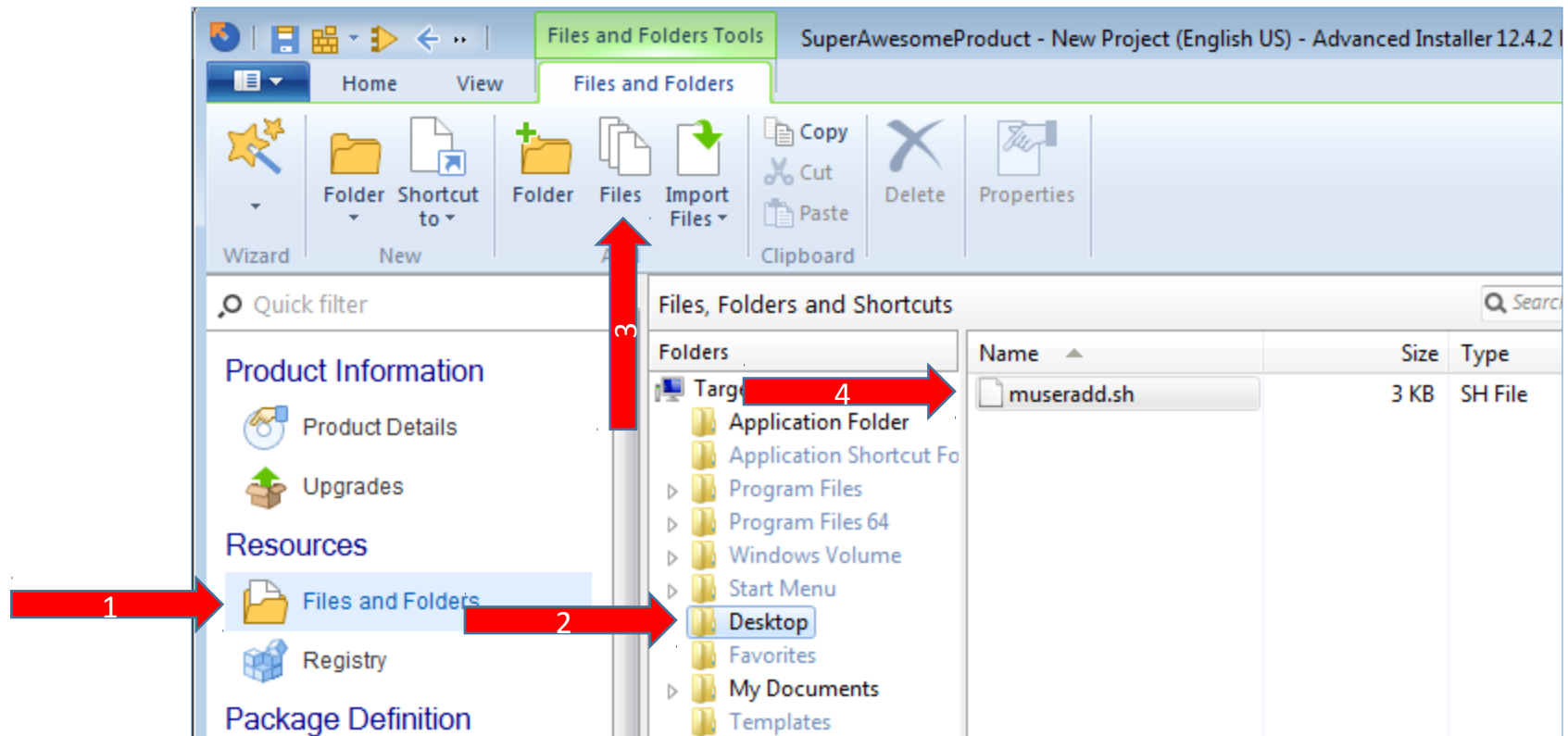
1. Create Project



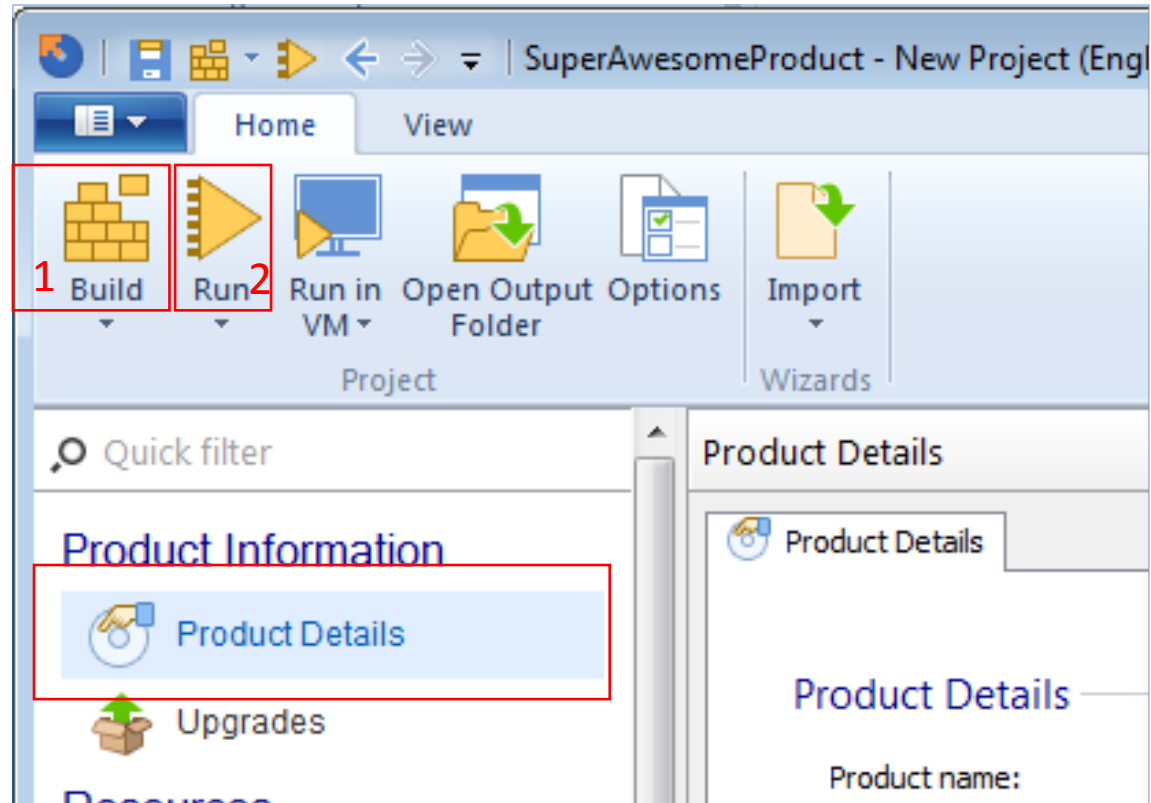
2. Config Product Details



3. Add and Build Program

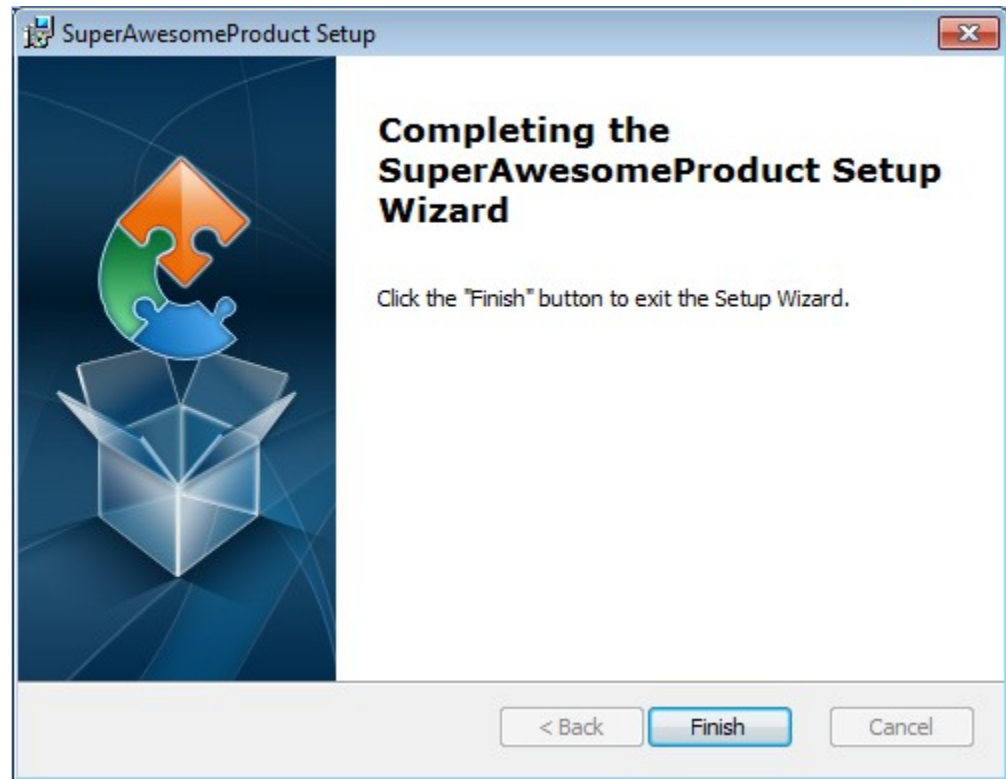


4. Installer Program Ready

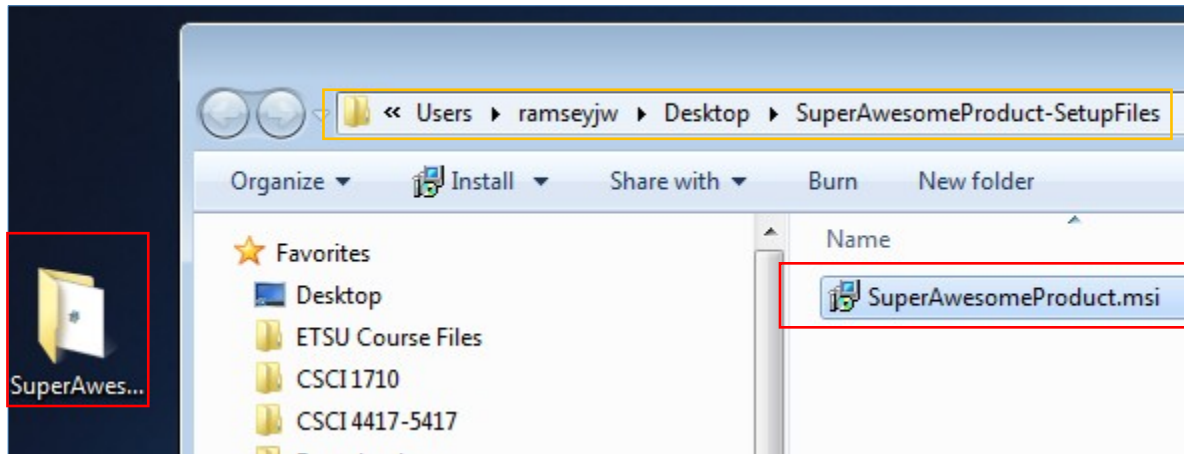


5. Install Program

Program is ready to use!



4. Installer Program Ready



References

<http://www.microsoft.com/learning/en/us/book.aspx?ID=9556&locale=en-us>

<http://technet.microsoft.com/en-us/library/ee532079.aspx>

[http://technet.microsoft.com/en-us/library/cc779838\(WS.10\).aspx](http://technet.microsoft.com/en-us/library/cc779838(WS.10).aspx)

<http://www.advancedinstaller.com/>



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Next Class

Lecture – Backup

Homework:

Reading: U&L Chapter 10; PSA pp619-643

Quicklabs:

Go to <https://qwiklabs.com/>

Sign up for a (free) account (use your Goldmail address)

Do the following labs (< 1 hour):

<https://qwiklabs.com/focuses/2144?search=70481> -- Load Balancing

<https://qwiklabs.com/focuses/preview/1990?search=70481> --

Autoscaling



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