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## Prepare for installation requirements

- Determine hardware requirements and compatibility
- Choose between an upgrade and a clean installation
- Determine appropriate editions according to device type.
- Determine requirements for particular features, such as Hyper-V, Cortana, Miracast, Virtual Smart Cards and Secure Boot
- Determine and create appropriate installation media



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## Determine hardware requirements and compatibility

### WINDOWS 10 MINIMUM SPECS

Here are the official minimum recommended specs for a Windows 10 machine, as provided by Microsoft:

**Processor:** 1 gigahertz (GHz) or faster processor or SoC

**RAM:** 1 gigabyte (GB) for 32-bit or 2 GB for 64-bit

**Hard disk space:** 16 GB for 32-bit OS 20 GB for 64-bit OS

**Graphics card:** DirectX 9 or later with WDDM 1.0 driver

**Display:** 1024 x 600 or above

Naturally, you'll also need an internet connection, and a Microsoft account is a must too.

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## Choose between an upgrade and a clean installation

### Upgrading to Windows 10:

- You don't have to reformat your hard drive.
- The new operating system will simply replace your previous installation
- This process takes the least amount of time
- You're not required to do a backup.
- You're not prompted to enter a product key
- You can stumble upon errors caused by pre-existing issues in your system.
- After the upgrade, there are chances that applications and peripherals may not work correctly
- Allow you to roll back to Windows 7 or Windows 8.1

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## Choose between an upgrade and a clean installation

If you're planning to upgrade:

- Make sure to uninstall any security software.
- Take the time and check online to verify your hardware and software are compatible with Windows 10.
- Make sure to disconnect any peripherals, such as printers, scanners, and USB devices to avoid possible errors.



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## Choose between an upgrade and a clean installation

Clean install of Windows 10:

- Opt to format the hard drive and start with a [clean install of Windows 10](#).
- Opportunity to start fresh from scratch.
- Your chances of running into errors and other issues will significantly be reduced.
- If PC had any software or hardware issues, doing a clean install likely resolves any problems.
- Requires users to upgrade before the product keys can work on a clean install of Windows 10. Otherwise, chances are, your installation won't activate correctly.
- Starting from scratch also takes longer time.



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## Determine appropriate editions according to device type

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- **Home:** Designed for use in PCs, tablets.
- **Pro:** Windows 10 Pro builds on the Home edition and adds features essential for businesses,
- **Pro Education:** Not part of the initial line up of Windows.
- **Enterprise:** Windows 10 Enterprise provides all the features of Windows 10 Pro, with additional features to assist with IT-based organizations
- **Enterprise LTSB:** Windows 10 Enterprise Long Term Servicing Branch (LTSB) is similar to Windows 10 Enterprise but does not include Cortana, Windows Store, the Edge browser, Photo Viewer and the [UWP version of](#) Calculator (replaced by classic version), and will not receive any feature updates
- **Education:** Windows 10 Education provides all Windows 10 Enterprise features (excluding Cortana), designed for use in schools, colleges, and universities.
- **Mobile:** [Windows 10 Mobile](#) is designed for smartphones and small tablets. It includes all basic consumer features, including Continuum capability.
- **Mobile Enterprise:** Windows 10 Mobile Enterprise provides all the features in Windows 10 Mobile, with additional features to assist with IT-based organizations.



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## Determine requirements for particular features

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- **Cortana:** It is only currently available on Windows 10 for the United States, United Kingdom, China, France, Italy, Germany, Spain, India, Canada (English), Australia, and Japan. Speech recognition will vary by device microphone.
- Windows Hello: Requires specialised illuminated infrared camera
- **Continuum:** Available on all Windows 10 desktop editions by manually turning “tablet mode” on and off in the Action Center.
- **Xbox app:** Requires an Xbox Live account
  - Two factor authentication: Requires the use of a PIN, Biometric (finger print reader or illuminated infrared camera) or a phone with Wi-Fi or Bluetooth capabilities.
  - Touch: You need a tablet or a monitor that supports multi-touch.



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# Determine and create appropriate installation media

## 1. Windows Media Creation Tool

The first and most obvious choice for creating Windows 10 installation media is the Windows Media Creation Tool.

## 2. Make Your Own Bootable Media

If you opted to download your ISO to install at a later date, this is the section for you. Let's take a quick look at how to transfer that ISO to a USB or a disc.

## 3. Unattended Windows 10 Installation



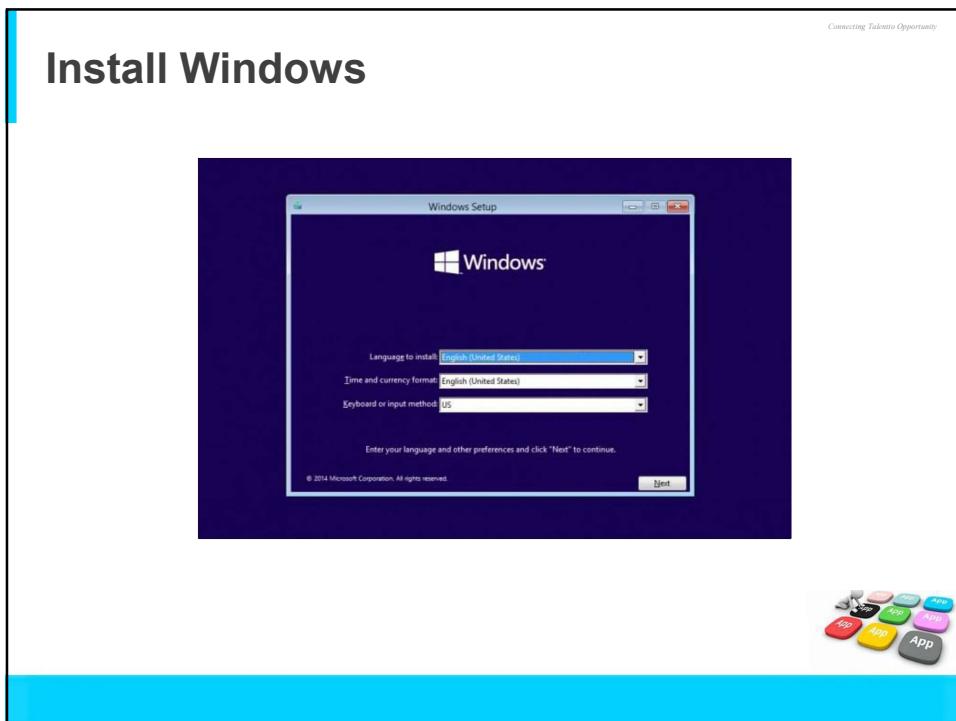
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# Install Windows

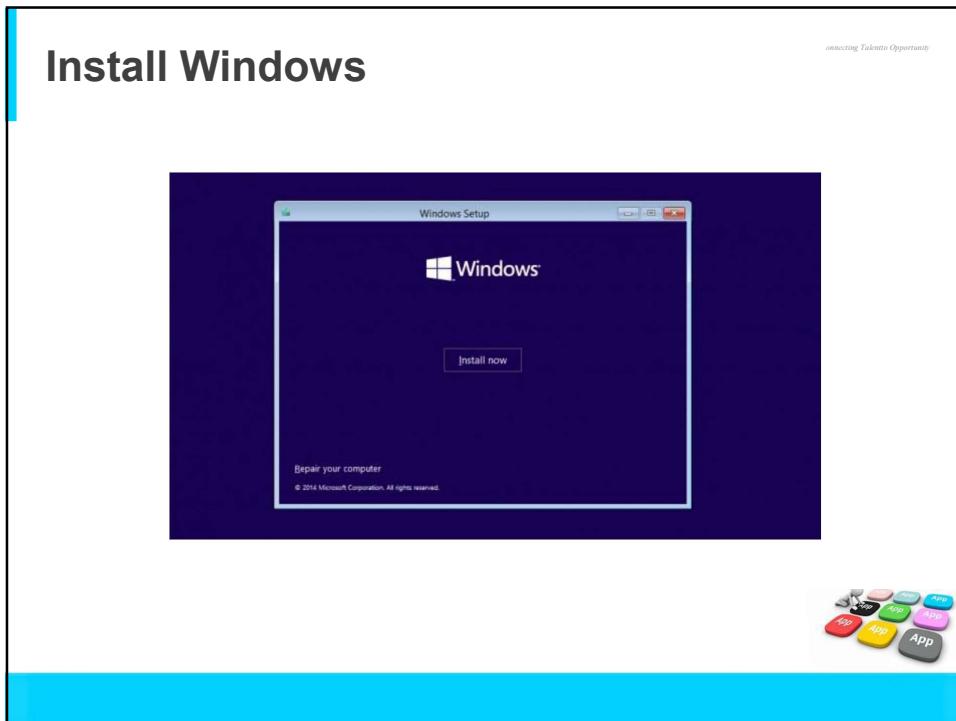
- Perform clean installations; upgrade using Windows Update (Practical Session)
- Upgrade using installation media. (Practical Session)
- Configure native boot scenarios (Practical Session)
- Migrate from previous versions of Windows. (Practical Session)
- Install to virtual hard disk (VHD) (Practical Session)
- Boot from VHD (Practical Session)
- Install on bootable USB (Practical Session)
- Install additional Windows features (Practical Session)
- Configure Windows for additional regional and language support (Practical Session)



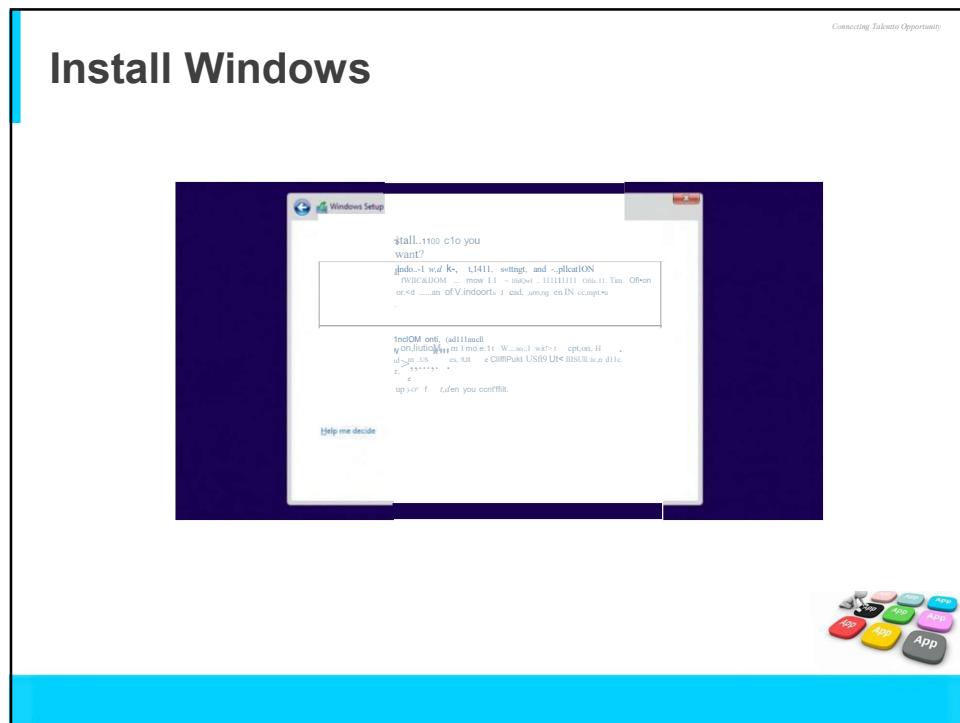
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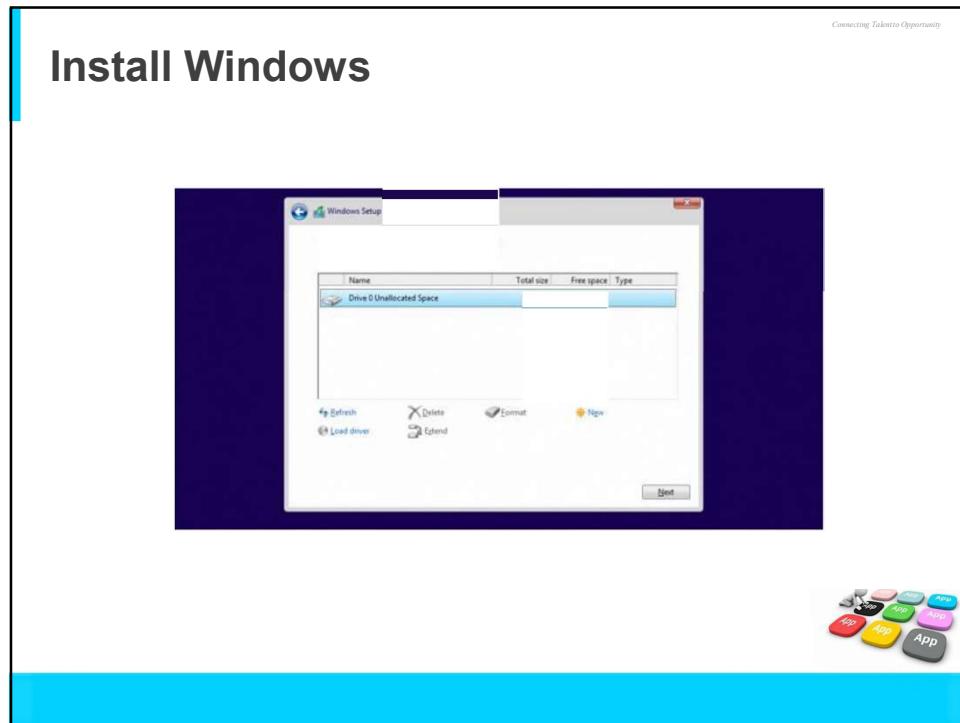
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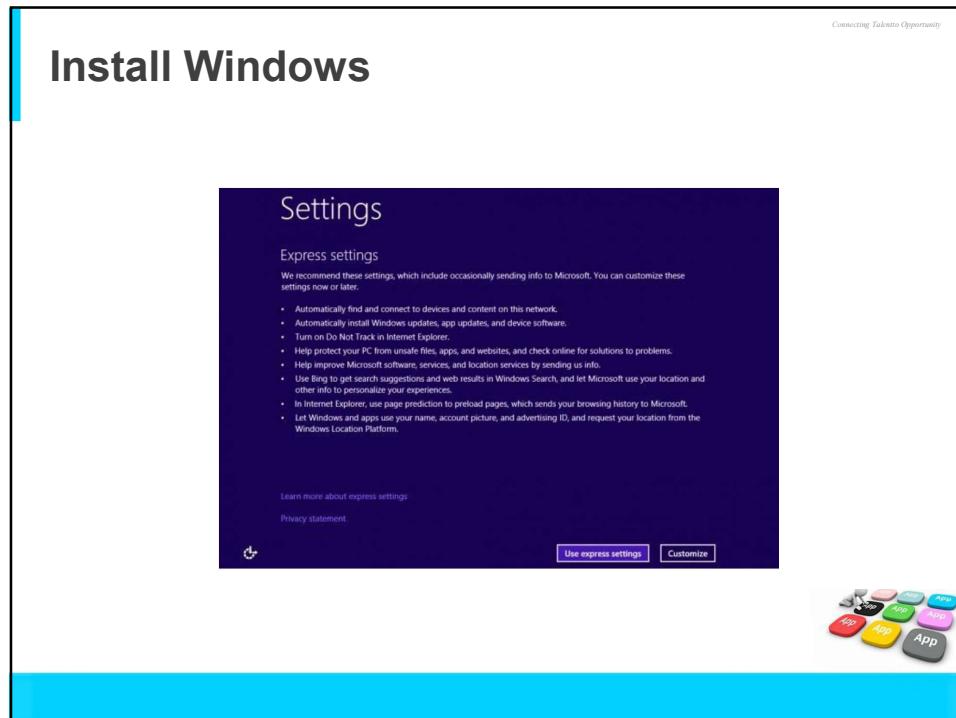
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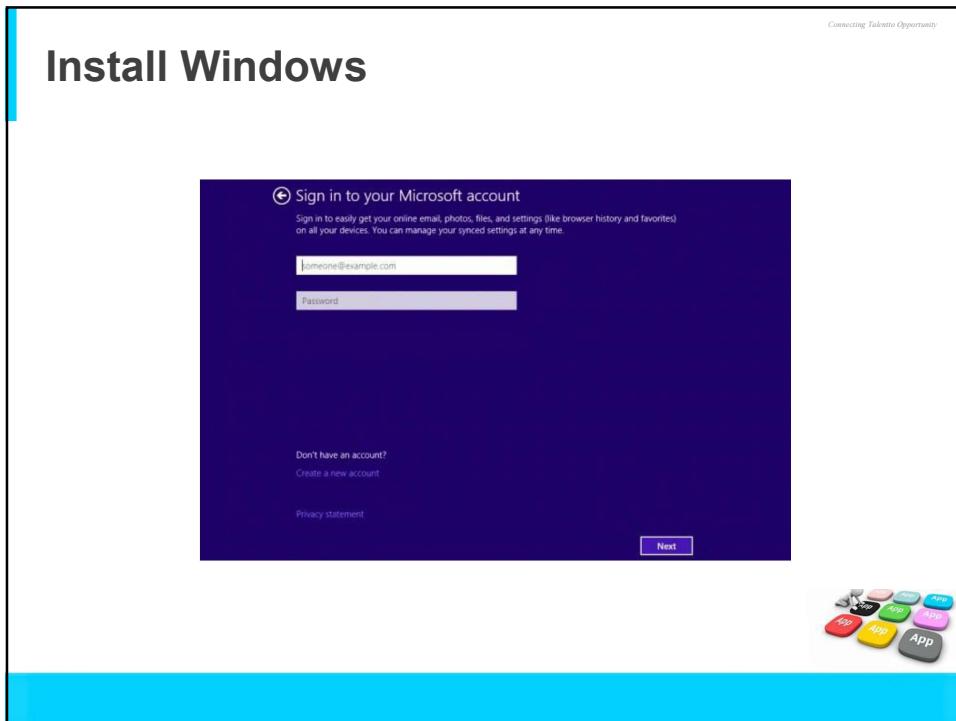
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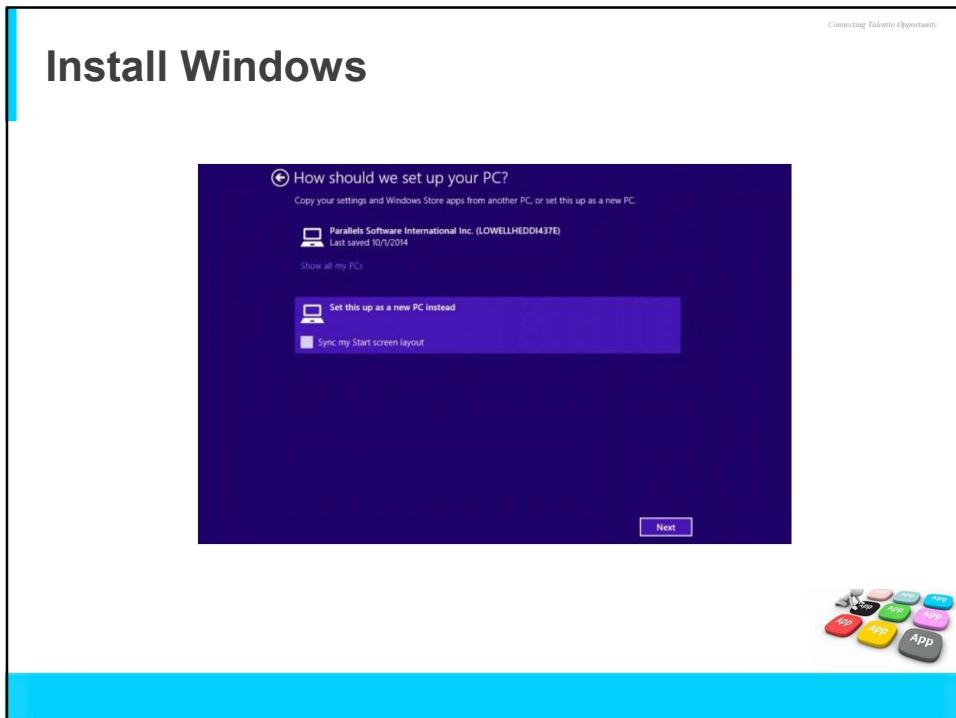
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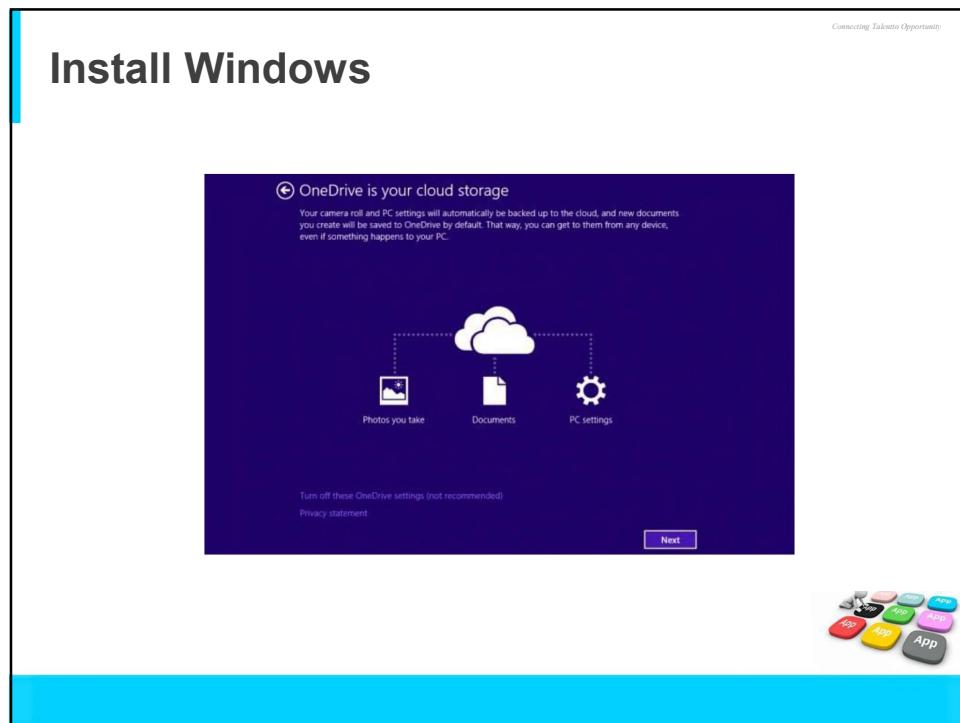
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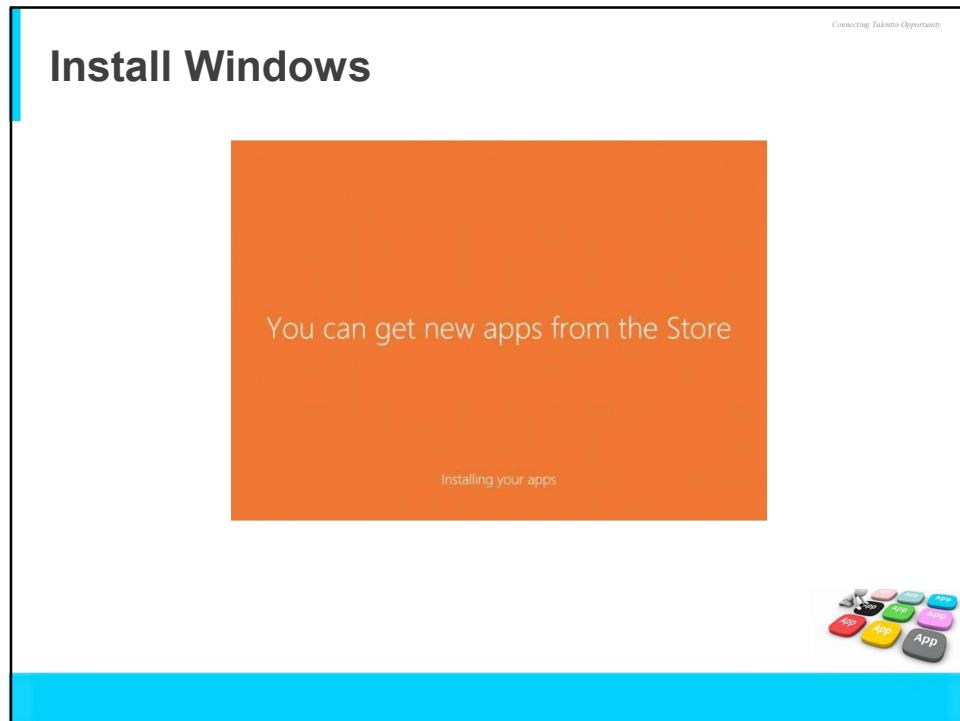
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## Install Windows



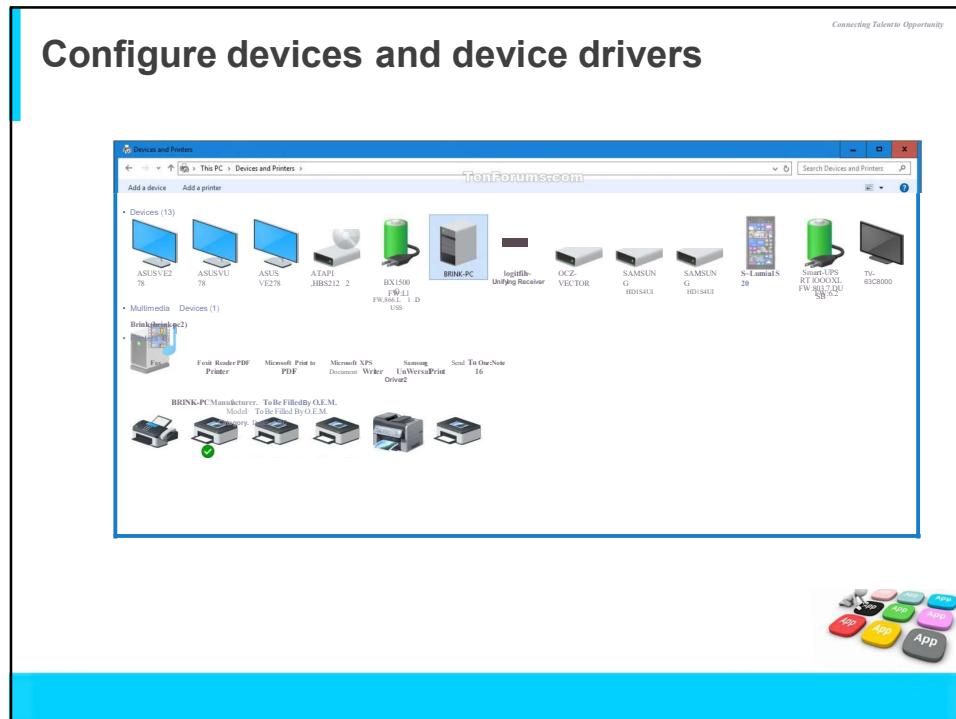
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## Configure devices and device drivers

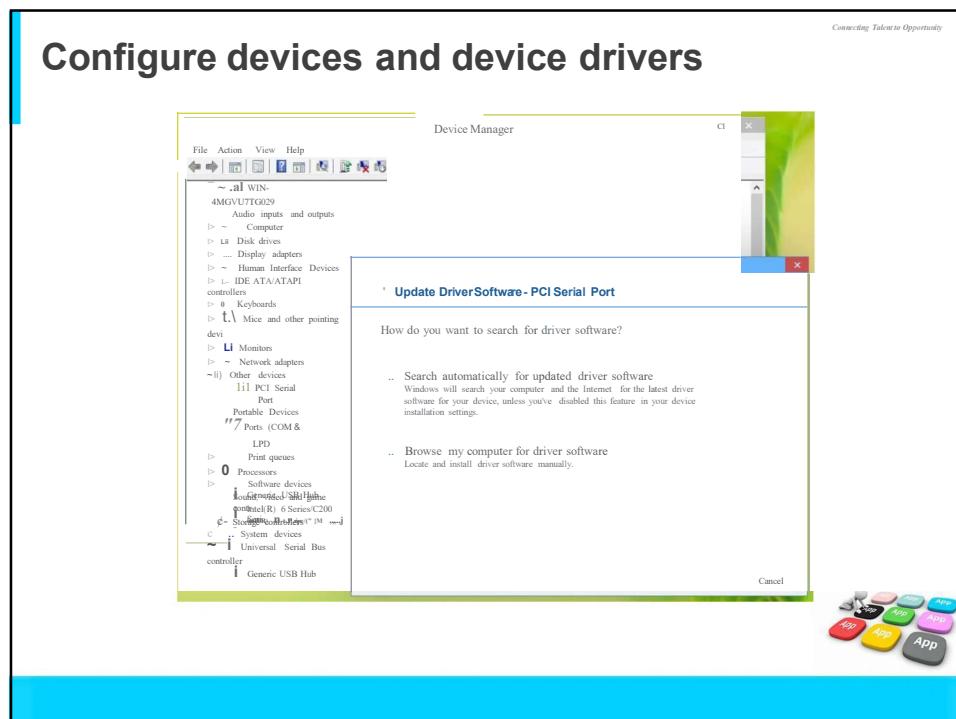
- Install, update, disable and roll back drivers (Practical Session)
- Resolve driver issues (Practical Session)
- Configure driver settings, including signed and unsigned drivers (Practical Session)
- Manage driver packages (Practical Session)
- Download and import driver packages (Practical Session)
- Use the Deployment Image and Service Management (DISM) tool to add packages (Practical Session)



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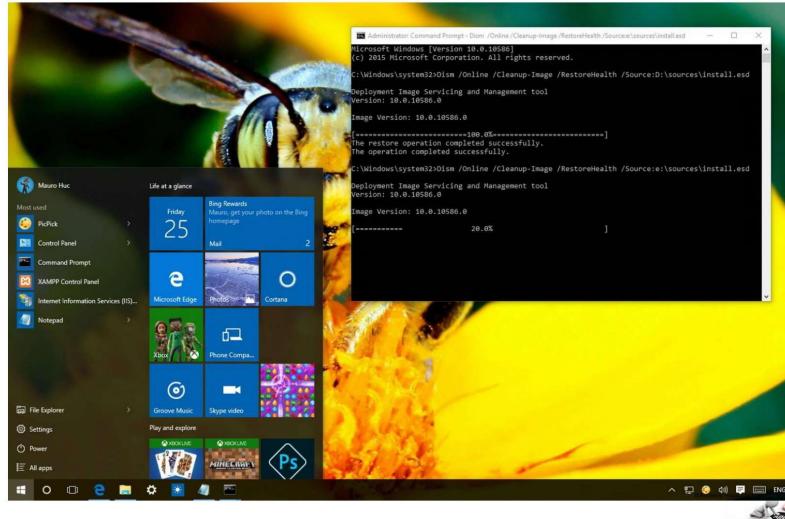


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## Configure devices and device drivers



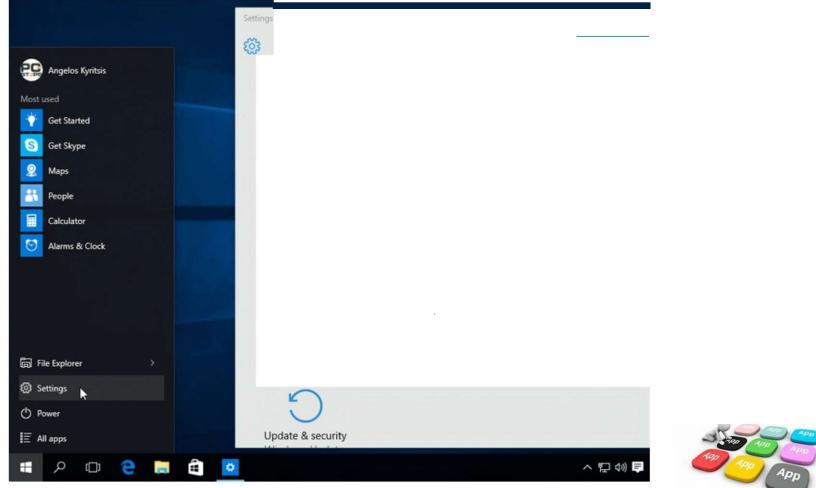
25

## Perform post-installation configuration

- Configure and customise start menu, desktop, taskbar and notification settings, according to device type
- Configure accessibility options
- Configure Cortana
- Configure Microsoft Edge
- Configure Internet Explorer; configure Hyper-V; configure power settings
- Configure Hyper-V
- Configure power settings

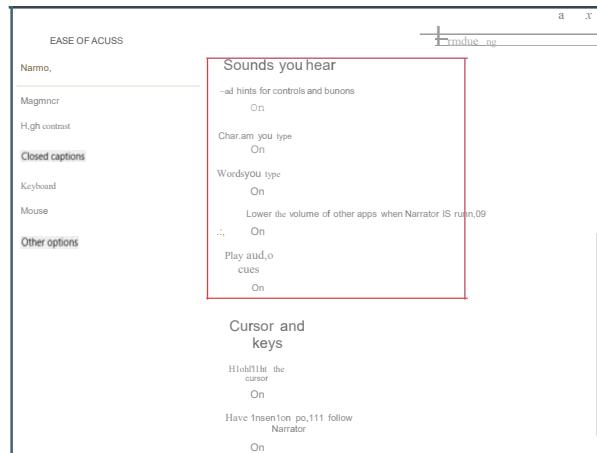
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## Configure and customise start menu, desktop, taskbar and notification settings, according to device type

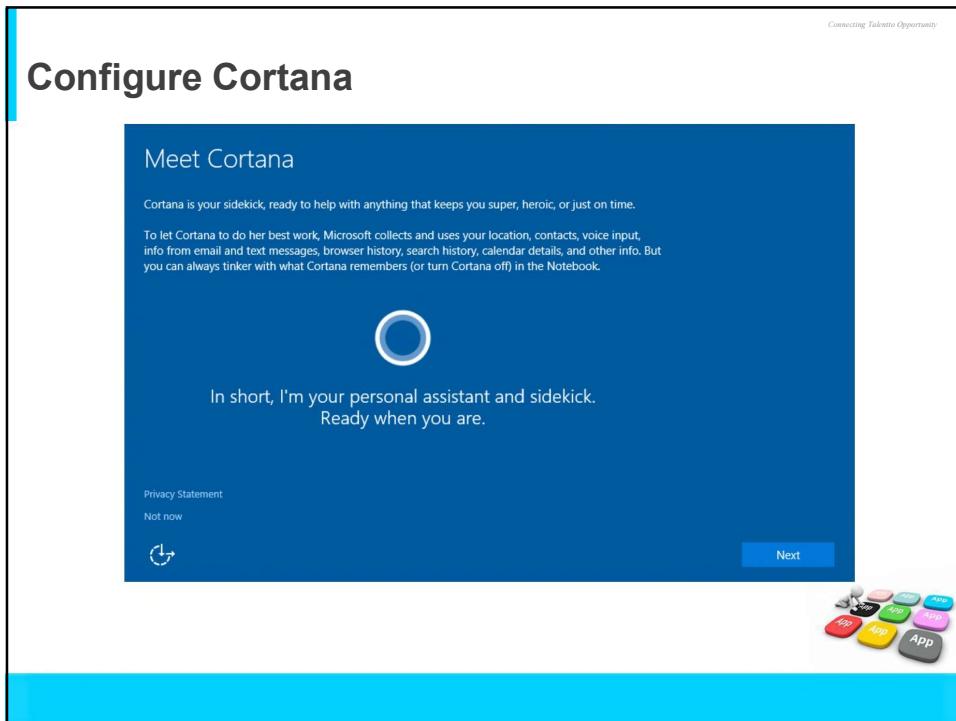


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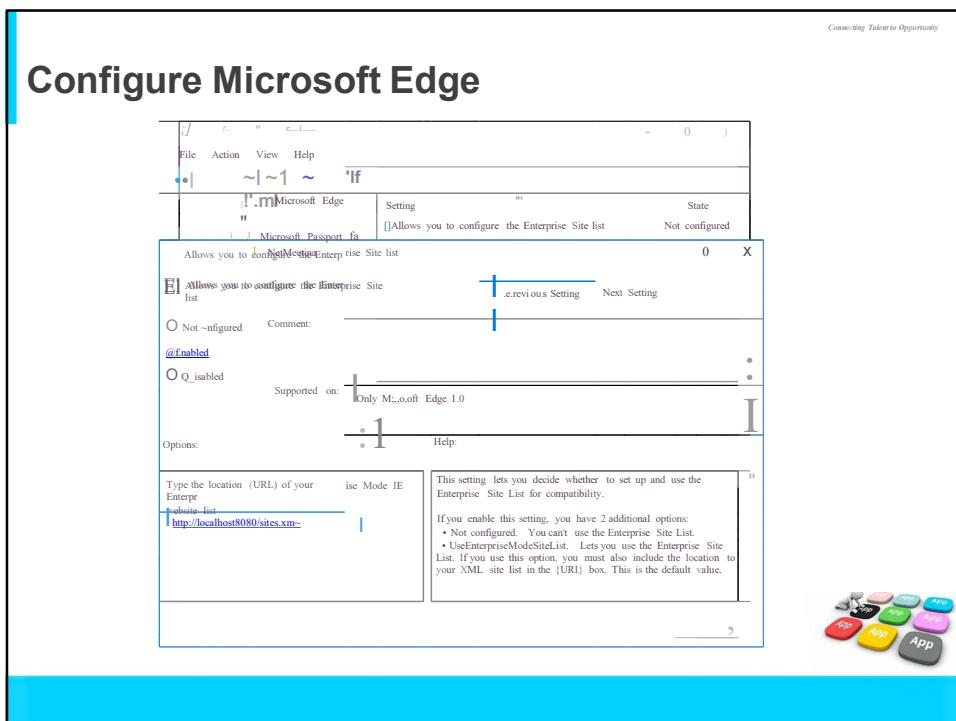
## Configure accessibility options



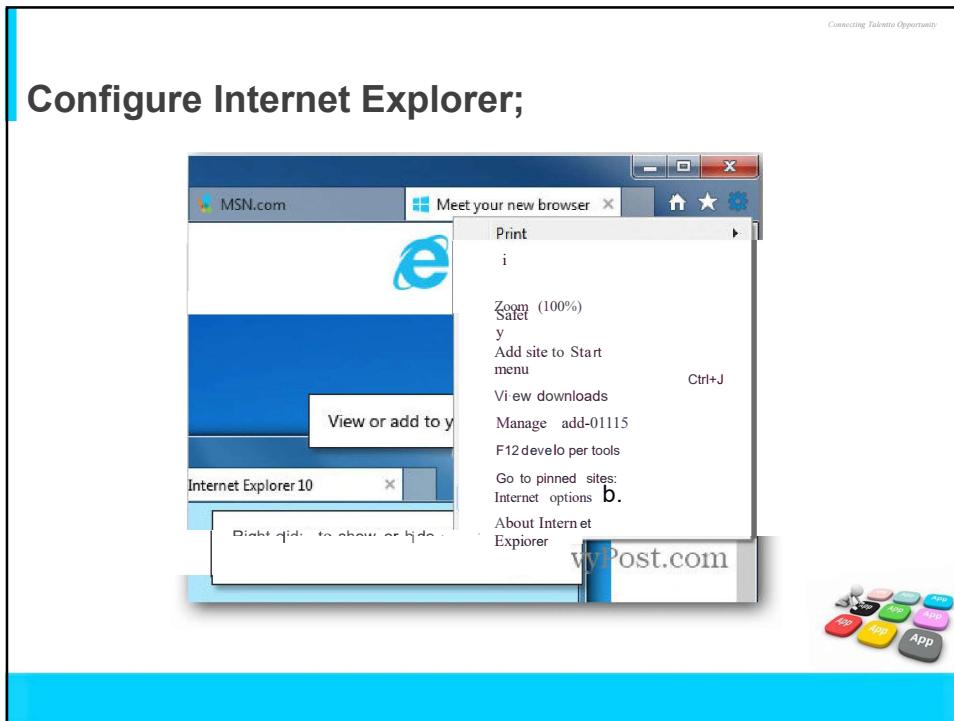
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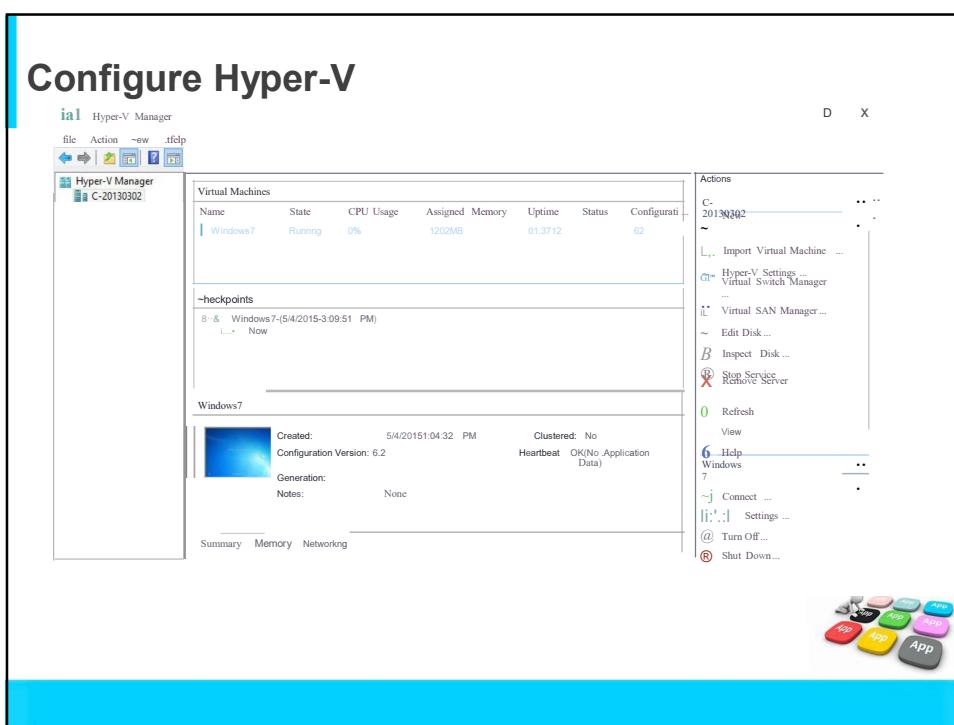
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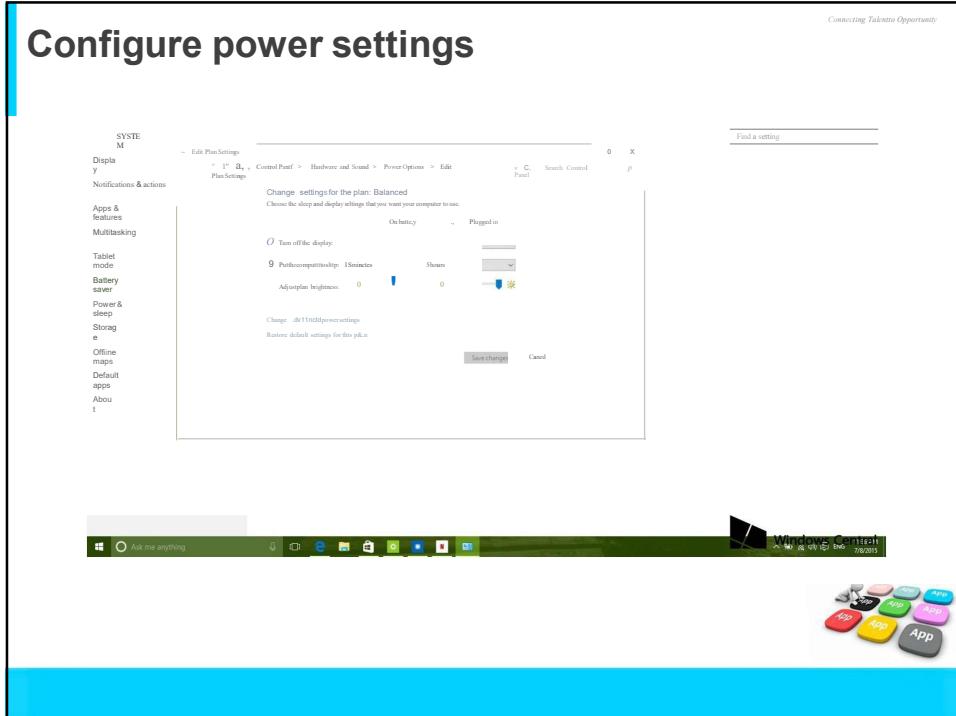


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## Configure power settings

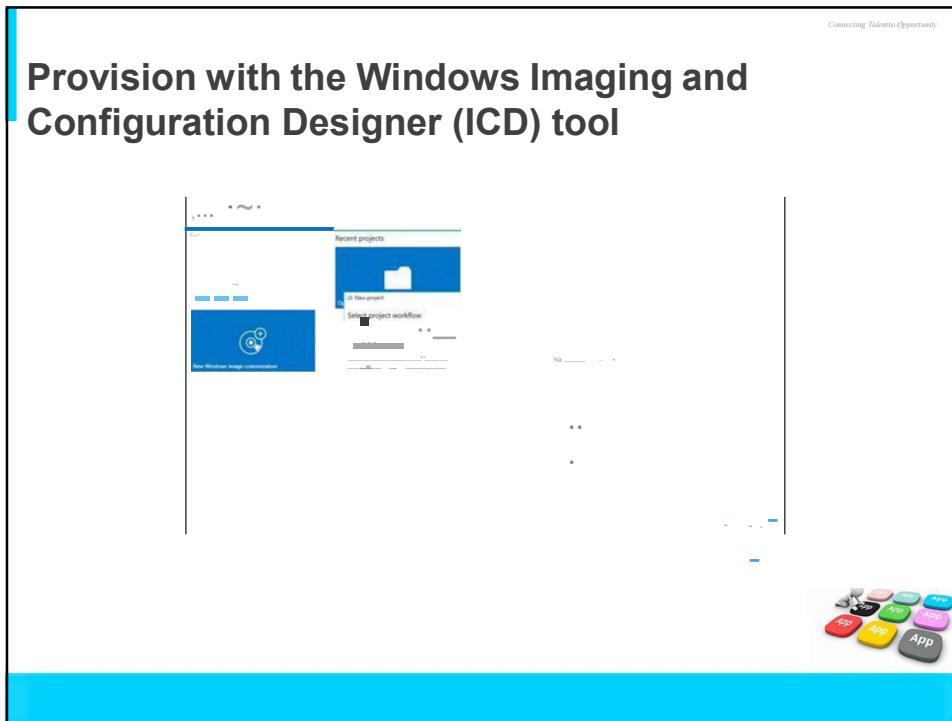


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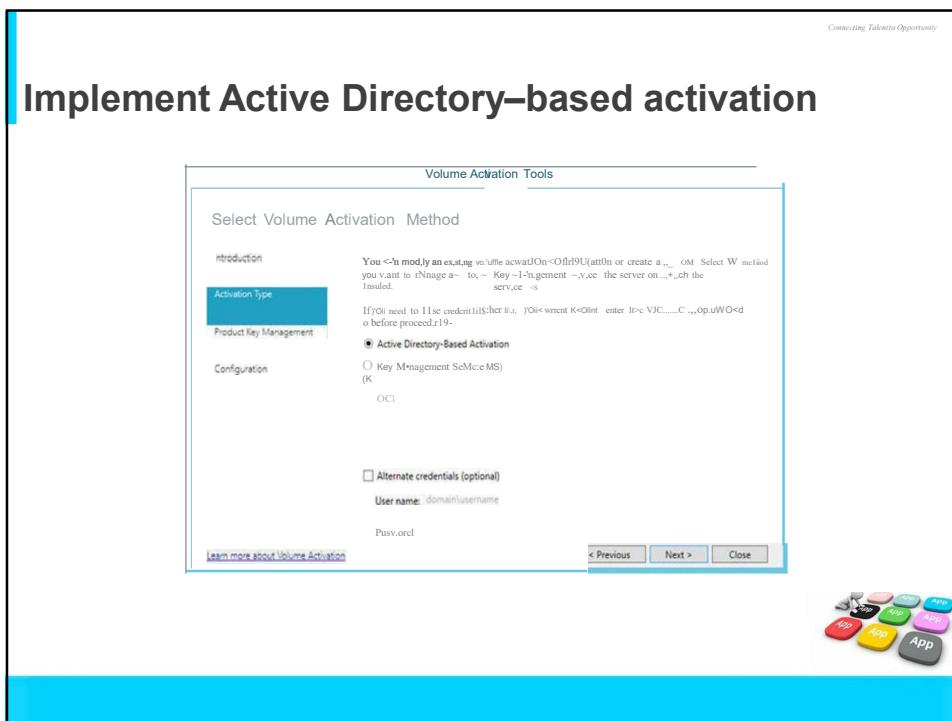
## Implement Windows in an enterprise environment

- Provision with the Windows Imaging and Configuration Designer (ICD) tool
- Implement Active Directory-based activation
- Implement volume activation using a Key Management Service (KMS)
- Query and configure activation states using the command line
- Configure Active Directory, including Group Policies
- Configure and optimise user account control (UAC)

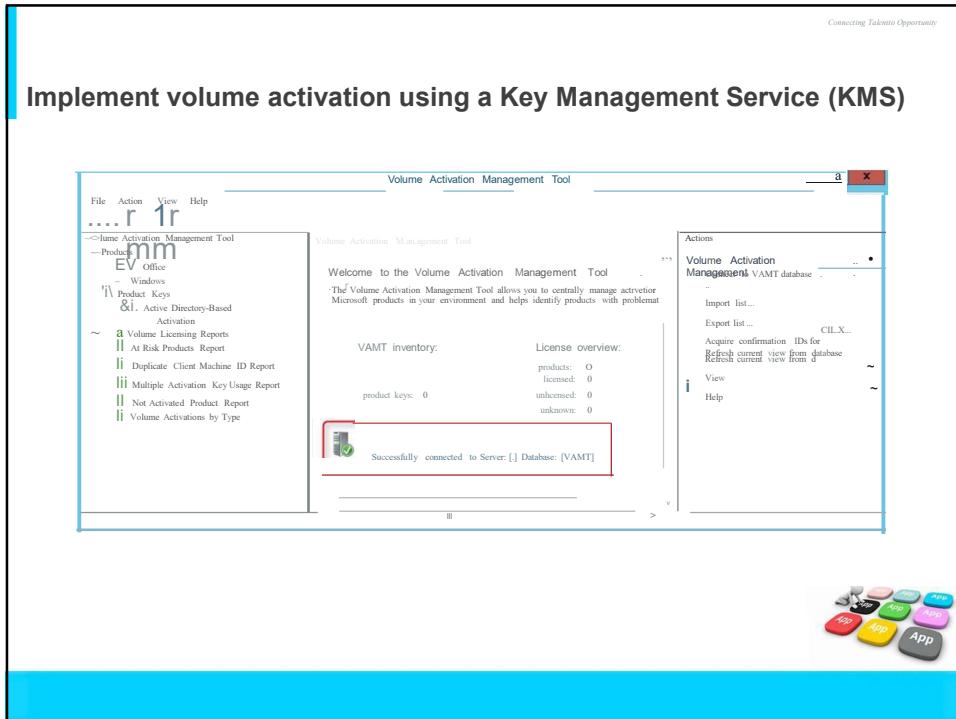
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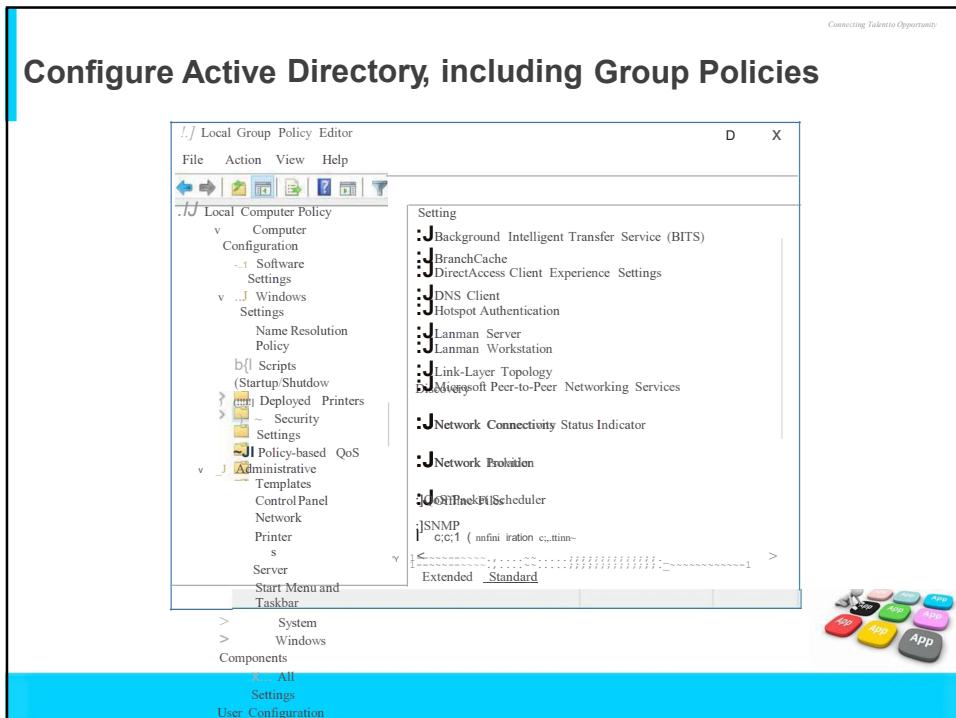
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## Configure and optimise user account control (UAC)

The screenshot shows the Windows Control Panel Home screen with a focus on User Accounts. A red box highlights the 'Change User Account Control settings' link under the 'Manage another account' section.

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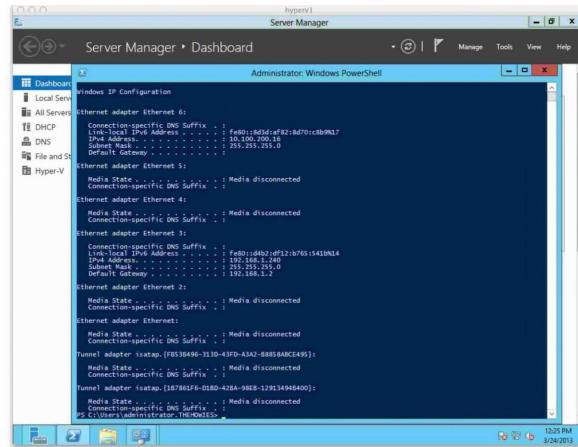
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## Configure networking

- Configure and support IPv4 and IPv6 network settings
- Configure name resolution
- Configure network locations
- Configure Windows Firewall
- Configure Windows Firewall with Advanced Security
- Configure network discovery
- Configure Wi-Fi settings
- Configure Wi-Fi Direct
- Troubleshoot network issues; configure VPN, such as app-triggered VPN, traffic filters and lockdown VPN; configure IPsec; configure Direct Access
- Configure IPsec
- Configure Direct Access

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## Configure and support IPv4 and IPv6 network settings



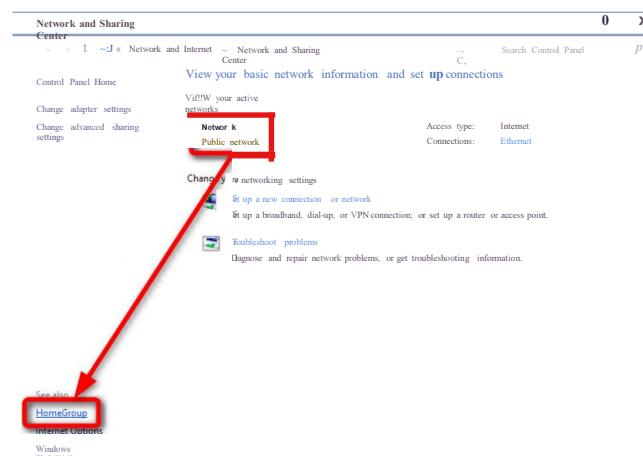
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hyper1
Administrator: Windows PowerShell
Server Manager • Dashboard
Windows IP Configuration
Ethernet adapter Ethernet 6:
  Connection-specific DNS Suffix : 
  Link-Local IP Address . . . . . : fe80::bd1d:10ff%6
  IPv4 Address . . . . . : 10.100.200.16
  Subnet Mask . . . . . : 255.255.255.0
  Default Gateway . . . . . : 10.100.200.1
  Media State . . . . . : Media disconnected
  Connection-specific DNS Suffix . . . . . : 
Ethernet adapter Ethernet 5:
  Connection-specific DNS Suffix . . . . . : 
  Link-Local IP Address . . . . . : fe80::d6b2:1ff%5
  IPv4 Address . . . . . : 10.100.200.17
  Subnet Mask . . . . . : 255.255.255.0
  Default Gateway . . . . . : 10.100.200.1
  Media State . . . . . : Media disconnected
  Connection-specific DNS Suffix . . . . . : 
Ethernet adapter Ethernet 4:
  Connection-specific DNS Suffix . . . . . : 
  Link-Local IP Address . . . . . : fe80::d6b2:1ff%4
  IPv4 Address . . . . . : 10.100.200.18
  Subnet Mask . . . . . : 255.255.255.0
  Default Gateway . . . . . : 10.100.200.1
  Media State . . . . . : Media disconnected
  Connection-specific DNS Suffix . . . . . : 
Ethernet adapter Ethernet 3:
  Connection-specific DNS Suffix . . . . . : 
  Link-Local IP Address . . . . . : fe80::d6b2:1ff%3
  IPv4 Address . . . . . : 10.100.200.19
  Subnet Mask . . . . . : 255.255.255.0
  Default Gateway . . . . . : 10.100.200.1
  Media State . . . . . : Media disconnected
  Connection-specific DNS Suffix . . . . . : 
Tunnel adapter Isatap {F0B5B446-3110-43D-A3A2-B8858AC495}:
  Media State . . . . . : Media disconnected
  Connection-specific DNS Suffix . . . . . : 
Tunnel adapter Isatap {1E7815F6-D180-428A-98E8-12913494B400}:
  Media State . . . . . : Media disconnected
  Connection-specific DNS Suffix . . . . . : 
PS C:\Users\Administrator> ipconfig /all

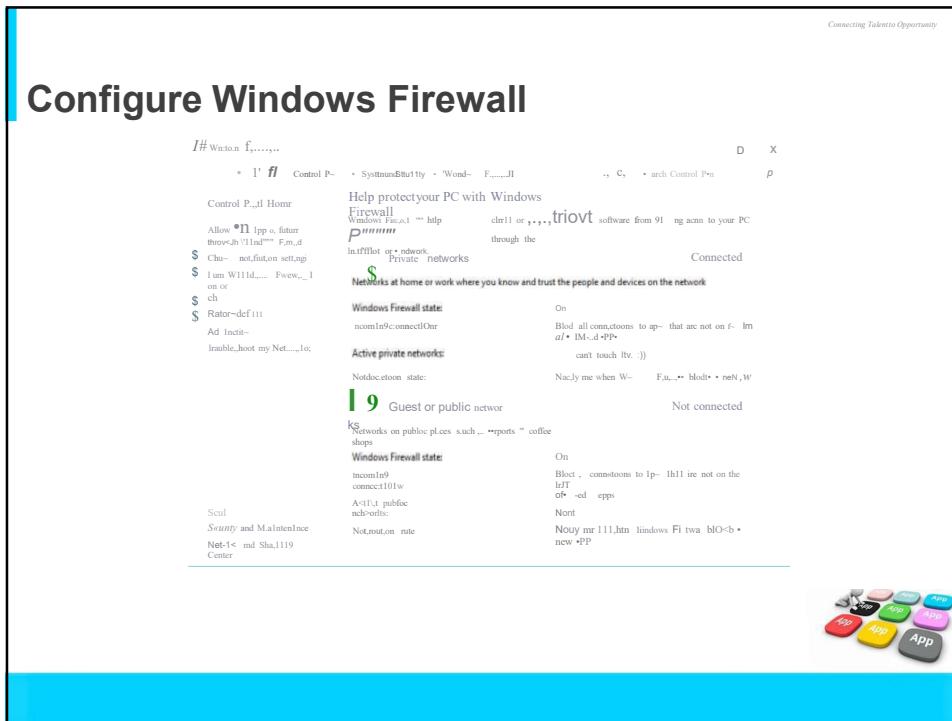
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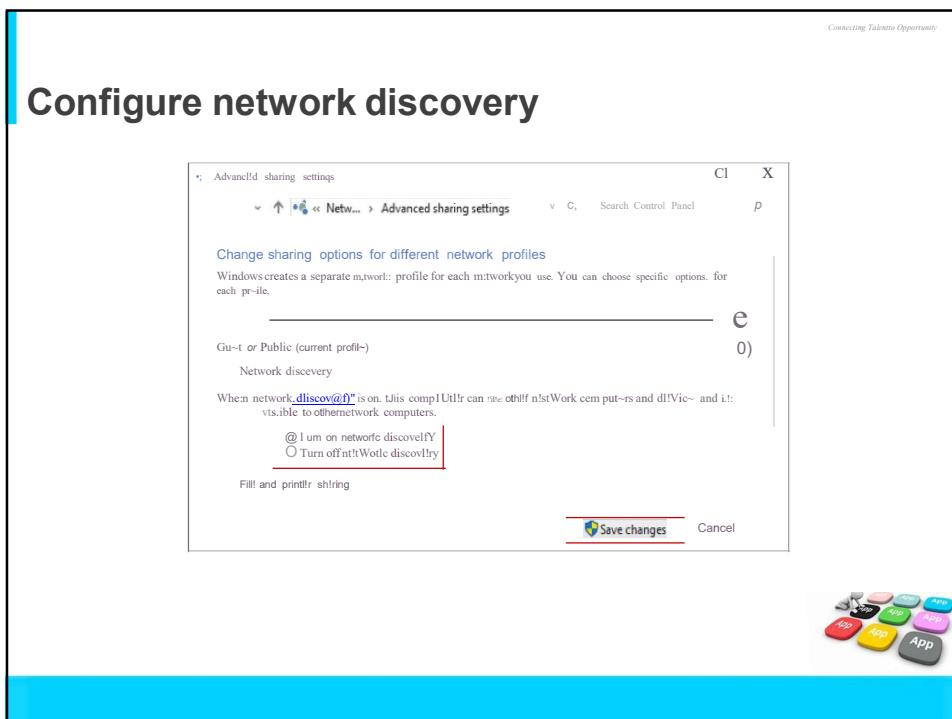
## Configure network locations



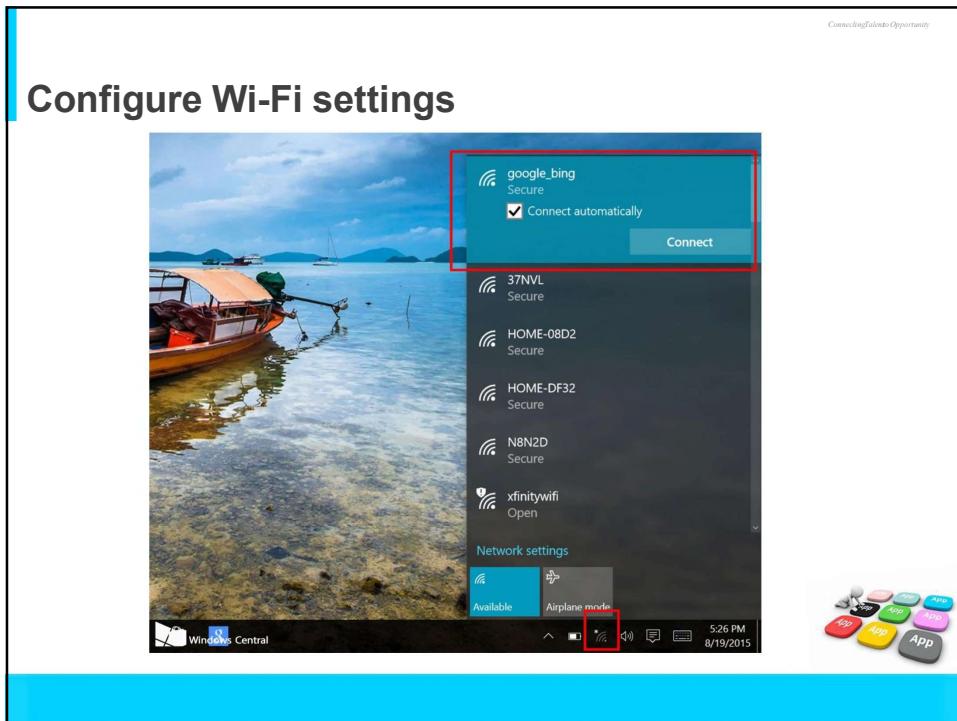
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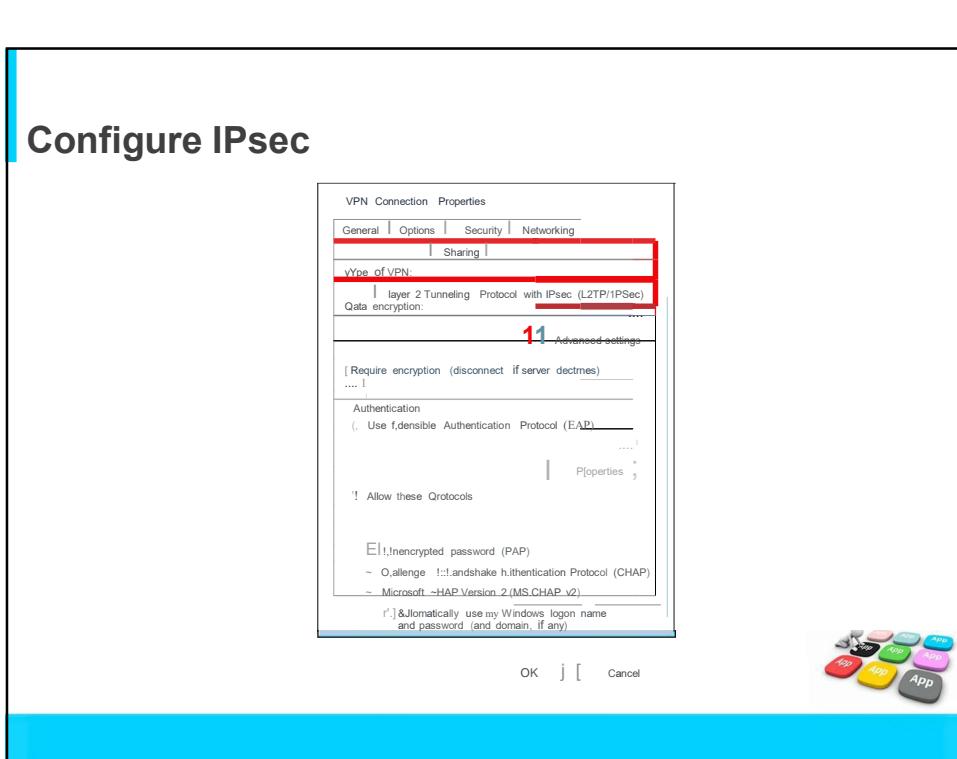
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## Configure Direct Access

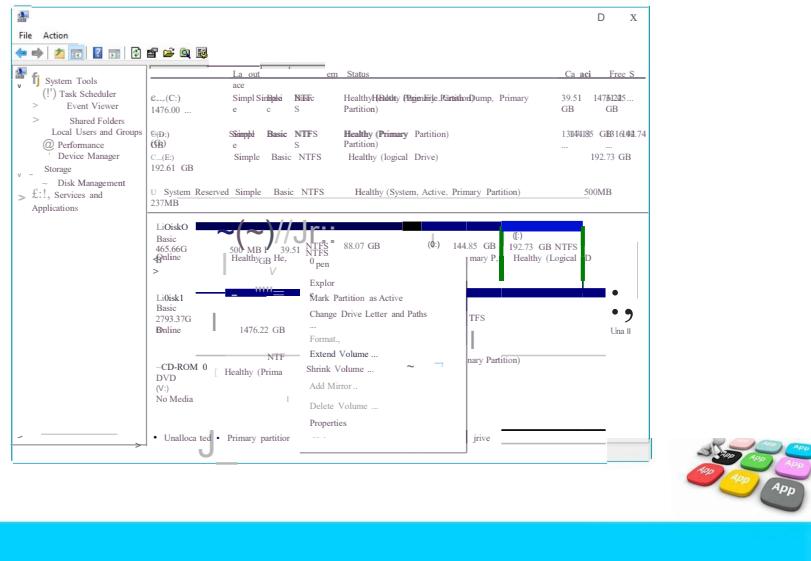
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## Configure Storage

- Configure disks volumes and file system options using Disk Management and Windows PowerShell
- Create and configure VHDs
- Configure removable devices
- Create and configure storage spaces
- Troubleshoot storage and removable devices issues

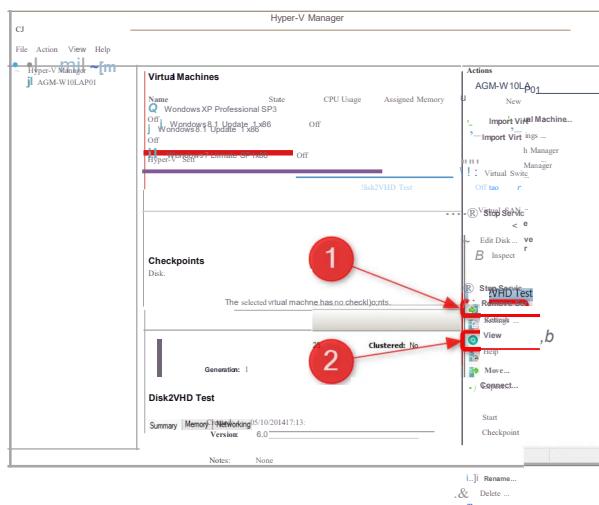
48

## Configure disks volumes and file system options using Disk Management and Windows PowerShell



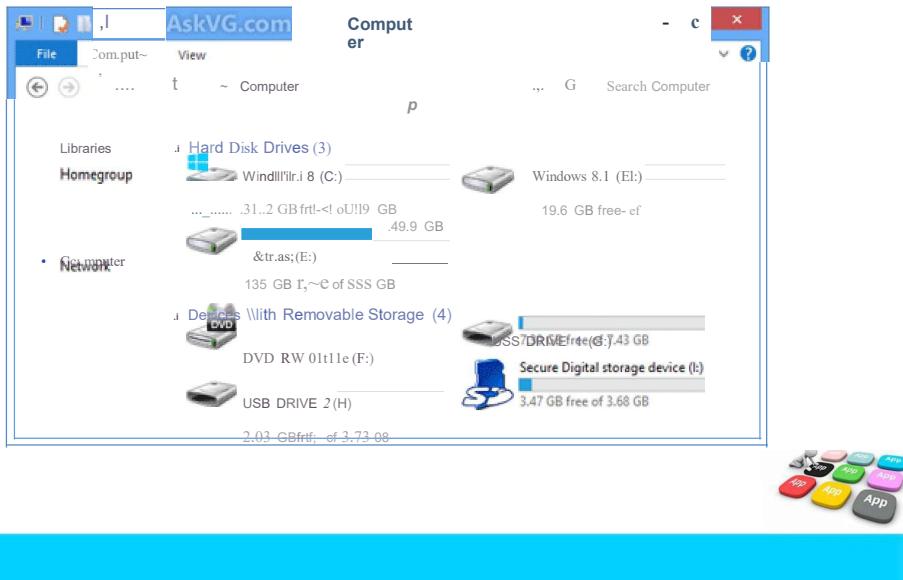
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## Create and configure VHDS



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## Configure removable devices



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## Create and configure storage spaces



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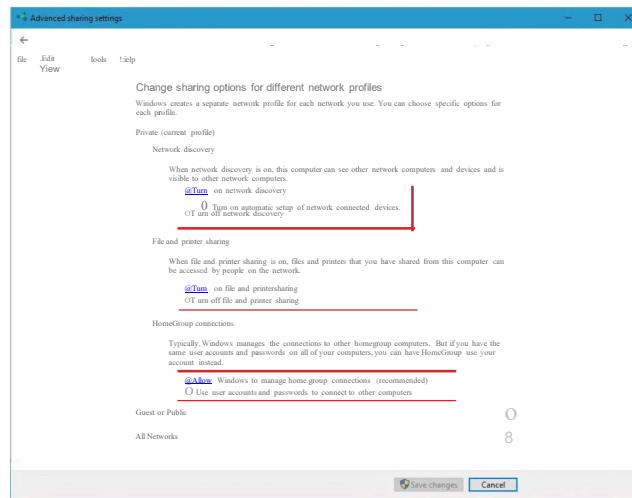
## Configure data access and usage

- Configure file and printer sharing and HomeGroup connections
- Configure folder shares, public folders and OneDrive
- Configure file system permissions
- Configure OneDrive usage
- Troubleshoot data access and usage



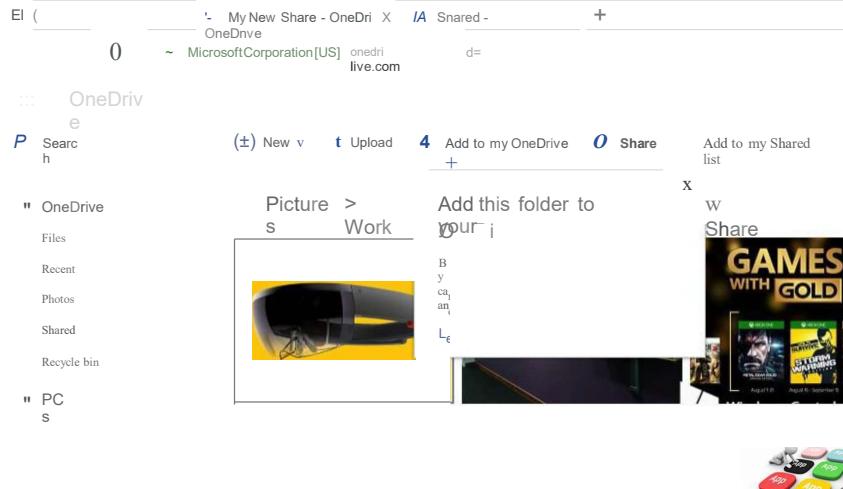
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## Configure file and printer sharing and HomeGroup connections



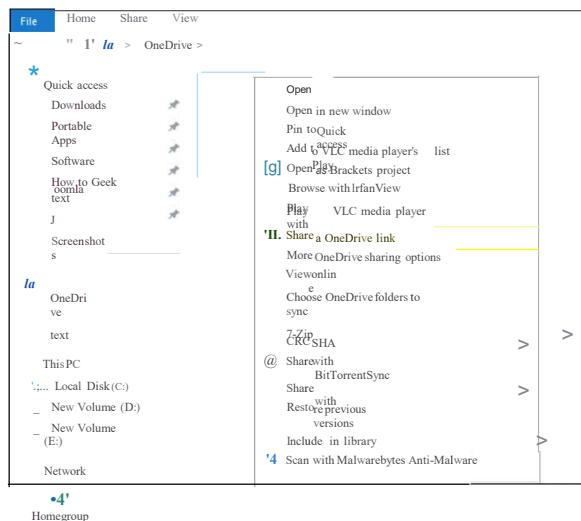
54

## Configure folder shares, public folders and OneDrive



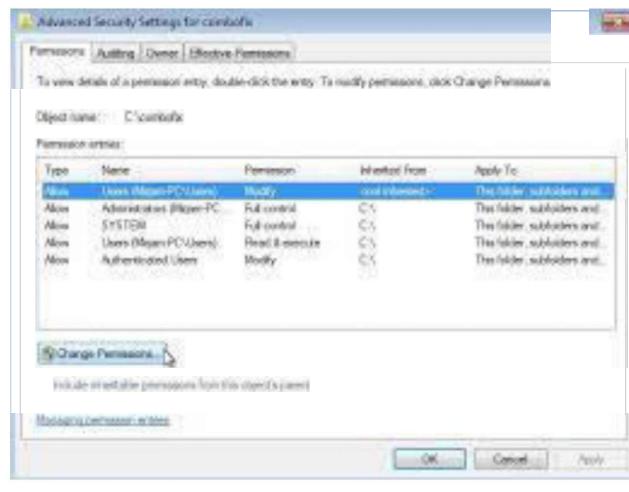
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## Configure folder shares, public folders and OneDrive



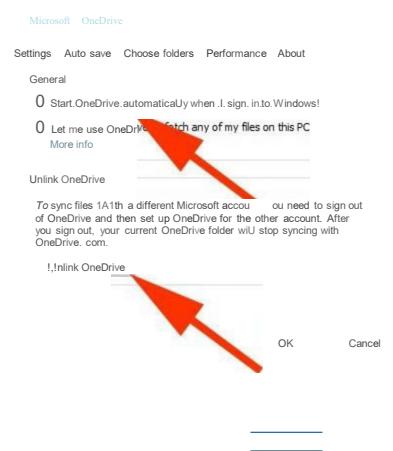
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## Configure file system permissions



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## Configure OneDrive usage



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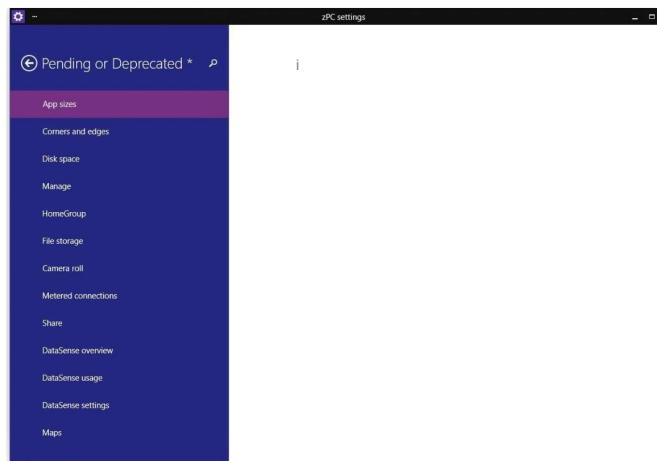
## Implement apps

- Configure desktop apps
- Configure startup options
- Configure Windows features
- Configure Windows Store
- Implement Windows Store apps
- Implement Windows Store for Business
- Provision packages
- Create packages
- Use deployment tools
- Use the Windows Assessment and Deployment Kit (ADK)



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## Configure desktop apps



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## Configure startup options

### Startup Settings

Restart to change Windows options such as:

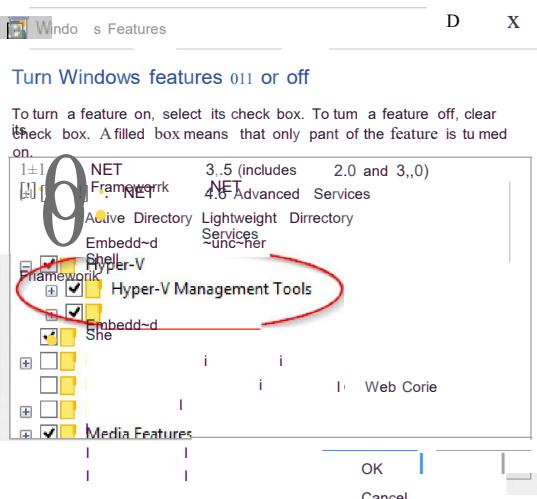
- Enable low-resolution video mode
- Enable debugging mode
- Enable boot logging
- Enable Safe Mode
- Disable driver signature enforcement
- Disable early-launch anti-malware protection
- Disable automatic restart on system failure

[Restart](#)



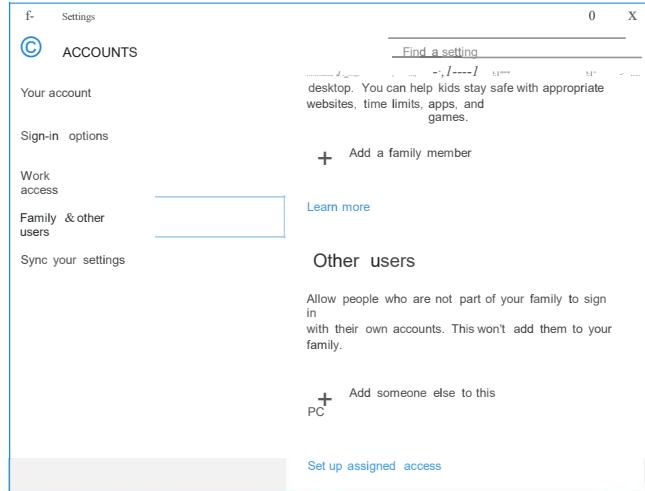
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## Configure Windows features



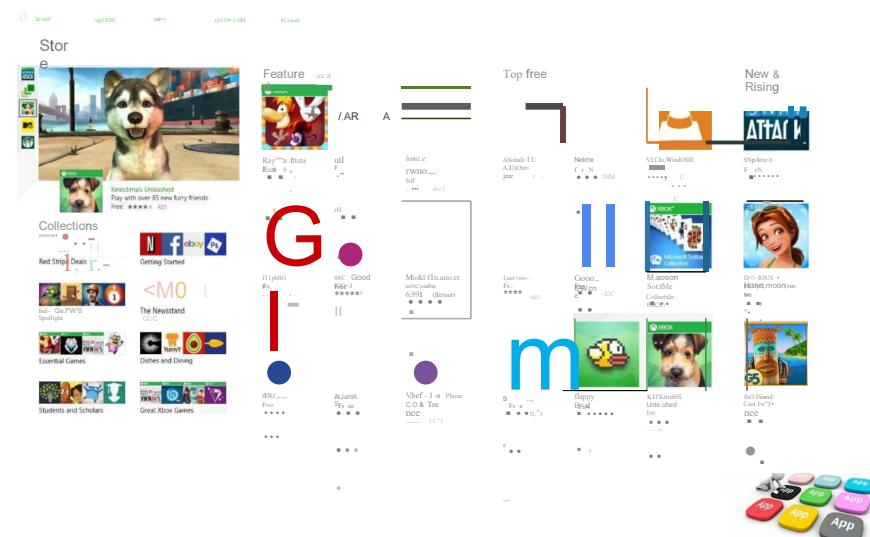
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## Configure Windows Store



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## Implement Windows Store apps



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## Implement Windows Store for Business

**Windows Store for Business**

Same experience for end users  
Highlight consumer apps + private LOB apps  
Business payment methods

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## Provision packages

Windows Imaging and Configuration Designer

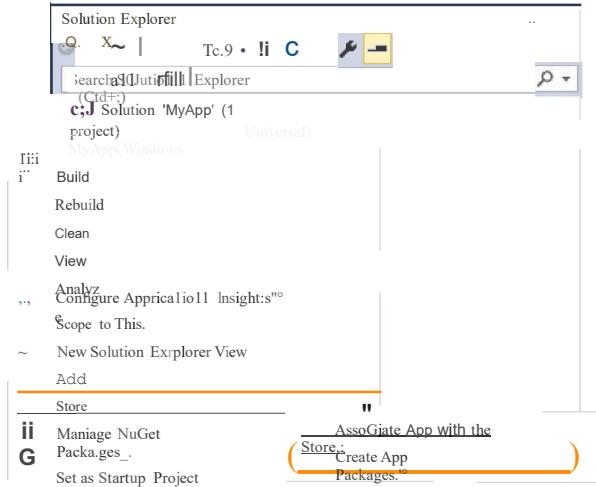
Policies

- AllowActionCenterNotifications
- AllowAddingNonMicrosoftAccountsManually
- AllowDeveloperUnlock
- AllowActionCenterNotifications

Selected customization

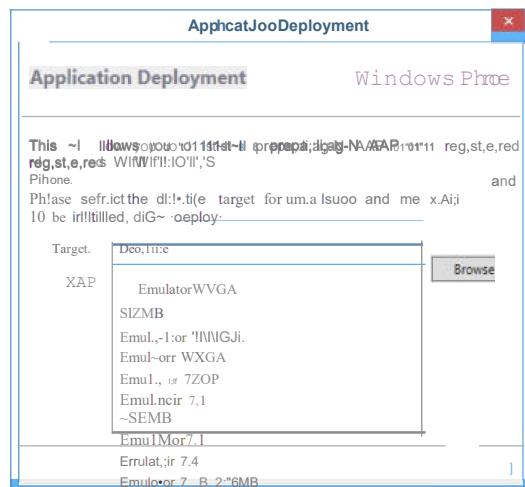
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## Create packages



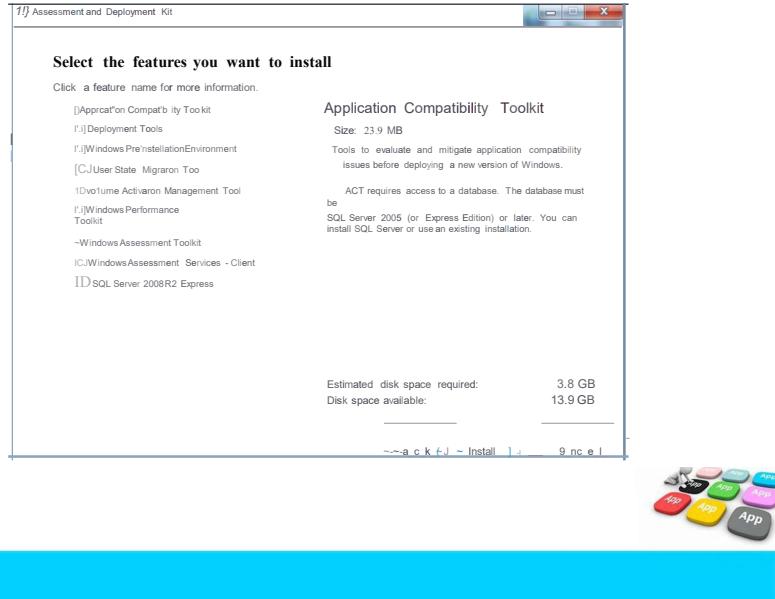
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## Use deployment tools



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## Use the Windows Assessment and Deployment Kit (ADK)



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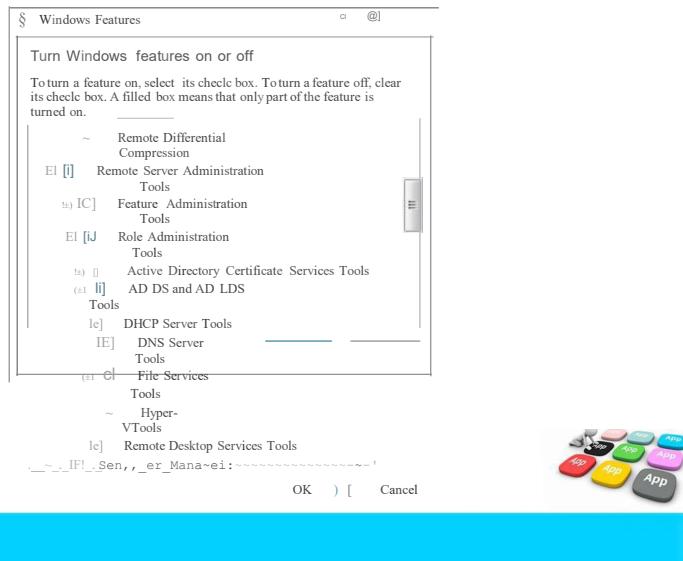
## Configure remote management

- Choose the appropriate remote management tools
- Configure remote management settings
- Modify settings remotely by using the Microsoft Management Console (MMC) or Windows PowerShell
- Configure Remote Assistance, including Easy Connect; configure Remote Desktop; configure remote PowerShell
- Configure Remote Assistance including Easy Connect
- Configure Remote Desktop; configure remote PowerShell



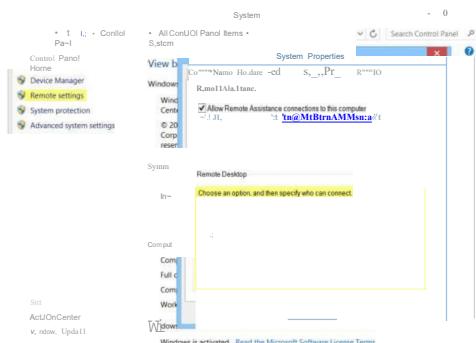
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## Choose the appropriate remote management tools



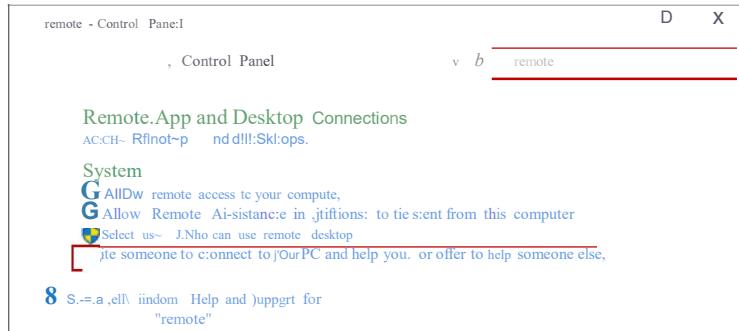
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## Configure remote management settings



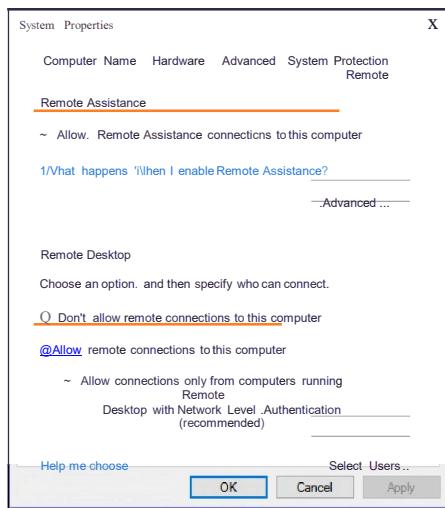
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## Configure Remote Assistance, including Easy Connect



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## Configure Remote Desktop



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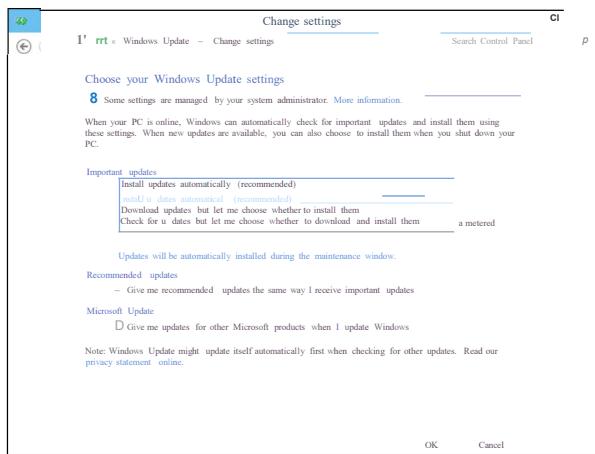
## Configure updates

- Configure Windows Update options
- Implement Insider Preview, Current Branch (CB), Current Branch for Business (CBB) and Long Term Servicing Branch (LTSB) scenarios
- Manage update history
- Roll back updates
- Update Windows Store apps



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## Configure Windows Update options



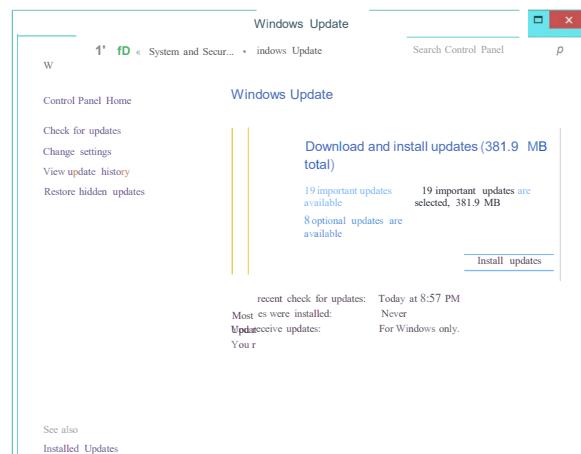
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## Implement Insider Preview



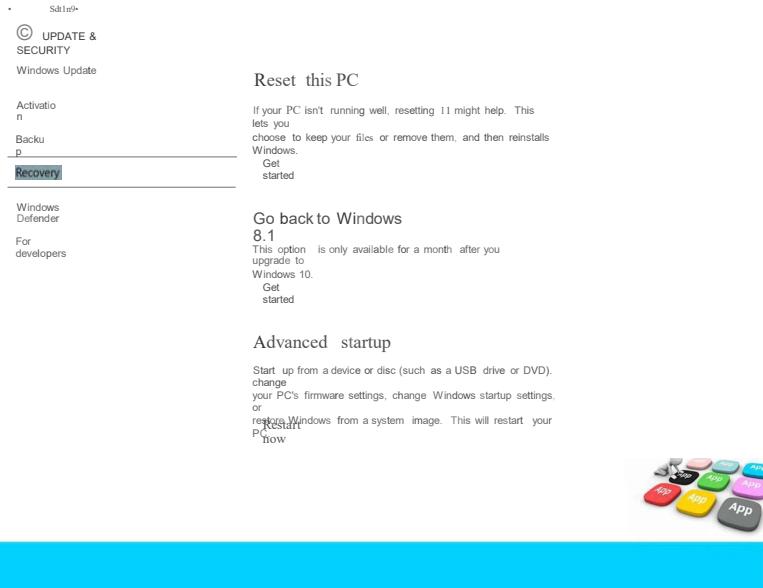
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## Manage update history



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## Roll back updates



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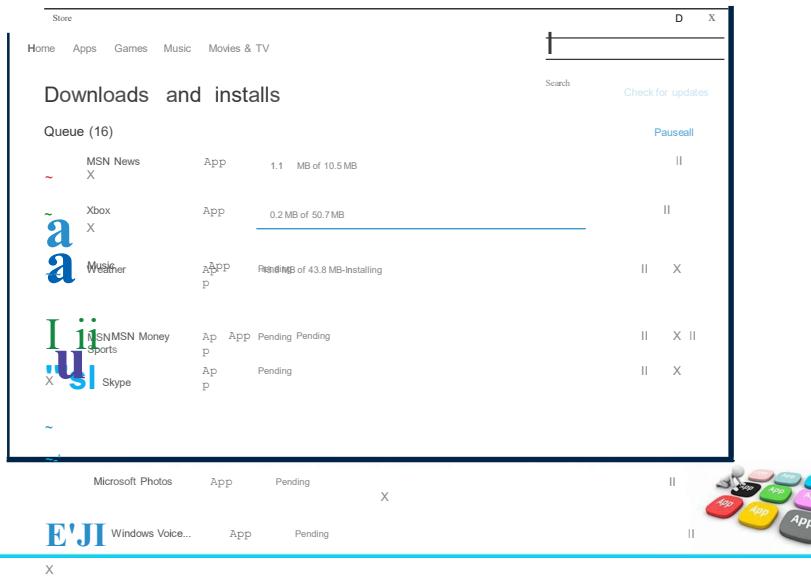
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- Manage update history
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## Update Windows Store apps



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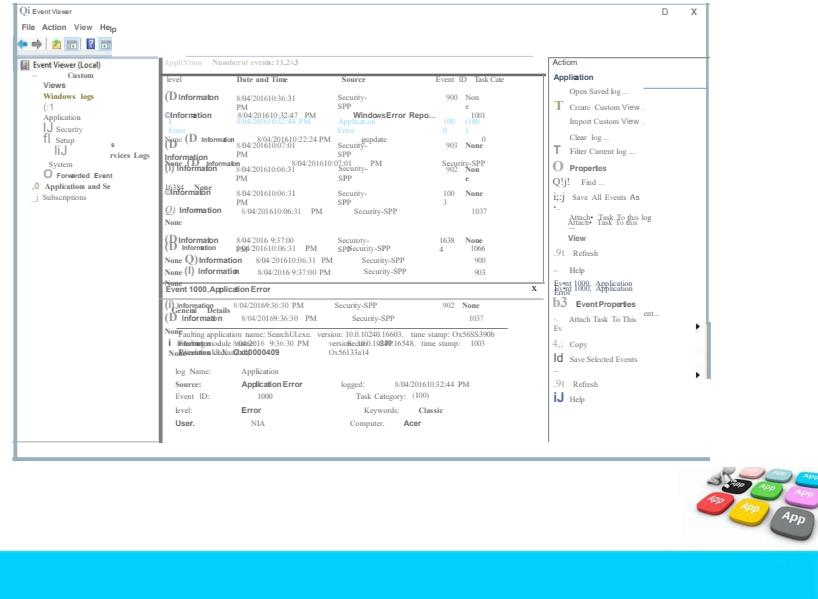
## Monitor Windows

- Configure and analyse Event Viewer logs
- Configure event subscriptions
- Monitor performance using Task Manager
- Monitor performance using Resource Monitor
- Monitor performance using Performance Monitor and Data Collector Sets
- Monitor system resources
- Monitor and manage printers
- Configure indexing options
- Manage client security by using Windows Defender
- Evaluate system stability using Reliability Monitor
- Troubleshoot performance issues



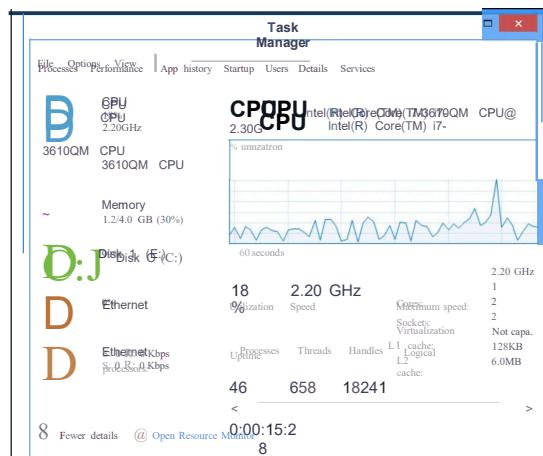
82

## Configure and analyse Event Viewer logs



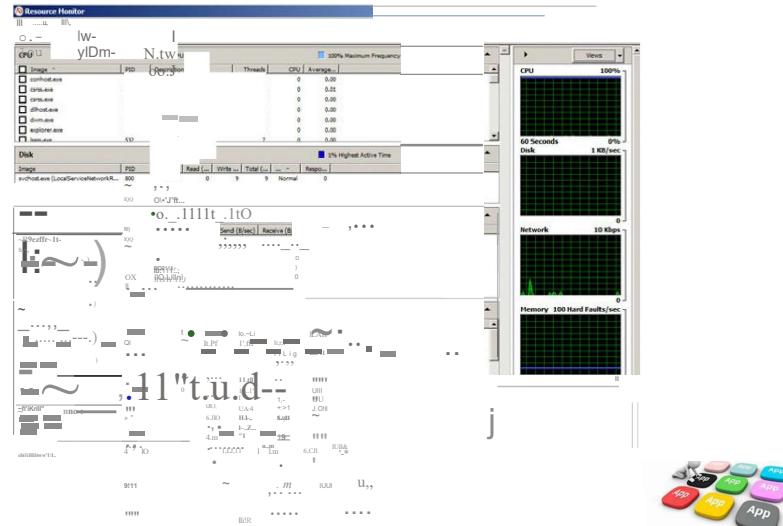
83

## Monitor performance using Task Manager



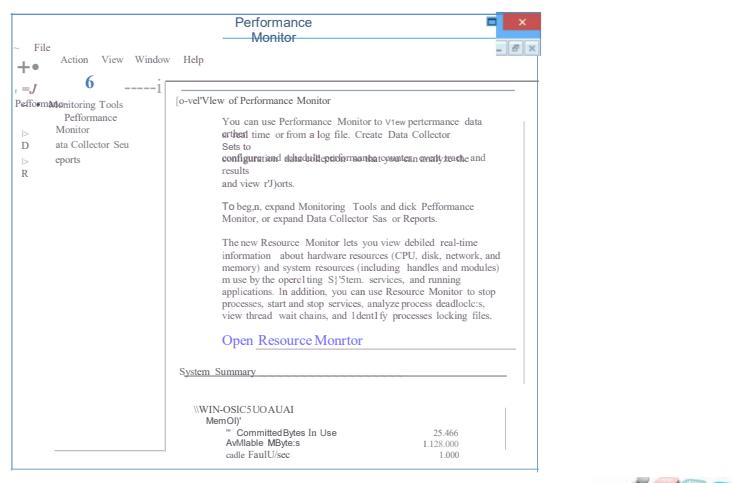
84

## Monitor performance using Resource Monitor



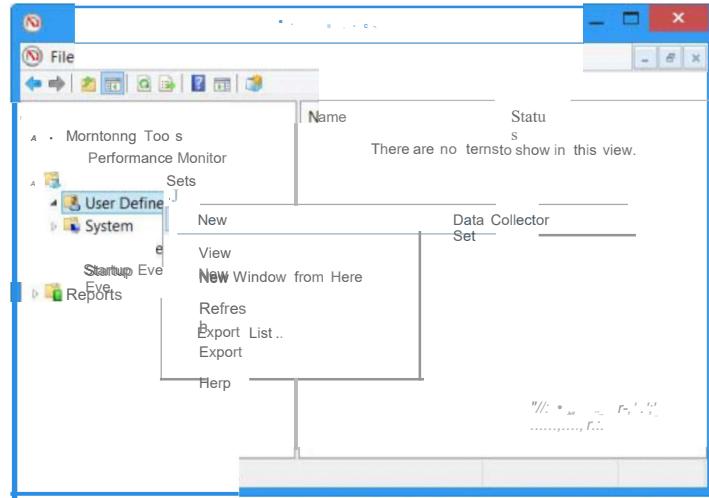
85

## Monitor performance using Performance Monitor and Data Collector Sets



86

## Monitor performance using Performance Monitor and Data Collector Sets



87

## Monitor and manage printers



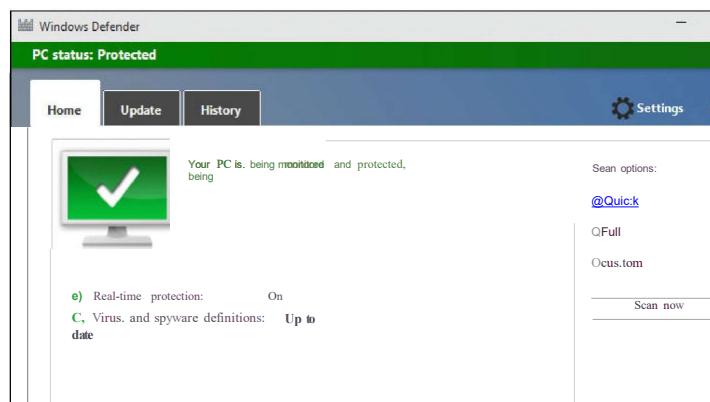
88

## Configure indexing options



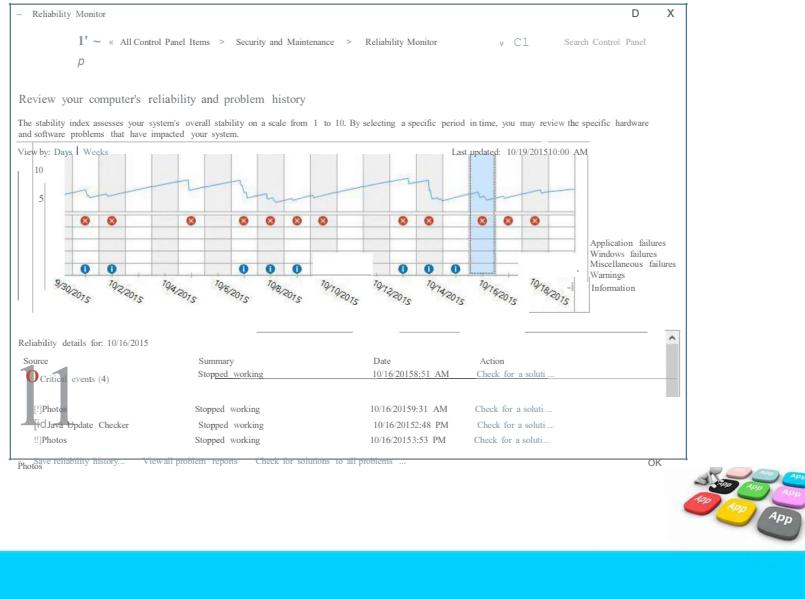
89

## Manage client security by using Windows Defender



90

## Evaluate system stability using Reliability Monitor



91

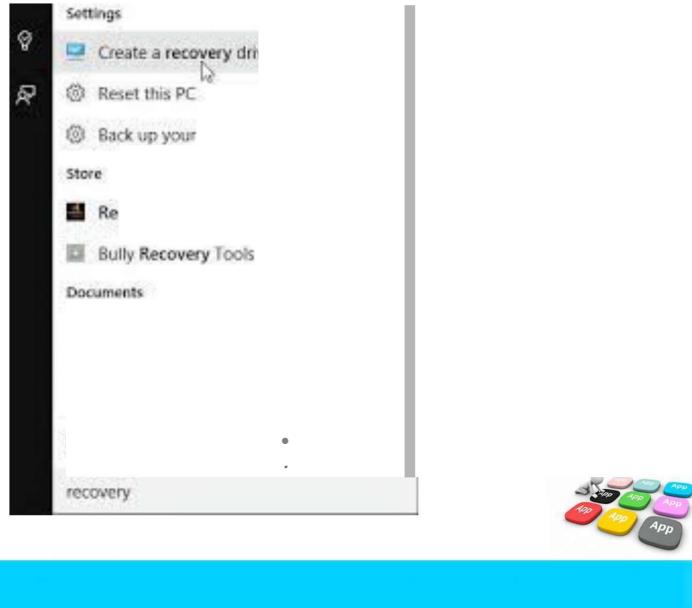
## Configure system and data recovery

- Configure a recovery drive
- Configure a system restore
- Perform a refresh or recycle
- Perform a driver rollback
- Configure restore points
- Resolve hardware and device issues
- Interpret data from Device Manager
- Restore previous versions of files and folders
- Configure File History
- Recover files from OneDrive
- Use Windows Backup and Restore
- Perform a backup and restore with WBAdmin
- Perform recovery operations using Windows Recovery



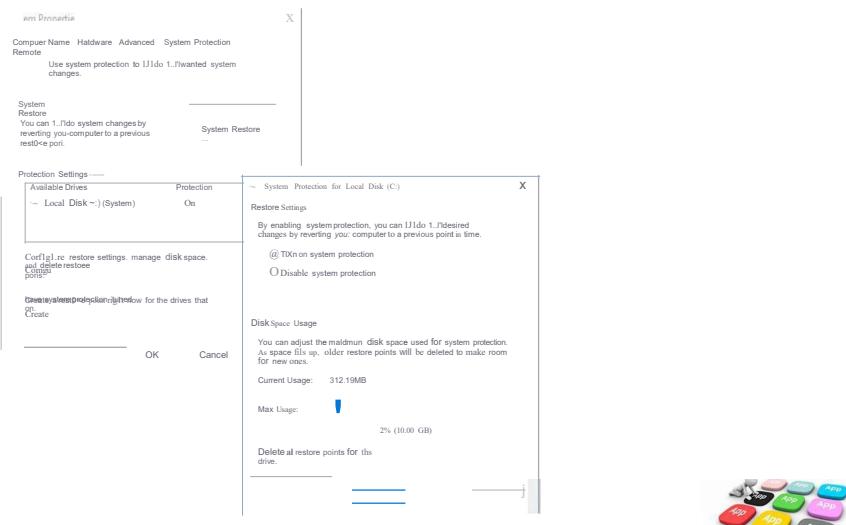
92

## Configure a recovery drive



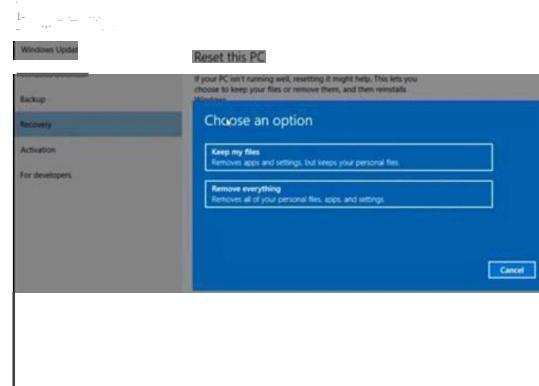
93

## Configure a system restore



94

## Perform a refresh or recycle

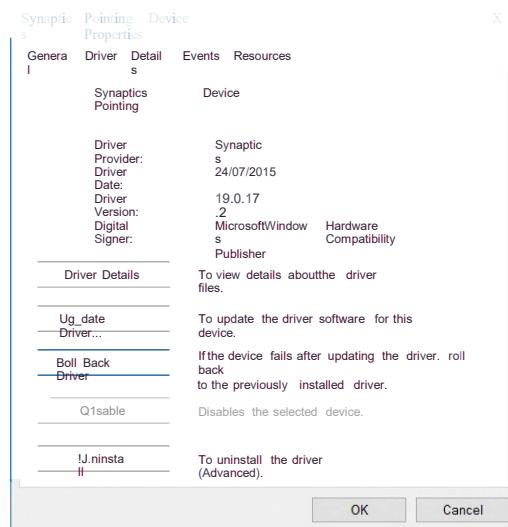


LinkedIn



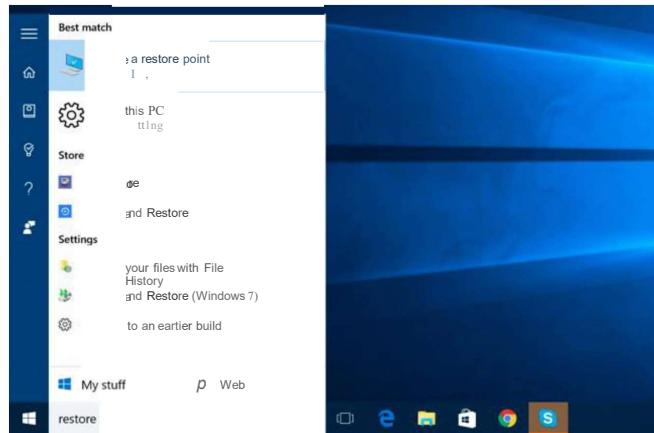
95

## Perform a driver rollback



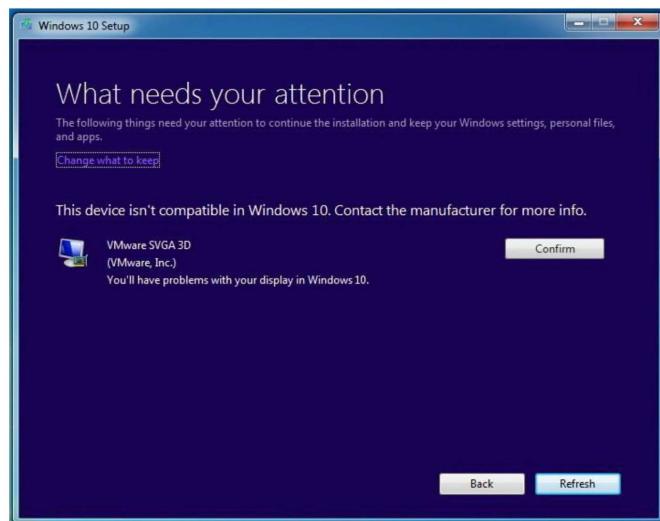
96

## Configure restore points



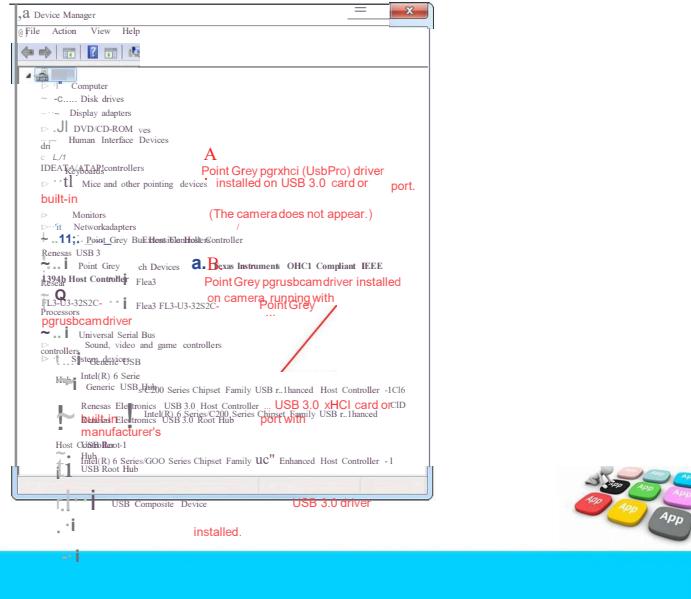
97

## Resolve hardware and device issues



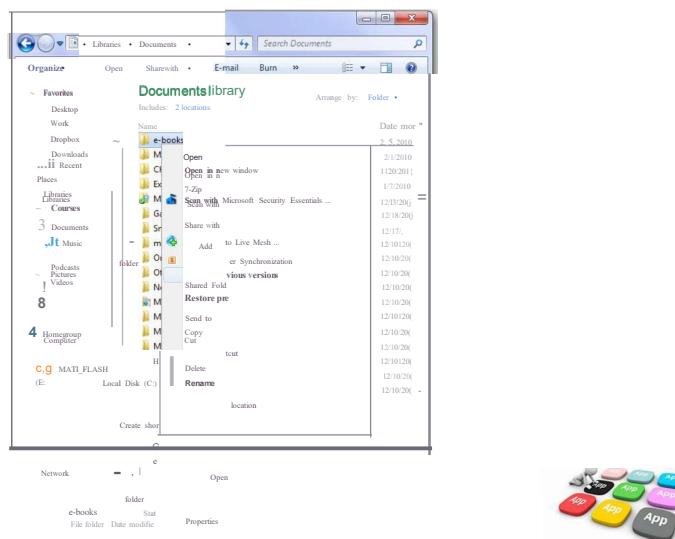
98

## Interpret data from Device Manager



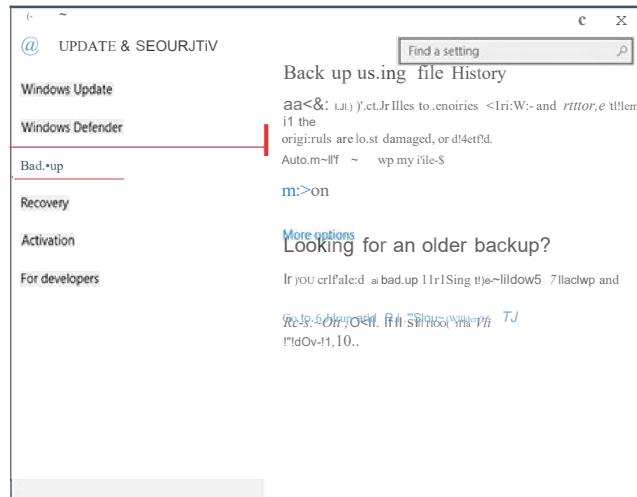
99

## Restore previous versions of files and folders



100

## Configure File History



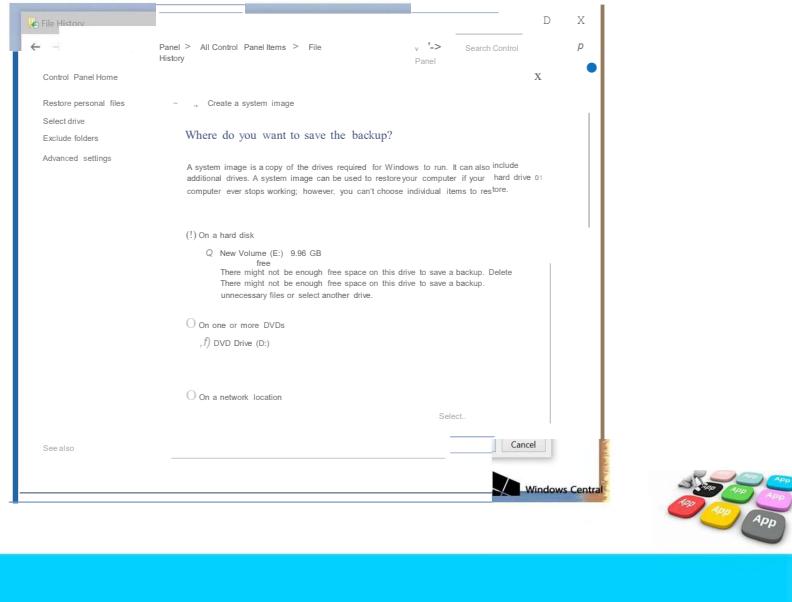
101

## Recover files from OneDrive



102

## Use Windows Backup and Restore



103

## Perform a backup and restore with WBAdmin

```
C:\Windows\system32\command.com
Microsoft(R) Windows DOS
(C)Copyright Microsoft Corp 1990-2001.

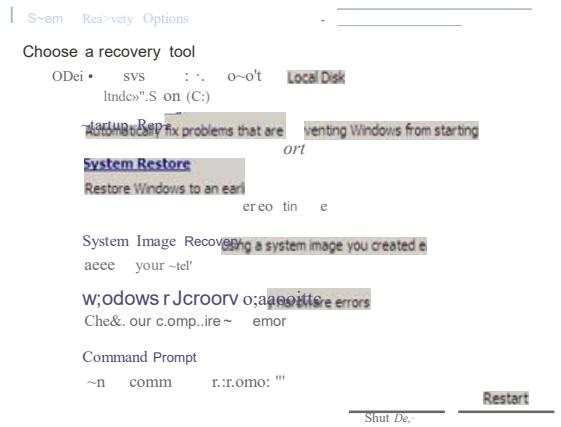
C:\> wbadmin /?
wbadmin 1.0 Backup command-line tool
(C) Copyright 2004 Microsoft Corp.

----- Commands Supported -----
START BACKUP      -- Runs a one-time backup.
STOP JOB          -- Stops the currently running backup or recovery
                   operation.
GET VERSIONS     -- List details of backups recoverable from a
                   specified location.
GET ITEMS         -- Lists items contained in a backup.
GET STATUS        -- Reports the status of the currently running
                   operation.

C:\>
```

104

## Perform recovery operations using Windows Recovery



105

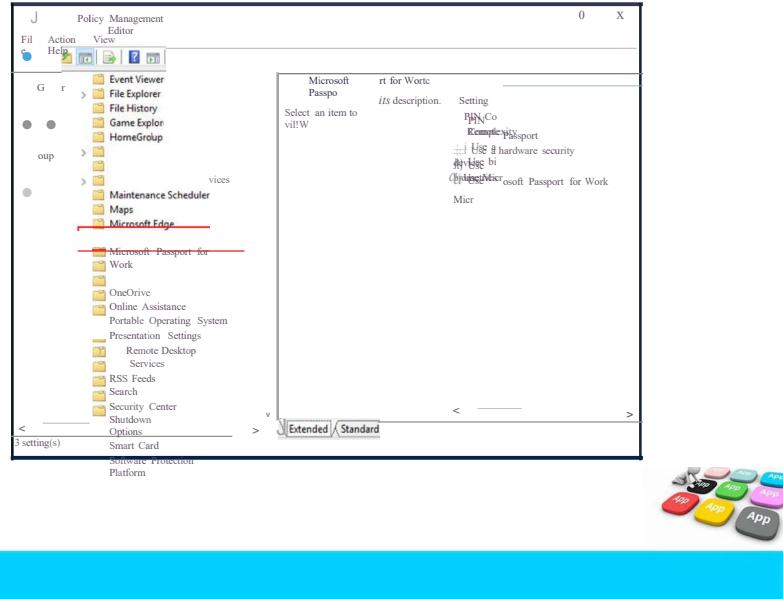
## Configure authorisation and authentication

- Configure Microsoft Passport
- Configure picture passwords and biometrics
- Configure domain settings
- Configure HomeGroup settings
- Configure Credential Manager
- Configure local accounts
- Configure Microsoft accounts
- Configure Device Registration
- Configure Windows Hello
- Configure Device Guard
- Configure Credential Guard
- Configure Device Health Attestation
- 



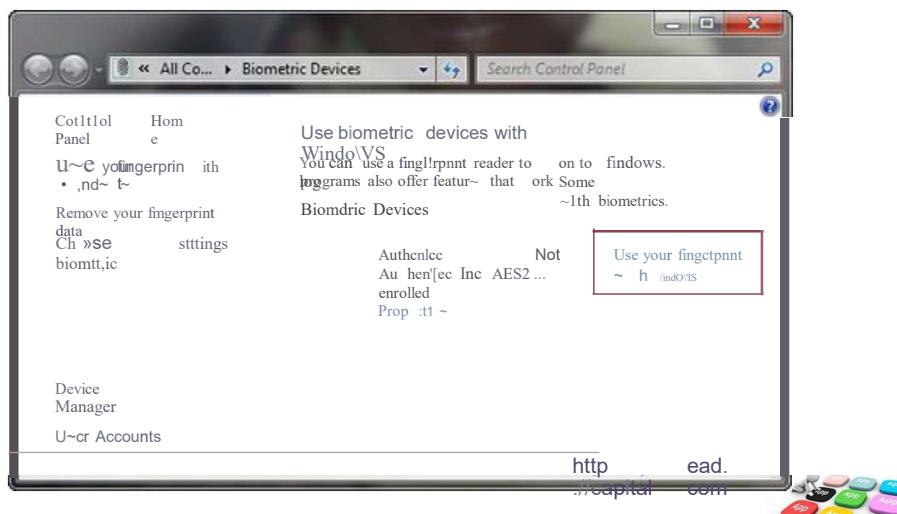
106

## Configure Microsoft Passport



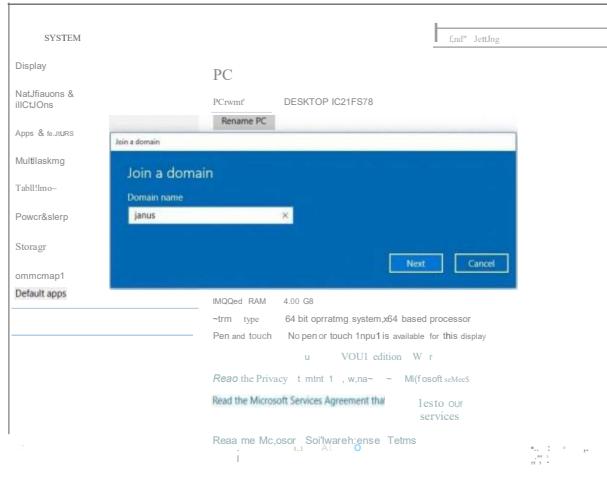
107

## Configure picture passwords and biometrics



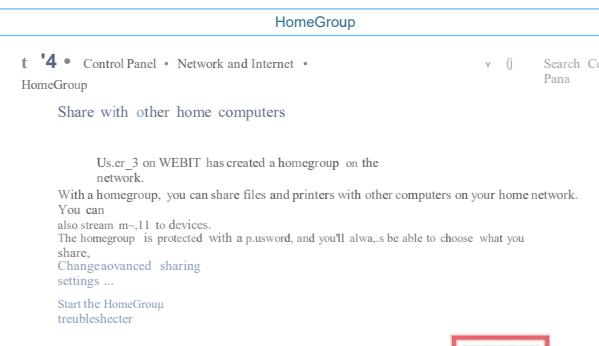
108

## Configure domain settings



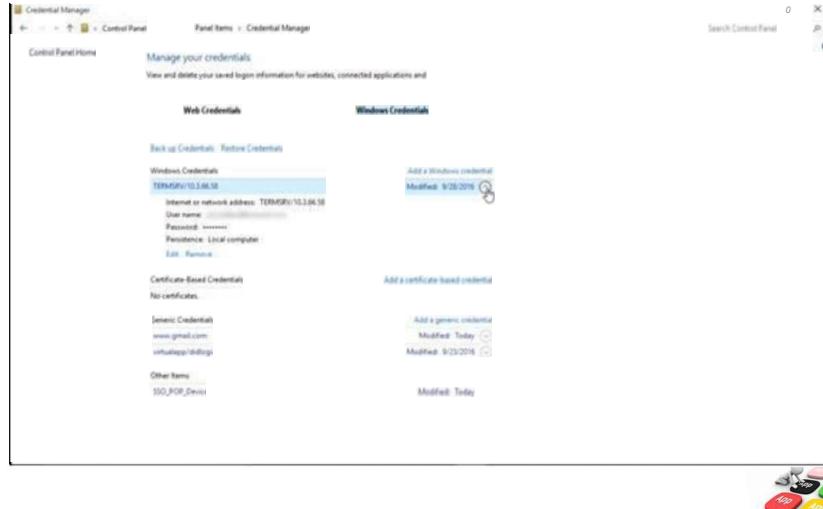
109

## Configure HomeGroup settings



110

## Configure Credential Manager



111

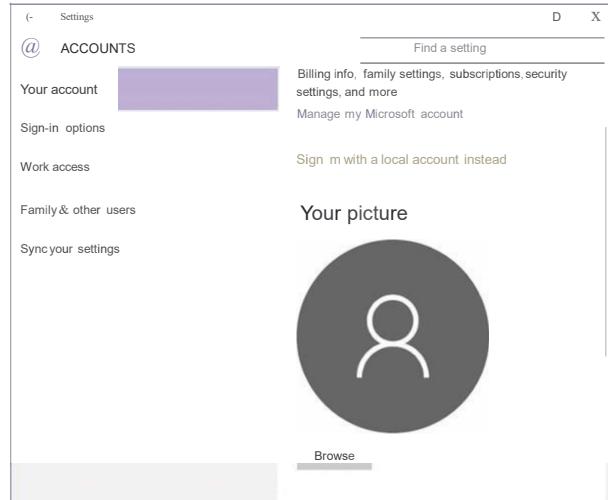
## Configure authorisation and authentication

- Configure Microsoft Passport
- Configure picture passwords and biometrics
- Configure domain settings
- Configure HomeGroup settings
- Configure Credential Manager
- Configure local accounts
- Configure Microsoft accounts
- Configure Device Registration
- Configure Windows Hello
- Configure Device Guard
- Configure Credential Guard
- Configure Device Health Attestation
- Configure UAC behaviour



112

## Configure local accounts



113

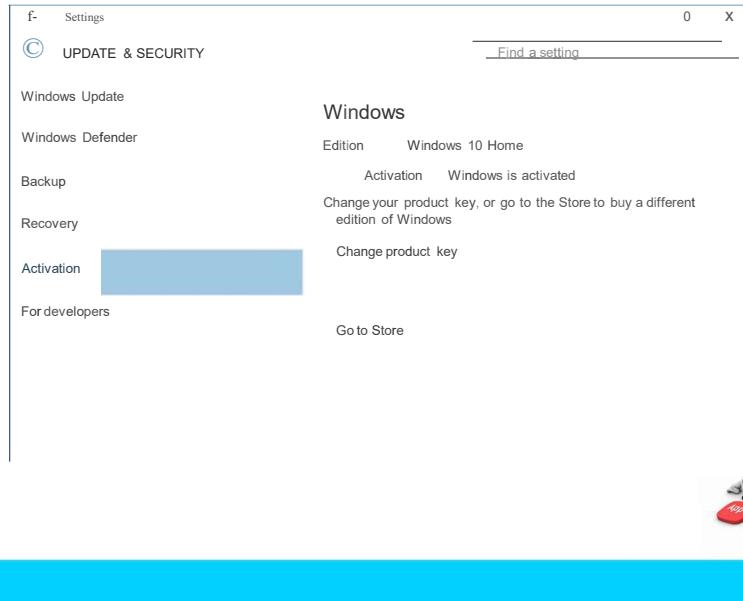
## Configure Microsoft accounts

The screenshot shows the 'Create a Microsoft account' form. It asks for First name, Last name, Email address (with a dropdown for '@ outlook.com'), Create password, Reenter password, and Country/region (set to United States). A red arrow points to the 'Sign in without a Microsoft account' link located below the country selection. A 'Next' button is at the bottom right.



114

## Configure Device Registration



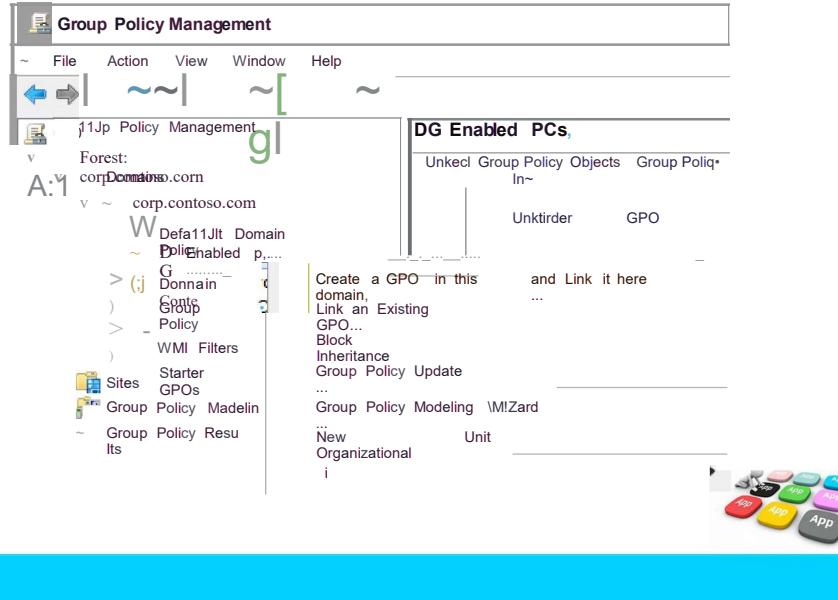
115

## Configure Windows Hello



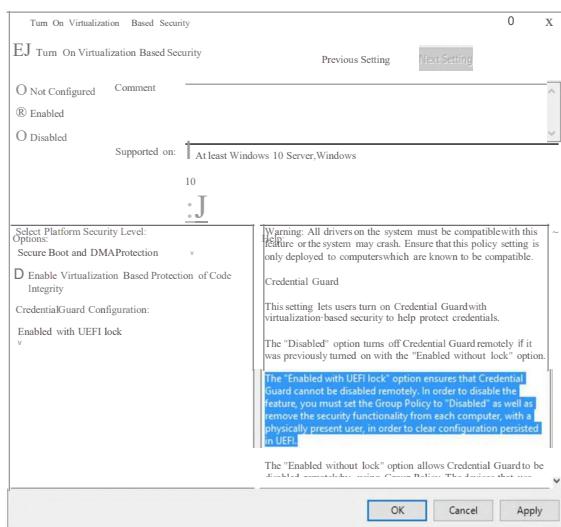
116

## Configure Device Guard



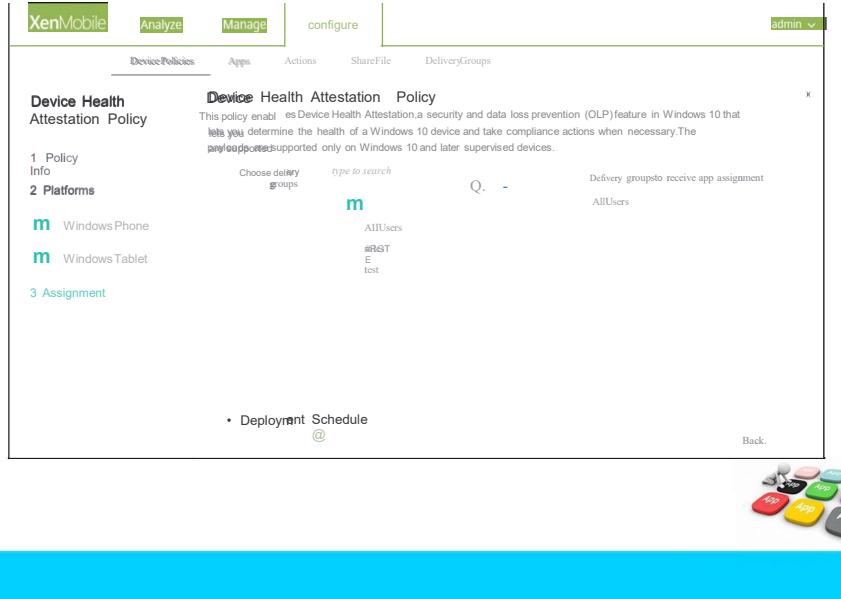
117

## Configure Credential Guard



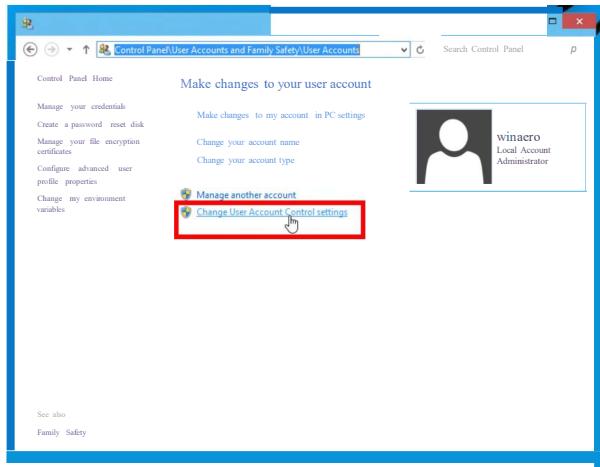
118

## Configure Device Health Attestation



119

## Configure UAC behaviour



120

## Configure advanced management tools

- Configure services
- Configure Device Manager
- Configure and use the MMC
- Configure Task Scheduler
- Configure automation of management tasks using Windows PowerShell



121

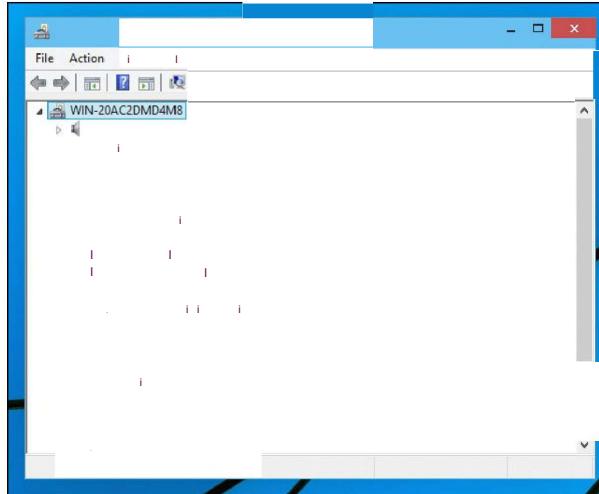
## Configure services

Name	Status	Startup Type
Diagnostic Policy Service	Running	Manual
Diagnostic Service Host	Running	Manual
Diagnostic System Host	Running	Manual
Distributed Link Client	Running	Automatic
Distributed Transaction Coordinator	Running	Manual
Downloaded Manager Standard	Running	(Trigger Start)
Do Wend	Manual	"



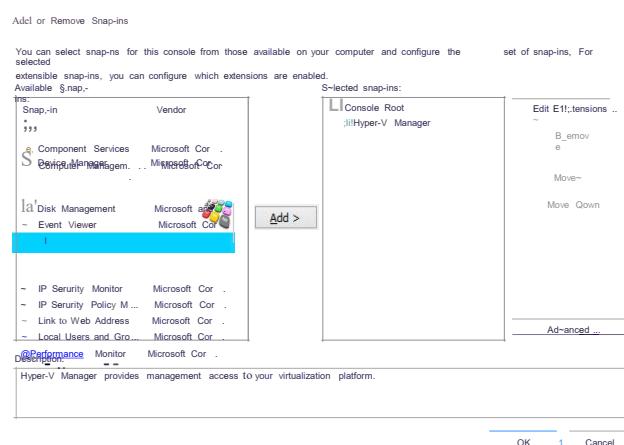
122

## Configure Device Manager



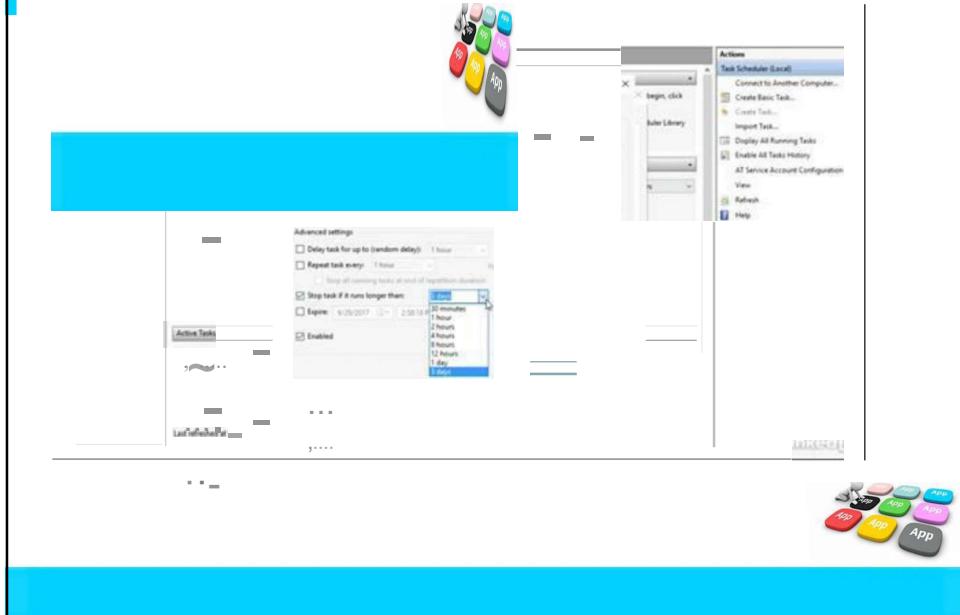
123

## Configure and use the MMC



124

## Configure Task Scheduler



125

## Configure automation of management tasks using Windows PowerShell



126