

# 98-349: Windows Operating Fundamentals

This document shows where changes to Exam 98-349 have been made to incorporate updates for Windows 10, including the removal of any tools not supported in Windows 10. These changes are effective as of August 31, 2016.

## 1. Understanding operating system configurations (15–20%)

### 1.1. Configure Control Panel options

Configure administrative tools; configure accessibility options; ~~configure power settings; configure File Explorer settings~~

### 1.2. Configure desktop settings

Configure ~~gadgets~~, profiles, display settings, and shortcuts; ~~and Aero configurations and capabilities~~ configure and customize Start Menu; configure Task Bar settings; configure toolbars; configure notifications

### 1.3. ~~Understand~~ Configure native applications and tools

~~Understanding Windows Internet Explorer~~ Configure Microsoft Edge; configure Cortana; configure Hyper-V; ~~the snipping tool; Windows Media Player, Windows Media Center,~~ and configure settings using MSCONFIG; configure processes and applications using Task Manager; configure computer management

### 1.4. ~~Understand~~ Configure mobility settings

~~Understanding~~ Configure Sync Center, Windows Mobility Center, and Remote Desktop

### 1.5. ~~Understand remote management and assistance~~ Configure and use management tools

~~Understanding~~ Configure MMC; configure the Windows PowerShell console and Windows PowerShell ISE

## 2. Installing and upgrading client systems (15–20%)

### 2.1. Identify Windows operating system editions

Identify ~~system hardware and compatibility~~ requirements; ~~using PC Upgrade Advisor~~ determine appropriate editions per device type

### 2.2. Identify upgrade paths

Identify upgrade paths from ~~Windows XP, Windows Vista, and other operating systems; previous Windows versions;~~ identify application compatibility

### 2.3. Understand installation types

Perform a clean install; upgrade via Windows Update; migrate from previous Windows versions; ~~Understanding~~ perform removable media installation; ~~(DVD, ZTI, LTI, and USB), cloud and perform network installations, and product identification keys~~

### ~~2.4. Understand virtualized clients~~

~~Understanding Windows XP Mode, Remote Desktop, and Remote Desktop Services~~

### 2.5. Understand operating system architecture

Understand kernel mode; understand user mode; understand memory, IRQs, drivers, CPUs, and UI; understand 32-bit vs. 64-bit architecture

## 3. Managing applications (15–20%)

### 3.1. ~~Understand~~ Configure applications ~~installations~~

Understand local vs. network applications; ~~Group Policy, and application removal~~ configure desktop applications; configure app startup options; configure Windows features; configure Windows SmartScreen; configure application removal; configure Windows Store apps

3.2. ~~Understand~~ **Configure** User Account Control (UAC)

Understand standard user vs. administrative user; understand types of UAC prompts and levels

3.3. ~~Remove malicious software~~ **Configure** antivirus settings

~~Understanding~~ **Configure** Windows Defender and ~~Action Center~~, the Malicious Software Removal tool, ~~Windows Registry, and Microsoft Forefront Endpoint Protection~~

3.4. Understand services

Understanding service start-up types, service accounts, and service dependencies

~~3.5. Understand application virtualization~~

~~Understanding Med-V and VDI~~

**4. Managing files and folders (15–20%)**

4.1. Understand file systems

Understand ~~FAT~~, FAT32, NTFS, and ReFS

4.2. Understand file and print sharing

~~Understanding NTFS and share permissions~~, **Configure** File System permissions; **configure** Share Permissions; **configure** HomeGroup settings; **configure** print drivers; **configure** effective permissions; **create** ~~public, basic, and advanced~~ shares; **create** mapped drives

4.3. Understand encryption

Understand BitLocker and Encrypting File System (EFS) ~~and compression~~

4.4. Understand libraries

Understand offline files; **configure** libraries; add multiple local locations to a library; add networked locations

**5. Managing devices (15–20%)**

5.1. Connect devices

Connect, **enable, and disable** plug-and-play ~~and Bluetooth~~ devices; connect and disconnect printers; install third-party software for devices; **install device drivers**

5.2. Understand storage

Understand disk types (~~NTFS, FAT, etc.~~), security (encryption), storage device types (eSATA, USB, ~~USB 2.0~~, IEEE 1394, iSCSI, ~~Infiniband~~), and storage drive types (basic, primary, extended, logical, dynamic disk, VHDS); **configure** ~~simple and spanned~~ volumes; **configure** disk management; ~~and cloud storage (Windows Live OneDrive, OneNote to OneDrive, Live mesh)~~ **configure** OneDrive use; optimize drives

5.3. Understand printing devices

Understand local printers, network printers, print queues, print-to-file, and Internet printing

5.4. Understand system devices

Understand video, audio, and infrared input devices; understand Device Manager

**6. Understanding operating system maintenance (15–20%)**

6.1. Understand backup and recovery methods

~~Understanding local, online, and automated backup methods; understanding backup options; understanding~~ Configure System Restore; configure a recovery drive; configure recovery boot options such as Last Known Good and various Safe Mode options; recover files from OneDrive

6.2. Understand maintenance tools

Understand Disk Defragmenter, Disk Cleanup, Task Scheduler, ~~Action Center~~, and System Information

6.3. ~~Understand~~ Configure updates

Configure Windows Update options; implement Insider Preview, Current Branch, and Current Branch for Business scenarios; manage update history; roll back updates  
~~Understanding Windows updates, Microsoft updates, and hotfixes~~