EWS Editor

An Exchange Mailbox Explorer built on the Exchange Web Services Managed API

# Overview

EWS Editor has three goals:

1. Demonstrate the [Exchange Web Services Managed API](http://msdn.microsoft.com/en-us/library/dd633709.aspx) functionality and simplicity to developers
2. Demonstrate the [Exchange Web Services](http://msdn.microsoft.com/en-us/library/bb204119(EXCHG.140).aspx) traffic used to perform actions initiated through an explorer user interface to aid any Exchange Web Services developer.
3. Assist non-developers in debugging and understanding Exchange stores by exploring items, folders, and their properties in depth.

# Contents

1. Release Notes
2. Feature Notes
3. Source Notes

# Release Notes

## 1.5 Release – 11/6/2009

The first public release of EWSEditor! The basic feature set is still be flushed out but it is still a very useful tool. There are three feature areas of EWSEditor: General UI, Support Tools, and API Coverage. The focus of this release was to establish the UI design and flow of the application, solidify some useful support tools, and illustrate the direction of the application.

There are some gaps in CRUD tasks across item and folder properties and items themselves. The major focus of upcoming releases will be to fill in these gaps before moving on to new features.

## 1.6.1 Release – 3/5/2010

API coverage is a major focus of the 1.6.\* releases of EWSEditor. The 1.6.1 release adds an OOF Settings and Availability form to this end. There were several bugs addressed in this release was well as some changes in the error dialog and about information. These changes will make the information displayed and logged by EWSEditor more useful.

## 1.6.2 Updates – 8/16/2011

Converted project to Visual Studio 2010.

Reference Exchange Managed API 1.1 instead of 1.0.

Code changes to support Exchange 2010 SP1.

Finished Autodiscover dialog.

Added code to allow redirects when logging in – this is needed for accessing outlook.com

Added wait cursor to Autodiscover dialog.

## 1.7.3 – 12/17/2013.

## Updates – 5/16/2013 - 12/17/2013

* Started 1.7.3
* Updated to latest Managed API released – 2.0
* Building with Visual Studio 2012 and .NET 3.5
* Can specify versions up to 2013 now.
* Added ability to set options when loading an item which was exported prior.
* Generated proxies have been updated to 2013 RTM.
* Added a screen for TimeZone information from the local machine and Exchange server.
* Set a default of the Exchange version to Exchange2007\_SP1instead of blank.
* The TimeZone can now optionally be set on login.
* I merged-in a lot of calendaring and diagnostics code I wrote for a parallel app. However, it is not yet accessible from the menu.
* Updated Timezone info screen.
* For the folder notifications pull subscriptions form I added the ability to subscribe to all folders, the timeout can be set, you can double-click on an event in the listview and it will display info on the event in an all text window. The formatting of the screen layout was also altered slightly.
* Streaming notifications window can now subscribe to all folders. If you double-click on the listview it will present the event you click on as text.
* Fixed formatting in streaming and pull notifications windows.
* Increased amount of info presented when looking at events in pull and streaming subscriptions windows. Now you can get a better idea of which items and folders were involved in the events.
* Importing MIME will now use the item specific objects for importing MIME for appointments/messages/Contacts
* Item Export menu now can display MIME in a window. This greatly developer review of Exchange generated MIME.
* Mime for each item can also be pulled and displayed. This new item only shows when you right-click on a calendar folder. A properties grid and list of attachments has not be hooked-up yet; however its planned.
* CalendarView integration. Provides a view of a calendar folder which allows you to look at instances/exceptions/singles by selecting a day on a calendar view control. It will display the info for each item in either a master calendar form or in an instance/exception form.
* Added ContactsForm with basic functionality.
* InboxRules enumerations windows was added.
* Added a feature to add MIME to a folder via a window with a text box.
* Fixed tab order in several screens
* Override ssl certificate verification is now defaulting to true
* Added Options window button the Service (logon) screen.
* Some minor changes to the Service (logon) screen to allow for longer values and did some minor formatting.
* Adding code to add "X-AnchorMailbox" when the version is set above Exchange 2010. This should be set for 2013 and Exchange online 15.
* Clean-up for Service dialog - now it’s easier to use.
* Added ability to show changes for SyncFolderItems.
* Added the ability to load properties in Sync Folder Items- if you double click it lists some properties and shows errors if it runs into any. Added buttons also to properties on every item in the list in one sweep and also to do individual item loads of properties. Any errors are displayed in a text window. Extensive error catching was added. This should help with identifying issues with loading properties on items as they can point out which items are of issue while getting props. Note that the two new buttons may take a while for their code to execute.
* Autodiscover errors now show more details on errors during service login and captures Autodiscover specific error events. Autodiscover viewer now shows error and response data - double click on item to see multivalued data - also captures Autodiscover specific error events.
* Connected Contacts form and adjusted layout to look better. Now you can right click on a contact and edit it. Minimal number of fields are displayed and some are not editable. Some properties such as phone numbers will take a bit of code to provide proper editing ability - this will need to be done at a later date.
* Added the Distribution List Expansion window on the Tools menu - it allows you to drill down through the distribution list hierarchy and see which mail addresses are under each DL. This is the last primary functionality piece EwsEditor has been needing.
* Delegate windows was showing an error while entering - fixed it.

## 1.7.4 – 12/27/2013 - 12/31/2013.

* Added task item edit screen. So, there is now a basic set of client like edit screens for Messages, Contacts, Appointments and Tasks. Additional features can be added to those windows as needed in the future.
* Can now create a new Email message, Contact and Calendar item by right clicking on a folder of that type and selecting New...
* Default button for user's mail address added to service window

Added play on phone window

* Login service windows can now default in user's SMTP address,
* Can now name folder and set folder class when creating a new folder
* New window under “Other” dropdown menu which displays information about the current window user's account.

## 1.7.5 – 1/1/2014 - 1/21/2014.

* The code has been updated to Visual Studio 2013 and .NET 4.5.
* A new EWS POST window has been added and it allows users to POST EWS XML and get back responses. I’ve added the ability to save the settings on the window (minus the password). There are also a lot of EWS XML samples included – you can load them via a menu and can also save your own requests.
* Menu items under the Tools menu which require a service object are now all disabled unless there is an active service object (ie you signed in).
* Fixed address saving in Contacts form (minus the multiline adress issue which has to be worked-around by a raw post or by using modified proxy classes or by swapping out the lf for clrl).
* Autodiscover viewer now breaks-down alternative mailbox information in autodiscover viewer.   
  Autodiscover viewer's maximize button is now enabled.

## 1.8.0.3223 – 1/22/2014 - 2/5/2014.

* The EWS POST window had some minor fixes one and also many more EWS samples have been added - there are now well over 100.
* A window which can send email using System.Net.Mail sends email to an SMTP port or to an SMTP pickup folder. This can be used with testing EWS new mail notifications.

## 1.9.0.3223 – 2/5/2014 - 3/11/2014.

* Added raw post sample for GetReminders.
* Added Encoding window - this is for converting data like base 64 content from mime into text, etc.
* A timeout override was added to the Options window.- this will help in tests where the timeout needs to be increased.
* Added code to set ReturnClientRequestId = true - this will help for providing info on 2013 cloud servers.
* There is now a setting for enabling the PreAuthenticate in the Options window.
* Moved time zone settings from service window to options window.
* Updated program to use the new 2.1 Exchange Managed API.
* Regenerated Proxy classes based-upon EWS for Exchange 2013 SP1.
* Made some changes to Export Items code to work with newly generated proxy classes.
* Fixed bug which was displaying \*.\* for file types for window which displayed save as window from the EWS Post and other windows.
* User-Agent can now be set in Autodiscover Viewer window. The Setting of User-Agent affects the response from Autodiscover in some areas such as connectivity info which would be used for Outlook. Keep in mind that Autodiscover is not just a EWS thing - it’s used by many types of clients and Exchange uses this setting to determine the correct response for the respective client.
* Added UserConfiguration form - it will show OWA configuration settings and the master categories list from the calendar folder.
* Added a basic window for doing AWS and strait FindItem with restriction searches – access by right clicking on a folder you want to search on.
* On the tools menu I added an eDiscovery window which can be used to search for items. Note: You need to setup the account being used to have the Audit RBAC role to do these types of searches.

## 1.10 – 3/11/2014 - 8/11/2014.

* Export and import of items as a full fidelity steam works - without proxy classes! - I used raw EWS posts.
* Turned off word wrap for EWS request field in EWS Post windows.
* Several windows with scrolling texts boxes were limiting content to 32k - I removed this restriction.
* Split server timezone info off to separate menu item from the timezone info windows so that the timezone info window could be used without logging into a mailbox.
* Lots of updates to the TimeZone window.
* UserAgent is now a pulldown instead of a text box in all windows.
* Can now set proxy settings in Globals window. This means you can point EWS Editor traffic to Fiddler on the same box in order to trace traffic.
* Updated generated proxy classes against o365 wave 15.
* Updated to use Exchange managed API 2.2.   
   Added a MacOutlook user agent string to the Autodiscover Viewer window.

**1.11 – 8/12/2014 – 12/3/2014**

* Added default 365 URL to main Services window. In Services window if an SMTP address was specified for AutoDiscover then when credentials are specified the same SMTP address will default for the user in the credential field.
* In the EWS Post window a note on what’s need for URL and authentication was added to the window and also the newly opened window defaults are set to the standard URL and auth type for 365 (Basic).
* Set default exchange version to 2010 SP2 in login window and AutoDiscover viewer window - this is the minimal non extended support version of Exchange.
* Added handling of Mail App registrations under the Tools menu. Set DL expansion to do contact distribution lists
* In EWS POST window: basic proxy settings added, user agent contains a list of common UserAgent strings, some screen formatting changes
* Added additional info to AD user info window - UPN and more
* Changed "Exchange Version" to "EWS Schema Version" on service window - this will make the setting clearer to the user.
* Fixed bug for opening default connection, changed for EWS Schema Version label in AutoDiscover viewer. In AutoDiscover viewer added a scrolling multiline box which shows selected item values, added ability to set basic proxy override settings and added default buttons for SMTP address and user auth name.
* Added processing for ServerBusyException where AutoDiscover is used - will break-out the backoff seconds in logging better.
* Turned on pretty rendering of xml tracing on service object - not available for autodiscover object yet (API limitation).
* Reviewed how sessions are saved and loaded - wrote-out a plan on changes for sessions so that it works well - there are a lot of changes needing to be done to straighten it out. Added code in EWSPost window to display request and response headers from the call.
* EWS POST window can now handle a RAW POST consisting of POST line with headers and body.

**1.12 – 12/4/2014 – 4/20/2015**

* Added ability to directly add attachments to email prior to send... Sending a file attachment works now,
* Main changes for working with file and inline attachments done for email. Working with new calendar types.
* Added a new Empty Folder selection to folders menu.
* Added option to Global Options to set timezone context.
* Renamed Windows User Information Window to Run-time Information. This windows has been expanded to show more environmental information and .NET versions installed.
* Added ability to set x-AnchorMailbox on log-in when Impersonation is used.
* In Encode form: Fixed some issues with hex dump code, added conversions for base 64 to hex string, base 64 to space delimited hex string, hex dump and hex dump of content in a base64 encoded string. These additions will help situations when a user wants to decode and edit binary data - which EWS base64 encodes (requested many times prior). The data binary data can also be dumped easily for review due to the hex dump feature.
* Under the Other menu there were four forms which were being displayed as modal and they did not need to - So I changed so that they are modeless.
* The Email edit window has a button to show transport headers and it tosses an error when trying to use it with non-transport submitted email - I fixed it so it would show info that those headers are only viable for transport submitted messages.

**1.13 – 4/22/2015 – 5/4/2015**

* In the TimeZone window the code which displays info for a timezone does not append a line break at the end of first line ("Timezone Information:") - so I added one.
* In the Timezone window I added a button to display a list of Timezone Information in a text window.
* Added new conversions for hex strings to the conversions window.
* I added more info to the runtime info window.
* In the AutodiscoverViewer window you can now specify a URL to the AutoDiscover service manually. When run, the used URL id displayed on the screen as a notation. The default entry URL is the standard one for Exchange Online.
* In several forms there were dropdown boxes which should not allow free text entry - i changed the style.

1.14 - **4/23/2015 – 4/1/2016**

* Added code for the service session to work with oAuth. Basic functionality has been added. However, this feature is not fully implemented. Saving and loading a service object will not work with oAuth. The rook folder icon will not properly display.

To build add this Nuget package Nuget Manager for Visual studio or use PowerShell:

<https://www.nuget.org/packages/Microsoft.IdentityModel.Clients.ActiveDirectory/>

* This release uses a version of the EWS Managed API from GIT, which is where the open source is published. There have been many fixes done since the 2.2 version of the EWS Managed API and EWSEditor needs to be using them for testing purposes. See below:  
    
  EWS Managed API… open source? YES! It’s now Open Source!!!  
  <https://blogs.msdn.microsoft.com/webdav_101/2014/09/29/ews-managed-api-open-source-yes-its-now-open-source/>
* There have been issues with windows which have slider controls - contained controls are not rendering correct in them - critical windows were impacted. Auto scale mode has been changed to Font from DPI on some windows- no idea why - it’s not something I would normally touch - critical windows were impacted. Set background to steel grey for windows which don't deal with an active service object.
* Now can open the items display in the calendar view window and I coded the same for EDiscovery window.
* Added ability to display the attachments by type window in the standard items display window - this will help in understanding in differences between the three types of attachments and troubleshooting issues with them.
* Added testing windows which developers can use to add their own code. These are windows for Folder (right click on folder), Item (right click on item) and Service (Tools menu).
* Fixed issues with rendering on many pages due to pages being auto-resized - been something needed to fix - many people cannot use some windows do to this issue.
* The post window now has tabs on the request and response to show the xml in and web controls - makes far easier to read. EWS post now checks response for non-ASCII characters.
* Added XML views of data in EWS POST.
* Added code to check for odd character in EWS responses in the EWS POST window.
* Added an XML view to the MailTips window.
* Added new window to allow a user to enter html/xml/text and get an IE rendering of it - this is helpful whenever a person wants to see what an HTL document looks like or be ble to review XML in a way which is far better than a plain text version. This window is under the "Other" menu.
* Now there is separate credentials for managed and unmanaged code in explorer part of EWSEditor.
* Changed description text in FolderDialog to explain that delegate access will be done if SMTP for the mailbox being delegated is entered.
* In eDiscovery window - Fixed a spelling issue. Lower search results clear when a new top level search is done.
* Services window (login) has better comments which will help when using EWS Impersonation.
* Added ability to optionally set 3 headers in Global Dialog - those will be used by the service object if set.
* AutoDiscover viewer is too big for some displays - so I reformatted the window to allow for usage on medium to some smaller displays such as laptops.
* In the EWS Post window the response body was not showing when a 500 error was returned - I fixed it.
* Fixed issue with a null value returned in a call in UserConfigForm.
* Fixed issues with the calendar item windows around the start and end date/time/time zones
* Changed time zone lookup to also allow entry of a string rather than only from the drop down list.
* More EWS POST samples added.
* Added new functionality to load an item into OWA by using item menu. Just right click on an item in the explorer and choose to open it in OWA.
* Added more error handling to the item sync window.
* Fixed an issue where the calendar windows were not handling the working elsewhere enumeration for fb satus. Fixed the display of the recurrence ID in calendar recurrence field to match the format its returned as in EWS responses - it needs to match for testing - i.e. full UTC as Exchange EWS returns.
* A feature was needed to set headers in the AutodiscoverViewer window in order to test headers which configure the POX AutoDiscover request. So, you can now set up to 3 headers on the service object in the AutoDiscoverViewer window.
* Reworked the error dialog some. Added display of error code and also in hex. Changed out controls displaying some content - now can copy out data and strings for the top error info wrap. Reworked the windows in formatting also.
* Changes for moving and copying items.
* Now ownersmtpaddress is returned in AutoDiscover Viewer for alternative mailboxes. Changed formatting for better readability.
* Added new create search folder example
* Fixed a bug where a new contact could not be saved when the address is set.
* New GetItems for a message with CRM properties
* Added a new post sample for finditem
* Finished mailtips, can now set x-anchormailbox when not using impersonation.
* Added code for getting mail tips - its accessed from the Tools menu.
* In Autiodiscover Viewer I made the window width narrower, resized a few fields and changed anchoring on some controls to help with some rendering issues.

1.15 - **4/1/2016 – 5/3/2016**

* Enhanced the Tasks window.
* New Developer Attachments Test Form.
* Now can work with attachments in contacts, tasks, calendar items, email.
* Now you don’t need to save prior to adding attachments.
* Properties View definition window was missing OK and Cancel buttons - added them back.
* In the New Service and Global Options windows I added descriptive text. However, I had to move some things and do some reformatting to get the screens to render properly.
* Search window changes: Frame number now properly appears in results. Added a note on the

window explaining that Exchange Online may limit results to 250 by default policy. Now can

display the main properties window for an item by double clicking on it. Fixed a rendering issue.

**1.16 - 5/4/2016– 6/29/2016**

* Added an editing window for messaged/calendar/task bodies - its launched by a button on those item types edit windows. It display the body in an IE control - which helps with reviewing bodies. It can also load and save body samples, which I had added to prior to the code base.
* I removed the requirement for location to be set in the calendar item window.
* Merged features into the encoder window which were in EASTester. Fixed some issues with control character checking in the encoder window.
* Fixed AvailabilityForm - one of the controls kept breaking (corruption) - I fixed it. AvailabilityForm is way too big and needs to be smaller - so I reduce, removed the close button and moved the Get User Availability to be by where attendees are added, which is a more logical place. The sizing issue was found during a training session in China.
* EWSEditor now builds without warnings.
* I added a feature to the Conversions dialog to beautify XML - needed for code review and repros.
* Fixed form names in synchronization forms.
* Moved the Synchronization forms under a sub menu under Tools to save space.
* Fixed rendering/sizing issues with Availability window.
* AutodiscoverViewer now under a new "discovery" window on the Tools menu.
* Added new windows for GetDomain Settings and to display a list of SCP end-points.
* Started putting groups of related forms into sub-folders in the visual studio project - its getting hard to find forms.
* Fixes related to oath changes, mime entry changes, changes for defaults to user name and set x-anchor-mailbox.
* Saving and loading profiles are no longer supported directly off the menu. The work to get it to function properly will take too much work and complex. Saving and loading may be added to the main New Service window in the future, however that will also require a lot of work since many login and config settings are tied to the Options window.
* Added search for items by class.
* Fixed issue with showing cleaned the response in EWS POST window's summary text box. Made the odd characters found stand out more.
* Get OOF - second tab's text area is short.
* Pull notifications - the last check box to right is overlapping group box -fixed.
* Streaming notifications - change size - its too big.
* User Configurations window - Can now load settings for a specified folder and settings string.
* EDiscovery - Screen is too high for some machines.
* Broad testing for changes done for oAuth fixes. I'm trying to make sure that I didn't miss anything.
* Reorganized files to make it easier to find code files since there were a lot in certain folders.
* I added some additional UserConfig settings to default in the UserConfig window.
* Added Mark as junk form.
* Added MIME parser to Tools menu. It can also be launched by right clicking on an item.
* In the Domain settings window I added a message saying it only works with Autodiscover.
* In the SCP lookup I noted that the client must be in-network with the Exchange server.
* In the Log-in screen the default for SMTP address is wrong for the X-header is not defaulting correctly when impersonation is selected. It should now default correctly.
* In User Availability I widened the Hours column in the first listview.
* In the Mail Tips window the XML View was not rendering correctly. The button was also moving on resize. Both have been fixed
* In the File Content Helper window there was an issue with resizing due to split control container issues- fixed.
* MIME parsing window - Change “MIME” to “Full Item MIME”
* Service developer test window not showing status dialog when test button is pushed. I added code to show the service URL.
* Could not export using Export Items from the menu when using Impersonation – this is on the list to fix later.

# Features

### Exchange Service Profiles

Exchange Service Profiles describe not only the connection information for calls specified in the [ExchangeService](http://msdn.microsoft.com/en-us/library/microsoft.exchange.webservices.data.exchangeservice.aspx) class but also the root folder to use in the tree view of EWS Editor. Multiple ExchangeService objects can be displayed at one time using unique configurations. This allows folders on multiple servers and server versions to be displayed at one time or displaying the same folders using different credentials.

Exchange Service Profiles can be saved to an XML file which contains the configuration information (sans specified passwords) so that it can be reloaded easily. If a profile requires credentials then a prompt will appear when loading the Services Profile to enter the credentials.



### View properties of ExchangeServices, Folders, and Items

The PropertyDetailsGrid display first class properties for all nodes of the tree view starting with the root, ExchangeService node and all the way to the folder contents form, displaying first class properties for Items in a folder. Under the View menu the [PropertySet](http://msdn.microsoft.com/en-us/library/microsoft.exchange.webservices.data.propertyset.aspx) used to retrieve item or folder data can be configured to customize which schema properties and extended properties are displayed in the PropertyDetailsGrid.



**Extended Property Lookup**

A number of known extended MAPI properties have been indexed in EWS Editor. Extended properties can be added to the PropertyDetailsGrid through a look up using a known constant name for the property such as PR\_SUBJECT, PidTagSubject, etc. An Extended Property Lookup tool provides a way to quickly get the property information for a known constant.



### Request and response logging

While EWS Editor is running, all requests and responses are logged to a file. The Chatter Log tool is used to view the history of requests and responses.



# Source Notes

### Understanding the PropertyInformation Namespace

The PropertyInformation namespace’s main purpose is to standardize the textual representation of object values in EWS Editor. This is done through the PropertyInterpretation class which uses TypeValues, SmartViews, and KnownExtendedProperties to return text data describing a given object property.

TypeValues standardize the text to display for the value of specific object types. SmartViews apply Exchange/Outlook business logic to property values to translate the raw value into a more meaningful one. The KnownExtendedProperties class contains lookup methods and data related to documented extended properties.

TypeValues and SmartViews conform to a simple interface which associated the logic implemented in a specific TypeValue or SmartView with specific types (ITypeValue) or known properties (ISmartView). A TypeValueFinder class and SmartViewFinder class retrieve the appropriate class based on an input type or property. To add new ITypeValue or ISmartView implementations to the project simply implement the interface and add the new class to the TypeValueFinder or SmartViewFinder’s Initialize() method. Then anytime the PropertyDetailsGrid or other controls which already use the PropertyInterpretation class will automatically benefit from the translation logic for the type or property referenced.