

The Queen's College IT Open Morning

Windows Server Update Services and Chocolatey

What does it do?

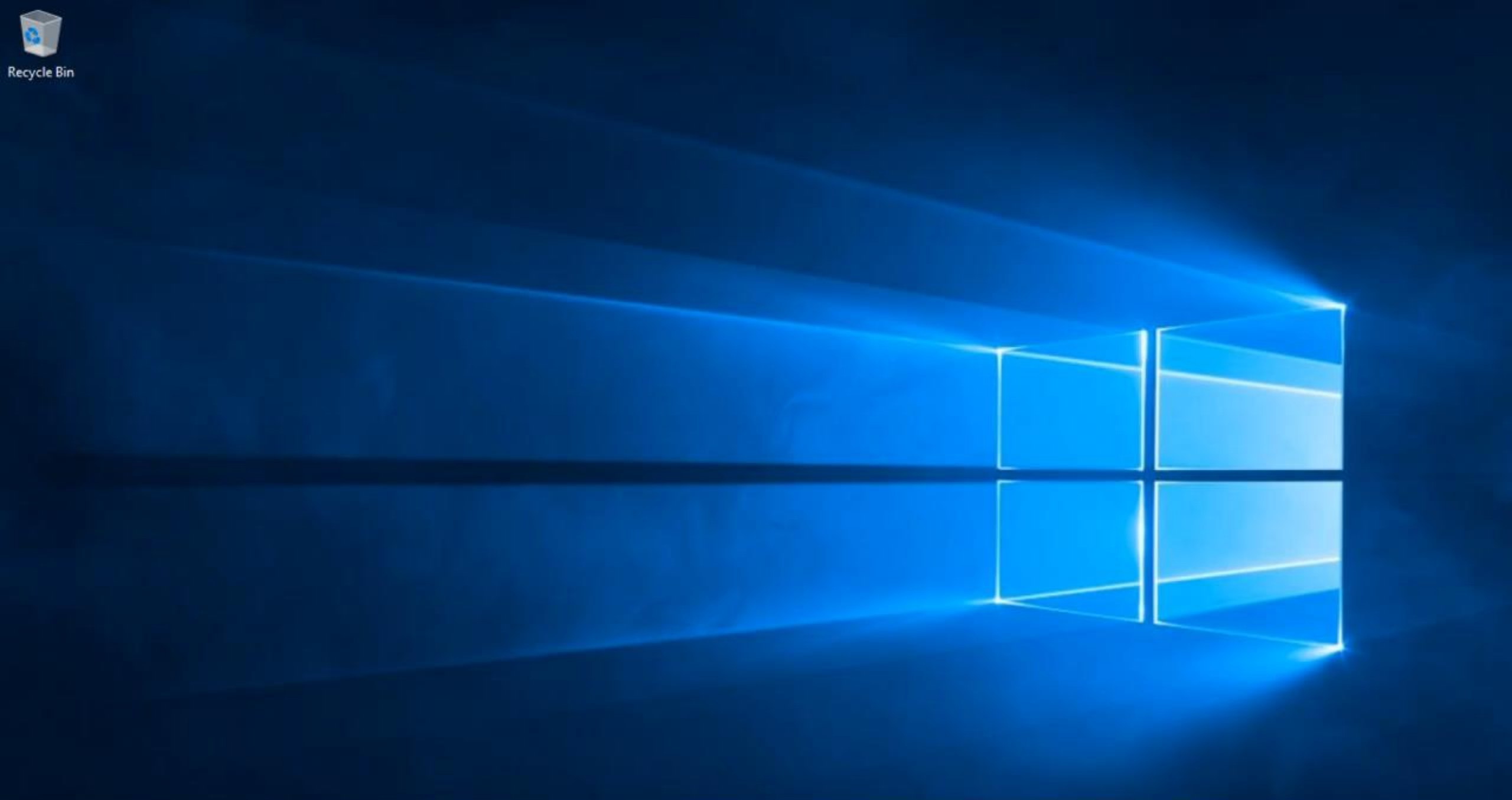
- Windows Server Update Services
 - Patches Microsoft (and non Microsoft) software on Windows Clients
 - Windows Client/Server OS
 - Microsoft Office
 - Adobe Reader DC
 - and others
- Chocolatey
 - Installs/updates 3rd party software on Windows Computers

Alternatives...

- Windows Server Update Services
 - Most other similar products are just adding to WSUS
- Chocolatey



Recycle Bin



Windows taskbar containing the Start button, Search, Task View, Microsoft Edge, File Explorer, and system tray icons for network, volume, and notifications. The system tray also displays the time 19:56 and the date 10/12/2017.



Recycle Bin

```
Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) 2016 Microsoft Corporation. All rights reserved.

PS C:\windows\system32> Get-WindowsFeature -Name UpdateServices, UpdateServices-UI | Install-WindowsFeature

Success Restart Needed Exit Code      Feature Result
-----
True      No          Success      {ASP.NET 4.6, HTTP Activation, Remote Serv...}
WARNING: Additional configuration may be required. Review the article Managing WSUS Using PowerShell at TechNet Library
(http://go.microsoft.com/fwlink/?LinkId=235499) for more information on the recommended steps to perform WSUS
installation using PowerShell.

PS C:\windows\system32> _
```





Recycle Bin

Complete WSUS Installation

Post-installation successfully completed. Click Close to launch the WSUS Administration Console.

Store updates locally

Content directory path:





Recycle Bin

Windows Server Update Services Configuration Wizard:KC-WSUS01

Connect to Upstream Server
Download update information from Microsoft Update

Before You Begin
Microsoft Update Improvement Program
Choose Upstream Server
Specify Proxy Server
Choose Languages
Choose Products
Choose Classifications
Configure Sync Schedule
Finished
What's Next

To configure Windows Server Update Services on the following screens, we need to apply your upstream server and proxy server settings and synchronize information about available updates.

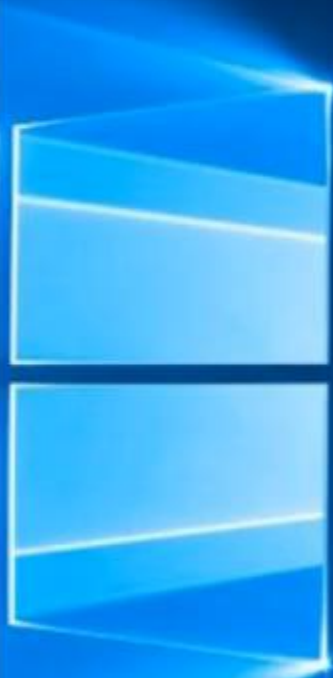
Information to be downloaded includes:

- Types of updates available
- Products that can be updated
- Available languages

Click Start Connecting to save and download upstream server and proxy server information. This process might take several minutes or longer, depending on your connection speed.

Start Connecting Stop Connecting

< Back Next > Finish Cancel





Active Directory Users and Computers [KC-DC01.kings.ox.ac.uk]

- > Saved Queries
- ▼ kings.ox.ac.uk
 - > Builtin
 - Computers
 - Domain Computers
 - Domain Controllers
 - ▼ Domain Groups
 - Windows Update
 - Domain Servers
 - > Domain Users
 - > ForeignSecurityPrincipals
 - > Keys
 - > LostAndFound
 - > Managed Service Accounts
 - > Program Data
 - > System
 - > Users
 - > NTDS Quotas
 - > TPM Devices

Name

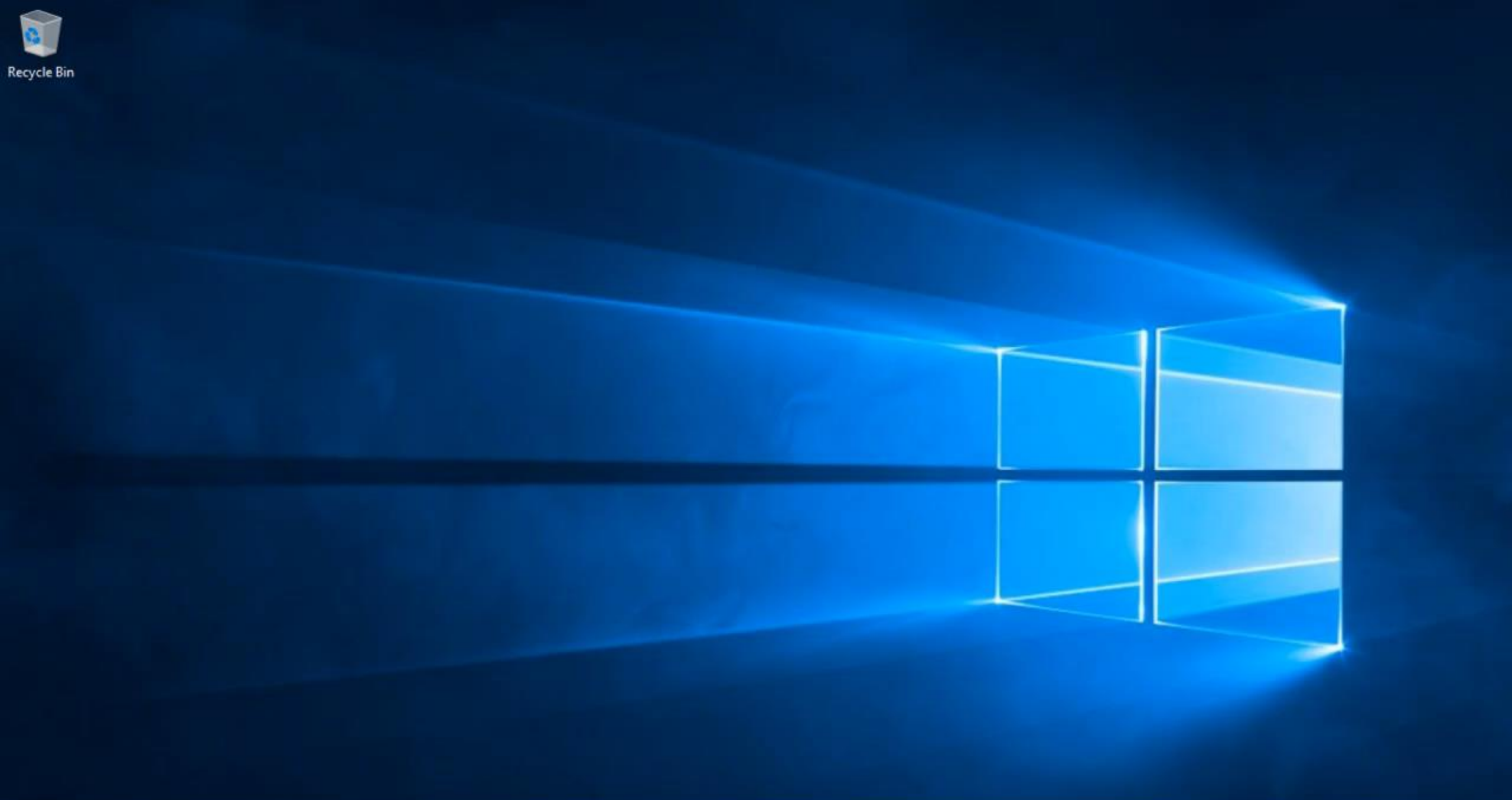
Type

Description

There are no items to show in this view.



Recycle Bin



Windows taskbar containing icons for Start, Search, Task View, Edge, File Explorer, and Settings. The system tray on the right shows a volume icon, a network icon, the time 09:58, the date 11/12/2017, and a notification icon.



- Group Policy Management
 - Forest: kings.ox.ac.uk
 - Domains
 - kings.ox.ac.uk
 - Default Domain Policy
 - Domain Computers
 - WSUS - Clients**
 - WSUS - Clients Fast
 - Domain Controllers
 - Default Domain Controllers Policy
 - WSUS - Servers
 - Domain Groups
 - Domain Servers
 - WSUS - Servers
 - WSUS - Servers Fast
 - Domain Users
 - Group Policy Objects
 - WMI Filters
 - Starter GPOs
 - Sites
 - Group Policy Modeling
 - Group Policy Results

WSUS - Clients

Scope Details Settings Delegation

Links

Display links in this location: kings.ox.ac.uk

The following sites, domains, and OUs are linked to this GPO:

Location	Enforced	Link Enabled	Path
Domain Computers	No	Yes	kings.ox.ac.uk/Domain Computers

Security Filtering

The settings in this GPO can only apply to the following groups, users, and computers:

Name
Authenticated Users

Add... Remove Properties

WMI Filtering

This GPO is linked to the following WMI filter:

<none> Open

Configure Automatic Updates

Configure Automatic Updates Previous Setting Next Setting

Not Configured Comment:

Enabled

Disabled

Supported on:

Options: Help:

Configure automatic updating:

The following settings are only required and applicable if 4 is selected.

Install during automatic maintenance

Scheduled install day:

Scheduled install time:

Install updates for other Microsoft products

Specifies whether this computer will receive security updates and other important downloads through the Windows automatic updating service.

Note: This policy does not apply to Windows RT.

This setting lets you specify whether automatic updates are enabled on this computer. If the service is enabled, you must select one of the four options in the Group Policy Setting:

2 = Notify before downloading and installing any updates.

When Windows finds updates that apply to this computer, users will be notified that updates are ready to be downloaded. After going to Windows Update, users can download and install any available updates.

3 = (Default setting) Download the updates automatically and notify when they are ready to be installed

Windows finds updates that apply to the computer and

OK Cancel Apply



- Update Services
 - KC-WSUS01
 - Updates
 - All Updates
 - Critical Updates
 - Security Updates
 - WSUS Updates
 - Computers
 - Downstream Servers
 - Synchronizations
 - Reports
 - Options

Options

This view allows you to configure settings on your server.

Options

- Update Source and Proxy Server**
You can choose whether this Windows Server Update Services server synchronizes from Microsoft Update or from an upstream Windows Server Update Services server on your network.
- Products and Classifications**
You can specify the products for which you want updates and the types of updates you want.
- Update Files and Languages**
You can choose whether to download update files, where to store downloaded files, and which update languages you want to download.
- Synchronization Schedule**
You can choose to synchronize manually or set a schedule for daily automatic synchronization.
- Automatic Approvals**
You can specify how to automatically approve installation of updates for selected groups and how to approve revisions to existing updates.
- Computers**
You can specify how to assign computers to groups.
- Server Cleanup Wizard**
You can use server cleanup to free up old computers, updates and update files from your server.
- Reporting Rollup**
You can choose to have replica downstream servers roll up update and computer status.
- E-Mail Notifications**
You can have Windows Server Update Services send e-mail notifications of new updates and status reports.
- Microsoft Update Improvement Program**
You have the option of joining the Microsoft Update Improvement Program to improve the quality, reliability, and performance of Microsoft software.
- Personalization**

Actions

- Options
- Search...
- View
- New Window from Here
- Refresh
- Help



- Update Services
 - KC-WSUS01
 - Updates
 - Computers
 - All Computers
 - Unassigned Computers
 - Clients
 - Clients Fast
 - Servers
 - Servers Fast
 - Downstream Servers
 - Synchronizations
 - Reports
 - Options

Clients (1 computers of 1 shown, 2 total)

Status: Any Refresh

Name	IP Address	Operating System	Installed/Not Appli...	Last Status Report
minint-obd1u5o.kings.ox.ac.uk	172.16.0.103	Windows 10 Enterprise	99%	11/12/2017 11:54

minint-obd1u5o.kings.ox.ac.uk

Status

	Updates with errors:	0	Group membership:	All Computers, Clients
	Updates needed:	8	OS:	Windows 10 Enterprise
	Updates installed/not applicable:	2497	OS language:	en-GB
	Updates with no status:	0	Service pack:	None
			IP address:	172.16.0.103

Additional Details

Computer make: Microsoft Corporation
 Computer model: Virtual Machine
 Processor: AMD64
 BIOS version: Hyper-V UEFI Release v1.0 Hyper-V UEFI Release v1.0
 Firmware version: Hyper-V UEFI Release v1.0
 Mobile operator: Not Present

Actions

- Clients
 - Search...
 - Add Computer Group...
 - View
 - New Window from Here
 - Delete
 - Refresh
 - Help
- Computer
 - Change Membership...
 - Delete
 - Group By
 - Status Report
 - Help

Show properties and installation status for updates



- Update Services
 - KC-WSUS01
 - Updates
 - Computers
 - Downstream Servers
 - Synchronizations
 - Reports
 - Options

KC-WSUS01

Use this snap-in to quickly and reliably deploy the latest updates to your computers.

To Do

- 434 security updates are waiting to be [approved](#).
- 819 critical updates are waiting to be [approved](#).
- 298 new products and 11 new classifications have been added in the past 30 days. [View products and classifications](#)

Overview

Computer Status Computers with errors: 0 Computers needing updates: 2 Computers installed/not applicable: 0	Synchronization Status Status: Idle Synchronize Now Last synchronization: 11/12/2017 12:20 Last synchronization result: Succeeded
Update Status Updates with errors: 0 Updates needed by computers: 8 Updates installed/not applicable: 0	Download Status Updates needing files: 0
Server Statistics Unapproved updates: 2505 Approved updates: 0 Declined updates: 260 Computers: 4 Computer groups: 4	Connection Type: Local/SSL Port: 8530 User role: Administrator Server version: 10.0.14393.447

Resources

- WSUS Home Page
- WSUS Technical Overview
- Microsoft Update Catalog
- WSUS Community
- WSUS Privacy Statement

Actions

- KC-WSUS01
- Search...
- Remove from Console
- Import Updates...
- View
- New Window from Here
- Refresh
- Help

Displays Help for the current selection.



Update Services

- KC-WSUS01
 - Updates
 - All Updates
 - Critical Updates
 - Security Updates
 - WSUS Updates
 - Computers
 - Downstream Servers
 - Synchronizations
 - Reports
 - Options

All Updates (2505 updates of 2765 shown, 2765 total)

Approval: Unapproved Status: Any Refresh

Title	Classification	Installed...	Approval
Update for Microsoft Office 2016 (KB3114390) 64-Bit Edition	Critical Updates	50%	Declined
Update for Microsoft Office 2016 (KB3114384) 64-Bit Edition	Critical Updates	50%	Declined
Update for Microsoft Office 2016 (KB3114512) 64-Bit Edition	Critical Updates	50%	Declined
Update for Microsoft Office 2016 (KB3114521) 32-Bit Edition	Critical Updates	50%	Declined
Update for Microsoft Office 2016 (KB3114533) 64-Bit Edition	Critical Updates	50%	Declined
Update for Microsoft Outlook 2016 (KB3114532) 32-Bit Edition	Critical Updates	50%	Declined
Update for Microsoft Office 2016 (KB3114377) 32-Bit Edition	Critical Updates	50%	Declined
Update for Microsoft PowerPoint 2016 (KB3114373) 64-Bit Edition	Critical Updates	50%	Declined
Security Update for Microsoft Office 2016 (KB3101514) 64-Bit Edition	Security Updates	50%	Declined
Security Update for Microsoft Excel 2016 (KB3101510) 64-Bit Edition	Security Updates	50%	Declined
Update for Microsoft OneDrive for Business (KB3114392) 32-Bit Edition	Critical Updates	50%	Declined
Update for Microsoft Office 2016 (KB3114377) 64-Bit Edition	Critical Updates	50%	Declined
Update for Microsoft Office 2016 (KB3114370) 64-Bit Edition	Critical Updates	50%	Declined
Update for Microsoft Office 2016 (KB3114383) 32-Bit Edition	Critical Updates	50%	Declined
Security Update for Skype for Business 2016 (KB3114372) 64-Bit Edition	Security Updates	50%	Declined

Feature update to Windows 10 Education, version 1703, hu-hu

This update is superseded by another update. Before you decline any superseded update, we recommend that you verify it is no longer needed by any computers. To do so, approve the superseding update first.

Status:

Computers with errors:	0	MSRC severity:	Unspecified
Computers needing this update:	0	MSRC number:	None
Computers installed/not applicable:	2	Release date:	11 April 2017
Computers with no status:	2	KB article numbers:	3012973

Description

Install the latest update for Windows 10: the Windows 10 Creators Update.

Additional Details

Actions

- All Updates
- Search...
- New Update View...
 - View
 - New Window from Here
- Refresh
- Help
- Update
 - Approve...
 - Group By
 - Revision History
 - File Information
 - Status Report
 - Help

Approve selected updates



Recycle Bin



Google Chrome

Windows taskbar containing the Start button, search bar with the text "Ask me anything", taskbar icons for File Explorer, Microsoft Edge, and Mail, and system tray icons for network, volume, and date/time (12:54, 11/12/2017).



Recycle Bin



Google Chrome

Windows taskbar containing the Start button, search bar, taskbar icons (Edge, File Explorer, Store, Mail), system tray icons (network, volume, notification), and the date/time display (12:56, 11/12/2017).



Update Services

- KC-WSUS01
 - Updates
 - All Updates
 - Critical Updates
 - Security Updates
 - WSUS Updates
 - Computers
 - All Computers
 - Unassigned Computers
 - Clients
 - Clients Fast
 - Servers
 - Servers Fast
 - Downstream Servers
 - Synchronizations
 - Reports
 - Options

All Updates (5 updates of 2765 shown, 2765 total)

Approval: Approved Status: Failed or Needed Refresh

Title	Classificat...	Inst...	Approval
2017-11 Cumulative Update for Windows 10 Version 1709 for x64-based Systems (KB4051963)	Updates	40%	Install (3/6)
2017-11 Update for Windows 10 Version 1709 for x64-based Systems (KB4054022)	Critical Up...	60%	Install (3/6)
Windows Malicious Software Removal Tool for Windows 8, 8.1, 10 and Windows Server 2012, 2012 R2, 2016 x64 E...	Update Rol...	40%	Install (3/6)
2017-11 Security Update for Adobe Flash Player for Windows 10 Version 1709 for x64-based Systems (KB4048951)	Security U...	60%	Install (3/6)
2017-11 Cumulative Update for Windows 10 Version 1709 for x64-based Systems (KB4048955)	Security U...	40%	Install (3/6)

2017-11 Cumulative Update for Windows 10 Version 1709 for x64-based Systems (KB4051963)

Status:

Computers with errors:	0	MSRC severity:	Unspecified
Computers needing this update:	2	MSRC number:	None
Computers installed/not applicable:	2	Release date:	30 November 2017
Computers with no status:	1	KB article numbers:	4051963

Description
Install this update to resolve issues in Windows. For a complete listing of the issues that are included in this update, see the associated Microsoft Knowledge Base article for more information. After you install this item, you may have to restart your computer.

Additional Details

Actions

- All Updates
- Search...
- New Update View...
 - View
 - New Window from Here
- Refresh
- Help
- Update
 - Approve...
 - Decline
 - Group By
 - Revision History
 - File Information
 - Status Report
 - Help

Windows 10 current versions by servicing option

Servicing option	Version	OS build	Availability date	Latest revision date
Semi-Annual Channel (Targeted)	1709	16299.98	10/17/2017	11/30/2017
Current Branch (CB)	1703	15063.729	4/11/2017	11/22/2017
Current Branch (CB)	1607	14393.1914	8/2/2016	11/27/2017
Current Branch (CB)	1511	10586.1232	11/12/2015	11/14/2017
Semi-Annual Channel	1703	15063.729	7/11/2017	11/22/2017
Current Branch for Business (CBB)	1607	14393.1914	11/29/2016	11/27/2017
Current Branch for Business (CBB)	1511	10586.1232	4/8/2016	11/14/2017
Long-Term Servicing Branch (LTSB)	1607	14393.1914	8/2/2016	11/27/2017
Long-Term Servicing Branch (LTSB)	1507 (RTM)	10240.17673	7/29/2015	11/14/2017

Microsoft recommends

2018

2019

2020

Windows 10 1709



Windows 10 1803



Windows 10 1809



Windows 10 1903



Plan &
Prepare



Pilot



Broad
Deployment

- Start as early as possible
- Think of this as a process, not a project

Each 6 monthly release supported for 18 months after launch date

Update Services

- QC-VWSUS01.QUEENS.OX.AC.UK
 - Updates
 - Computers
 - All Computers
 - Unassigned Computers
 - Clients - 1703 Rollout**
 - Clients - 1709 Rollout
 - Clients - Windows 10
 - Clients - Windows 7
 - Servers
 - Downstream Servers
 - Synchronizations
 - Reports
 - Options

Clients - 1703 Rollout (35 computers of 35 shown, 109 total)

Status: Any Refresh

Name
arch2013-001.queens.ox.ac.uk
⚠ burs2016-001.queens.ox.ac.uk
⚠ conf2013-002.queens.ox.ac.uk
⚠ cow2105-001.queens.ox.ac.uk
⚠ dome2015-001.queens.ox.ac.uk
⚠ dome2016-001.queens.ox.ac.uk
exam2016-001.queens.ox.ac.uk
exam2016-002.queens.ox.ac.uk
exam2016-003.queens.ox.ac.uk
⚠ exam2016-004.queens.ox.ac.uk
gal2016-001.queens.ox.ac.uk
hard2016-001.queens.ox.ac.uk

Approve Updates

To approve an update, select the group from this list of groups, click the arrow, and choose the type of approval.

Computer Group	Approval	Deadline
⊘ All Computers	Not approved	N/A
⊘ Unassigned Computers	Not approved (inherited)	N/A (inherited)
✔ Clients - 1703 Rollout	Install	27/09/2017 17:30
⊘ Clients - 1709 Rollout	Not approved (inherited)	N/A (inherited)
⊘ Clients - Windows 10	Not approved (inherited)	N/A (inherited)
⊘ Clients - Windows 7	Not approved (inherited)	N/A (inherited)
⊘ Servers	Not approved (inherited)	N/A (inherited)

ⓘ The selected update does not support removal.

OK Cancel

⚠ Feature update to Windows 10, version 1709, en-us	Upgrades	65% Install (1/7)
⚠ Feature update to Windows 10 Enterprise, version 1703, en-gb	Upgrades	96% Install (1/7)
⚠ Feature update to Windows 10, version 1709, en-gb	Upgrades	72% Install (1/7)
⚠ Feature update to Windows 10 Enterprise, version 1703, en-us	Upgrades	98% Install (1/7)

Windows PowerShell Module for Windows Update

[https://www.powershellgallery.com/packages/PSWindowsUpdate/1.6.1.](https://www.powershellgallery.com/packages/PSWindowsUpdate/1.6.1.1)

1

(I haven't played with the 2.0 version yet but it looks much better!)

Temp

File Home Share View

← → ↕ ↑ This PC > Windows (C:) > Temp Search Temp

Name	Date modified	Type	Size
Get-WUInstall	12/12/2017 00:59	Windows PowerS...	34 KB
WindowsUpdate	12/12/2017 01:30	Windows PowerS...	4 KB

Quick access

- Desktop
- Downloads
- Documents
- Pictures
- Music
- Temp
- Videos

OneDrive

This PC

Network

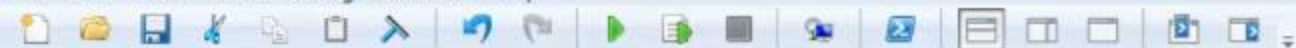
2 items

```
947 Get-WUInstall -AcceptAll -IgnoreReboot
```

```
1 Function Gather-ServersData{
2 #Query AD for all servers
3 $Servers = Get-ADComputer -SearchBase 'OU=Domain Servers,DC=kings,DC=ox,DC=ac,DC=uk' -Filter *
4 $DCs = Get-ADComputer -SearchBase 'OU=Domain Controllers,DC=kings,DC=ox,DC=ac,DC=uk' -Filter *
5
6 #Combine the two queries together and output only their DNSHostName
7 $AllServers = $Servers + $DCs
8 $ServersToUpdate = $AllServers | Select-Object -Property DNSHostName
9
10 #Return to the pipeline the list of servers
11 return $ServersToUpdate
12 }
```

```
14 Function Update-Servers{
15 Param(
16     [Parameter(ValueFromPipeline=$True,
17                 ValueFromPipelineByPropertyName=$True)]
18     [array]$ServersToUpdate
19 )
20
21 #Begin the loop
22 foreach($server in $ServersToUpdate){
23     $DNSHostname = $server.DNSHostname
24
25     #Tell the servers to disable the auto reboot task (introduced in Windows Server 2016)
26     $Time = Get-date -Format T
27     Write-Host "Time now: $Time Instructing $DNSHostname to disable the Reboot Scheduled Task (if applicable)"
28     Invoke-Command -ComputerName $DNSHostname -ScriptBlock {Get-ScheduledTask -TaskPath \Microsoft\Windows\UpdateOrchestrator\ -TaskName Reboot | Disable-ScheduledTask}
29     Invoke-Command -ComputerName $DNSHostname -ScriptBlock {Rename-Item -Path C:\Windows\System32\Tasks\Microsoft\Windows\UpdateOrchestrator\Reboot -NewName Reboot.bak}
30     Invoke-Command -ComputerName $DNSHostname -ScriptBlock {New-Item -Path C:\Windows\System32\Tasks\Microsoft\Windows\UpdateOrchestrator\Reboot -ItemType Directory}
31
32     $Time = Get-date -Format T
33     Write-Host "Time now: $Time Instructing $DNSHostname to begin running windows update"
34
35     #Create a Temp folder on the server
36     Invoke-Command -ComputerName $DNSHostname -ScriptBlock {
37
38         New-Item -Path C:\Temp -ItemType Directory -Force -InformationAction SilentlyContinue
39
40     }
41
42     #Copy the Windows Update script to the server (into that Temp folder)
43     Copy-Item 'C:\Temp\Get-WUInstall.ps1' -Destination "\\$DNSHostname\C$\Temp\Get-WUInstall.ps1" -Force
44     Start-Sleep -Seconds 10
45
46     Invoke-Command -ComputerName $DNSHostname -ScriptBlock {Unblock-File "C:\Temp\Get-WUInstall.ps1"}
```

```
46 Invoke-Command -ComputerName $DNSHostname -ScriptBlock {Unblock-File "C:\Temp\Get-WUInstall.ps1"}
47
48 #Create a new ST to run Windows Update
49 Invoke-Command -ComputerName $DNSHostname -ScriptBlock {
50     $Action = New-ScheduledTaskAction -Execute "C:\Windows\System32\WindowsPowerShell\v1.0\powershell.exe" -Argument "-NonInteractive -NoLogo -NoProfile -File $($Args[0])"
51     $User = New-ScheduledTaskPrincipal "NT AUTHORITY\SYSTEM"
52     $Settings = New-ScheduledTaskSettingsSet
53     $Task = New-ScheduledTask -Action $Action -Principal $User -Settings $Settings
54     Register-ScheduledTask "Automation - $($Args[1])" -InputObject $Task -Verbose
55 } -ArgumentList "C:\Temp\Get-WUInstall.ps1", "Run Windows Update"
56
57 #Using Scheduled Tasks instruct the server to update (this Scheduled Task is deployed to the Servers through Group Policy)
58 Invoke-Command -ComputerName $DNSHostname -ScriptBlock {
59
60     #Run the update script
61     Schtasks.exe /Run /TN "Automation - Run Windows Update"
62 }
63 #Sleep for 30s to avoid hammering the WSUS server with requests
64 $Time = Get-date -Format T
65 Write-Host "Time now: $Time Taking a break for 30 seconds to avoid overloading the WSUS server"
66 Start-Sleep -Seconds 30
67 }
68 }
69
70 $ServersToUpdate = Gather-ServersData | Out-GridView -OutputMode Multiple
71 Update-Servers -ServersToUpdate $ServersToUpdate
```



WindowsUpdate.ps1 X

```
55     } -ArgumentList "C:\Temp\Get-WUInstall.ps1", "Run Windows Update"
56
57     #Using Scheduled Tasks instruct the server to update (this Scheduled Task is deployed to the Servers through Group Policy)
58     Invoke-Command -ComputerName $DNSHostname -ScriptBlock {
59
60         #Run the update script
61         Schtasks.exe /Run /TN "Automation - Run Windows Update"
62     }
63     #Sleep for 30s to avoid hammering the WSUS server with requests
64     $Time = Get-date -Format T
65     Write-Host "Time now: $Time Taking a break for 30 seconds to avoid overloading the WSUS server"
66     Start-Sleep -Seconds 30
67 }
68 }
69
70 $ServersToUpdate = Gather-ServersData | Out-GridView -OutputMode Multiple
71 Update-Servers -ServersToUpdate $ServersToUpdate
```

PS C:\Temp>

Completed

Ln 71 Col 49

100%





- Task Scheduler (Local)
 - Task Scheduler Library
 - Microsoft

Name	Status	Triggers	Next Run Time	Last	Actions
Automation - Run Windows Update	Ready				
User_Feed_Synchronization-(E7D4369D-AAD6-4791-8824-71D2738C807D)	Ready	At			

General Triggers Actions Conditions Settings History

Name: Automation - Run Windows Update

Location: \

Author:

Description:

Security options

When running the task, use the following user account:
SYSTEM

Run only when user is logged on

Run whether user is logged on or not

Do not store password. The task will only have access to local resources

Run with highest privileges

Task Manager

File Options View

Processes Performance Users Details Services

Name	CPU	Memory
Client Server Runtime Process	0%	1.0 MB
System	0%	0.1 MB
Desktop Window Manager	0%	31.6 MB
Service Host: Remote Procedur...	0%	5.1 MB
System interrupts	0%	0 MB
Antimalware Service Executable	0%	47.1 MB
Service Host: UtcSvc	0%	6.2 MB
Service Host: Local System (16)	0%	21.6 MB
Windows Modules Installer	0%	1.0 MB
Service Host: Network Service (5)	0%	6.7 MB
Service Host: Local Service (Net...	0%	13.3 MB
Local Security Authority Proces...	0%	8.4 MB
WMI Provider Host	0%	4.1 MB
Service Host: DCOM Server Pro...	0%	4.5 MB
Windows Explorer	0%	21.0 MB

^ Fewer details

End task

Chocolatey

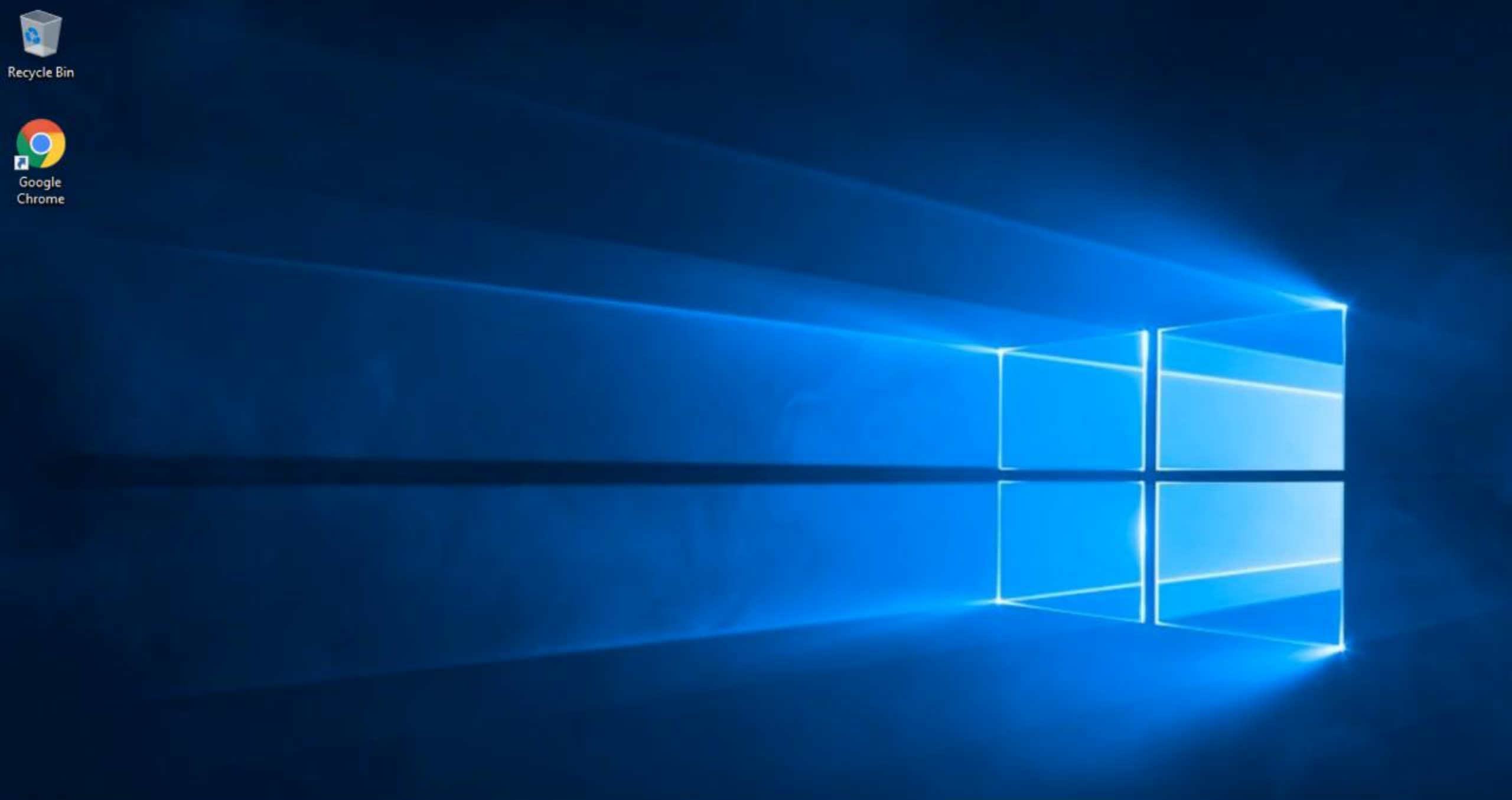
<https://chocolatey.org/>



Recycle Bin



Google Chrome



Windows taskbar containing the Start button, search bar, taskbar icons (Microphone, Cortana, Edge, File Explorer, Store, Mail), system tray icons (Network, Volume, Notification Area Icons), and the system clock showing 01:46 on 12/12/2017.



The **package manager** for Windows

Chocolatey - Software Management Automation

The sane way to manage software on Windows

✔ Chocolatey builds on technologies you know - unattended installation and PowerShell. Chocolatey works with all existing software installation technologies like MSI, NSIS, InnoSetup, etc, but also works with runtime binaries and zip archives. Go [Pro/Business](#) to dial that experience up to 11.

```
C:\> choco upgrade nodejs|
```

OPEN CHAT

1,953,663 downloads | Tags notepad notepadplusplus notepad-plus-plus editor text development foss



Java Runtime (JRE) 8.0.151

By: William proudcanadianeh

Java allows you to play online games, chat with people around the world, calculate your mortgage interest, and view images in 3D, just to name a few. It's also integral to the intranet applications and other e-business solutions that are the foundation of corporate computing. ### Note This is just a metapackage for the latest JRE (currently JRE 8)... [More information](#)

1,919,281 downloads | Tags java runtime environment

```
C:\> choco install javaruntime
```



VLC media player 2.2.8

By: chocolatey

VLC is a free and open source cross-platform multimedia player and framework that plays most multimedia files as well as DVD, Audio CD, VCD, and various streaming protocols. ![Screenshot](https://i.imgur.com/DEG19Fs.png) ## Features - Plays Files, Discs, Webcams, Devices and Streams. - Fast - Hardware Decoding. - Plays most codecs with no codec ... [More information](#)

1,687,554 downloads | Tags vlc foss cross-platform multimedia audio video mp3 dvd avi media player admin

```
C:\> choco install vlc
```



Git (Install) 2.15.1.2

By: ferventcoder chocolatey

Git for Windows focuses on offering a lightweight, native set of tools that bring the full feature set of the Git SCM to Windows while providing appropriate user interfaces for experienced Git users and novices alike. ## Features * **Git BASH**: Git for Windows provides a BASH emulation used to run Git from the command line. *NIX users should fee... [More information](#)

1,593,519 downloads | Tags git vcs dvcs version-control msysgit admin foss cross-platform cli

```
C:\> choco install git.install
```



AutoHotkey (Portable) 1.1.26.01

By: ferventcoder chocolatey purity

AutoHotkey is a free, open source macro-creation and automation software utility that allows users to automate repetitive tasks. It is driven by a custom scripting language that is aimed specifically at providing keyboard shortcuts, otherwise known as hotkeys. **You can use AutoHotkey to**:

```
C:\> choco install autohotkey.portable
```

OPEN CHAT



Recycle Bin



Google Chrome



VLC media player

Windows taskbar containing the Start button, search bar (Type here to search), taskbar icons for microphone, task view, Edge, File Explorer, Store, and Mail, system tray icons for network, volume, and notification, and the system clock showing 01:55 on 12/12/2017.

Windows (C:) > ProgramData > Queens-Choco

Name	Date modified	Type	Size
PowerShell Logs	12/12/2017 00:40	File folder	
Choco-AppsList.txt	20/11/2017 09:48	TXT File	1 KB
Choco-Install.ps1	08/11/2017 14:53	Windows PowerS...	3 KB
PowerShell-ModulesList.txt	07/11/2017 14:47	TXT File	1 KB

C:\ProgramData\Queens-Choco\Choco-AppsList.txt - Notepad++

File Edit Search View Encoding Language Settings Tools Macro Run Plugins
Window ?






Choco-AppsList.txt

```

1 skype
2 googlechrome
3 vcredist2015

```

Ln: 3 Col: 13 Sel: 0|0 Windows (CR LF) UTF-8 INS

Name	Type
 Choco Default Applications	Security Group - Global
 Choco IT Office	Security Group - Global
 Choco OMO Office	Security Group - Global
 Choco Skype	Security Group - Global
 Choco Testing	Security Group - Global

Choco-Install.ps1 X

```
1 #See https://queenscollege.atlassian.net/wiki/spaces/IOD/pages/94044225/Chocolatey for documentation
2
3 #region Get the current system date in the format year/month/date which will be used to name the log files
4 $dateNow = Get-Date -Format yyyy-M-d
5 $timeNow = Get-Date -Format HHmm
6 $logPath = "C:\ProgramData\Queens-Choco\PowerShell Logs\$dateNow\$timeNow "
7 New-Item -Path "C:\ProgramData\Queens-Choco\PowerShell Logs\$dateNow" -ItemType Directory
8 #endregion
9
10 #region Install Choco
11 iex ((New-Object System.Net.WebClient).DownloadString('https://chocolatey.org/install.ps1')) >>> "$($logPath)InstallChoco.log"
12 #endregion
13
14 #region Install NuGet
15 Install-PackageProvider -Name NuGet -Scope AllUsers -Force >>> "$($logPath)PackageProvider.log"
16 #endregion
17
18 #region Get the latest version of the Apps List
19 Copy-Item "\\queens.ox.ac.uk\softwaredeployment\ChocolateyLists\$($env:computername)-Choco.txt" C:\ProgramData\Queens-Choco\Choco-AppsList.txt
20
21 #Install Choco packages from list
22 $apps = Get-Content C:\ProgramData\Queens-Choco\Choco-AppsList.txt
23 foreach($app in $apps){
24     choco install $app -y >>> "$($logPath)ChocoInstall.log"
25 }
26 #endregion
```

```
28 #region Get the latest version of the Apps List
29 Copy-Item "\\queens.ox.ac.uk\softwaredeployment\ChocolateyLists\${$env:computername}-Modules.txt" C:\ProgramData\Queens-Choco\PowerShell-ModulesList.txt
30
31 #Install PowerShell modules from list
32 $modules = Get-Content C:\ProgramData\Queens-Choco\PowerShell-ModulesList.txt
33 foreach($module in $modules){
34     Install-Module -Name $module -Force -Scope AllUsers *>> "$($logPath)ModuleInstall.log"
35 }
36 #endregion
37
38 #region Run Choco Upgrade
39 choco upgrade all -y *>> "$($logPath)ChocoUpgrade.log"
40 #endregion
41
42 #region Clean up log files
43 $7daysago = $(Get-Date).AddDays(-7) | Get-Date -Format yyyy-M-d
44
45 $foldersList = Get-Item "C:\ProgramData\Queens-Choco\PowerShell Logs\*"
46
47 foreach($folder in $foldersList){
48     if((Get-Date $($folder.Name)) -lt (Get-Date $7daysago)){
49         Remove-Item $folder.FullName
50     }
51     else{
52         Write-Host "Not removing folder"
53     }
54 }
55 #endregion
```

Further Reading

- Understanding Windows as a Service - <https://www.youtube.com/watch?v=CiWoXj8vEiE> (from the Microsoft Ignite conference)
- myworldofit.net (mainly error codes!)
<http://myworldofit.net/?s=wsus>
- Lynda.com <https://www.lynda.com/Windows-Server-tutorials/Windows-Software-Update-Services-WSUS-PowerShell-commandlets/184161/189552-4.html>