

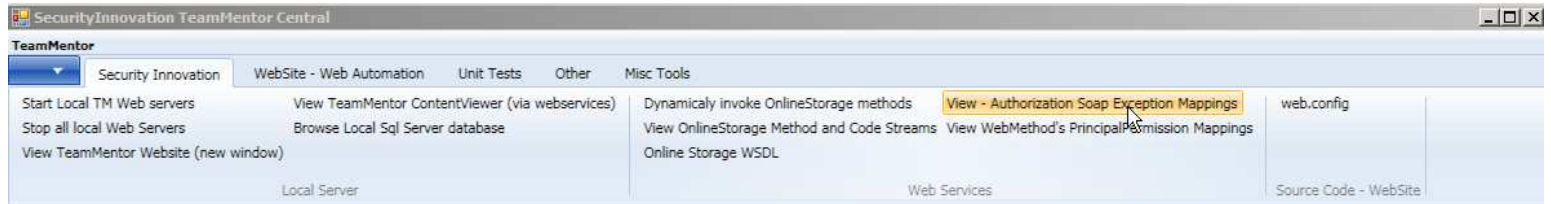
Security Testing of TeamMentor WebServices - Part 2

In terms of testing the security of the WebServices there are a couple tools and techniques that were developed (using the O2 Platform's APIs) that really help to gain visibility into the actual behaviour of the webservices:

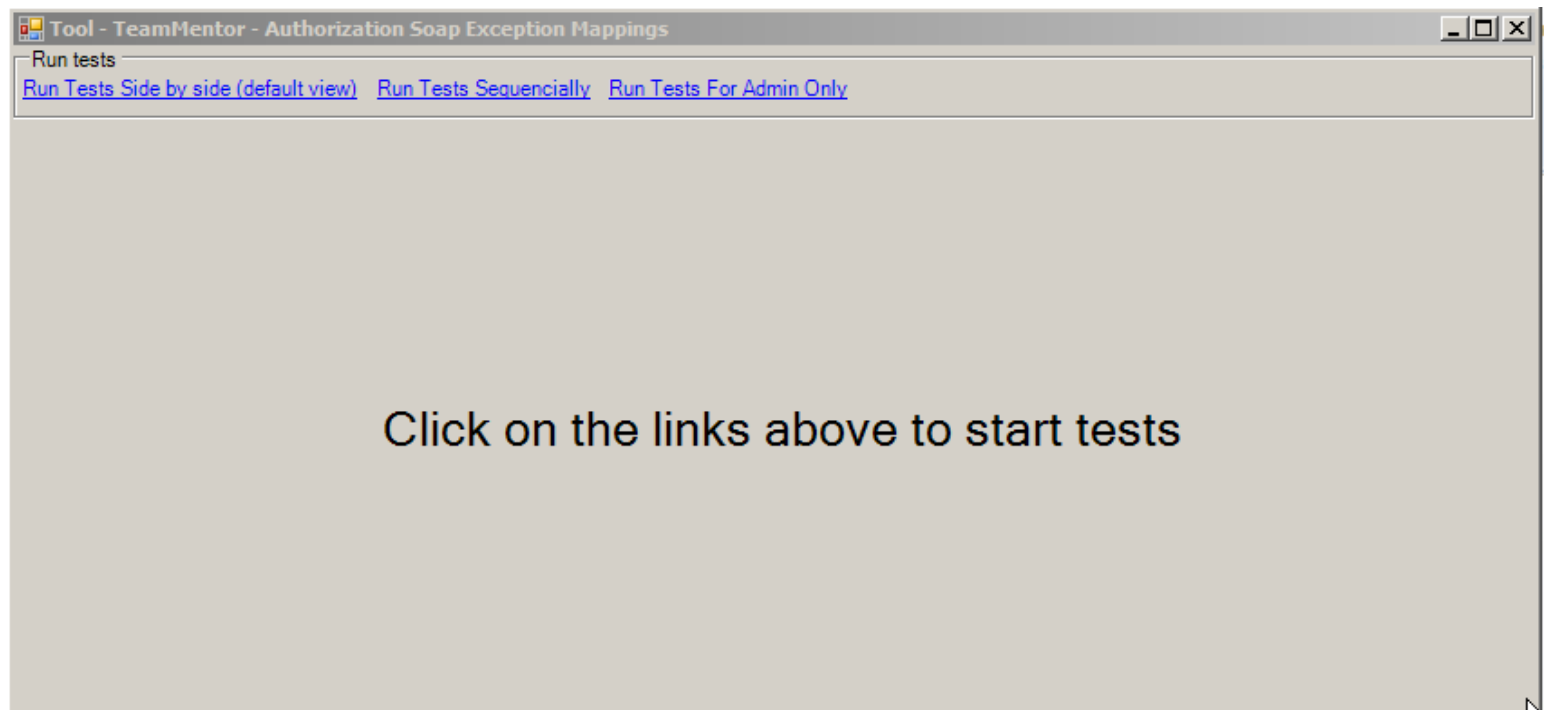
This document presents a couple tools that provide a more advanced view of the WebServices Security model (see part 1 for the direct use of UnitTests)

O2 tool : View - Authorization SOAP Exception mappings

In the *SecurityInnovation TeamMentor Central* gui, click on the '*View - Authorization Soap Exception Mappings*' button



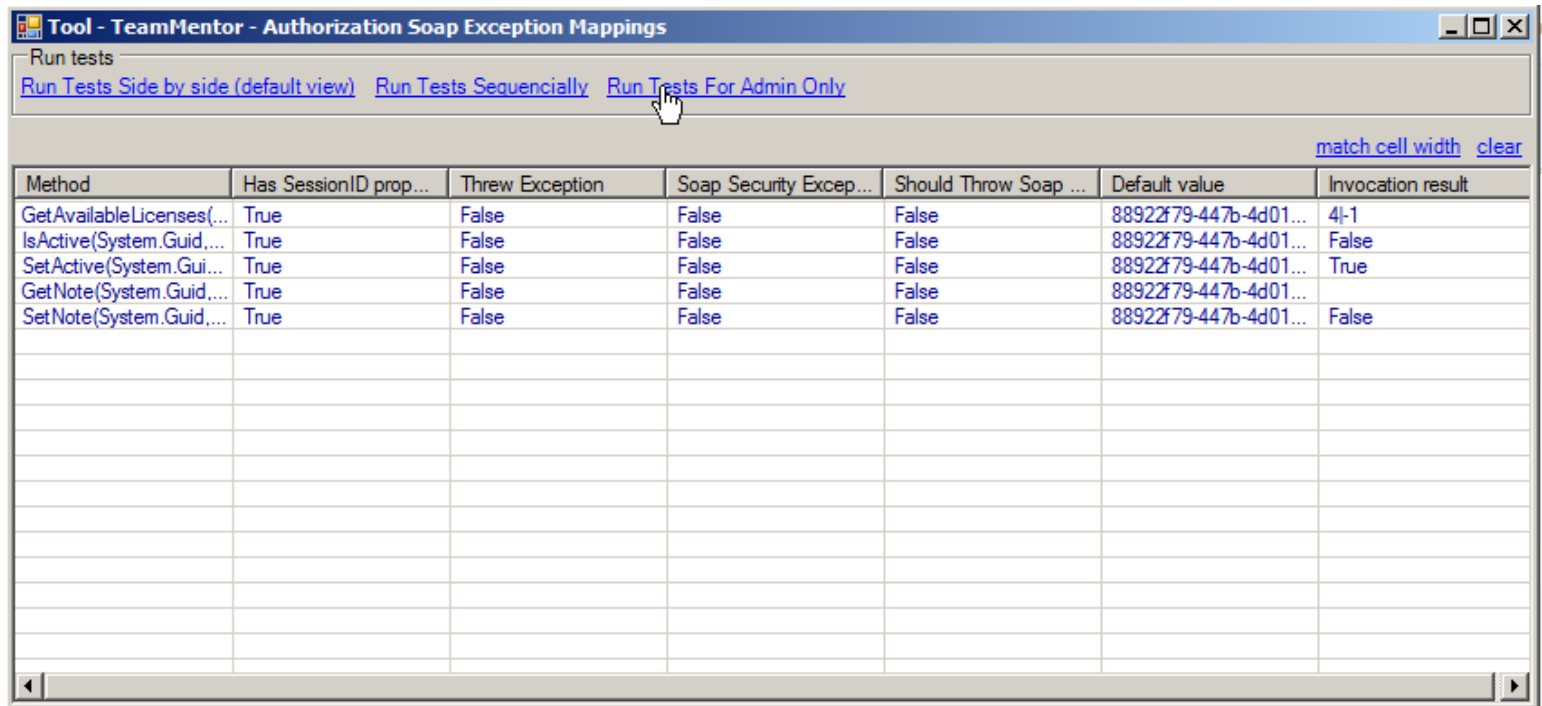
which will open this gui



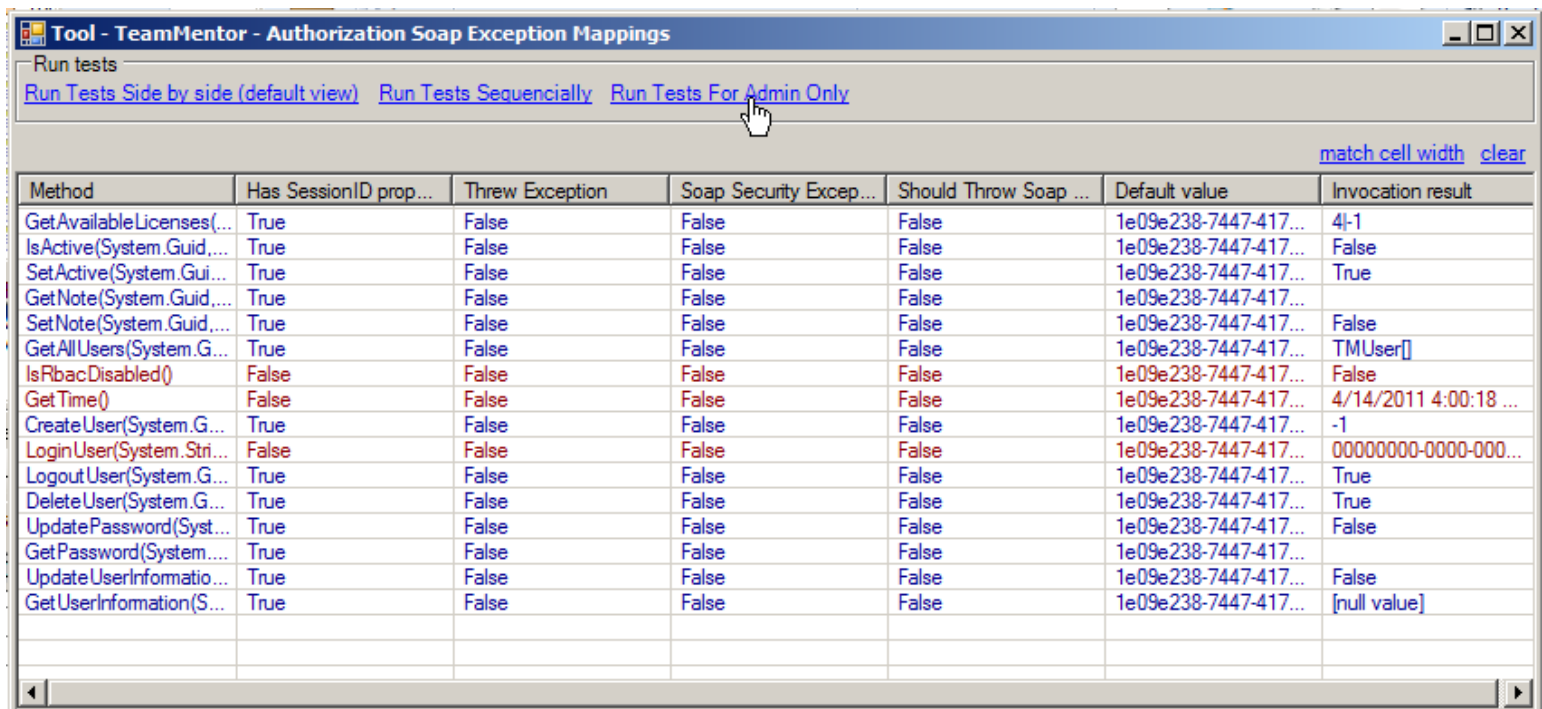
Legend:

- **Blue**: invoked method as expected
- **Green**: received expected security exception
- **Red**: Was able to invoke method (and a security exception was expected)
- **Dark Red**: means a method that has no security requirements (i.e. can be invoked anonymously by design)

if you click on the **Run Tests For Admin's Only** button:



you will see an execution flow that looks like this when completed:



if you click on **Run Tests Sequentially** link

Tool - TeamMentor - Authorization Soap Exception Mappings

Run tests
[Run Tests Side by side \(default view\)](#) [Run Tests Sequentially](#) [Run Tests For Admin Only](#)

[match cell width](#) [clear](#)

Met...	Has...	Thr...	Soa...	Sho...	Def...	Inv...
GetA...	True	True	True	True	[null...	Ser...
IsAct...	True	True	True	True	[null...	Ser...
SetA...	True	True	True	True	[null...	Ser...
GetN...	True	True	True	True	[null...	Ser...
SetN...	True	True	True	True	[null...	Ser...
GetA...	True	True	True	True	[null...	Ser...
IsRb...	False	False	False	True	[null...	False
GetT...	False	False	False	True	[null...	4/1...
Creat...	True	True	True	True	[null...	Ser...
Logi...	False	False	False	True	[null...	000...
Logo...	True	True	True	True	[null...	Ser...
Delet...	True	True	True	True	[null...	Ser...
Upd...	True	True	True	True	[null...	Ser...
GetP...	True	True	True	True	[null...	Ser...
Upd...	True	True	True	True	[null...	Ser...
GetU...	True	True	True	True	[null...	Ser...

... for users logged in as non-admins (in the middle)

Tool - TeamMentor - Authorization Soap Exception Mappings

Run tests
[Run Tests Side by side \(default view\)](#) [Run Tests Sequentially](#) [Run Tests For Admin Only](#)

[match cell width](#) [clear](#)

Met...	Has...	Thr...	Soa...	Sho...	Def...	Inv...
GetA...	True	True	True	True	[null...	Ser...
IsAct...	True	True	True	True	[null...	Ser...
SetA...	True	True	True	True	[null...	Ser...
GetN...	True	True	True	True	[null...	Ser...
SetN...	True	True	True	True	[null...	Ser...
GetA...	True	True	True	True	[null...	Ser...
IsRb...	False	False	False	True	[null...	False
GetT...	False	False	False	True	[null...	4/1...
Creat...	True	True	True	True	[null...	Ser...
Logi...	False	False	False	True	[null...	000...
Logo...	True	True	True	True	[null...	Ser...
Delet...	True	True	True	True	[null...	Ser...
Upd...	True	True	True	True	[null...	Ser...
GetP...	True	True	True	True	[null...	Ser...
Upd...	True	True	True	True	[null...	Ser...
GetU...	True	True	True	True	[null...	Ser...

... and users logged in as 'Admins' on the right

The two reds that we received are on the **GetAvailableLicenses** and **GetPassword** which for these tests were enabled (note how the GetPassword is actually quite a security risk that would be hard to find without such tool)

Tool - TeamMentor - Authorization Soap Exception Mappings

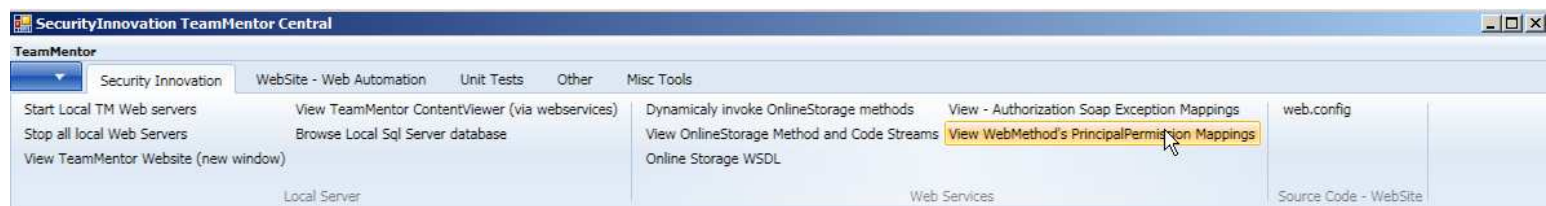
Run tests
[Run Tests Side by side \(default view\)](#) [Run Tests Sequentially](#) [Run Tests For Admin Only](#)

ll width clear match cell width clear match cell width clear

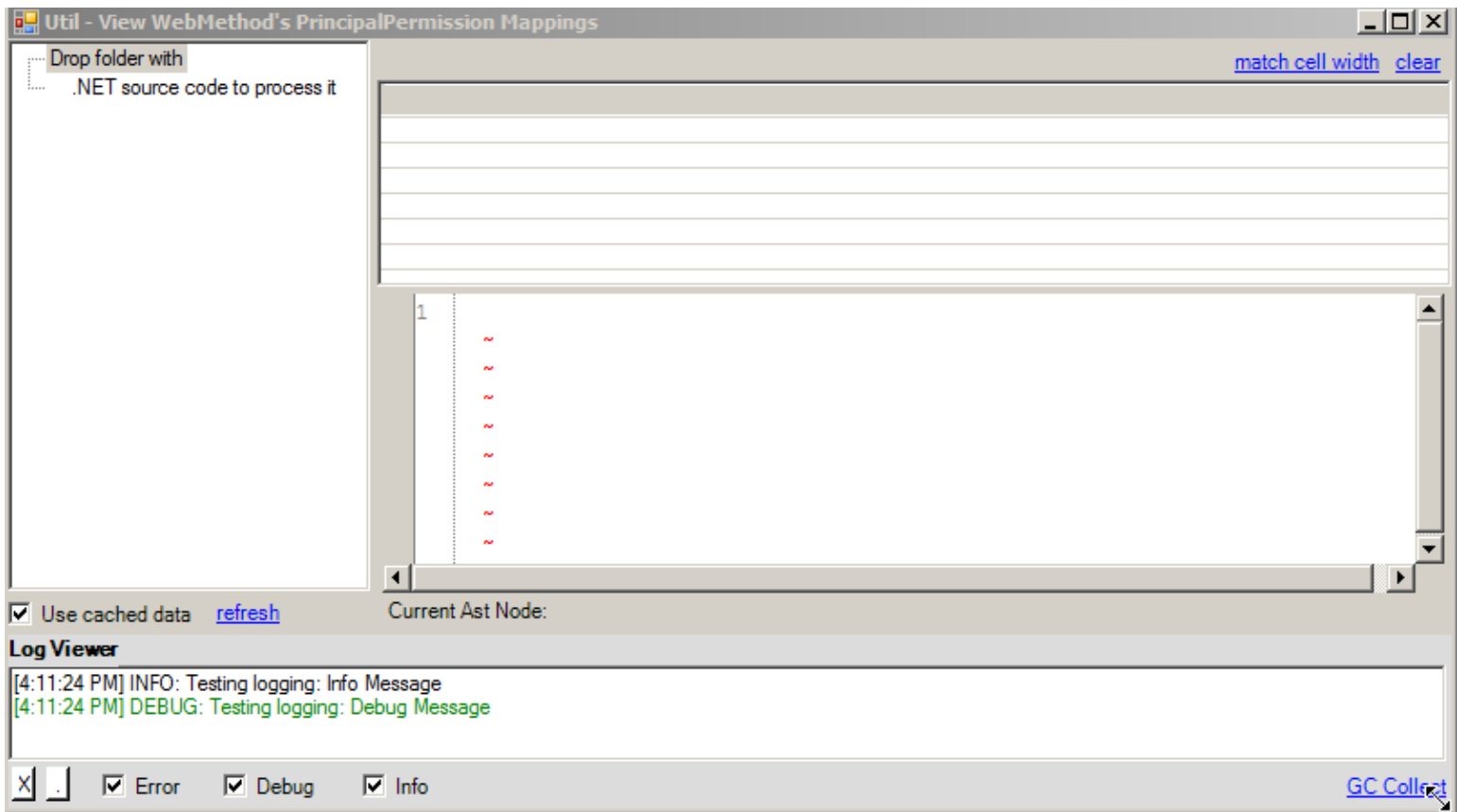
	Method	Was Sessi...	Threw Exc...	Soap Sec...	Should Thr...	Default val	M...	H...	Th...	So...	Sh...	D...	In...
G 1 1 1 1 [S	CreateUser(System.Guid, Syste...	True	True	True	True	f1224339...	Get...	True	Fa...	Fa...	Fa...	eb...	4-1
I. 1 1 1 1 [S	DeleteUser(System.Guid, Int32)	True	True	True	True	f1224339...	IsA...	True	Fa...	Fa...	Fa...	eb...	Fa...
S 1 1 1 1 [S	GetAllUsers(System.Guid)	True	True	True	True	f1224339...	Set...	True	Fa...	Fa...	Fa...	eb...	True
G 1 1 1 1 [S	GetAvailableLicenses(System....	True	False	False	True	f1224339...	Get...	True	Fa...	Fa...	Fa...	eb...	
S 1 1 1 1 [S	GetNote(System.Guid, Int32)	True	True	True	True	f1224339...	Set...	True	Fa...	Fa...	Fa...	eb...	Fa...
G 1 1 1 1 [S	GetPassword(System.Guid, Int...	True	False	False	True	f1224339...	Get...	True	Fa...	Fa...	Fa...	eb...	T...
I. F F F 1 [F	GetTime()	False	False	False	True	f1224339...	IsR...	Fa...	Fa...	Fa...	Fa...	eb...	Fa...
G F F F 1 [4	GetUserInformation(System.Gui...	True	True	True	True	f1224339...	Get...	Fa...	Fa...	Fa...	Fa...	eb...	4/...
C 1 1 1 1 [S	IsActive(System.Guid, Int32)	True	True	True	True	f1224339...	Cre...	True	Fa...	Fa...	Fa...	eb...	-1
L F F F 1 [C	IsRbacDisabled()	False	False	False	True	f1224339...	Log...	Fa...	Fa...	Fa...	Fa...	eb...	00...
L 1 1 1 1 [S	LoginUser(System.String, Syste...	False	False	False	True	f1224339...	Log...	True	Fa...	Fa...	Fa...	eb...	True
D 1 1 1 1 [S	LogoutUser(System.Guid, Syst...	True	True	True	True	f1224339...	Del...	True	Fa...	Fa...	Fa...	eb...	True
U 1 1 1 1 [S	SetActive(System.Guid, Int32, ...	True	True	True	True	f1224339...	Up...	True	Fa...	Fa...	Fa...	eb...	Fa...
G 1 1 1 1 [S	SetNote(System.Guid, Int32, S...	True	True	True	True	f1224339...	Get...	True	Fa...	Fa...	Fa...	eb...	
U 1 1 1 1 [S	UpdatePassword(System.Guid,...	True	True	True	True	f1224339...	Up...	True	Fa...	Fa...	Fa...	eb...	Fa...
G 1 1 1 1 [S	UpdateUserInformation(System...	True	True	True	True	f1224339...	Get...	True	Fa...	Fa...	Fa...	eb...	[n...

O2 tool : View WebMethod's PrincipalPermission Mappings

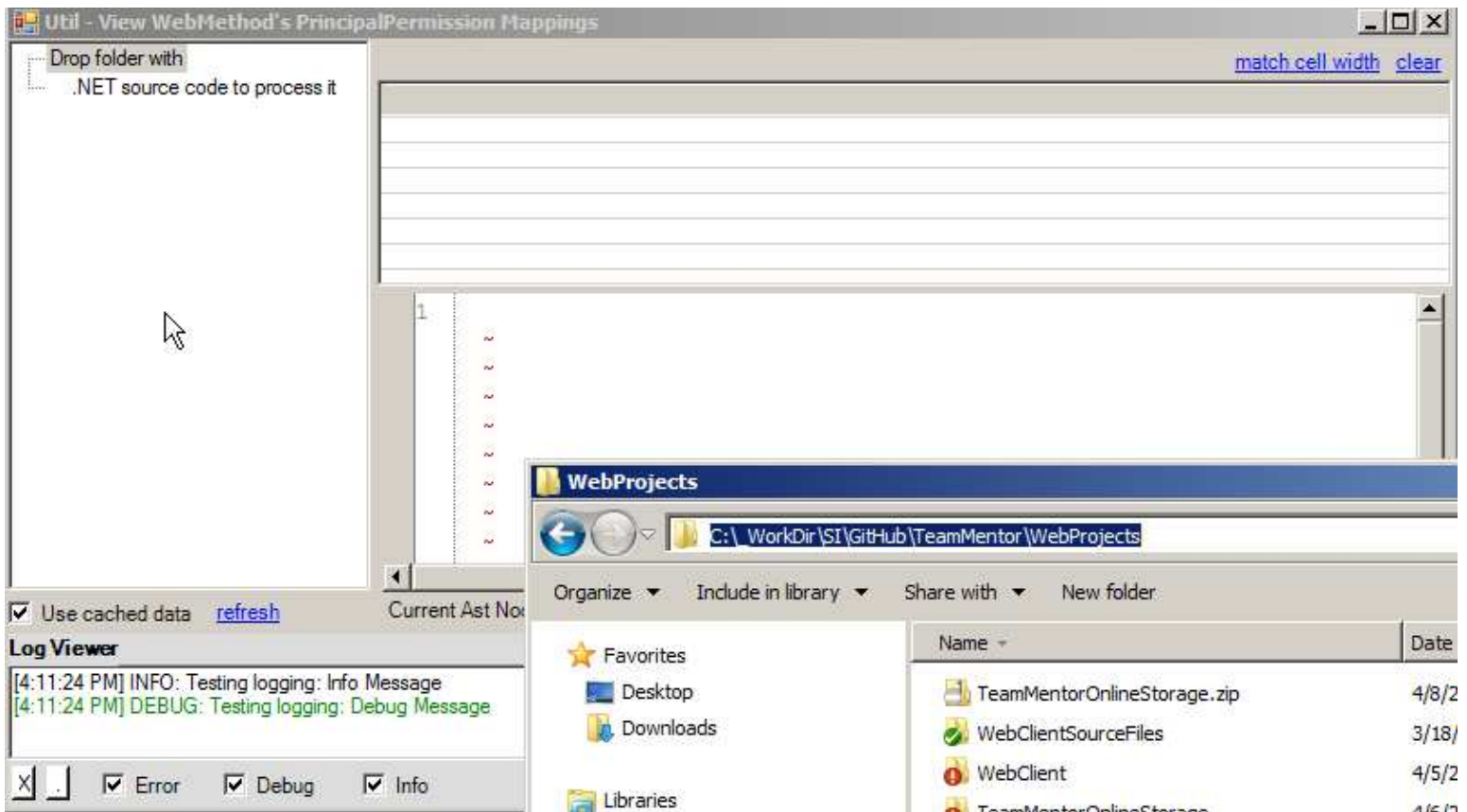
In the *SecurityInnovation TeamMentor Central* gui, click on the '*View WebMethod's Principal Permission Mappings*' button



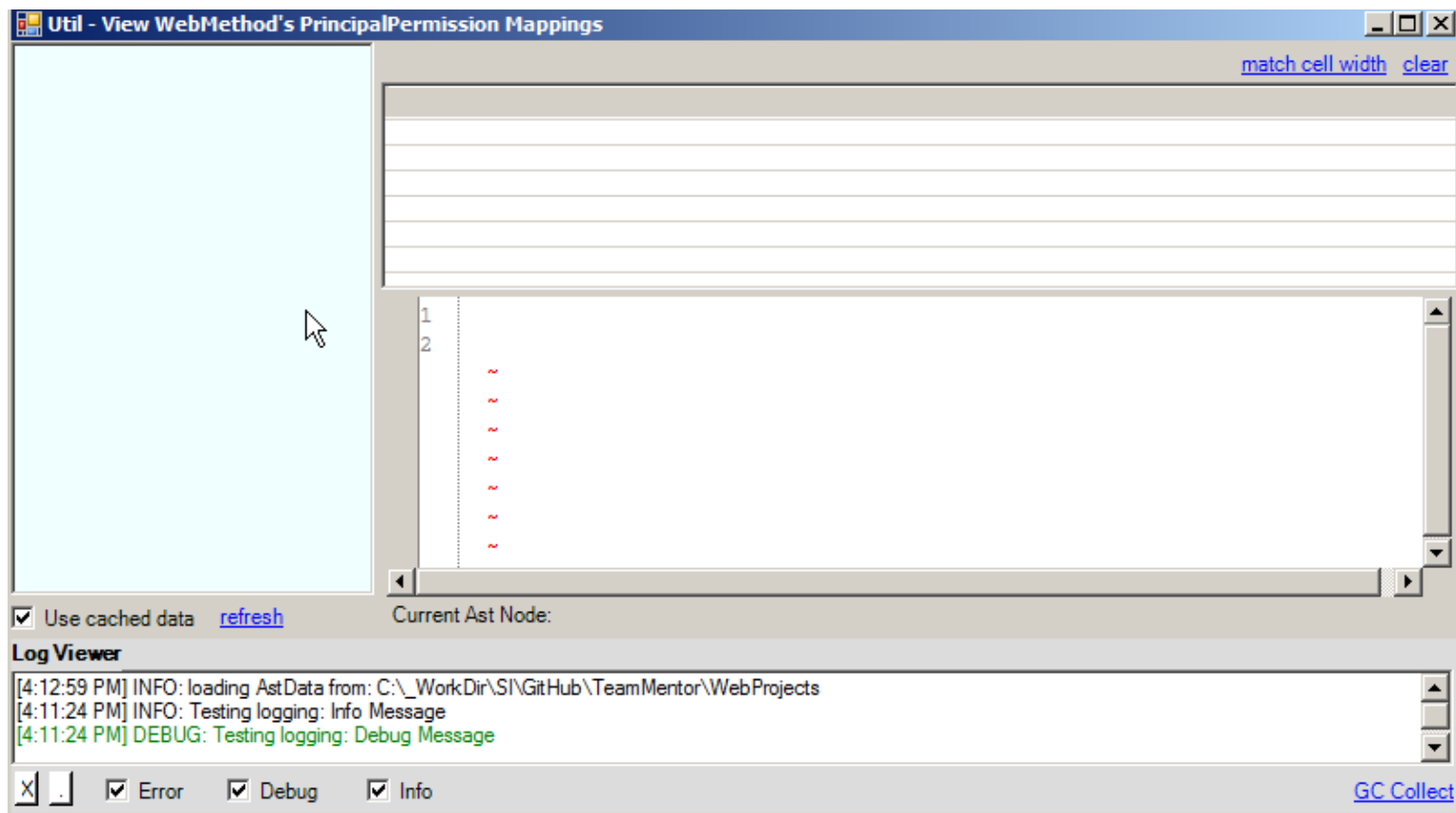
which will open a GUI that looks like this



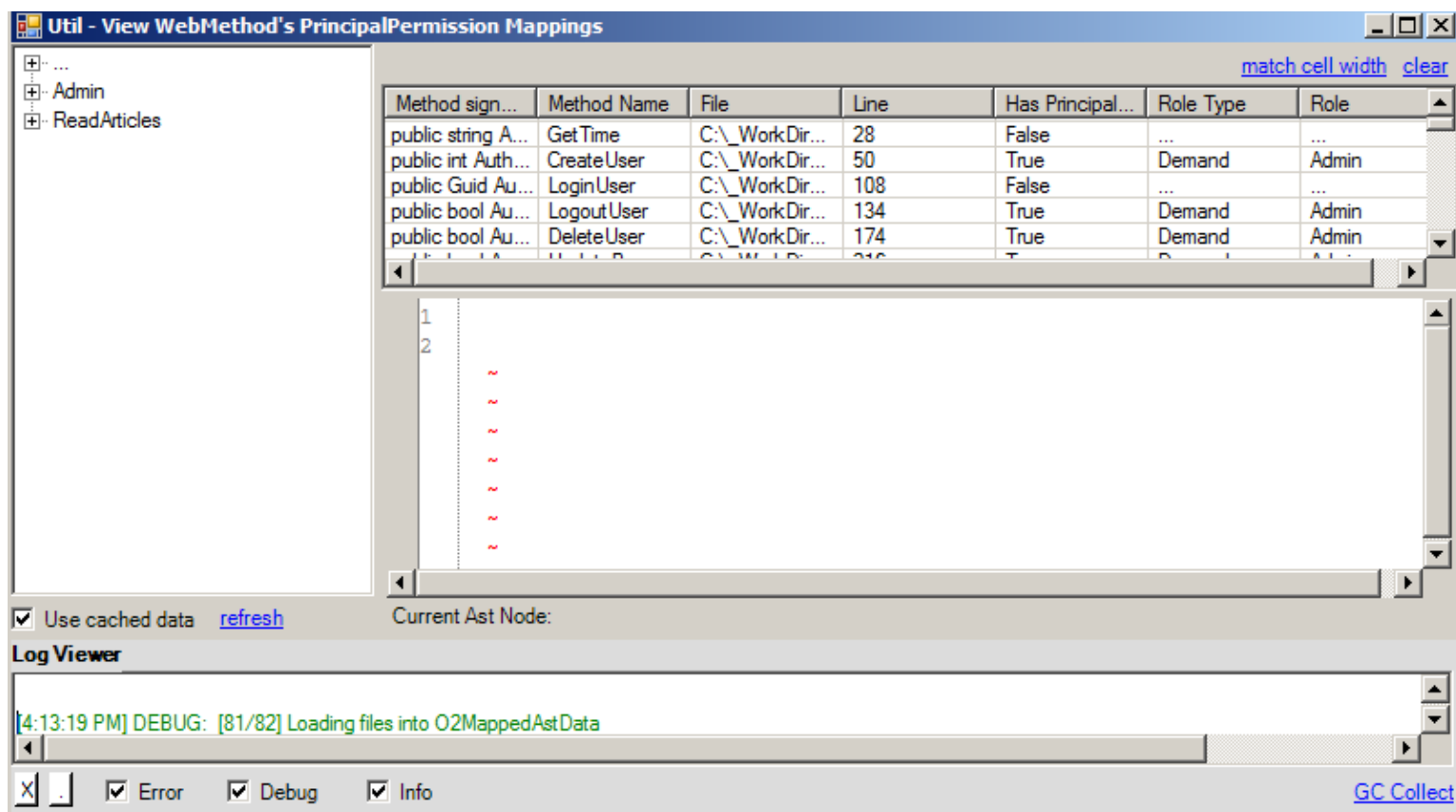
Find the local folder with the WebSite's Source code and drop it into the left treeView



this will load the data (indicated by the blue color)



and this is the view that shows up when all data is loaded and processed:



The left TreeView shows the list of all current webmethods, that are:

* protected by 'Admin' role demand:

The screenshot displays the 'Util - View WebMethod's PrincipalPermission Mappings' window. On the left, a tree view lists various web methods under the 'Admin' role, with 'CreateLibrary' selected. The main pane shows a table of mappings and the corresponding C# source code.

Method signature	Method Name	File	Line	Has PrincipalPe...	Role Type	Role
public string Auth...	GetTime	C:_WorkDir\SI...	28	False	...	...
public int AuthW...	CreateUser	C:_WorkDir\SI...	50	True	Demand	Admin
public Guid Auth...	LoginUser	C:_WorkDir\SI...	108	False	...	...
public bool Auth...	LogoutUser	C:_WorkDir\SI...	134	True	Demand	Admin
public bool Auth...	DeleteUser	C:_WorkDir\SI...	174	True	Demand	Admin


```
631  
632     [WebMethod]  
633     [SoapHeader("credentials")]  
634     [PrincipalPermission(SecurityAction.Demand, Role = "ReadArticles")]  
635     public string GetGuidanceItemContent(string guidanceItemId)  
636     {  
637         using (SqlConnection conn = GetConnection())  
638         {  
639             SqlCommand cmd = new SqlCommand("dbo.GetGuidanceItemContent", conn);  
640             cmd.CommandType = CommandType.StoredProcedure;  
641  
642             cmd.Parameters.Add("@guidanceItemId", SqlDbType.UniqueIdentifier).Value = guidanceItemId;  
643  
644             return cmd.ExecuteScalar().ToString();  
645         }  
646     }  
647  
648     [WebMethod]  
649     [SoapHeader("credentials")]  
650     [PrincipalPermission(SecurityAction.Demand, Role = "Admin")]  
651     public void CreateLibrary(Library library)  
652     {  
653         //ValidateCredentials();  
654  
655         //TODO: ensure id. is not library id
```

* protected by a 'ReadArticles' security demand:

Util - View WebMethod's PrincipalPermission Mappings

match cell width clear

Method signature	Method Name	File	Line	Has PrincipalPe...	Role Type	Role
public string Auth...	GetTime	C:_WorkDir\SI...	28	False	...	...
public int AuthW...	CreateUser	C:_WorkDir\SI...	50	True	Demand	Admin
public Guid Auth...	LoginUser	C:_WorkDir\SI...	108	False	...	...
public bool Auth...	LogoutUser	C:_WorkDir\SI...	134	True	Demand	Admin
public bool Auth...	DeleteUser	C:_WorkDir\SI...	174	True	Demand	Admin

GetGuidanceItemHtml

```

114 public List<TM_GuidanceItem> GetGuidanceItemsInFolder(TM_Folder folder)
115 {
116     var views = from view in TeamMentorDB.DB_VIEWS
117                 where view.viw_library == folder.Library &&
118                       view.viw_folder_name == folder.Name &&
119                       view.viw_caption == folder.Caption
120                 select view;
121
122     var query = from view in views
123                 from item in TeamMentorDB.ViewContents
124                 where item.viw_view == view.viw_id
125                 select new TM_GuidanceItem(item.GuidanceItem);
126
127     return query.ToList();
128 }*/
129
130 [WebMethod]
131 [SoapHeader("credentials")]
132 [PrincipalPermission(SecurityAction.Demand, Role = "ReadArticles")]
133 // [PrincipalPermission(SecurityAction.Demand, Role = "Admin")]
134 public string GetGuidanceItemHtml(Guid GuidanceItemId)
135 {
136     return (from guidanceItem in TeamMentorDB.GuidanceItems
137             where guidanceItem.gui_id == GuidanceItemId
138             select guidanceItem.gui_content).First();

```

☒ Use cached data refresh

Current Ast Node:

* not protected by any security demand:

Util - View WebMethod's PrincipalPermission Mappings

match cell width clear

Method signature	Method Name	File	Line	Has PrincipalPe...	Role Type	Role
public string Auth...	GetTime	C:_WorkDir\SI...	28	False	...	...
public int AuthW...	CreateUser	C:_WorkDir\SI...	50	True	Demand	Admin
public Guid Auth...	LoginUser	C:_WorkDir\SI...	108	False	...	...
public bool Auth...	LogoutUser	C:_WorkDir\SI...	134	True	Demand	Admin
public bool Auth...	DeleteUser	C:_WorkDir\SI...	174	True	Demand	Admin

```

19  /// These are the new WebMethods added by Dinis Cruz
20  /// </summary>
21  ///
22  namespace SecurityInnovation.TeamMentor.WebServices
23  {
24      public partial class OnlineStorage
25      {
26          ///*****
27          ///*** Security Related WebMethods
28          ///***
29          ///
30
31          [WebMethod]
32          public string ping()
33          {
34              return "pong";
35          }
36
37          [WebMethod]
38          [SoapHeader("credentials")]
39          public bool AuthorizedToUpload()
40          {
41              return User.IsInRole("Admin");
42          }
43      }

```

Use cached data refresh Current Ast Node:

TABLE VIEW

The table list at the top shows another view of all mappings

Util - View WebMethod's PrincipalPermission Mappings

match cell width clear

Method signature	Method Name	File	Line	Has PrincipalPemi...	Role Type	Role
public string AuthWe...	GetTime	C:_WorkDir\SINGI...	28	False	...	...
public int AuthWebS...	CreateUser	C:_WorkDir\SINGI...	50	True	Demand	Admin
public Guid AuthWe...	LoginUser	C:_WorkDir\SINGI...	108	False	...	...
public bool AuthWe...	LogoutUser	C:_WorkDir\SINGI...	134	True	Demand	Admin
public bool AuthWe...	DeleteUser	C:_WorkDir\SINGI...	174	True	Demand	Admin
public bool AuthWe...	UpdatePassword	C:_WorkDir\SINGI...	216	True	Demand	Admin
public string AuthWe...	GetPassword	C:_WorkDir\SINGI...	258	True	Demand	ReadArticles
public bool AuthWe...	UpdateUserInforma...	C:_WorkDir\SINGI...	305	True	Demand	Admin
public ? AuthWebSe...	GetUserInformation	C:_WorkDir\SINGI...	351	True	Demand	Admin
public string AuthWe...	GetAvailableLicens...	C:_WorkDir\SINGI...	390	True	Demand	ReadArticles
public bool AuthWe...	IsActive	C:_WorkDir\SINGI...	430	True	Demand	Admin
public bool AuthWe...	SetActive	C:_WorkDir\SINGI...	478	True	Demand	Admin
public string AuthWe...	GetNote	C:_WorkDir\SINGI...	513	True	Demand	Admin
public bool AuthWe...	SetNote	C:_WorkDir\SINGI...	546	True	Demand	Admin
public List<?> Auth...	GetAllUsers	C:_WorkDir\SINGI...	580	True	Demand	Admin
public bool AuthWe...	IsRbacDisabled	C:_WorkDir\SINGI...	616	False	...	...
public List<TM_Libra...	GetLibraries	C:_WorkDir\SINGI...	40	True	Demand	ReadArticles
public List<TM_Fold...	GetFolders	C:_WorkDir\SINGI...	51	True	Demand	ReadArticles
public List<TM_Guid...	GetAllGuidanceItems	C:_WorkDir\SINGI...	68	True	Demand	ReadArticles
public List<TM_Guid...	GetGuidanceItemsI...	C:_WorkDir\SINGI...	80	True	Demand	ReadArticles
public List<TM_Guid...	GetGuidanceItemsI...	C:_WorkDir\SINGI...	91	True	Demand	ReadArticles
public List<TM_Guid...	GetGuidanceItemsI...	C:_WorkDir\SINGI...	102	True	Demand	ReadArticles

```

214    /// SHA(username+plaintextPassword)</param>
215    /// <returns>true if the password was properly updated, false if not</returns>
216    [WebMethod]
217    [PrincipalPermission(SecurityAction.Demand, Role = "Admin")]
218    public bool UpdatePassword(Guid AdminSessionID, int UserID, string newPasswordHash)
219    {
220        AuthenticationManagement auth = ObjectFactory.AuthenticationManagement();
221        try
222        {
223            /*if (!auth.VerifyAdministrator(AdminSessionID))
224            {
225                return false;
226            }
227            auth.UpdatePassword(UserID, newPasswordHash);
228            return true;
229        }
230        catch { return false; }
231    }
  
```

Use cached Current Ast Node:

which can be easily filtered by (for example) Role Type:

Util - View WebMethod's PrincipalPermission Mappings

match cell width clear

Method signature	Method Name	File	Line	Has PrincipalPermi...	Role Type	Role
public bool AuthWe...	allOK	C:_WorkDir\SINGi...	616	False	...	...
public bool AuthWe...	IsRbacDisabled	C:_WorkDir\SINGi...	616	False	...	...
public bool Securityl...	AuthorizedToUpload	C:_WorkDir\SINGi...	37	False	...	...
public bool Securityl...	LoginUsingSoapCr...	C:_WorkDir\SINGi...	61	False	...	...
public bool Securityl...	IsUserAdmin	C:_WorkDir\SINGi...	43	False	...	...
public bool Securityl...	LoginUsingSoapCr...	C:_WorkDir\SINGi...	50	False	...	...
public Guid AuthWe...	LoginUser	C:_WorkDir\SINGi...	108	False	...	...
public Guid AuthWe...	LoginUser	C:_WorkDir\SINGi...	108	False	...	...
public Guid Securityl...	Login	C:_WorkDir\SINGi...	45	False	...	...
public string AuthWe...	GetTime	C:_WorkDir\SINGi...	28	False	...	...
public string AuthWe...	GetTime	C:_WorkDir\SINGi...	28	False	...	...
public string Security...	ping	C:_WorkDir\SINGi...	31	False	...	...
public ? AuthWebSe...	GetUserInformation	C:_WorkDir\SINGi...	351	True	Demand	Admin
public ? AuthWebSe...	GetUserInformation	C:_WorkDir\SINGi...	351	True	Demand	Admin
public bool AuthWe...	DeleteUser	C:_WorkDir\SINGi...	174	True	Demand	Admin
public bool AuthWe...	DeleteUser	C:_WorkDir\SINGi...	174	True	Demand	Admin
public bool AuthWe...	IsActive	C:_WorkDir\SINGi...	430	True	Demand	Admin
public bool AuthWe...	IsActive	C:_WorkDir\SINGi...	430	True	Demand	Admin
public bool AuthWe...	LogoutUser	C:_WorkDir\SINGi...	134	True	Demand	Admin
public bool AuthWe...	LogoutUser	C:_WorkDir\SINGi...	134	True	Demand	Admin
public bool AuthWe...	SetActive	C:_WorkDir\SINGi...	478	True	Demand	Admin
public bool AuthWe...	SetActive	C:_WorkDir\SINGi...	478	True	Demand	Admin

```

43
44
45 [WebMethod]
46 [SoapHeader("credentials")]
47 public Guid Login(string UserName, string Password)
48 {
49     try
50     {
51         var newSessionID = Guid.NewGuid();
52         if (ObjectFactory.AuthenticationManagement().LoginUser(UserName, Password, Guid.Empty,
53             return newSessionID;

```

☒ Use cached Current Ast Node:

or Role

Util - View WebMethod's PrincipalPermission Mappings

match cell width clear

Method signature	Method Name	File	Line	Has PrincipalPemi...	Role Type	Role
public Library Secur...	GetLibraryByld	C:_WorkDir\SINGi...	327	True	Demand	ReadArticles
public Library/Index S...	GetLibraryIndex	C:_WorkDir\SINGi...	496	True	Demand	ReadArticles
public List<TM_Fold...	GetFolders	C:_WorkDir\SINGi...	51	True	Demand	ReadArticles
public List<TM_Guid...	GetAllGuidanceItems	C:_WorkDir\SINGi...	68	True	Demand	ReadArticles
public List<TM_Guid...	GetGuidanceItemsl...	C:_WorkDir\SINGi...	102	True	Demand	ReadArticles
public List<TM_Guid...	GetGuidanceItemsl...	C:_WorkDir\SINGi...	91	True	Demand	ReadArticles
public List<TM_Guid...	GetGuidanceItemsl...	C:_WorkDir\SINGi...	80	True	Demand	ReadArticles
public List<TM_Libra...	GetLibraries	C:_WorkDir\SINGi...	40	True	Demand	ReadArticles
public ListView Secu...	GetListViewForNod...	C:_WorkDir\SINGi...	556	True	Demand	ReadArticles
public NavigationTre...	GetNavigationTree	C:_WorkDir\SINGi...	134	True	Demand	ReadArticles
public NavigationTre...	GetNavigationTree...	C:_WorkDir\SINGi...	156	True	Demand	ReadArticles
public Schema Secu...	GetSchemaByld	C:_WorkDir\SINGi...	259	True	Demand	ReadArticles
public string AuthWe...	GetAvailableLicens...	C:_WorkDir\SINGi...	390	True	Demand	ReadArticles
public string AuthWe...	GetAvailableLicens...	C:_WorkDir\SINGi...	390	True	Demand	ReadArticles
public string AuthWe...	GetPassword	C:_WorkDir\SINGi...	258	True	Demand	ReadArticles
public string Secur...	GetGuidanceItemH...	C:_WorkDir\SINGi...	120	True	Demand	ReadArticles

```

249
250    /// <summary>
251    /// Use GetPassword to return the current password hash of the specified user. Use this method
252    /// to verify a user has typed a valid password into the system to log the user into the
253    /// system or to change their password.
254    /// </summary>
255    /// <param name="UserID">The UserID of user to retrieve</param>
256    /// <returns>A SHA256 of the username and password concatenated together
257    /// SHA(username+plaintextPassword)</returns>
258    [WebMethod]
259    //[PrincipalPermission(SecurityAction.Demand, Role = "Admin")]
260    [PrincipalPermission(SecurityAction.Demand, Role = "ReadArticles")]
261    public string GetPassword(Guid AdminSessionID, int UserID)
262    {
263        AuthenticationManagement auth = ObjectFactory.AuthenticationManagement();

```

Use cached Current Ast Node:

if changes are made on the source code (in this case making the GetPassword method method demand 'Admin' privileges):

Util - View WebMethod's PrincipalPermission Mappings

match cell width clear

Method signature	Method Name	File	Line	Has PrincipalPemi...	Role Type	Role
public Library Secur...	GetLibraryByld	C:_WorkDir\SINGi...	327	True	Demand	ReadArticles
public Library/Index S...	GetLibraryIndex	C:_WorkDir\SINGi...	496	True	Demand	ReadArticles
public List<TM_Fold...	GetFolders	C:_WorkDir\SINGi...	51	True	Demand	ReadArticles
public List<TM_Guid...	GetAllGuidanceItems	C:_WorkDir\SINGi...	68	True	Demand	ReadArticles
public List<TM_Guid...	GetGuidanceItemsl...	C:_WorkDir\SINGi...	102	True	Demand	ReadArticles
public List<TM_Guid...	GetGuidanceItemsl...	C:_WorkDir\SINGi...	91	True	Demand	ReadArticles
public List<TM_Guid...	GetGuidanceItemsl...	C:_WorkDir\SINGi...	80	True	Demand	ReadArticles
public List<TM_Libra...	GetLibraries	C:_WorkDir\SINGi...	40	True	Demand	ReadArticles
public ListView Secu...	GetListViewForNod...	C:_WorkDir\SINGi...	556	True	Demand	ReadArticles
public NavigationTre...	GetNavigationTree	C:_WorkDir\SINGi...	134	True	Demand	ReadArticles
public NavigationTre...	GetNavigationTree...	C:_WorkDir\SINGi...	156	True	Demand	ReadArticles
public Schema Secu...	GetSchemaByld	C:_WorkDir\SINGi...	259	True	Demand	ReadArticles
public string AuthWe...	GetAvailableLicens...	C:_WorkDir\SINGi...	390	True	Demand	ReadArticles
public string AuthWe...	GetAvailableLicens...	C:_WorkDir\SINGi...	390	True	Demand	ReadArticles
public string AuthWe...	GetPassword	C:_WorkDir\SINGi...	258	True	Demand	ReadArticles
public string Secur...	GetGuidanceItemH...	C:_WorkDir\SINGi...	120	True	Demand	ReadArticles

```

249
250    /// <summary>
251    /// Use GetPassword to return the current password hash of the specified user. Use this method
252    /// to verify a user has typed a valid password into the system to log the user into the
253    /// system or to change their password.
254    /// </summary>
255    /// <param name="UserID">The UserID of user to retrieve</param>
256    /// <returns>A SHA256 of the username and password concatenated together
257    /// SHA(username+plaintextPassword)</returns>
258    [WebMethod]
259    [PrincipalPermission(SecurityAction.Demand, Role = "Admin")]
260    [PrincipalPermission(SecurityAction.Demand, Role = "ReadArticles")]
261    public string GetPassword(Guid AdminSessionID, int UserID)
262    {
263        AuthenticationManagement auth = ObjectFactory.AuthenticationManagement();

```

☒ Use cached data Current Ast Node: Refresh

Uncheck the **Use cached data** option and click on the **refresh** link

Util - View WebMethod's PrincipalPermission Mappings

match cell width clear

Method signa...	Method Name	File	Line	Has Principal...	Role Type	Role
public Library ...	GetLibraryByld	C:_WorkDir\...	327	True	Demand	ReadArticles
public LibraryIn...	GetLibraryIndex	C:_WorkDir\...	496	True	Demand	ReadArticles
public List<TM...	GetFolders	C:_WorkDir\...	51	True	Demand	ReadArticles
public List<TM...	GetAllGuidan...	C:_WorkDir\...	68	True	Demand	ReadArticles
public List<TM...	GetGuidance...	C:_WorkDir\...	102	True	Demand	ReadArticles
public List<TM...	GetGuidance...	C:_WorkDir\...	91	True	Demand	ReadArticles
public List<TM...	GetGuidance...	C:_WorkDir\...	80	True	Demand	ReadArticles
public List<TM...	GetLibraries	C:_WorkDir\...	40	True	Demand	ReadArticles
public List View...	GetListViewF...	C:_WorkDir\...	556	True	Demand	ReadArticles
public Navigati...	GetNavigatio...	C:_WorkDir\...	134	True	Demand	ReadArticles
public Navigati...	GetNavigatio...	C:_WorkDir\...	156	True	Demand	ReadArticles
public Schema...	GetSchemaB...	C:_WorkDir\...	259	True	Demand	ReadArticles
public string A...	GetAvailable...	C:_WorkDir\...	390	True	Demand	ReadArticles
public string A...	GetAvailable...	C:_WorkDir\...	390	True	Demand	ReadArticles
public string A...	GetPassword	C:_WorkDir\...	258	True	Demand	ReadArticles
public string S...	GetGuidance...	C:_WorkDir\...	120	True	Demand	ReadArticles

```

249
250     /// <summary>
251     /// Use GetPassword to return the current password hash of the spec
252     /// to verify a user has typed a valid password into the system to
253     /// system or to change their password.
254     /// </summary>
255     /// <param name="UserID">The UserID of user to retrieve</param>
256     /// <returns>A SHA256 of the username and password concatenated toge
257     /// SHA(username+plaintextPassword)</returns>
258     [WebMethod]
259     [PrincipalPermission(SecurityAction.Demand, Role = "Admin")]
260     //[PrincipalPermission(SecurityAction.Demand, Role = "ReadArticles")]
261     public string GetPassword(Guid AdminSessionID, int UserID)
262     {
263         AuthenticationManagement auth = ObjectFactory.AuthenticationMan

```

☐ Use cached data [refresh](#)

Current Ast Node:

which when completed will reflect the new changes

Util - View WebMethod's PrincipalPermission Mappings

match cell width clear

Method signature...	Method Name	File	Line	Has Principal...	Role Type	Role
public Library ...	GetLibraryByld	C:_WorkDir\...	327	True	Demand	ReadArticles

```

251      /// Use GetPassword to return the current password hash of the spec:
252      /// to verify a user has typed a valid password into the system to
253      /// system or to change their password.
254      /// </summary>
255      /// <param name="UserID">The UserID of user to retrieve</param>
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257      /// SHA(username+plaintextPassword)</returns>
258      [WebMethod]
259      [PrincipalPermission(SecurityAction.Demand, Role = "Admin")]
260      // [PrincipalPermission(SecurityAction.Demand, Role = "ReadArticles")]
261      public string GetPassword(Guid AdminSessionID, int UserID)
262      {
263          AuthenticationManagement auth = ObjectFactory.AuthenticationMana
264          try
265          {
266              /*if (!auth.VerifyAdministrator(AdminSessionID))
267              {
268                  //auth.AddEvent("WS: Login Failure", "Session ID Used:
269                  return "";
270              }
271              else
272              {
273                  try
274                  {
275                      //auth.AddEvent("WS: Retrieved Password Hash", "Retu
276                      return auth.GetPassword(UserID);
277                  }
278                  catch (Exception ex)
279                  {

```

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Current Ast Node: