



## Microsoft Office Web Apps

*Service Description*

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For the latest information, please see [Microsoft Office 365](#).

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# Introduction

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Microsoft® Office Web Apps is the online companion to Microsoft Word, Microsoft Excel®, Microsoft PowerPoint®, and Microsoft OneNote® applications that helps users access documents from almost anywhere. Users can view, share, and work on documents online with other users across personal computers, mobile devices, and the web.

Office Web Apps is available to users through Microsoft SharePoint® Online, which is part of Microsoft Office 365. Office Web Apps is also available as a part of Microsoft Windows Live™ and also to business customers through Microsoft Office 2010 volume licensing, Office 365, and document management solutions based on Microsoft SharePoint 2010 products.

This document focuses on using Office Web Apps as a part of SharePoint Online.

# Features of Microsoft Office 365

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Microsoft Office Web Apps is one of several cloud services offered by Microsoft Office 365 for enterprises. These Internet-based services are designed to help meet the need for robust security, 24/7 reliability, and user productivity.

Each service is designed for reliability, availability, and performance with a financially backed service level agreement (SLA) for a guaranteed 99.9-percent scheduled uptime. Microsoft deploys patches, security updates, and back-end upgrades, helping to eliminate the time and effort organizations spend managing their servers.

Subscribers to Office Web Apps benefit from a set of features that are common to all of the Microsoft business-class cloud services:

- **Secure access:** Each offering from Microsoft Office 365 is accessed through 128-bit Secure Sockets Layer (SSL) or Transport Layer Security (TLS) encryption. Anyone who intercepts a communication sees only encrypted text.
- **Intrusion monitoring:** Microsoft continuously monitors the Office 365 systems for any unusual or suspicious activity. If Microsoft detects such activity, it investigates and responds appropriately. In the unlikely event that a significant incident occurs, the customer is notified.
- **Security audits:** Microsoft regularly assesses the Office 365 infrastructure to ensure that the latest antivirus signatures and required security updates are installed, and that high-level configuration settings are in compliance with Microsoft security policies. For details, refer to the [Security and Service Continuity for Enterprises Service Description](#).
- **High availability:** Microsoft Office 365 services have a 99.9-percent scheduled uptime. If a customer's service is affected, Office 365 offers financial remedies subject to the terms and conditions of the SLA. For details, refer to the [Service Level Agreement for Microsoft Online Services](#).
- **Service continuity:** Redundant network architecture is hosted at geographically dispersed Microsoft data centers to handle unscheduled service outages. Data centers act as backups for each other: If one fails, the affected customers are transferred to another data center with limited interruption of service.
- **Microsoft Online Services Portal:** This easy-to-use website is the center for activities related to Microsoft Office 365. The portal provides services based on each organization's specific needs. Prospective subscribers can use the portal to sign up for a free trial. End users accessing the portal can find online help, open Microsoft SharePoint site collections, and launch Microsoft Outlook® Web App. Administrators can manage users, administer services, download tools, and learn about service administration from online help.
- **Directory Synchronization tool:** For subscribers with Active Directory® directory services deployed on-premises, this tool helps keep the on-premises Active Directory and the Microsoft Office 365 directory synchronized.
- **Remote administration:** With Microsoft Windows PowerShell™, administrators can perform many tasks using a script or automated process. For example, tasks such as creating users, resetting passwords, assigning licenses, and obtaining service-use data can be fully automated.

## Office Desktop Setup

For the best experience with Office 365, a set of required components and updates must be applied to each workstation. To simplify the installation and maintenance of these components and updates, Microsoft provides an installable piece of software—called Office desktop setup—at no charge. These updates are required for all workstations that use rich clients (such as Microsoft Office 2010) and connect to Microsoft Office 365.

Office desktop setup provides multiple benefits, including:

- Automatically detecting necessary updates
- Installing updates and components upon approval or silently from a command line
- Automatically configuring Outlook and Microsoft Lync for use with Microsoft Office 365
- Uninstalling itself from the client computer after running

A list of these update requirements are available for companies that want to use an alternative method of deploying the updates. See the help topic [Manually update and configure desktops for Office 365](#) for details.

### Note

Office desktop setup is not an authentication or sign-in service and should not be confused with single sign-on.

## Federated Identity and Single Sign-On

With on-premises Active Directory, administrators can use a single sign-on approach to Office 365 authentication. To achieve this, administrators can configure on-premises Active Directory federation Services—a Microsoft Windows Server® 2008 service—to federate with the Microsoft Federation Gateway. After Active Directory Federation Services is configured, all Office 365 users whose identities are based on the federated domain can use their existing corporate logon to automatically authenticate to Office 365.

## System Requirements

Table 1 shows the software required to access Microsoft Office 365—including Office Web Apps

**Table 1: Software supported by Microsoft Office 365**

Software	Supported Version
Operating systems	Windows® 7 Windows Vista® Service Pack 2 Windows XP Service Pack 3 Macintosh OS X 10.5 (Leopard), 10.6 (Snow Leopard) Windows Server 2008
System software	Microsoft .NET Framework 3.0 (for Windows XP) Java client 1.4.2 (for Macintosh OS X)*

Software	Supported Version
Office clients	Microsoft Office 2010 or Office 2007 Service Pack 2 Office 2008 for Mac and Microsoft Entourage® 2008 Web Services Edition Office 2011 for Mac and Outlook 2011 for Mac .NET Framework 2.0 or later Microsoft Lync Client 2010
Client applications	Office desktop setup
Browser software—Microsoft Online Services Portal	Internet Explorer 7 or later Mozilla Firefox 3.x Apple Safari 3.x
Browser software—Outlook Web App	Internet Explorer 7 or later Firefox 3 or later Safari 3 or later on Macintosh OS X 10.5 Chrome 3 and later versions Outlook Web App also has a light version that supports a reduced set of features across almost any browser

## International Availability

Office 365 is available in Austria, Belgium, Canada, Colombia, Costa Rica, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Hong Kong, Hungary, India, Ireland, Israel, Italy, Japan, Luxembourg, Malaysia, Mexico, Netherlands, New Zealand, Norway, Peru, Poland, Portugal, Puerto Rico, Romania, Singapore, Spain, Sweden, Switzerland, Trinidad and Tobago, United Kingdom, and United States.

Multinational customers that purchase services in an approved country may enable use by their end users that reside anywhere in the world, except for Argentina and countries currently embargoed by the U.S. government. Features availability may vary by location. See the help topic [License restrictions for Office 365](#) for details.

## Data Center Locations

Microsoft Office 365 maintains primary and backup data centers distributed around the world. When a company signs up for a Microsoft Office 365 service, its hosted environment is automatically provisioned in the appropriate data center based on the company's address. All users for the company are hosted from the same data center.

## Localization

Table 2 summarizes the languages supported the Microsoft Office 365 platform and related components.

**Table 2: Supported languages for components related to Microsoft Office 365**

Component	Supported languages
Microsoft Online Services Portal	Brazilian Portuguese, Chinese Traditional, Czech, Danish, Dutch, English, Finnish, French, German, Greek, Hungarian, Italian <sup>1</sup> , Japanese, Norwegian (Bokmal), Polish, Romanian, Spanish, Swedish
Help content—for end users and IT professionals	Brazilian Portuguese, Chinese Traditional, Czech, Danish, Dutch, English, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Norwegian (Bokmal), Polish, Romanian, Spanish, Swedish
Directory Synchronization Tool	Brazilian Portuguese, Chinese Traditional, Czech, Danish, Dutch, English, Finnish, French, German, Greek, Hungarian, Italian, Japanese, Norwegian (Bokmal), Polish, Romanian, Spanish, Swedish

## Technical Support

The Microsoft Office 365 technical support team provides support services to people with administrator permissions for their company's Office 365 services. Those with administrator permissions provide support services to their company's Office 365 end users. For contact information, see Online Help in the services Administration Center.

## Subscription Plans

Each Office 365 user who accesses the Office Web Apps must be assigned to a subscription plan. Office Web Apps are available to users that are assigned the following SharePoint Online standalone plans:

- SharePoint Online (Plan 1)
- SharePoint Online (Plan 2)

## Office 365 Suite Subscription Plans

Office Web Apps are also available as part of an Office 365 suite subscription. Tables 3 and 4 summarize the Office 365 plans and show which plans include Office Web Apps. To determine which plan is right for you, visit [www.office365.com](http://www.office365.com).

**Table 3: Office 365 subscription plans for kiosk workers**

Office 365 (Plan K1)	Office 365 (Plan K2)
Exchange Online Kiosk	Exchange Online Kiosk
SharePoint Online Kiosk	SharePoint Online Kiosk
	Office Web Apps

**Table 4: Office 365 subscription plans for information workers**

Office 365 (Plan E1)	Office 365 (Plan E2)	Office 365 (Plan E3)	Office 365 (Plan E4)
Exchange Online (Plan 1)	Exchange Online (Plan 1)	Exchange Online (Plan 2)	Exchange Online (Plan 2)
SharePoint Online (Plan 1)	SharePoint Online (Plan 1)	SharePoint Online (Plan 2)	SharePoint Online (Plan 2)
Lync Online (Plan 2)			
	Office Web Apps	Office Web Apps	Office Web Apps
		Office Professional Plus	Office Professional Plus
			Lync Voice & PBX (Lync Plus CAL for Lync Server)*

\* Lync Voice & PBX are only available with Lync Server 2010, deployed on-premises or hosted via a private cloud deployment. All Lync workloads (IM, online meetings and Voice & PBX) must be deployed on Lync server in this case (it is not possible to split Lync workloads between Lync Server and Lync Online).

## Benefits of Office Web Apps

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With Office Web Apps, people can work with confidence using familiar tools that can help to increase flexibility and productivity. This section discusses specific benefits in greater detail.

### Never Be Without Tools

Workers need access to the tools they use, whenever and wherever they want. They may be away from the office or home when new data comes in—only to realize that the computers they can access do not have Microsoft Office 2010 installed. With Office Web Apps, users can create content in Word, Excel, PowerPoint, and OneNote on their desktops and post it to Microsoft SharePoint 2010 sites, SharePoint Online, or Microsoft Windows Live SkyDrive™ folders. They then can access, view, edit, and share those files from almost any computer with an Internet connection. Users can even access and view PowerPoint, Word, and Excel content from a browser on mobile devices.

#### Note

Supported mobile viewers for Microsoft Word, Excel, and PowerPoint Web Apps on SharePoint 2010 include Internet Explorer on Windows Mobile 5 or later, Safari 4 on iPhone 3G or 3GS, BlackBerry 4.x and later, Nokia S60, NetFront 3.4, 3.5 and later, Opera Mobile 8.65 and later, and Openwave 6.2, 7.0 and later.

### Ensure High-Fidelity, Consistent Views

Workers spend a lot of time making all their content look its best. Therefore, it would be reassuring to know that those who view their documents, presentations, workbooks, and notebooks will see the content as intended. Office Web Apps provides professional, high-fidelity viewing of Word, Excel, PowerPoint, and OneNote files. Users can take advantage of the rich features in Microsoft Office on their desktops to create content and then share those files online with great document fidelity and consistent formatting.

#### Note

Microsoft Silverlight™ is not required for any functionality but is recommended for best results when viewing PowerPoint and Word documents in Office Web Apps.

### Edit Content with Confidence

When workers create documents with Microsoft Office on their desktops, they might use rich content and advanced features—such as graphics, images, tables of content, and cross-references—to add impact to their important information. Office Web Apps enables users to open the documents that are created in Microsoft Office on their computers, make light edits on the web, and open them again in their desktop applications to seamlessly continue editing with full access to rich features and tools.

## Work More Easily with Others

Some team members may use Microsoft Office on a Microsoft Windows PC and others may use Office on Apple Macintosh computer. To make collaboration easier, teams need a common set of tools to easily share and edit content. Office Web Apps provides these tools, helping to simplify collaboration with people who use different platforms and different versions of Microsoft Office. With Office Web Apps, people can even work with others who do not have Microsoft Office on their computers. People who share access to files can edit them easily and instantly from supported web browsers on a PC or Macintosh.

### Note

Supported browsers include Internet Explorer 7 or later for Windows, Safari 4 or later for Mac, and Firefox 3.5 or later for Windows, Mac, or Linux.

## Get Started Right Away

In today's fast-paced business environment, workers can save time with a web-based solution—as long as it is easy to adopt and use. With Office Web Apps, people can work in a familiar environment, using several of the same editing and formatting features they already know from Microsoft Office.

## Office Web Apps Service Details

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As the online companion to Microsoft Word, Excel, PowerPoint, and OneNote, Office Web Apps enables users—regardless of their location—to access and edit documents. Users can view, share, and work on documents with others online across personal computers, mobile phones, and the web. Office Web Apps is available through Windows Live and Office 365 as a part of SharePoint Online, and to business customers with Microsoft Office 2010 volume licensing and document management solutions based on Microsoft SharePoint 2010 products.

### Note

An appropriate device, an Internet connection, and a supported Internet Explorer, Firefox, or Safari browser are required. Some mobile functionality requires Microsoft Office Mobile 2010, which is not included in Office 2010 applications, suites, or Web Apps. There are some differences between the features of Office Web Apps, Office Mobile 2010, and the Office 2010 applications.

## Versions

Office Web Apps is available to consumers and business customers through:

- **Office 365:** Office Web Apps is included in Office 365 licenses that include SharePoint Online.
- **On-premises:** Business customers licensed for Microsoft Office 2010 through a volume licensing program can use Office Web Apps on a server that runs Microsoft SharePoint Foundation 2010 or Microsoft SharePoint 2010.
- **Windows Live:** For consumers and small-business users, Office Web Apps is available on Windows Live as a free service.

The experience within Office Web Apps is generally consistent whether being used from SharePoint Online, an on-premises SharePoint 2010 server, or Windows Live in a browser on a PC or Mac computer. However, there are differences in the host environments that make SharePoint the preferred experience for most organizations. Though organizations can use Office Web Apps through Windows Live, most business customers should consider the benefits of deploying Office Web Apps on SharePoint or using SharePoint Online—especially if they want to provide Office Web Apps to all employees. Here are some reasons why:

- **Familiar SharePoint experience.** Office Web Apps on SharePoint 2010 or SharePoint Online: are best for business customers because they provide the familiar SharePoint experience along with key enterprise features such as administrator site control, document life cycle functions, auditing, and backup and restore capabilities.
- **SLAs:** Guaranteed service level agreements (SLAs) are provided as a part of the SharePoint Online license.
- **Support:** Worldwide support by phone, email, or the Office 365 Administration Console is provided as part of the SharePoint Online license.
- **No advertising.** Office Web Apps on Windows Live is an ad-supported service.

## System Requirements

This section describes the system requirements to support Office Web Apps.

### Browser Support

For an Office Web Apps solution provided by SharePoint Online, all client computer web browsers must meet minimum version requirements. Office Web Apps is supported in the following browsers:

- Internet Explorer 7 and later on Windows operating systems
- Safari 4 and later on Mac operating systems
- Firefox 3.5 and later on Windows, Mac, and Linux operating systems

### *Known Browser Issues*

When using Office Web Apps, users who click the **Open in (Word, PowerPoint, Excel, or OneNote)** button may see a message that states the file cannot be opened in the client application. This can be caused by one or more of the following conditions:

- The user is running a 64-bit version of Internet Explorer.
- The ActiveX control necessary for opening the file in the Office client application is not installed or running in the browser.
- Microsoft Office is not installed on the client computer.
- The version of Office that is installed is earlier than Office 2003.
- Security settings in Internet Explorer are preventing the ActiveX controls from running.
- The browser does not support ActiveX.
- The client browser is Firefox, but the plug-in that enables Firefox to open Office documents is not installed.

### Mobile Device Support

Users can view Word, Excel, and PowerPoint files using Office Web Apps on most modern smartphones. For Office Web Apps on SharePoint, the following mobile browsers are supported:

- Internet Explorer on Windows Mobile® 5/6/6.1/6.5
- Safari4 on iPhone 3G/S
- BlackBerry 4.x and later
- Nokia S60
- NetFront 3.4, 3.5 and later
- Opera Mobile 8.65 and later
- Openwave 6.2, 7.0, and later

The Apple iPad is supported for viewing Word and PowerPoint files.

To access pages using mobile devices, the URL is identical to that used by browsers running on client computers. However, this can vary depending on the configuration and presence of web proxies. Users can click **E-mail a Link** on the **Share and Track** tab of the ribbon in SharePoint to receive the address in email on an SMTP service-enabled SharePoint server.



Supported browsers include Internet Explorer 7 or later for Windows, Safari 4 or later for Mac, and Firefox 3.5 or later for Windows, Mac, or Linux.

## Localization

Office Web Apps are available in all Office 365 languages.

Office Web Apps generally support documents created in Office 97 and later, with these exceptions:

- Older file formats (such as .doc, .xls, .ppt) are automatically converted to Open XML format (such as docx, .xlsx, .pptx) for editing because Office Web Apps natively supports only the newer file formats. There is no option to save documents in the binary formats.
- The Excel Web App on SharePoint supports only the newer Excel files formats (including .xlsx, .xlsb, and .xlsm). These can be created in Microsoft Office Excel 2007 or later or using the [compatibility pack](#) with older versions of Excel. The Excel Web App on SkyDrive enables viewing and editing (after conversion) of older .xls files.
- The OneNote Web App supports only files created in Microsoft OneNote 2010 (or the Web App).

## Supported File Types

Table 5 describes the supported file types for Office Web Apps.

**Table 5: Supported file types**

File Type		View	Edit
<b>Word</b> documents created in Word 2.0 or later			
Open XML	.docx	Y	Y
Binary	.doc	Y	Converted to .docx
Macro	.docm	Y <sup>3</sup>	Y <sup>3</sup>
Other	.dotm, .dotx	Y	N
Max file size	<i>No maximum, except SkyDrive (50 MB) and SharePoint (configurable) file size limits</i>		
<b>Excel</b> workbooks created in Excel 97 or later			
Full support	.xlsx, .xlsb	Y	Y
Binary	.xls	Only in SkyDrive	Only in SkyDrive, converted to xlsx
Macro	.xlsm	Y <sup>3</sup>	Y, macros stripped <sup>4</sup>
Max file size	<i>2 megabytes (MB) for SkyDrive, 10 MB default for SharePoint (admin can configure to up to 2GB)</i>		
File Type		View	Edit
<b>PowerPoint</b> presentations created in PowerPoint 97 or later			
Open XML	.pptx, .ppsx	Y	Y
Binary	.ppt, .pps	Y	Converted to .pptx or .ppsx
Macro	.pptm, .potm, .ppam, .potx, .ppsm	Y <sup>3</sup>	N

File Type	View	Edit
Max file size	<i>None besides SkyDrive (50MB) and SharePoint (configurable) file size limits</i>	
<b>OneNote</b> notebooks created in OneNote 2010		
Open XML	.one - OneNote 2010	Y
Max file size	<i>None besides SkyDrive (50 MB) and SharePoint (configurable) file size limits</i>	

<sup>3</sup> Macros are not run.

<sup>4</sup> If macros exist, users are prompted to have a copy of the file with the macros removed.

#### Note

Newer file formats (such as .docx, .xlsx, and .pptx) can be created in Office 2010 or 2007, or in Office 2000 and later with the compatibility pack.

## Printing

Users can print from the Word Web App and the PowerPoint Web App. A .pdf reader (such as Adobe Reader or Foxit) is required. Currently, printing in the PowerPoint Web App is only available on Windows Live. Alternately, once a document is open in Office Web Apps, users can easily switch to Microsoft Office and print to any available printer.

## Co-Authoring

Co-authoring enables multiple people to simultaneously edit a document at the same time. Table 6 details support for co-authoring within Office Web Apps and Office 2010.

**Table 6: Co-authoring within Office Web Apps**

	Word	Excel	PowerPoint	OneNote
Office 2010	Yes	No	Yes	Yes
Office Web Apps	No	Yes	No	Yes

## User Experience

This section describes how users work with Office Web Apps.

### View and Edit Office Documents

Office Web Apps gives users a browser-based viewing and editing experience by providing representations of Office documents in the browser. When users click a document stored in a SharePoint document library, the document opens directly in the browser. In the browser, the document looks similar to how it appears in the Office client application. The Web App also provides many of the same editing features as the Office client application.

Office Web Apps provides representations of documents, presentations, workbooks, and notebooks using native browser objects such as HTML, JavaScript, and images. Each document type is handled

differently depending on which Office Web Apps services are started and whether the Office Web Apps feature is activated.

A document in the Word Web App, Excel Web App, or PowerPoint Web App can be edited in the browser or opened for editing in the associated Office client application. While working in a Web App, users can click the **Edit in Browser** button on the **Home** tab to perform light editing tasks in the browser. For the OneNote Web App, users can edit a notebook in the browser—without having to click the **Edit in Browser** button—or they can click **Open in OneNote** to edit the notebook in the OneNote client application.

While working in a Web App, users can click the **Open in (Word, Excel, PowerPoint, or OneNote)** button to open a document in the associated Office client application (if it is installed on the client computer).

## Enhance the Web Experience with Silverlight

Microsoft Silverlight is a plug-in provided at no cost that can enhance the web experience for many browsers. The Silverlight plug-in is not required to be installed on the client browser to use Office Web Apps; however, having the Silverlight plug-in can provide the following benefits:

- When using the Word Web App on browsers with the Silverlight plug-in installed, users can experience faster page loads; improved text fidelity at full zoom; ClearType tuner settings support; and when using the **Find on This Page** feature, improved accuracy in the location of search string instances.
- When using the PowerPoint Web App on browsers with the Silverlight plug-in installed, users can experience faster page loads, smoother animations, and presentation slides that scale with the size of the browser window.

Having Silverlight installed on the client browser does not provide additional benefits in the Excel Web App or the OneNote Web App. For more information about Silverlight, see [Silverlight Home](#) page.

## How Web Apps Work

Each Web App uses some or all of the components described in the [User Experience](#) section above to provide a viewable Office document in the browser and an editable document in either the browser or the client application.

### View and Edit Word Documents

For Word document types, the Word Web App uses a combination of images, HTML, and JavaScript to render documents that users can view. If Silverlight is installed on the client browser, some images will be displayed using XAML.

When users click a Word document in SharePoint, WordViewer.aspx checks the Office Web Apps cache to determine whether a rendition of a document is already available if the **Default open behavior for browser-enabled documents** setting is set to “open in browser.”

If a rendition of the document is available in the cache, the Word Web App front-end components display the document in View mode in the browser. If a rendition of the document is not available in the

cache, the front-end component calls the Word Viewing service application to render the document. The Word Viewing service application initializes and manages a worker process to render the document by converting it into a series of .png images or XAML (if Silverlight is installed). The Word Viewing service application then returns the rendered document to WordViewer.aspx and the cache. WordViewer.aspx displays the document in the browser in View mode. The Word Viewing service application can initialize and manage multiple worker processes with each process dedicated to a single session.

While in View mode, if users click the **Edit in Browser** button on the Microsoft Word Web App toolbar, WordViewer.aspx goes to the Word Editor (Edit mode). The Word Editor is a web front-end component that creates a browser-based editing surface, which enables users to work on documents without losing fidelity.

While in View or Edit mode, if users click the **Open in Word** button on the Microsoft Word Web App toolbar, the document opens in the Word client application (if Word is installed on the client computer).

## View and Edit Excel Workbooks

The Excel Web App uses DHTML and JavaScript to render Excel workbooks that users can edit without the need to download ActiveX controls to the browser on the client computer. The Excel Web App uses Excel Calculation Services to load the workbook; calculate in full fidelity; refresh external data, if needed; and maintain the session.

When users click an Excel workbook in SharePoint, the Excel Web App uses the Excel Services Application Web Service Application Proxy to direct calls to and from Excel Calculation Services if the **Default open behavior for browser-enabled documents** setting is set to “open in browser.”

While in View mode, if users click the **Edit in Browser** button on the Microsoft Excel Web App toolbar, the workbook opens in the browser. The browser sends updates to Excel Calculation Services, which services those editing requests and returns updated results to the browser.

While in View or Edit mode, if users click the **Open in Excel** button on the Microsoft Excel Web App toolbar, the workbook opens in the Excel client application (if Excel is installed on the client computer).

## View and Edit PowerPoint Presentations

For PowerPoint presentation types, the PowerPoint Web App uses a combination of images, HTML, and JavaScript to render presentations that users can view. If Silverlight is installed on the client browser, some images are displayed using XAML.

When users click a PowerPoint presentation in SharePoint, the PowerPoint Web App front-end components check the Office Web Apps cache to determine whether a rendition of the presentation is already available, as long as the **Default open behavior for browser-enabled documents** setting is set to “open in browser.”

If a rendition of the presentation is available in the cache, the PowerPoint Web App front-end components display the presentation in View mode in the browser. If a rendition of the presentation is not available in the cache, PowerPointFrame.aspx calls the PowerPoint service application to render the presentation. The PowerPoint service application initializes and manages a worker process to render the

document by converting it into a series of .png images or XAML (if Silverlight is installed). The PowerPoint service application then returns the rendered document to PowerPointFrame.aspx and the cache. PowerPointFrame.aspx displays the document in the browser in View mode. The PowerPoint service application can initialize and manage multiple worker processes, each process dedicated to a single session.

While in View mode, if users click the **Edit in Browser** button on the Microsoft PowerPoint Web App toolbar, PowerPointFrame.aspx goes to PowerPoint Editor (Edit mode). The PowerPoint Editor is a web front-end component that creates a browser-based editing surface, which enables users to work on documents without losing fidelity. PowerPointFrame.aspx sends updates to the PowerPoint service application—which services editing requests, manages a single worker process for each editing session, manages re-rendering, automatically saves, and returns the updated rendition to PowerPointFrame.aspx. PowerPointFrame.aspx then displays the updated rendition of the presentation in the browser.

While in View or Edit mode, if users click the **Open in PowerPoint** button on the Microsoft PowerPoint Web App toolbar, the presentation opens in the PowerPoint client application (if PowerPoint is installed on the client computer).

## View and Edit OneNote Notebooks

The OneNote Web App uses a combination of HTML and JavaScript to render notebooks that users can view and edit.

When users click a OneNote notebook in SharePoint, OneNote.aspx displays the notebook in the browser if the **Default open behavior for browser-enabled documents** setting is set to “open in browser.” Users can then edit the notebook in the browser.

If users click the **Open in OneNote** button on the Microsoft OneNote Web App toolbar, the notebook opens in the OneNote client application (if OneNote is installed on the client computer).

## Broadcast Slide Show

Broadcast Slide Show is a new capability in Microsoft Office 2010 that enables presenters to broadcast a slide show from PowerPoint 2010 to remote viewers who watch in web browsers. Broadcast Slide Show provides organizations with a low-infrastructure presentation capability that works through the web. This feature is supported in Office Web Apps and SharePoint Online. For more details, see [PowerPoint Broadcast Slide Show](#).

## Web Apps Features

The specific features and benefits of Word Web App, Excel Web App, PowerPoint Web App, and OneNote Web App are described in this section. Table 7 describes the features of Word Web App.

**Table 7: Features and benefits of Word Web App**

Features and Benefits	Description	Location
<b>Viewing in Word Web App</b>		
Print	Print the active document.	On the command bar, click <b>File</b> and then click <b>Print</b> .
Find	Search for document text using Word Web App in View mode. See automatic highlighting of search hits in the document, along with a pane showing a summary of search results. Click any result in the pane to move to that point in the document.	On the command bar, click <b>Find</b> .
Zoom	Select zoom presets ranging from 50 to 200 percent, as well as Full Page and Page Width options. Type a custom zoom level between 33 and 400 percent.	Find the zoom level drop-down list on the command bar. <b>Note:</b> Microsoft Silverlight is recommended for the best viewing fidelity when changing zoom level.
Navigation	When opening documents in Word Web App View mode, see the total number of pages in the document and move through the document by page or type a number to immediately go to that page.	On the right side of the command bar, find the page count and page navigation buttons.
Open in Word	With a single click, continue editing a document in Word on the desktop.	In Word Web App <b>View</b> mode, find <b>Open in Word</b> on the command bar or by clicking the <b>File</b> tab. <b>Note:</b> When editing in Word Web App, find this option on the <b>Home</b> tab, in the <b>Office</b> group.
Edit in Web App	When viewing a document in Word Web App View mode, open the document for editing in the browser with a single click.	On the command bar, click <b>Edit in Browser</b> .
Features and Benefits	Description	Location
<b>Editing in Word Web App</b>		
Save	Save changes to a document when editing in Word Web App.	To save a document, use one of the following procedures: <ul style="list-style-type: none"> <li>On the Quick Access Toolbar, click the <b>Save</b> button.</li> <li>On the ribbon, click the <b>File</b> tab, and then click <b>Save</b>.</li> <li>Use the <b>CTRL+S</b> keyboard shortcut.</li> </ul>
View in Web App	When editing a document in Word Web App, switch views to see the rich document in high fidelity at any time.	Save the document to preserve changes. Then, on the <b>View</b> tab of the Ribbon, click <b>Reading View</b> .
Clipboard	Cut, copy, and paste content in a document. Copy and paste text between Web Apps, as well as between Office Web Apps and the Microsoft Office programs on the computer.	On the <b>Home</b> tab, in the <b>Clipboard</b> group, find the <b>Cut</b> , <b>Copy</b> , and <b>Paste</b> commands. <b>Note:</b> You can also right-click the selected content and then click <b>Cut</b> , <b>Copy</b> , or <b>Paste</b>

Features and Benefits	Description	Location
Undo and Redo	<p>Undo or redo recent actions in the active document.</p> <p><b>Note:</b> You can undo an infinite number of changes in an active document in the current editing session in Word Web App Editor—until the document is saved or a picture is inserted.</p>	<p>On the Quick Access Toolbar, click the <b>Undo</b> and <b>Redo</b> buttons.</p> <p>You can also use the <b>CTRL+Z</b> (undo) and <b>CTRL+Y</b> (redo) keyboard shortcuts.</p>
Font Formatting	<p>Apply font, font size, and several font formatting attributes—including bold, italic, underline, and superscript. Highlight text, change font color, and clear formatting for selected text.</p> <p><b>Note:</b> Document theme formatting is available to format text in Word Web App. Find the active theme fonts at the top of the Fonts gallery and theme colors in the Font Color gallery.</p>	<p>On the <b>Home</b> tab, find all font formatting options in the <b>Font</b> group.</p>
Paragraph Formatting	<p>Change paragraph alignment, increase or decrease the indent from left margin, or change text direction from left to right.</p>	<p>On the <b>Home</b> tab, find paragraph formatting options in the <b>Paragraph</b> group.</p>
Bullets and Numbering	<p>Apply a choice of three bullet styles or five numbering styles. Click the <b>Increase Indent</b> and <b>Decrease Indent</b> buttons to change the list level for existing bulleted and numbered lists in the document, as well as those created in Word Web App.</p>	<p>On the <b>Home</b> tab, find bullets, numbering, and the options to change list level in the <b>Paragraph</b> group.</p> <p><b>Note:</b> Custom bullet and numbering formats applied in Word on the desktop are retained in a document when edited in Word Web App. To view custom number formats in the document, open it in Word Web App <b>View</b> mode.</p>
Styles	<p>The paragraph and character styles that are saved in a document are available to be applied to text in Word Web App.</p>	<p>On the <b>Home</b> tab, in the <b>Styles</b> group, find styles that are included in a document's <b>Quick Style</b> set (in the <b>Styles</b> gallery).</p> <p>You can also click to expand that gallery for the <b>Apply Styles</b> option, which provides access all paragraph and character styles in the document.</p> <p><b>Note:</b> You can also use keyboard shortcut keys, including <b>CTRL+ALT+1, 2, and 3</b> (apply Heading styles) and <b>CTRL+SHIFT+N</b> (apply Normal style).</p>

Features and Benefits	Description	Location
Proofing Tools	<p>Word Web App automatically checks spelling as users type and applies a wavy red underline to misspelled text. Common AutoCorrect actions are included, such as correcting routine misspellings or converting characters to symbols.</p> <p>Additionally, you can set the proofing language or turn off the spelling checker for selected text.</p>	<p>On the <b>Home</b> tab, in the <b>Spelling</b> group, click <b>Spelling</b> to move to the next spelling error in the document. A drop-down list of correction options appears.</p> <p>You can also right-click a misspelled word to access correction options.</p> <p>On the <b>Home</b> tab, click the arrow beneath the <b>Spelling</b> button for <b>Set Proofing Language</b> to change the proofing language or disable the spelling checker.</p>
Tables	<p>Insert a table, edit table text, and easily edit basic table structure, such as adding or deleting rows and columns.</p>	<p>To insert a table, click the <b>Insert</b> tab. In the <b>Tables</b> group, click <b>Table</b>. Then, point to the grid to select the desired number of columns and rows and click to insert.</p> <p>To edit table structure, click in a table. The <b>Table Tools Layout</b> tab appears automatically, providing options to select, delete, and insert table elements and to align content in cells.</p> <p>You can also right-click in a table for table editing options.</p>
Pictures	<p>Insert a picture from a file or from Office.com Clip Art. You can also resize pictures and add alternative text.</p>	<p>To insert a picture, click the <b>Insert</b> tab. In the <b>Picture</b> group, click <b>Picture</b> or click <b>Clip Art</b>.</p> <p>To resize a picture or add alternative text, select the picture. The <b>Picture Tools Format</b> tab provides these options whenever a picture is selected.</p>
Hyperlinks	<p>Insert a hyperlink to a web address or apply a link to selected text.</p>	<p>Click the <b>Insert</b> tab. In the <b>Links</b> group, click <b>Link</b>.</p>
Placeholders	<p>Word Web App in Edit mode automatically displays placeholders for features it cannot display, such as SmartArt graphics, Excel charts, and content controls. Placeholders preserve the layout and rich content in a document and help users navigate a file when making edits in Word Web App.</p>	<p>Placeholders for objects that cannot be displayed appear automatically.</p> <p>To view the rich content that is shown as placeholders in Word Web App Edit mode, on the <b>View</b> tab, click <b>Reading View</b>.</p> <p>You can also click the <b>Home</b> tab, and then click <b>Open in Word</b>.</p>

Table 8 describes the features and benefits of Excel Web App.

**Table 8: Features and benefits of Excel Web App**

Features and Benefits	Description	Where to Find
<b>Viewing in Excel Web App</b>		
Refresh Data	<p>Refresh data connections for the entire workbook or a selected PivotTable, or recalculate the workbook.</p>	<p>On the command bar, click <b>Data</b>.</p> <p><b>Note:</b> When editing in Excel Web App, you can find these options on the <b>Home</b> tab, in the <b>Data</b> group.</p>

Features and Benefits	Description	Where to Find
Find	Find cell content in the active worksheet. An easy-to-use dialog box gives the option to search up or down from the current selection in the worksheet.	On the command bar, click <b>Find</b> . <b>Note:</b> When editing in Excel Web App, you can access this command on the <b>Home</b> tab, in the <b>Data</b> group.
Navigation	Click a sheet tab to move to a different worksheet. Click row or column headings to select that row or column, and use the arrow keys to move through the worksheet.	Access sheet tabs as well as row and column headings when viewing or editing a workbook in Excel Web App.
Open in Excel	With one click, you can continue editing a workbook in Excel on the desktop.	In Excel Web App view mode, find <b>Open in Excel</b> on the command bar or by clicking the <b>File</b> tab. <b>Note:</b> In Excel Web App <b>Edit</b> mode, you can access this command on the <b>Home</b> tab, in the <b>Office</b> group.
Edit in Web App	When viewing a workbook in Excel Web App View mode, you can open the workbook for editing in the browser with a single click.	On the command bar, click <b>Edit in Browser</b> .
Sort and Filter Data	Sort and filter data in Excel tables and PivotTable views.	Click the AutoFilter arrows on headings in a table or PivotTable for sort and filter options. <b>Note:</b> This feature is also available when the workbook is open for editing in Excel Web App.
Save or Download a Copy	From the File tab in Excel Web App View or Edit mode, you can create a copy of the workbook and download either a complete copy or just a snapshot—a file containing only the values and formatting from the workbook.	In Excel Web App View mode, click the <b>File</b> tab on the command bar. In Excel Web App Edit mode, click the <b>File</b> tab on the ribbon.

Features and Benefits	Description	Where to Find
<b>Editing in Excel Web App</b>		
Co-authoring	Simultaneously edit a workbook with people in other locations.	Open a workbook for editing in Excel Web App. When someone else opens the same workbook for editing in Excel Web App, simultaneous editing begins automatically. View who else is editing the file on the right side of the <b>Status</b> bar at the bottom of the screen. <b>Note:</b> See changes that others make automatically. Changes synchronize in near real time.
Save	When you open a workbook for editing in Excel Web App, the workbook is automatically saved as you work.	Saving is automatic in Excel Web App.

Features and Benefits	Description	Where to Find
Clipboard	Cut, copy, and paste content in a workbook. You can copy and paste text between Web Apps, as well as between Office Web Apps and the Microsoft Office programs on the computer.	On the <b>Home</b> tab, in the <b>Clipboard</b> group, find the <b>Cut</b> , <b>Copy</b> , and <b>Paste</b> commands. Note: You can also use the keyboard shortcuts: <b>CTRL+C</b> (copy), <b>CTRL+X</b> (cut), and <b>CTRL+V</b> (paste).
Undo and Redo	Undo or redo up to the last 25 actions taken during the current editing session in the active workbook.	On the Quick Access Toolbar, click the <b>Undo</b> and <b>Redo</b> buttons.  You can also use the <b>CTRL+Z</b> (undo) and <b>CTRL+Y</b> (redo) keyboard shortcuts.
Formula Bar	Just as in Excel on the desktop, you can edit text and formulas either directly in the worksheet cell or in the Formula Bar. Use the Formula Bar to easily see and edit cell formulas when the result is displayed in the selected cell.	Find the formula bar directly below the ribbon.
Font and Cell Formatting	Apply font, font size, and several font formatting attributes, including bold, italic, underline, and double underline. Also apply cell borders and shading. <b>Note:</b> Active theme colors are available for text and cell fill in Excel Web App. Find theme colors in the Font Color and Fill Color galleries.	On the <b>Home</b> tab, find all font and cell formatting options in the <b>Font</b> group.
Alignment	Change horizontal or vertical cell alignment or wrap text in cells.	On the <b>Home</b> tab, find alignment and text wrapping options in the <b>Alignment</b> group.
Number Formatting	Select from 11 popular formats, such as number, currency, percent, date, and text. You can also increase and decrease the number of decimal places in the number format.	On the <b>Home</b> tab, find number formatting options in the <b>Number</b> group.
Functions	Use many of the same functions that are in Excel. When you begin to type a function name, you see an IntelliSense list of available functions.	Click in a worksheet cell. The IntelliSense list for functions appears after you type the equal sign followed by at least the first letter of the desired function name.
Tables	Create an Excel table with sort and filter capabilities, banded rows, and formatting that automatically coordinates with the active workbook theme. You can also add a header row or total row to the table.  As in Excel, when you type in the row directly below the table range, the table automatically expands. Additionally, when you add a formula in a cell immediately to the right of any table row, Excel Web App creates a calculated column, expanding the table and adding that formula to all other data rows in the table.	Select the cells in the worksheet to use as the table range. Then, on the <b>Home</b> tab, in the <b>Tables</b> group, click <b>Sort &amp; Filter as Table</b> . Or on the <b>Insert</b> tab, click <b>Table</b> .  For header row and totals row settings, on the <b>Home</b> tab, in the <b>Tables</b> group, click <b>Table Options</b> .

Features and Benefits	Description	Where to Find
Edit Worksheet Structure	Insert and delete cells, rows, and columns on the worksheet.	On the <b>Home</b> tab, in the <b>Cells</b> group, find the <b>Insert</b> and <b>Delete</b> options.
Hyperlinks	Insert a hyperlink to a web address or apply a link to selected text.	Click the <b>Insert</b> tab. In the <b>Links</b> group, click <b>Link</b> .

Table 9 describes the features and benefits of PowerPoint Web App.

**Table 9: Features and benefits of PowerPoint Web App**

Features and Benefits	Description	Where to Find
<b>Viewing in PowerPoint Web App</b>		
View and Copy Slide Notes	View the notes pane for a slide with a single click, or copy note text directly from PowerPoint Web App View mode.	Click the <b>Notes</b> button on the status bar in PowerPoint Web App View mode. Drag to select notes, and then use the <b>CTRL+C</b> keyboard shortcut to copy the notes.
Run Slide Show	Run a slide show in the browser in high fidelity. PowerPoint Web App supports many of the animations that can be applied in PowerPoint on the desktop.	On the command bar, click <b>Start Slide Show</b> . <b>Note:</b> To run a slide show when editing a presentation in PowerPoint Web App, click the <b>View</b> tab, and then click <b>Slide Show</b> .
Navigation	Use Previous Slide and Next Slide buttons to easily browse slides, or click the slide number indicator to see a list of slides and move directly to the desired slide.	In <b>View</b> mode, in the center of the status bar, find the <b>Previous Slide</b> and <b>Next Slide</b> buttons and slide number indicators.
Broadcast Slide Show	Broadcast Slide Show is a new feature of PowerPoint 2010 that uses PowerPoint Web App to run a slide show live for a remote audience.	PowerPoint 2010 is required to broadcast a slide show to a remote audience through PowerPoint Web App. Viewers can watch live presentations through PowerPoint Web App, regardless of whether they have PowerPoint installed. <b>Note:</b> Viewing the broadcast requires an Internet connection and a supported browser (for example, Internet Explorer, Firefox, or Safari).
Outline View	View, copy, or print the text outline of slide titles and text.	On the command bar, click <b>File</b> , and then click <b>Outline View</b> . To copy or print outline text, drag to select text and then right-click the selected text for the browser's copy and print options.
Open in PowerPoint	With a single click, you can continue editing a presentation in PowerPoint on the desktop.	In PowerPoint Web App View mode, find <b>Open in PowerPoint</b> on the command bar or by clicking the <b>File</b> tab. <b>Note:</b> In PowerPoint Web App Edit mode, find this command on the <b>Home</b> tab, in the <b>Office</b> group.

Features and Benefits	Description	Where to Find
Edit in Web App	When viewing a presentation in PowerPoint Web App View mode, open the presentation for editing in the browser with a single click.	On the command bar, click <b>Edit in Browser</b> .
<b>Editing in PowerPoint Web App</b>		
Save	When you open a presentation for editing in PowerPoint Web App, the presentation is automatically saved as you work.	Saving is automatic in PowerPoint Web App.
View and Edit Slide Notes	The default editing view in PowerPoint Web App displays the notes pane at the bottom of the screen. Click in the pane to add or edit slide notes.	To show or hide the notes pane, click the <b>View</b> tab, and then click <b>Notes</b> .
View in Web App	When editing a presentation in PowerPoint Web App, you can switch views to review slides in View mode.	On the ribbon, click the View tab, and then click <b>Reading View</b> .
Clipboard	Cut, copy, and paste content in a presentation. A user can copy and paste text between Web Apps, as well as between Office Web Apps and the Microsoft Office programs on the computer.	On the <b>Home</b> tab, in the <b>Clipboard</b> group, find the <b>Cut</b> , <b>Copy</b> , and <b>Paste</b> commands. <b>Note:</b> You can also use the keyboard shortcuts: <b>CTRL+C</b> (copy), <b>CTRL+X</b> (cut), and <b>CTRL+V</b> (paste).
Undo and Redo	Undo or redo an infinite number of recent actions during the current editing session in the active presentation. <b>Note:</b> If the editing session times out or if you switch to Reading View for more than 30 seconds, the undo history is reset.	On the Quick Access Toolbar, click the <b>Undo</b> and <b>Redo</b> buttons.  You can also use the <b>CTRL+Z</b> (undo) and <b>CTRL+Y</b> (redo) keyboard shortcuts.
Create and Manage Slides	Insert a new slide with the choice of any slide layout available in the active presentation. You can also delete, duplicate, or hide slides with one click.	On the <b>Home</b> tab, find all slide management options in the <b>Slides</b> group.
Font Formatting	Apply font, font size, and font color, as well as bold, italic, and underline attributes. <b>Note:</b> Active theme colors are available for text in PowerPoint Web App. Find the active theme colors in the <b>Font Color</b> gallery.	On the <b>Home</b> tab, find all font formatting options in the <b>Font</b> group.

Features and Benefits	Description	Where to Find
Alignment, Bullets, and Numbering	Change paragraph alignment, apply bullets or numbering, and change the level of bulleted or numbered text.	<p>On the <b>Home</b> tab, find alignment and bullets and numbering options in the <b>Paragraph</b> group.</p> <p>You can also use the <b>TAB</b> and <b>SHIFT+TAB</b> keyboard shortcuts at the beginning of a bulleted or numbered paragraph to change list level.</p> <p><b>Note:</b> When you click in a bulleted or numbered text box to edit it, the bullet and numbering styles appear with default formatting while editing. To see the custom bullet or number formatting, click outside of the placeholder.</p>
Pictures	Insert a picture into any picture or content placeholder on a slide. You can also replace an existing picture and apply picture styles.	<p>To insert a picture, click the picture icon in an empty placeholder. You can also click the <b>Insert</b> tab, and then click <b>Picture</b>.</p> <p>When you select a picture, the <b>Picture Tools Format</b> tab provides the options to replace the picture or apply a picture style.</p> <p><b>Note:</b> The <b>Picture</b> option on the <b>Insert</b> tab is available whenever the active slide contains an available picture placeholder.</p>
SmartArt	Add, edit, and format SmartArt graphics in a presentation. SmartArt graphics can help you create professional-quality diagrams—such as organization charts and radial diagrams—just by typing a bulleted list.	<p>To insert a SmartArt graphic, click the <b>SmartArt</b> icon in an empty content placeholder.</p> <p>You can also click the <b>Insert</b> tab, click <b>SmartArt</b>, and then click to select a layout.</p> <p>When you select a SmartArt graphic, the <b>SmartArt Tools</b> tab lets you apply formatting styles and colors or to change the diagram layout.</p> <p>Click in a SmartArt graphic, and the SmartArt text pane appears automatically. Edit diagram text in this pane, or add and delete bullets in this pane to add or delete shapes from your graphic.</p> <p><b>Note:</b> The SmartArt option on the <b>Insert</b> tab is available whenever the active slide contains an available content placeholder.</p>
Hyperlinks	Insert a hyperlink to a web address or apply a link to selected text.	On the <b>Insert</b> tab, in the <b>Links</b> group, click <b>Link</b> .

Table 10 describes the features and benefits of OneNote Web App.

**Table 10: Features and benefits of OneNote Web App**

Features and Benefits	Description	Where to Find
<b>Viewing in OneNote Web App</b>		
Show Authors	Instantly see who made specific changes in a notebook.	On the command bar, click <b>Show Authors</b> . <b>Note:</b> When editing in OneNote Web App, this feature is available on the <b>View</b> tab.
View Previous Page Versions	View previous versions of notebook pages. A page version is saved when someone makes changes in a shared notebook.	To view previous page versions, right-click the page tab, and then click <b>Show Versions</b> . <b>Note:</b> To restore or delete previous page versions, open the notebook for editing in OneNote Web App.
Navigation	Click a section name to view all pages in that section, and then click a page tab to view the page.	A navigation pane appears to the left of the page when viewing or editing in OneNote Web App. This pane displays the sections and pages of the active notebook.
Open in OneNote	With one click, you can continue editing a notebook in OneNote on the desktop.	In OneNote Web App <b>View</b> mode, find <b>Open in OneNote</b> on the command bar or by clicking the <b>File</b> tab. <b>Note:</b> When editing a notebook in OneNote Web App, find this command on the <b>Home</b> tab, in the <b>Office</b> group.
Edit in Web App	When editing a notebook in OneNote Web App, you can switch between Edit and View modes.	On the command bar, click <b>Edit in Browser</b> .
Features and Benefits	Description	Where to Find
<b>Editing in OneNote Web App</b>		
Save	Saving edits in OneNote Web App is automatic, just as in OneNote on the desktop.	Changes are automatically saved you edit in OneNote Web App.
View in Web App	When viewing a notebook in OneNote Web App, you can switch between Edit and View modes.	On the ribbon, click the <b>View</b> tab, and then click <b>Reading View</b> .
Co-authoring for Shared Notebooks	Simultaneously edit notebooks with people in other locations who are using either OneNote Web App or OneNote 2010.	Open a notebook for editing in OneNote Web App. When someone else opens the same notebook for editing in OneNote Web App or OneNote 2010, simultaneous editing begins automatically. <b>Note:</b> See changes that others make automatically. Changes synchronize in near real time.
Clipboard	Cut, copy, and paste content in a notebook. You can copy and paste text between Web Apps, as well as between Office Web Apps and the Microsoft Office programs on the computer.	On the <b>Home</b> tab, in the <b>Clipboard</b> group, find the <b>Cut</b> , <b>Copy</b> , and <b>Paste</b> commands. <b>Note:</b> You can also right-click the selected content and then click <b>Cut</b> , <b>Copy</b> , or <b>Paste</b>

Features and Benefits	Description	Where to Find
Undo and Redo	<p>Undo or redo recent actions for each page that is edited in the active notebook.</p> <p><b>Note:</b> OneNote Web App gives you a separate undo history for each page edited in the active notebook. You can undo an infinite number of actions per page during the current editing session—until either a picture is inserted or an edit is received from another author. Note also that moving and deleting pages cannot be undone.</p>	<p>On the Quick Access Toolbar, click the <b>Undo</b> and <b>Redo</b> buttons.</p> <p>You can also use the <b>CTRL+Z</b> (undo) and <b>CTRL+Y</b> (redo) keyboard shortcuts.</p>
Font Formatting	<p>Apply font, font size, and several font formatting attributes—including bold, italic, underline, and superscript. You can also highlight text, change font color, and clear formatting on selected text.</p>	<p>On the <b>Home</b> tab, find all font formatting options in the <b>Basic Text</b> group.</p>
Paragraph Formatting	<p>Change paragraph alignment, increase or decrease the indent from left margin, or change text direction from left to right.</p>	<p>On the <b>Home</b> tab, find paragraph formatting options in the <b>Basic Text</b> group. Text direction is available from the <b>Paragraph Alignment</b> drop-down list.</p>
Bullets and Numbering	<p>Apply a choice of three bullet styles or five numbering styles. Use the <b>Increase Indent</b> and <b>Decrease Indent</b> buttons to change the list level for existing bulleted and numbered lists in a notebook, as well as those created in OneNote Web App.</p>	<p>On the <b>Home</b> tab, find bullets, numbering, and the options to change list level in the <b>Basic Text</b> group.</p>
Styles	<p>Easily apply text styles for quick formatting.</p>	<p>Find text styles on the <b>Home</b> tab, in the <b>Styles</b> group.</p> <p><b>Note:</b> You can also use keyboard shortcut keys, including <b>CTRL+ALT+1, 2, and 3</b> (apply Heading styles) and <b>CTRL+SHIFT+N</b> (apply Normal style).</p>
Tags	<p>Apply a variety of tags to notes for easy organization and follow-up (for example, flagging notes as questions, to-do items, contact information).</p>	<p>On the <b>Home</b> tab, in the <b>Tags</b> group, click <b>Tag</b>.</p>
Proofing Tools	<p>OneNote Web App automatically checks spelling as users type and applies a wavy red underline to misspelled text. Common AutoCorrect actions are included, such as correcting routine misspellings or converting characters to symbols.</p> <p>Additionally, you can set the proofing language or turn off the spelling checker for selected text.</p>	<p>On the <b>Home</b> tab, in the <b>Spelling</b> group, click <b>Spelling</b> to move to the next spelling error on the page. A drop-down list of correction options appears. You can also right-click a misspelled word to access correction options.</p> <p>On the <b>Home</b> tab, click the arrow beneath the <b>Spelling</b> button for <b>Set Proofing Language</b> to change the proofing language or disable the spelling checker.</p>

Features and Benefits	Description	Where to Find
Create and Manage Pages and Sections	Easily add or delete pages and sections, rename sections, and demote or promote subpages.	<p>Click the <b>New Page</b> icon in the navigation pane to add a page.</p> <p>You can also click the <b>Insert</b> tab, and in the <b>Notebook</b> group, click <b>New Page</b> or <b>New Section</b>.</p> <p>Right-click a section tab to rename or delete the section.</p> <p>Right-click a page tab to delete the page or to increase or decrease the indent (in order to create subpages).</p>
View and Restore Page Versions	A page version is saved when someone makes changes in a shared notebook. When a notebook is open for editing in OneNote Web App, you can view, restore, or delete previous page versions.	<p>Click the <b>View</b> tab, and then click <b>Page Versions</b>.</p> <p>After selecting a previous page version, you will see a notification bar at the top of the page indicating that the page is a read-only previous page version. Click the bar for the option to delete or restore the active page version.</p>
Pictures	Insert a picture from a file or from Office.com Clip Art. You can also resize pictures and add alternative text.	<p>To insert a picture, click the <b>Insert</b> tab. In the <b>Picture</b> group, click <b>Picture</b> or click <b>Clip Art</b>.</p> <p>To resize a picture or add alternative text, select the picture. The <b>Picture Tools Format</b> tab provides these options whenever you select a picture.</p>
Tables	Insert a table, edit table text, and easily edit basic table structure, such as adding or deleting rows and columns.	<p>To insert a table, click the <b>Insert</b> tab. In the <b>Tables</b> group, click <b>Table</b>. Then, point to the grid to select the desired number of columns and rows, and then click to insert.</p> <p>To edit table structure, click in a table. The <b>Table Tools Layout</b> tab appears automatically, providing options to select, delete, and insert table elements and to align content in cells.</p> <p>You can also right-click in a table for table editing options.</p>
Hyperlinks	Insert a hyperlink to a web address or apply a link to selected text.	<p>Click the <b>Insert</b> tab. In the <b>Links</b> group, click <b>Link</b>.</p> <p><b>Note:</b> You can also right-click a page tab to copy a direct link to that page.</p>
Placeholders	OneNote Web App Edit mode automatically displays placeholders for features it cannot display, such as equations and digital ink. Placeholders preserve the layout and rich content in a notebook and help users navigate a file when making edits in OneNote Web App.	<p>To view the rich content that is shown as placeholders in OneNote Web App Edit mode, click the <b>View</b> tab, and then click <b>Reading View</b>.</p> <p>You can also click the <b>Home</b> tab, and then click <b>Open in OneNote</b>.</p>



## Appendix A: Versions of Office Web Apps

Table 11 describes the Office Web Apps features available in Windows Live, Office 365 and for on-premises users.

**Table 11. Feature comparison for Office Web Apps version**

	Windows Live	Office 365	On-Premises
<b>Audience</b>	Consumers	Organizations	Organizations
<b>Storage</b>	Windows Live SkyDrive	SharePoint Online	SharePoint 2010
<b>Authentication</b>	Windows Live ID	IT-managed	IT-managed
<b>Pricing</b>	Free (with ads)	Determined by the Office 365 plan	Office 2010 volume licensing plan
<b>Ad Supported</b>	✓		
<b>Windows Live Hotmail® Interoperability</b>	✓		
<b>SharePoint Experience</b>		✓	✓
<b>IT Administration Control</b>		✓	✓
<b>Document Life Cycle Management</b>		✓	✓
<b>AD Interoperability</b>		✓	✓
<b>Auditing</b>		✓	✓
<b>SLA</b>			N/A
<b>Support</b>			N/A
<b>Supported Browsers</b>	Internet Explorer 7 and later Firefox 3.5 and later Safari 4 and later Chrome 3 and later	Internet Explorer 7 and later Firefox 3.5 and later Safari 4 and later	Internet Explorer 7 and later Firefox 3.5 and later Safari 4 and later

### Note

View the full list of supported browsers in the [System Requirements](#) section.