



Break the E-Business Suite Jail with APEX

insum

Sylvain Martel

- Oracle EBS-APEX Practice Director
- 30 years+ in IT
- 20 years with EBS
- APEX Developer since 2007
- Presenter at Open World, Collaborate, ODTUG, Alliance
-  @InsumSmartel
- Email: smartel@insum.ca
-  [linkedin.com/in/insumSmartel](https://www.linkedin.com/in/insumSmartel)





Custom
Development,
Cloud, Forms
Modernization,
EBS Extensions

Consulting,
Coaching, and
Team
Augmentation

Maintenance
and
Enhancement
Service for apps
built with APEX

Committed to
APEX Innovation
& Best Practices

Internationally
recognized staff
that includes
Oracle ACEs



500

Technology **Fast 500**
2017 CANADA **WINNER**

Deloitte.
Insum.ca



Vision

Our vision is to continue to be THE world's center of excellence for Oracle APEX.

Mission

Our mission is to help clients develop quality solutions built to handle ever-changing needs, on time and on budget.

16 years of excellence and innovation



Agenda

- Why Are We in Jail?
- Benefits of Web Services
- How APEX Can Help Your Organization
- Demo APEX With Web Services

Non-Scientific Survey!



Why Are We in Jail?

Why Are We in Jail?

Other mission critical systems

Other EBS instance, PeopleSoft or JD Edwards

It's often hard to get information in or out of EBS...

External Systems

Cloud Services or Hybrid Systems

Why are we in jail? – Data Exchange

E-Business Suite data exchange technology is cumbersome

Lots of efforts are required to transfer data back and forth

Most exchange methods are from other times

Execute an efficient process

Why Are We in Jail? Consequences for Your Organization

Requires people
to constantly
monitor
processes

Delays in
processing
transactions

Errors generated
by manipulating
files

This is...

2019

What do We Have to Do?



Eliminate legacy data
exchange processes

Easily expose data
using SQL or PL/SQL



Get ready for future cloud
or hybrid integration

What do We Have to Do?

APEX (with the help of ORDS) can help your organization with:

- Easy consumption of RESTful or SOAP web service
- Easy exposure of data using SQL or PL/SQL over RESTful services
- APEX development to interact with that information

Bonus Feature:

APEX and ORDS are a no-cost option!

Benefits of Web Services

The background of the slide is a solid green color. Overlaid on this background is a complex network of thin white lines. These lines are curved and intersect at various points, creating a web-like structure. At many of these intersection points, there are small white circular dots. The overall effect is that of a digital network or a data flow diagram.

What are Web Services?

Web services are typically **application programming interfaces (API)** or **web APIs** that are accessed via **Hypertext Transfer Protocol** and executed on a remote system hosting the requested services.

A **web API** is a development in web services where emphasis has moved to simpler **representational state transfer (REST)** based communications. **Restful APIs** do not require **XML-based web service protocols (SOAP and WSDL)** to support their interfaces.

What are Web Services?

SOAP Web Services



What are Web Services?

RESTful Style Web Services



What is a Web Service?

Technicalities

RESTful API can be defined in APEX / ORDS to read (GET) or populate (POST / PUT) data from external system or application using a standardized messaging system.



RESTful: communication method



JSON: messaging style

Regardless of the application or system used, the REST architecture can be used with JSON messaging as a data exchange language-agnostic platform.

What is a Web Service?

Technicalities

JSON, or JavaScript Object Notation, is a minimal, readable format for structuring data. It is used primarily to transmit data between a server and web application, as an alternative to XML.

```
{
  "firstName": "John",
  "lastName": "Smith",
  "address": {
    "streetAddress": "21 2nd Street",
    "city": "New York",
    "state": "NY",
    "postalCode": 10021
  },
  "phoneNumbers": [
    "212 555-1234",
    "646 555-4567"
  ]
}
```

Benefits of Web Services – APEX



REST SQL Support enables developers to create a REST SQL service to execute SQL or PL/SQL defined in APEX components on a remote source.



REST Service Consumption can use Web Sources as the data source for Classic Reports, Interactive Reports, Oracle JET Charts or the CSS Calendar.

Benefits of Web Services – APEX

In summary:

- Expose data as RESTful Web Services (message in JSON or CSV)
- Consume both RESTful and SOAP
- **RESTful data sources** on 18.1 facilitate consumption of RESTful web services

Starting with APEX 18.1,
an Oracle database is not the only source of data for APEX.



How APEX can Help Your Organization

How APEX can Help Your Organization

- Fully Supported
- No-cost option of the database (you already own it!)
- Proven low code development solution since 2004
- Reuses SQL and PL/SQL skillset of your organization
- Cloud Ready

How APEX can Help Your Organization

- EBS Patches do not impact APEX

(Regular regression testing is still required)

- EBS and APEX have different upgrade cycles

- APEX is certified against the database not EBS version

Application Express (APEX) Database and Web Server Certification Reference (Doc ID 1344948.1)



APEX Applications Using RESTful Web Services

APEX Using Web Services – Setting it up

- The database server must be physically able to establish a network connection to the remote server hosting the REST service.
- A Network-ACL (Access Control List) must be configured for the APEX user (**APEX_180100**) using the **DBMS_NETWORK_ACL_ADMIN** package.
- For HTTPS endpoints, it is required to have a wallet configured for your APEX instance. If not already done, create the wallet on the database server, then configure APEX to use the wallet.

Demo – Define a Service to Consume Data

First Example

Display the expenses
of the city Los Angeles Open Data initiative

Demo – Define a Service to Consume Data

Second Example

Display users information from EBS instance
OCI8 on EBS instance OCI9.

Synchronize the email address between OCI9 and OCI8.

Demo – Let's See Web Services in Action!



Save 100\$ Use Insum Promo Code INS19

ODTUG
Kscope19 
SEATTLE, WASHINGTON • JUNE 23-27

LARGEST GATHERING OF APEX PROFESSIONALS!



75+ APEX TECHNICAL SESSIONS

2018 HIGHLIGHT

3 DAY



JAVASCRIPT COURSE
BY DAN MCGHAN & JUERGEN SCHUSTER

3 DAYS OF APEX HANDS-ON TRAINING

“
This year was my first ODTUG Kscope conference in Orlando and my expectations were definitely exceeded! I had the opportunity to meet and share information with my colleagues from around the world. My highlights were the excellent sessions and the business networking. I'm looking forward to ODTUG Kscope19 in Seattle. – *Martin Vallejo, Insum Solutions*
”



OVER 65 ORACLE ACE EXPERTS IN ATTENDANCE



LEARN

- **Attend** a full-day Sunday Symposium by the Oracle APEX Development Team
- **Choose** from more than 75 APEX technical sessions
- **#LetsWreckThisTogether** APEX Lightning Talks



PARTICIPATE

- **Give back** to the local community with Community Service Day
- **Participate** in the first-rate Hands-On Training sessions
- **Volunteer** to be an ODTUG Kscope19 Ambassador



NETWORK

- **Mix and mingle** with the world's leading Oracle experts
- **Lunch & Learn** with ACE Directors, ACEs, and ACE Associates
- **Enjoy** fun and fellowship at Community Night


www.kscope19.odtug.com
REGISTER TODAY!