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MS Sharepoint & Oracle APEX



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1,154

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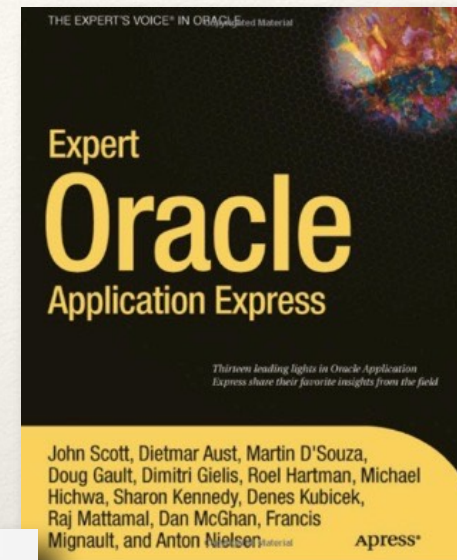


Edit your profile

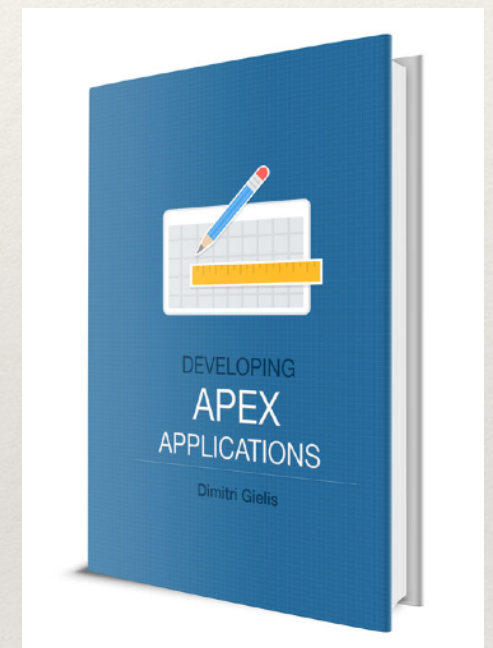
Oracle ACE Director



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APEX R&D
research & development



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WORLD

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DOAG

OGh



COLLABORATE

TECHNOLOGY AND APPLICATIONS FORUM
FOR THE ORACLE COMMUNITY

Agenda

- ❖ Why integrate MS Sharepoint and Oracle APEX?
- ❖ Architecture
- ❖ Oracle APEX (data, screens) in MS Sharepoint
- ❖ MS Sharepoint (data, screens) in Oracle APEX
- ❖ Conclusion

Why integrate MS Sharepoint
and Oracle APEX?

About MS Sharepoint

“Organizations use SharePoint to create websites. You can use it as a secure place to store, organize, share, and access information from almost any device. All you need is a web browser.”

Source: Microsoft website

WHAT IS SHAREPOINT?

CREATE WEBSITES, STORE DATA, CONSUME, RICH SERVICES AND BUILD APPS WITH SHAREPOINT

CREATE COLLABORATION SITES, INTRANETS, AND PUBLIC-FACING WEBSITES



CREATE

Quickly **create** compelling and easy-to-use websites



SHARE

Create and **share** intranets, public-sharing websites, or team collaboration sites within your organization



CUSTOMIZE

Use your web-authoring skills to **customize and personalize** your websites to suit your users' needs using an intuitive web UI

LEVERAGE SETS OF SERVICES TO POWER YOUR WEBSITES



SURFACE
YOUR APPS BY USING CLOUD SERVICES AND WEB TECHNOLOGIES THROUGH ENDPOINTS PROVIDED BY SHAREPOINT



OFFICE STORE

Reach millions of customers by publishing your app to the Office Store or **control access** by publishing only to your corporate app catalog



BUILD

Integrate the best of the cloud and the web with SharePoint

SAVE
AND ACCESS
STRUCTURED OR UNSTRUCTURED DATA THROUGH A VARIETY OF OPTIONS IN SHAREPOINT

SAVE

Use SharePoint lists and libraries to store the data that is accessed by your users and apps



ACCESS

Access data from your pages and components using REST or one of the client object models, e.g., JavaScript



Sharepoint Site

Office 365

1

Outlook

Agenda

Mensen

Newsfeed

...

Beheerder ▾



BLADEREN

PAGINA

DELEN

VOLGEN

BEWERKEN



Introductiepagina

KOPPELINGEN BEWERKEN

oow14

Zoeken in deze site



Start

Notitieblok

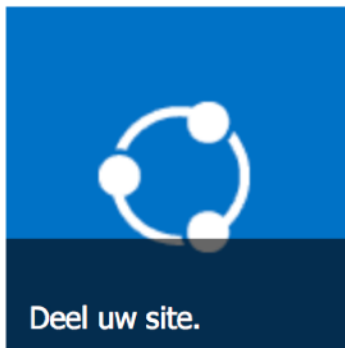
Documenten

Inhoud van site

KOPPELINGEN BEWERKEN

Aan de slag met uw site

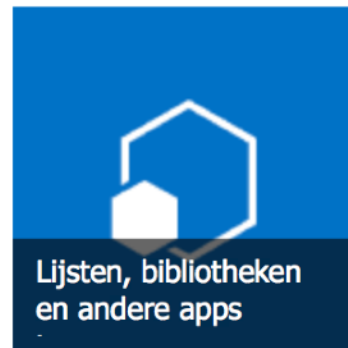
VERWIJDER DEZE



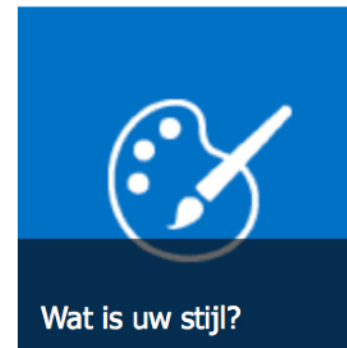
Deel uw site.



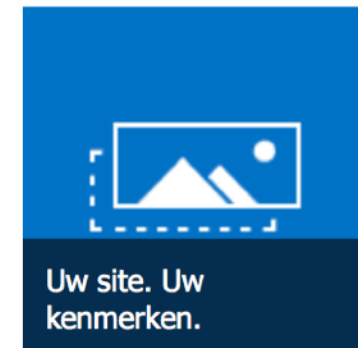
Werkt u aan een deadline?



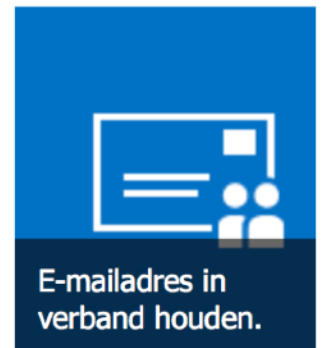
Lijsten, bibliotheken en andere apps



Wat is uw stijl?



Uw site. Uw kenmerken.



E-mailadres in verband houden.

Nieuwsfeed

Een gesprek starten

Het is hier vrij rustig. U kunt meer personen voor de site [uitnodigen](#) of een gesprek [starten](#).

Documenten

[+ nieuw](#) [↑ uploaden](#) [bewerken](#) [delen](#)

✓ Naam

Er zijn geen documenten in deze weergave.

About Oracle APEX

“Oracle Application Express (Oracle APEX) is Oracle's primary tool for developing Web applications with SQL and PL/SQL. Using only a web browser, you can develop and deploy professional Web-based applications for desktops and mobile devices.”

Source: Oracle Technet

About Oracle APEX

Oracle Application Express

apexea.oracle.com

Reader

ORACLE Application Express

Application Builder SQL Workshop Team Development Apps


Application Builder


SQL Workshop


Team Development


Apps

Top Applications

	Employees and Departments	642
	Sample Database Application	398
	P-Track	37
	Survey Builder	29
	Sample Wizards	12

Top Users

	Hilary	3,676
	Allan	2,693
	Shakeeb	2,603
	Christina	2,425
	Jason	979

News and Messages

 Please use this workspace for development only.
Workspace Notification

 03 JUN The build is complete.
john 2 weeks ago

 23 APR Routine Update
Allan 7 weeks ago

About

Application Express is a rapid Web application development tool that lets you share data and create applications. Using only a Web browser and limited programming experience, you can develop and deploy applications that are fast and secure.

Dashboard

42
Applications

123
Tables

99
Features

8
Packaged Apps

Site-Specific Tasks

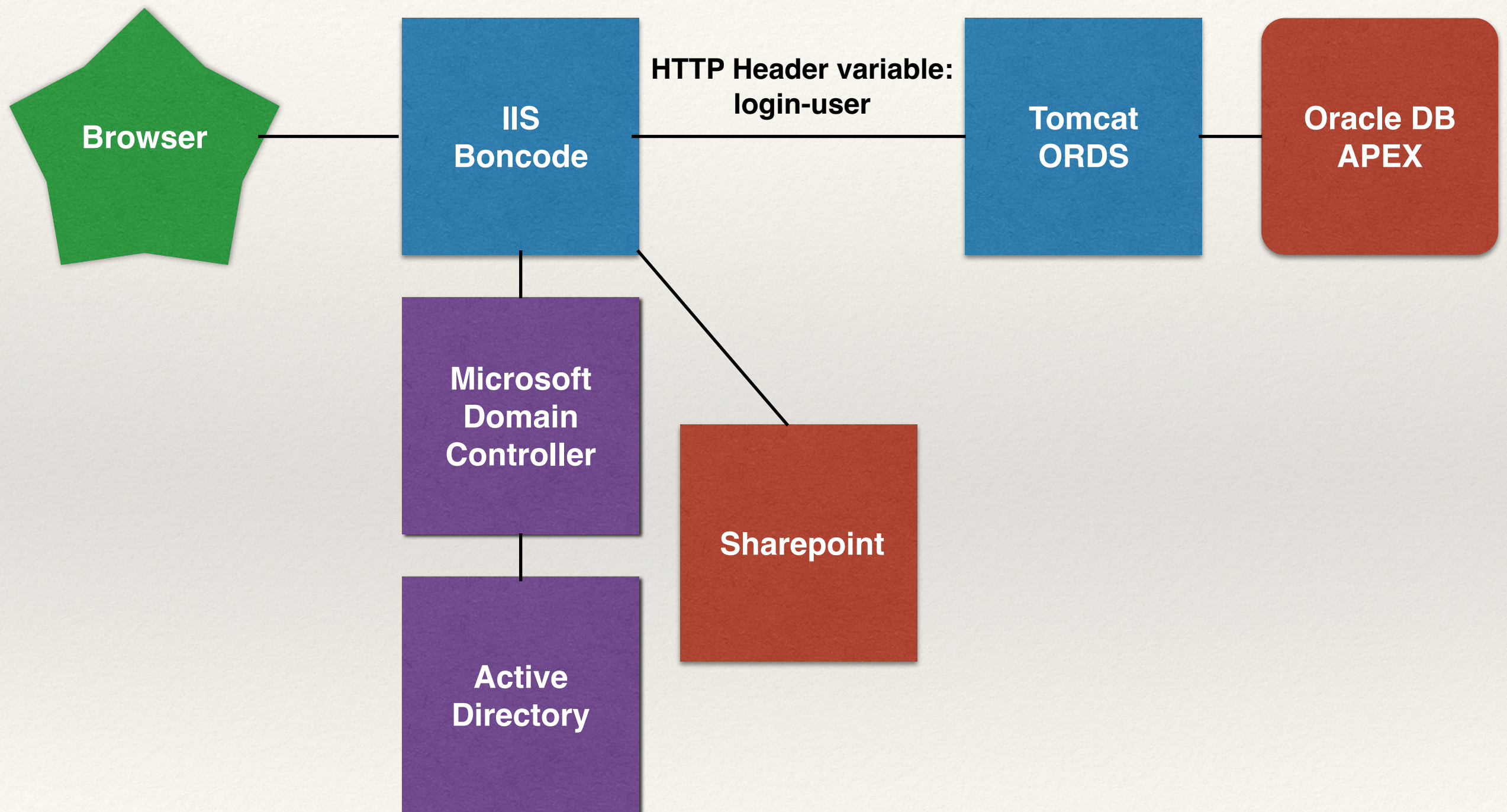
[Site Specific Task on Home](#)

Why integrate MS Sharepoint and Oracle APEX?

- ❖ Where is your knowledge?
- ❖ Use the power of both...
- ❖ Sharepoint as your first stop
 - ❖ See immediate tasks and context of the broader picture
(data coming from everywhere, screens from APEX)
- ❖ APEX to create your applications
 - ❖ Even use data from Sharepoint

Architecture

Architecture



Oracle APEX data in MS Sharepoint

Oracle APEX data in MS Sharepoint

- ❖ Connect directly to the Oracle database
 - ❖ Sharepoint Designer 2013
 - ❖ App with Visual Studio
 - ❖ Microsoft Business Connectivity Services (BCS)
 - ❖ Oracle Data Provider for .NET
 - ❖ 3rd party connector (e.g. Layer2)

Direct connection to Oracle DB

Configure Database Connection

Connect to a Database Server
Enter the information required to connect to the database server.

1. Server information

Server Name:

Example: my-server

Provider Name:

2. Authentication

☐ Save this username and password in the data connection

User name:

Password:

☐ Use Single Sign-On authentication

☒ Use custom connection string

< Back Next > Cancel

An example of an Oracle connection string:
Data Source=myDatabase;User Id=username;
Password=password;Integrated Security=no;

Oracle APEX data in MS Sharepoint

- ❖ Use of REST web services
 - ❖ Oracle REST Data Services (ORDS)

REST access

RESTful Service

oracle.example.hr



empinfo/



GET

+ Create Handler



employees/



GET

+ Create Handler



employees/{id}



GET

+ Create Handler



employeesfeed/



GET

+ Create Handler



employeesfeed/{id}



GET

+ Create Handler



empsec/{empname}



GET

RESTful Service Module: oracle.example.hr

Cancel

Delete

Apply Changes

RESTful Service Module

A RESTful Service Module is a grouping of common templates under a common URI prefix. This prefix is prepended to all templates.

* Name oracle.example.hr

URI Prefix hr/

Origins
Allowed

Required
Privilege

- Assign Privilege -

*
Pagination
Size

10

Status

Published

Example

Uniform Resource Identifier (URI)

hr/employees/{ID}

| | |

| | |

-Handler Bind Variable

Sharepoint List filled with data

BROWSEITEMSLIST



Portal Home

EDIT LINKS

Employees

+ new item

 or

edit

 this list

All Items

...

Find an item

✓	Title	
	KING	...
	BLAKE	...
	CLARK	...
	JONES	...
	SCOTT	...

Home

Documents

Recent

Employees

custom_list

l

k

pp

Site Contents

Oracle APEX screen in MS Sharepoint

Oracle APEX screen in MS Sharepoint

Office 365

OutlookCalendarPeopleNewsfeedOneDriveSites...Admin

BROWSEPAGE

SHAREFOLLOWEDIT

Search this site

HomeUS

EDIT LINKS

Home

NotebookDocumentsSite Contents

EDIT LINKS

Screen from APEX

First Name	Last Name	City	Postal Code	Credit Limit	Email
John2	Dulles	Sterling	20166	1000	
William	Hartsfield	Atlanta	30320	1000	
Edward	Logan	East Boston	02128	1000	
Edward "Butch"	OHare	Chicago	60666	1000	
Fiorello	LaGuardia	Flushing	11371	1000	
Albert	Lambert	St. Louis	63145	1000	
Eugene	Bradley1	Windsor Locks	06096	1000	

1 - 7

Download

Documents

newuploadeditshare

✓ Name

There are no documents in this view.

Admin ▾







 SHARE

 FOLLOW

 EDIT



BROWSE

PAGE

FORMAT TEXT

INSERT



Table

Tables



Picture

Video and Audio

Media



Link

Upload File

Links



App Part

Web Part

Parts



Embed Code

Embed



BROWSE

PAGE

FORMAT TEXT

INSERT

SHARE

FOLLOW

SAVE

Table
▼

Tables

Picture
▼

Media

Video and
Audio
▼Link
▼

Links

Upload
FileApp
Part

Parts

Web
PartEmbed
Code

Embed

Categories

- Community
- Content Rollup
- Document Sets
- Filters
- Forms
- Media and Content
- Search
- Search-Driven Content
- Social Collaboration

Upload a Web Part ▾

Parts

- Content Editor
- Get started with your site
- Image Viewer
- Media Web Part
- Page Viewer
- Picture Library Slideshow Web Par
- Script Editor
- Silverlight Web Part

About the part

Page Viewer

Displays another Web page on this Web page. The other Web page is presented in an IFrame.

Add part to: Rich Content ▾

Add

Cancel

Page Viewer



To link to content, [open the tool pane](#) and then type a URL in the **Link** text box.

Page Viewer

Select whether you want to display a file, folder, or Web page in the Page Viewer Web Part.

- ☒ Web Page
☐ Folder
☐ File

Link

To specify a link, type a URL or path. ([Test Link](#))

☐ Appearance

☐ Layout

☐ Advanced

Other use case: Modal Dialog

MS Sharepoint **data** in Oracle APEX

MS Sharepoint data in Oracle APEX

- ❖ Connect to SQL Server database directly
 - ❖ Great for one-off migration
- ❖ REST API
- ❖ (JavaScript API)

Direct database connection

A little bit of everything

Mostly an Oracle APEX blog

[Home](#)[Presentations](#)[About](#)

[Home](#) › [Oracle](#) › [APEX](#) › SharePoint to Oracle data conversion

SharePoint to Oracle data conversion

Posted on [September 6, 2014](#) by [Jorge Rimblas](#) — [4 Comments](#) ↓

The purpose of this post is to document the process I used to convert the data from a Microsoft [SharePoint](#) site to an Oracle database with an APEX front end. However, there won't be much about APEX in this post, sorry. This one is all about the data conversion.

Sure, SharePoint does allow you to easily export its data to flat file or Excel, however this approach doesn't scale too well when you need to repeat and test your conversion scripts several times. I was dealing with 20 source lists (think tables) that needed to be extracted, transformed and mapped into their final Oracle tables. It was clear that we needed repeatability in the conversion process and thus connecting directly to the Microsoft SQL Server schema and moving the data over to Oracle was a better approach.

Oracle APEX



REST API

Office development > Apps for Office and SharePoint > Apps for SharePoint references > REST API reference and samples

- ▶ Office development
- ▶ Apps for Office and SharePoint
- ▶ Apps for SharePoint references
 - ▲ **REST API reference and samples**
 - Lists and list items REST API reference
 - Fields REST API reference
 - Files and folders REST API reference
 - Users, groups, and roles REST API reference
 - Webs REST API reference
 - User profiles REST API reference
 - Complex types in the SP namespace

REST API reference and samples

apps for Office and SharePoint | 5 out of 13 rated this helpful – [Rate this topic](#)

Find documentation on MSDN about the SharePoint 2013 representational state transfer (REST) interface.

This page contains links to commonly used REST resources that are available for SharePoint 2013 developers.

Last modified: August 27, 2014

Applies to: *apps for SharePoint | SharePoint Foundation 2013 | SharePoint Server 2013*

In this article

[SharePoint 2013 REST reference](#)
[SharePoint 2013 REST overviews](#)
[SharePoint 2013 REST code samples](#)
[Additional resources](#)

<http://msdn.microsoft.com/>

apex_web_service.make_rest_request

```
function sharepoint_request(p_url in varchar2,  
                           p_list in varchar2,  
                           p_view in varchar2) return clob is  
  
    l_clob clob;  
    l_parm_values varchar2(100);  
begin  
  
    l_parm_values := 'Display:1:0:{%LIST%}:{%VIEW%}';  
    l_parm_values := replace(l_parm_values, '%LIST%', p_list);  
    l_parm_values := replace(l_parm_values, '%VIEW%', p_view);  
  
    l_clob := apex_web_service.make_rest_request(  
        p_url => p_url,  
        p_http_method => 'GET',  
        p_username => GC_SP_USERNAME,  
        p_password => GC_SP_PASSWORD,  
        p_wallet_path => GC_WALLET_PATH,  
        p_wallet_pwd => GC_WALLET_PASSWORD,  
        p_parm_name => apex_util.string_to_table('Cmd:XMLDATA:RowLimit:List:View'),  
        p_parm_value => apex_util.string_to_table(l_parm_values)  
    );  
  
    return l_clob;  
end sharepoint_request;
```

Parse XML

```
l_data := sharepoint_request(p_url => 'https://sp.apexrnd.com/sites/oow/_vti_bin/owssvr.dll',
                             p_list => '4CDB8D83-9686-450A-8769-5665738A6DCB',
                             p_view => 'D25D22CF-79D8-43B6-9530-5D00F3F49B24');

l_xml := XMLType(l_data);

for r in (
with data as (select xmltype(l_data) as xml from dual)
select
  extractvalue(value(v), '/z:row/@ows_Session', 'xmlns:s="uuid:BDC6E3F0-6DA3-11d1-A2A3-00AA00C14882" xmlns:dt="uuid:C2F41010-65B3-11d1-A2A3-00AA00C14882"',
  extractvalue(value(v), '/z:row/@ows_Description', 'xmlns:s="uuid:BDC6E3F0-6DA3-11d1-A2A3-00AA00C14882" xmlns:dt="uuid:C2F41010-65B3-11d1-A2A3-00AA00C14882"',
  to_date(extractvalue(value(v), '/z:row/@Start_Date', 'xmlns:s="uuid:BDC6E3F0-6DA3-11d1-A2A3-00AA00C14882" xmlns:dt="uuid:C2F41010-65B3-11d1-A2A3-00AA00C14882"',
from
  data t,
  table(xmlsequence(extract(t.xml, '/xml/rs:data/z:row', 'xmlns:s="uuid:BDC6E3F0-6DA3-11d1-A2A3-00AA00C14882" xmlns:dt="uuid:C2F41010-65B3-11d1-A2A3-00AA00C14882"',
) loop
  ...
end loop;
```

MS Sharepoint screen in Oracle APEX

MS Sharepoint screen in Oracle APEX

- ❖ Useful?
- ❖ Part of screen?
- ❖ HTTP vs HTTPS

MS Sharepoint screen in Oracle APEX

MS Sharepoint site

APEX R&D
research & development

Introdectiepagina Informatie **Contact opnemen** Aanwijzingen Blog

APEX R&D
+32 16 298447
info@apexrnd.be

Openingstijden
Maandag-vrijdag: 09.00 tot 17.00 uur
Zaterdag: gesloten
Zondag: gesloten

Documenten

✓	Naam	Gewijzigd	Gewijzigd door
	apex_home	Gisteren om 17:08	Dimitri Gielis

APEX page

Sharepoint Integration

Home **Sharepoint in APEX Page**

Sharepoint Url

APEX R&D
+32 16 298447
info@apexrnd.be

Openingstijden
Maandag-vrijdag: 09.00 tot 17.00 uur
Zaterdag: gesloten
Zondag: gesloten

APEX: URL Region

☐ URL



Source

Region Source

```
https://apexrnd-public.sharepoint.com/contact-opnemen
```

Discard HTML until

```
<div class="twoColumnLeftLayout-left-inner twoColumnLeftLayout-left-inner-Contact-opnemen">
```

Discard HTML after

```
<div class="layout-col twoColumnLeftLayout-right
```

HTTP vs HTTPS



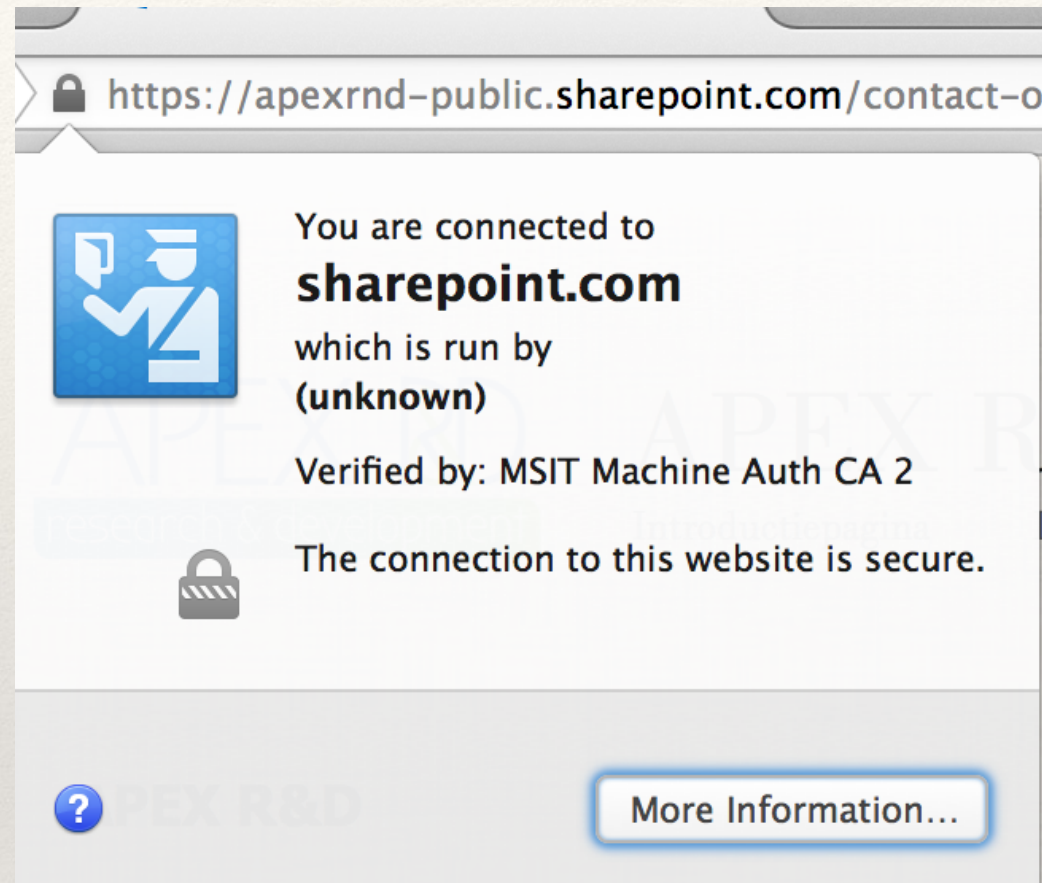
Error during rendering of region "Sharepoint Url".

ORA-29273: HTTP request failed ORA-06512: at "SYS.UTL_HTTP", line 1819 ORA-29024: Certificate validation failure

> [Technical Info \(only visible for developers\)](#)



HTTPS: Configure Oracle Wallet



```
$ orapki wallet create -wallet /u01/app/oracle/admin/DB11G/wallet -pwd WalletPasswd123 -auto_login
```

```
$ orapki wallet add -wallet /u01/app/oracle/admin/DB11G/wallet -trusted_cert -cert "/host/BaltimoreCyberTrustRoot.crt" -pwd WalletPasswd123
```

APEX: PL/SQL Region before URL

Identification

Page: 3 Sharepoint in APEX Page

*

Title

Set Wallet

☐ exclude title from translation

Type

PL/SQL (anonymous block)

Source

Region Source

```
UTL_HTTP.set_wallet('file:/u01/app/oracle/product/11.2.0/db_1/owm/wallets/oracle', 'xxxx');
```

Live Demo

Conclusion

- ❖ Why integrate MS Sharepoint and Oracle APEX?
- ❖ Architecture
- ❖ Oracle APEX (data, screens) in MS Sharepoint
- ❖ MS Sharepoint (data, screens) in Oracle APEX

Q&A

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Consulting, Development, Training

- ❖ Looking for consulting, training and development in Oracle Application Express (APEX)?
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- ❖ Mail : info@apexRnD.be