



Software Development Kit

User Guide

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Table of Contents

SDK Overview	1
1. What is ServicePRO SDK?.....	1
2. What is possible with SDK?.....	1
Pre-requisites	2
3. Accessible ServicePRO.Server WCF service site (Included with ServicePRO installation package).....	2
4. List of DLL files:.....	2
5. .Net Framework requirements, Visual Studio version requirements.....	2
6. Supported Applications:.....	2
Getting Started	3
Code Samples to use ServicePRO SDK	4
1. Login Using AD Authentication: Sample Code to initialize & establish session and to login to ServicePRO Database for making further SDK Calls [C# .NET – WPF]:	4
2. Login Using ServicePRO User Credentials: Sample Code to initialize & establish session and to login to ServicePRO Database for making further SDK Calls [C# .NET – WPF]:	6
3. Add Service Request	8
4. Add Memo	9
5. Sample: Create new best solution	11
6. Sample: Add Asset	12
7. Sample: Add Product.....	13
8. Sample: Get Service Request.....	14
9. Sample: Get Quick Message	15
10. Sample: Get Folder by ID.....	16
11. Sample: Get User by ID	17

SDK Overview

1. What is ServicePRO SDK?

ServicePRO SDK is an API (.Net Class Library) used to access the ServicePRO Database.

2. What is possible with SDK?

ServicePRO SDK allows you to perform the following functions against the ServicePRO Database programmatically from a client application developed in .NET platform:

- **Manage service requests:**
 - Get service request detail from ServicePRO Database
 - Add new service request
 - Delete a service request
 - Add memo to a service request
 - Send quick message
 - Get service request detail
 - Get specific Request Properties
 - Get Service Requests Listing Data
- **Manage ServicePRO Objects – User, Company, Asset, Queue, Team, Role, Category, Product:**
 - Add New, Update, Retire, Delete objects
 - Get specific Object Information
- **Manage Knowledge base:**
 - Get, update, publish, retire or restore Knowledge base article (best solution)
 - Get best solution list

Having these functions available programmatically means that you can integrate these tasks into custom tools for exporting and importing data to and from ServicePRO.

Pre-requisites

3. Accessible ServicePRO.Server WCF service site (Included with ServicePRO installation package)

4. List of DLL files:

- HelpSTAR.PCL.Common.dll
- HelpSTAR.PCL.ObjectDesigner.dll
- HelpSTAR.Transport.Hybrid.dll
- ICSharpCode.SharpZipLib.dll
- ServicePRO.Sdk.Windows.dll
- ServicePRO.Sdk.Windows.XML

5. .Net Framework requirements, Visual Studio version requirements

- Microsoft .Net framework 4.7.2; Visual Studio 2019 or Visual Studio 2017 (15.8 update).

6. Supported Applications:

This SDK was developed using MS Visual Studio 2019 (C# .NET), .Net framework 4.7.2.

The SDK DLLs are built for 'Any CPU' version.

Support information is as follows:

- .NET 4.7.2.
- SDK should work with Windows Forms, WPF and ASP.NET applications. The SDK has been tested so far with WPF and Windows Forms applications.

Getting Started

The client application project should add reference to the DLLs specified below in order to make ServicePRO SDK Method Calls. Also, in the client application, in order to use ServicePRO.SDK namespace, should add a Using Directive with ServicePRO.SDK namespace as "Using ServicePRO.Sdk.Windows".

And the application developed using SDK should have access to ServicePRO WCF Service.

1. From project's reference menu, add reference to the following DLLs:

```
HelpSTAR.PCL.Common.dll
HelpSTAR.PCL.ObjectDesigner.dll
HelpSTAR.Transport.Hybrid.dll
ICSharpCode.SharpZipLib.dll
ServicePRO.Sdk.Windows.dll
```

2. The following Namespaces should be used in order to utilize ServicePRO SDK Methods:

```
using HelpSTAR.PCL.Common;
using HelpSTAR.PCL.ObjectDesigner.Elements;
using ServicePRO.Sdk.Windows;
using ServicePRO.Sdk.Windows.Managers;
```

3. The ServicePRO WCF service website URL and user credentials may be specified in the client application's app.config file (or Web.Config, in the case of ASP .NET web applications) and retrieved in the Application Code before establishing the session. Alternatively, this information can be hardcoded in the client application code as well or set with constants.

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>
  <appSettings>
    <add key="serviceURL" value="http://YourServer/HelpSTAR.Server/" />
    <add key="Username" value="ServicePRO Power Username" />
    <add key="Userpassword" value="password" />
  </appSettings>
  <startup>
    <supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.7.2" />
  </startup>
</configuration>
```

Code Samples to use ServicePRO SDK

1. Login Using AD Authentication: Sample Code to initialize & establish session and to login to ServicePRO Database for making further SDK Calls [C# .NET – WPF]:

```
//Step 1: Set Server URL (This is stored in client application's app.config file:
)
ServerSettings.SetServiceUri(System.Configuration.ConfigurationSettings.AppSettings["ServiceURL"]);

//Step 2: Establish session
private stcSession _session;
private CoreServicesManager _coreServiceManager;
private RequestServicesManager _requestManager;
private ObjectDesignerManager _udfManager;
private LoginServiceManager _loginManager;
private ManageObjectsServicesManager _objectManager;
private KnowledgeBaseServiceManager _knowledgebaseManager;

_coreServiceManager = new CoreServicesManager();
_udfManager = new ObjectDesignerManager();
_loginManager = new LoginServiceManager();
_requestManager = new RequestServicesManager();
_objectManager = new ManageObjectsServicesManager();
_knowledgebaseManager = new KnowledgeBaseServiceManager ();

_coreServiceManager.InitializeSystemAndSession(CultureInfo.CurrentCulture.Name,
TimeZoneInfo.Local.StandardName, DateTime.SpecifyKind(DateTime.Now,
DateTimeKind.Unspecified), TimeZoneInfo.Local.GetUtcOffset(DateTime.Now),
(stcSession result, Exception serviceException) =>
{
    if (serviceException != null)
    {
        MessageBox.Show(serviceException.ToString(), "Error");
        return;
    }
    _session = result.Clone();

    //Step 3: Get available domains (for login)
    _loginManager.GetAvailableDomains(_session,
Environment.UserDomainName, Environment.UserName,
(stcSession domainResult, string serverVersion, string
kickOutMessage, string preferredSPLoginDomain, Exception serverException) =>
{
    if (serverException != null)
    {
        MessageBox.Show(serverException.ToString(),
"Error");
        return;
    }
    _session = domainResult.Clone();
```

```

        stcListItem selectedDomain =
        _session.AvailableDomains.FirstOrDefault(item => item.Id == 0);

        //Step 4: Login
        _loginManager.Login(selectedDomain, _session,
        "admin4", "password", true, clsEnumeration.hsInterface.Unknown,
        (stcUserLoginInfo loginInfo, Exception
        loginException) =>
        {
            if (loginException != null)
            {
                MessageBox.Show(loginException.ToString(), "Error");
                return;
            }

            //Step 5: If login successful then initialize
            user session on the server
            if (loginInfo.LoginStatus ==
            clsEnumeration.hsCheckLogin.hsSuccess)
            {
                _loginManager.InitializeUserSession(loginInfo.UserId, _session,
                (clsEnumeration.ConcurrentValidation
                conValidation, stcSession resultSession, Exception initializeException) =>
                {
                    if (initializeException != null)
                    {
                        MessageBox.Show(initializeException.ToString(), "Error");
                        return;
                    }
                    _session = resultSession.Clone();
                    this.Dispatcher.Invoke(() =>
                    {
                        TextBlockLoginInfo.Text =
                        string.Format("Logged in as {0}", _session.User.UserName);
                    });
                });
            }
        });
    });
});

```

2. Login Using ServicePRO User Credentials: Sample Code to initialize & establish session and to login to ServicePRO Database for making further SDK Calls [C# .NET – WPF]:

```

//Step 1: Set Server URL (This is stored in client application's app.config
file)
ServerSettings.SetServiceUri(System.Configuration.ConfigurationSettings.AppSettings["ServiceURL"]);

_coreServiceManager = new CoreServicesManager();
_loginManager = new LoginServiceManager();

//Step 2: Establish Session before logging in

_coreServiceManager.InitializeSystemAndSession(CultureInfo.CurrentCulture.Name,
TimeZoneInfo.Local.StandardName, DateTime.SpecifyKind(DateTime.Now,
DateTimeKind.Unspecified), TimeZoneInfo.Local.GetUtcOffset(DateTime.Now),
(stcSession result, Exception serviceException) =>
{
    if (serviceException != null)
    {
        MessageBox.Show(serviceException.ToString(), "Error");
        return;
    }
    _session = result.Clone();

    //get the username and password from the app.config file
    string username =
System.Configuration.ConfigurationSettings.AppSettings["Username"];
    string password =
System.Configuration.ConfigurationSettings.AppSettings["Userpassword"];

    //Step 3: Login with ServicePRO User Credentials
    _loginManager.Login(null, _session, username, password, true,
clsEnumeration.hsInterface.Unknown,
(stcUserLoginInfo loginInfo, Exception loginException) =>
{
    if (loginException != null)
    {
        MessageBox.Show(loginException.ToString(),
"Error");
        return;
    }

    //Step 4: If login successful then initialize user
session on the server
    if (loginInfo.LoginStatus ==
clsEnumeration.hsCheckLogin.hsSuccess)
    {
        _loginManager.InitializeUserSession(loginInfo.UserId, _session,
(clsEnumeration.ConcurrentValidation
conValidation, stcSession resultSession, Exception initializeException) =>
        {
            if (initializeException != null)
            {
                MessageBox.Show(initializeException.ToString(), "Error");
            }
        }
    }
}
}

```



```
        return;
    }
    _session = resultSession.Clone();
    MessageBox.Show(string.Format("Logged in
as {0}", _session.User.User.Name));
    });
    });
});
```

3. Add Service Request

```

private void AddServiceRequest()
{
    RequestServicesManager _requestManager = new RequestServicesManager();
    stcRequest request = new stcRequest();
    request.Id = 0; //int
    request.WKF = clsEnumeration.hsWorkflow.WF_QUEUE;
    request.WKFId = 1; // Queue id
    request.Status = clsEnumeration.hsStatus.STS_IN_QUEUE;
    request.ObjectTypeId = 0; //Generic Service Request [For Custom types, we
    have to pass appropriate values]
    request.Title = "Request Created From SDK"; //string
    request.Requester = new stcListItem() { Name = "HS Admin", Id = 1 };
    request.DateLogged = DateTime.Now;
    request.Priority = clsEnumeration.hsPriority.PRI_CRITICAL;
    request.ProblemTypeId = 30048; // valid category id
    request.Memo = new stcMemo() //To set the first Memo
    {
        AuthorId = 1,
        DateWorked = DateTime.Now,
        MemoTime = DateTime.Now,
        FormatType = clsEnumeration.HsMemoFormatType.Text,
        Memo = "Request created from ServicePRO SDK",
        Type = 16387
    };
    ObservableCollection<stcUserFieldsTableValue> udfData = new
    ObservableCollection<stcUserFieldsTableValue>(); //to be populated with values for
    Custom Fields if it's a Custom Type Service Request

    _requestManager.SaveRequest(_session.Key, request, new
    ObservableCollection<stcAttachmentFolder>(),
    new
    ObservableCollection<HelpSTAR.Hybrid.Common.stcAttachment>(), //No Attachments
    udfData, new
    ObservableCollection<stcFollowUp>(), //No Reminders
    null, DateTime.Now,
    new int[] { }, new stcRequest[] { }, null,
    clsEnumeration.UpdateRecurrenceItemPrompt.None, null, null, null,
    (stcRequest savedRequest, Exception ex) =>
    {
        if (ex != null)
        {
            ex.ToString(), "ServicePRO");
            return;
        }
        else
        {
            savedRequest.Id + " Added Successfully");
        }
    });
}

```

4. Add Memo

```

private void AddMemo()
{
    RequestServicesManager _requestManager = new RequestServicesManager();

    //First get the request
    _requestManager.GetRequest(_session.Key, 1579, false,
        (stcRequest request, int repMemoCount, stcPrivilegeRequest
requestPrivileges, bool hasAttachments, bool isPinned, Snapshot snapshotVersion,
Exception ex)=>
    {
        if (ex != null)
        {
            MessageBox.Show(ex.ToString());
            return;
        }
        //Success operations
        //Structure request contains the service request detail data;
        stcMemo _stcMemo = new stcMemo();
        _stcMemo.RequestId = 1579;
        _stcMemo.AuthorId = 1;
        _stcMemo.Memo = "New memo from SDK";
        _stcMemo.FormattedMemo = ""; // formatted HTML string

        if (!string.IsNullOrEmpty(_stcMemo.FormattedMemo) &&
            _stcMemo.FormatType == clsEnumeration.HsMemoFormatType.Text)
            _stcMemo.FormatType = clsEnumeration.HsMemoFormatType.Html;

        _stcMemo.TimeCode = clsEnumeration.hsTimeCode.Time1;
        _stcMemo.PrivateMemo = true;
        _stcMemo.Type = 16387; // int value
        _stcMemo.SecondsWorked = 3; //int
        _stcMemo.DateWorked = DateTime.Now; // datetime value

        request.Memo = _stcMemo; //add the memo to the request
        ObservableCollection<stcUserFieldsTableValue> udfData = new
ObservableCollection<stcUserFieldsTableValue>(); //to be populated with values for
Custom Fields if it's a Custom Type Service Request
        Concurrency concurrencyLocker = new Concurrency() { ObjectId =
1579, Status = clsEnumeration.ConcurrencyStatus.None };
        //save the request with the new memo
        _requestManager.SaveRequest(_session.Key, request, new
ObservableCollection<stcAttachmentFolder>(),
new
ObservableCollection<HelpSTAR.Hybrid.Common.stcAttachment>(), //No Attachments
udfData, new
ObservableCollection<stcFollowUp>(), //No Reminders
null, DateTime.Now,
new int[] { }, new stcRequest[] { }, null,
clsEnumeration.UpdateRecurrenceItemPrompt.None, concurrencyLocker, null, null,
(stcRequest savedRequest, Exception e) =>
        {

```

```
e.ToString(), "ServicePRO");

        if (e != null)
        {
            MessageBox.Show("Error\r\n" +
                e.ToString(), "ServicePRO");
            return;
        }
        else
        {
            MessageBox.Show("Memo added to Request
                #" + savedRequest.Id + " Successfully");
        }
    });
}
```

5. Sample: Create new best solution

```
private void CreateNewBestSolution()
{
    KnowledgeBaseServiceManager _knowledgebaseManager = new
KnowledgeBaseServiceManager();

    var addSolution = new stcSolution()
    {
        AuthorId = 1,
        DateCreated = DateTime.Now,
        DateLastModified = DateTime.Now,
        DateMemoCreated = DateTime.Now,
        Hits = 0,
        SolutionStatus = clsEnumeration.hsSolutionStatus.hsDraft,
        RevisionNumber = 1,
        LastRevision = 0,
        NextRevision = 0,
        FolderId = 1, //Valid Folder ID
        InActive = false,
        StandardMemo = "test best solution detail",
        ProblemDescription = "This is the problem description", //String value
        FormatType = clsEnumeration.HsMemoFormatType.Html,
        FormattedMemo = "test best solution detail",
        ProblemTypeId = 30048, //category id
        ObjectTypeId = 0, // generic best solution
        Id = 0,
        Title = "Best Solution Title", //String value
    };

    List<int> _checkedReferenceSolutionList = new List<int>();
    _knowledgebaseManager.SaveSolution(addSolution, true,
_checkedReferenceSolutionList, null, _session.Key, (stcSolution solution, int result,
Exception ex) =>
    {
        if (ex == null)
        {
            //Success operations
        }
        else
        {
            //Prompt the user with the details on the exception
        }
    });
}
```

6. Sample: Add Asset

```
private void AddAsset()
{
    ManageObjectsServicesManager _objectManager = new
    ManageObjectsServicesManager();

    stcAsset Asset = new stcAsset();
    Asset.ObjectTypeId = 0;
    Asset.Tag = (Asset.Tag == null ? string.Empty : Asset.Tag);
    Asset.Name = "SDK Asset Name";
    Asset.Qty = 1;

    _objectManager.SaveAsset(_session.Key, new List<stcAsset> { Asset },
    Asset.Name, new List<stcUDFParamsIndexed>() { new stcUDFParamsIndexed() },
    (stcServiceResult result, Exception ex) =>
    {
        if (ex != null)
        {
            //Prompt the user with the details on the exception
        }
        if (result.IsSuccessful)
        {
            //Success operations
        }
    }
    );
}
```

7. Sample: Add Product

```

private void AddProduct()
{
    ManageObjectsServicesManager _objectManager = new
ManageObjectsServicesManager();

    stcProduct Product = new stcProduct();
    Product.Id = 0;
    Product.Name = "SDK Product Name";
    Product.Description = "This is my product.";
    Product.ObjectTypeId = 0; //Generic Product
    Product.CompanyId = 1;
    Product.InActive = false;

    stcCompanyProduct[] hsCompanyProducts = null;
    int[] deletedVendors = null;
    stcUserFieldsTableValue[] theUDFValues = null;

    if (!string.IsNullOrEmpty(Product.Name))
    {
        _objectManager.SaveProduct(_session.Key, Product, hsCompanyProducts,
deletedVendors, theUDFValues,
        (stcProduct ResultProduct, stcServiceResult result, Exception ex)
=>
        {
            if (ex != null)
            {
                MessageBox.Show(ex.ToString(), "Error!");
            }
            if (result.IsSuccessful)
            {
                //Success operations
                MessageBox.Show("Product [" + ResultProduct.Name + "]
added successfully!");
            }
            else
            {
                MessageBox.Show(result.Message);
            }
        });
    }
    else
    {
        MessageBox.Show("Name cannot be empty!");
    }
}

```

8. Sample: Get Service Request

```
private void GetServiceRequest()
{
    RequestServicesManager _requestManager = new RequestServicesManager();

    _requestManager.GetRequest(_session.Key, 1579, false,
        (stcRequest request, int repMemoCount, stcPrivilegeRequest
requestPrivileges, bool hasAttachments, bool isPinned, Snapshot snapshotVersion,
Exception ex)=>
    {
        if (ex != null)
        {
            MessageBox.Show(ex.ToString());
        }
        //Success operations
        //Structure request contains the service request detail data;
    }
    );
}
```


9. Sample: Get Quick Message

```
private void GetQuickMessage()
{
    RequestServicesManager _requestManager = new RequestServicesManager();
    int requestId = 1579;
    clsEnumeration.hsSortDirection sort = clsEnumeration.hsSortDirection.Asc;
    int startRow = 0;
    int endRow = 200;

    _requestManager.GetRequestQuickMessagesAndReminders(_session.Key,
requestId, sort, startRow, endRow,
        (int rowCount, ObservableCollection<Dictionary<string, object>>
result, ObservableCollection<Dictionary<string, object>> authorAvatars, Exception
serviceException) =>
        {
            if (serviceException != null)
            {
                MessageBox.Show(serviceException.ToString());
                return;
            }
            else
            {
                //Success operations
            }
        }
    );
}
```

10. Sample: Get Folder by ID

```
private void GetFolderById()
{
    RequestServicesManager _requestManager = new RequestServicesManager();

    int _queueId = 1; //any valid ID from tblqueue
    stcQueue _selectedQueue;
    _requestManager.GetQueueDetails(_session.Key, _queueId,
    (stcQueue queueDetails, Exception ex) =>
    {
        if (ex != null)
        {
            MessageBox.Show(ex.ToString(), "Error");
            return;
        }
        _selectedQueue = queueDetails;
    });
}
```

11. Sample: Get User by ID

```
private void GetUserById()
{
    ManageObjectsServicesManager _objectManager = new
    ManageObjectsServicesManager();
    int _UserId = 1; //any valid ID from tbluser
    _objectManager.GetUser(_session.Key, _UserId,
        (stcUserDTO result, string hexMessage, Exception ex)=>
        {
            if (ex == null)
            {
                //Success operations
            }
            else
            {
                //Prompt the user with the details on the exception
            }
        }
    );
}
```