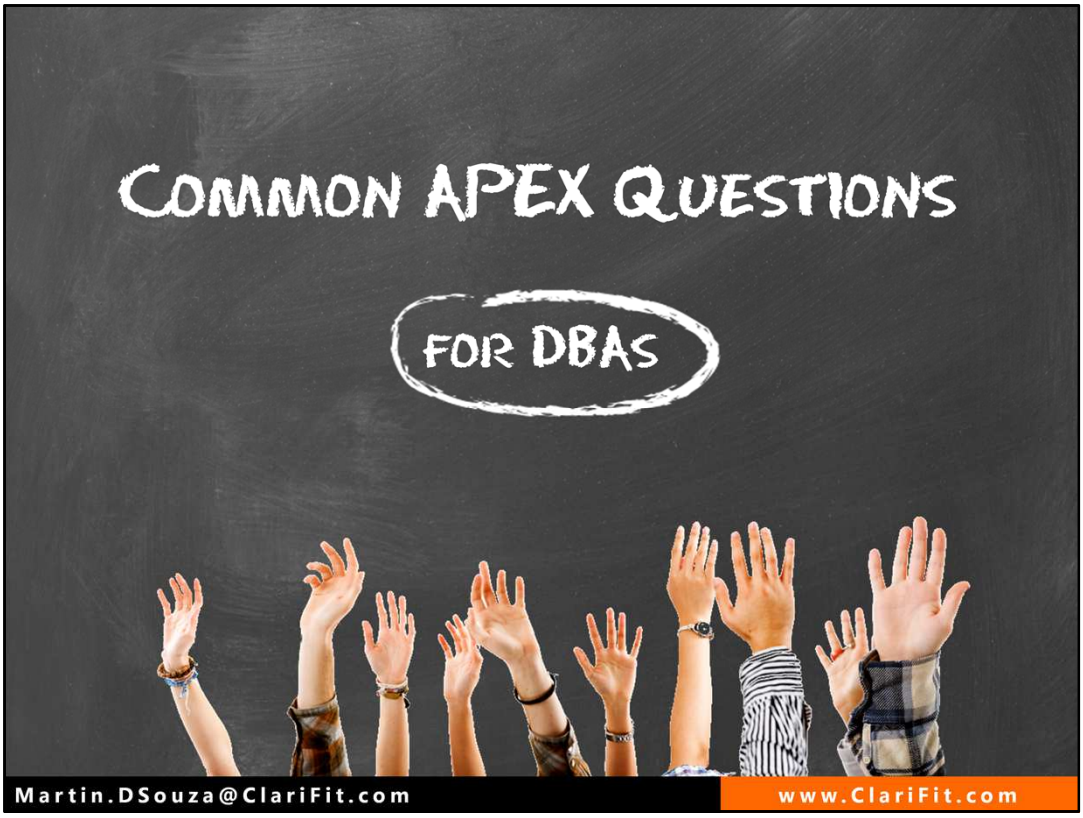


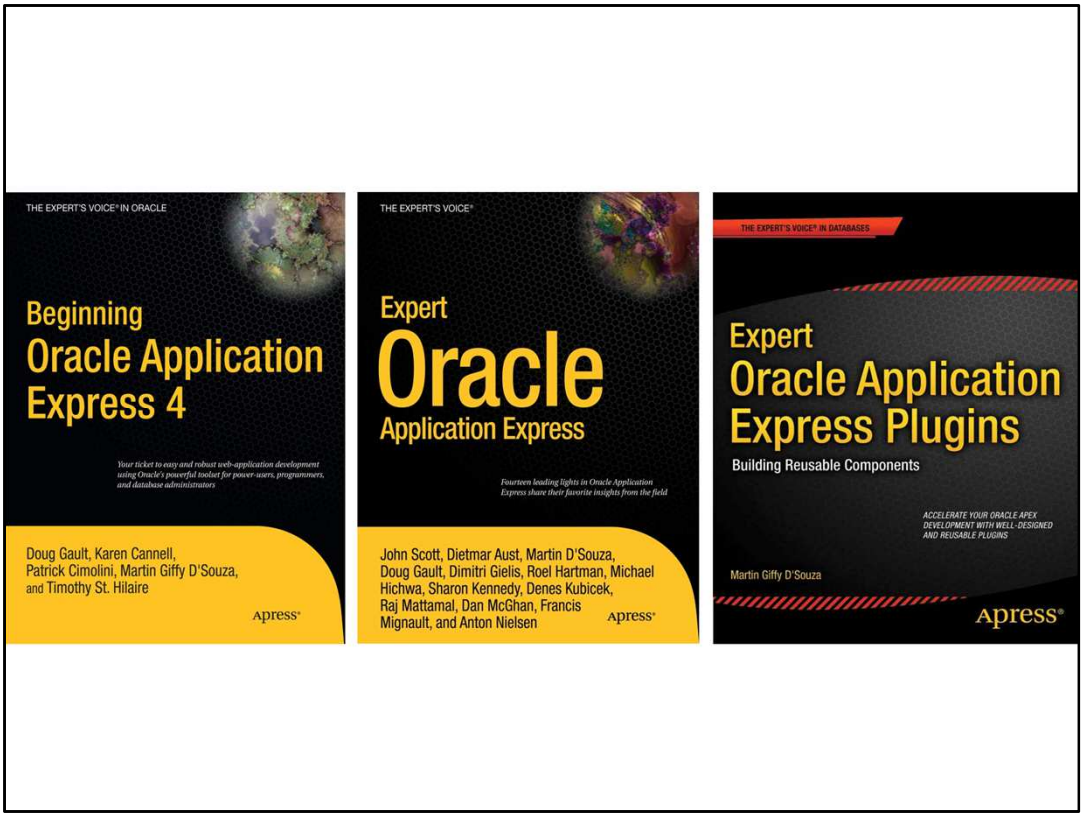
- Presented by Martin Giffy D'Souza
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Martin Giffy D'Souza



ORACLE ACE Director

- CTO and Co-founder at ClariFit: http://www.ClariFit.com
- Author of Oracle APEX blog: http://www.TalkApex.com
- Director for Oracle Development Tools User Group (ODTUG): http://www.odtug.com
- Oracle ACE Director

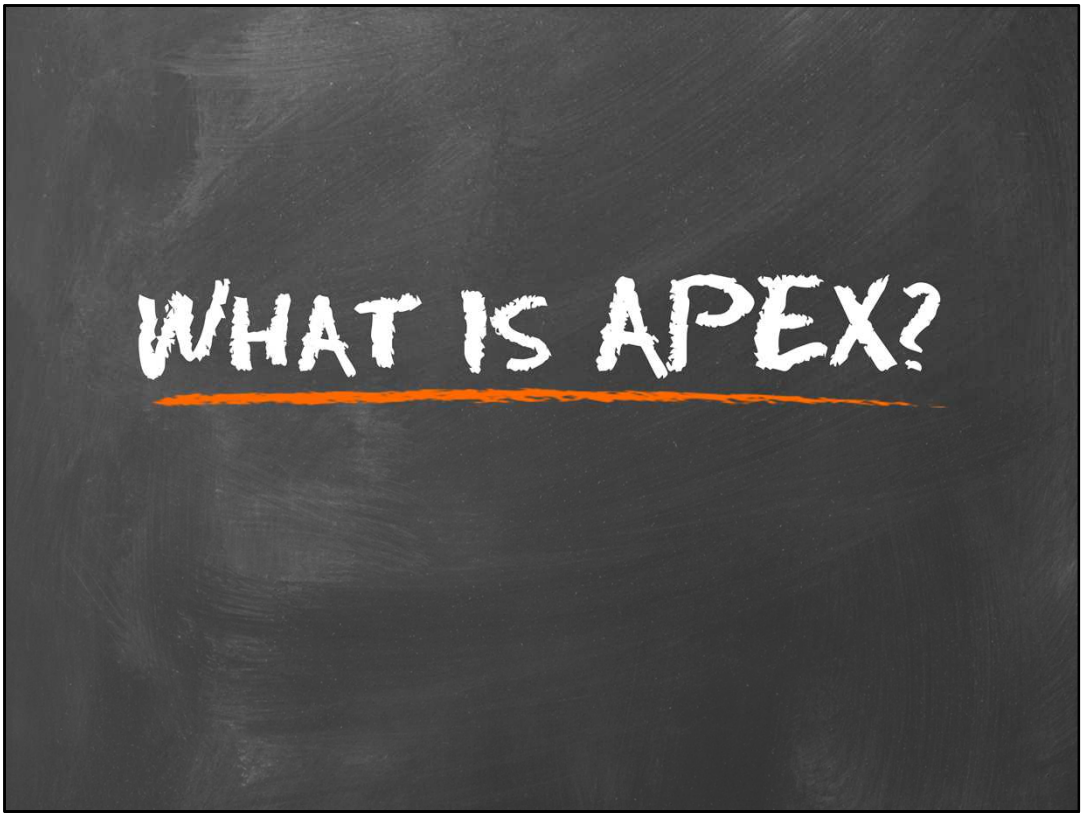


- Beginning Oracle Application Express 4: http://goo.gl/NxHoF
- Expert Oracle Application Express: http://goo.gl/tXm3P
- Expert Oracle Application Express Plugins: http://goo.gl/089zi

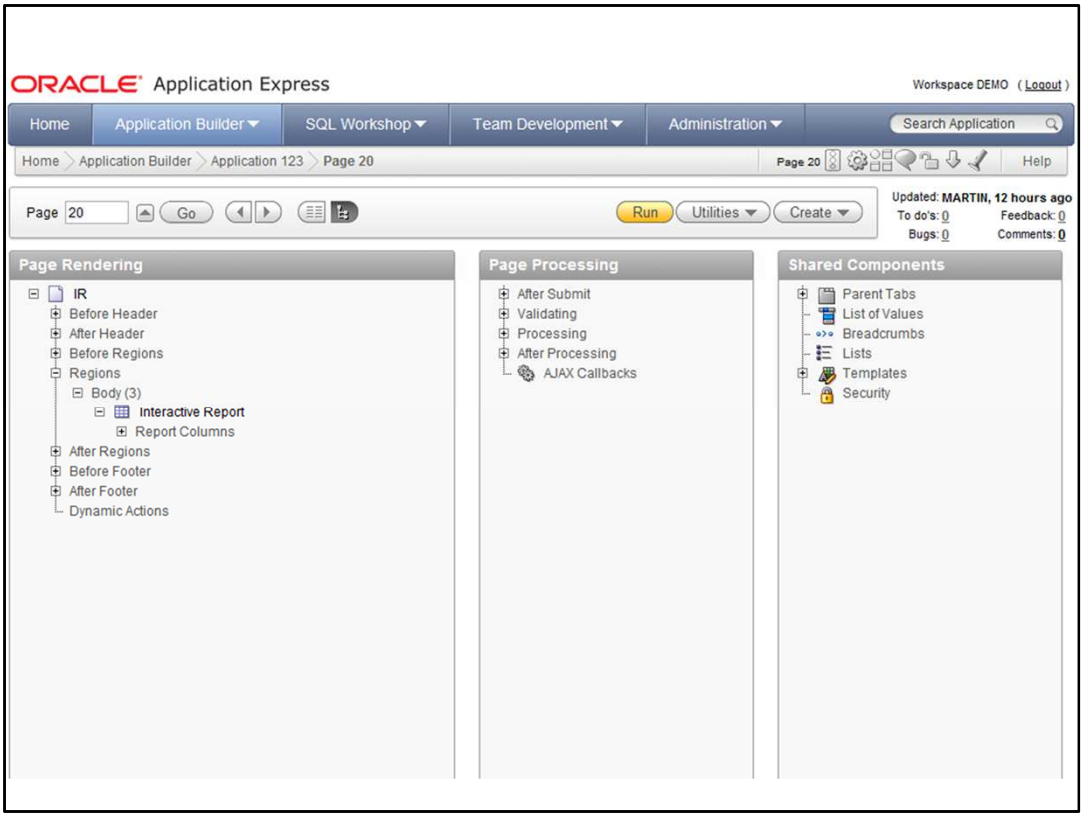


ClariFit is a Canadian based consulting firm that takes pride in delivering highly personalized IT solutions and training to companies across North America. Our client list boasts established Fortune 500 companies as well as smaller businesses that just need that extra hand to get across the finish line. We offer Oracle PL/SQL and APEX training and consulting services.

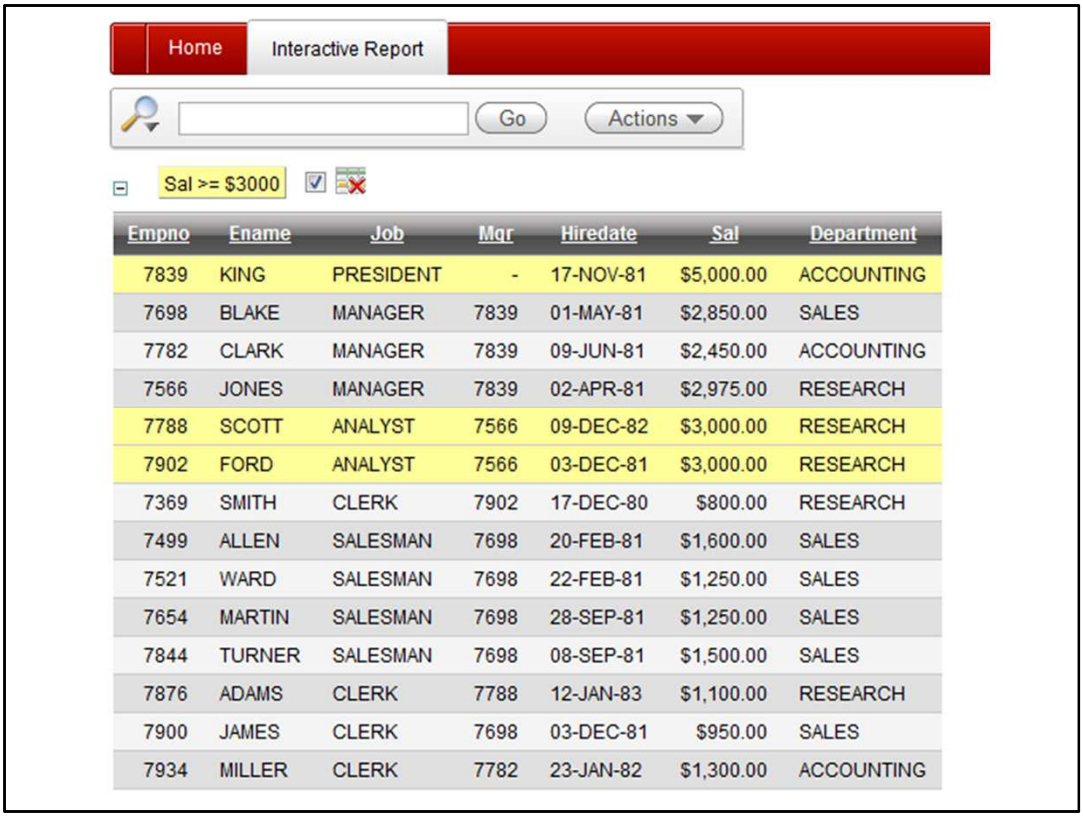
For more information please visit: http://www.ClariFit.com



- Rapid web application development tool
- No cost option from Oracle (i.e. it comes w. the database)
- Main advantage over other web scripting languages is that it is focused for Oracle developers. I.e. PL/SQL and SQL are languages to use.



- APEX apps built on the web
- No 3rd party tools required

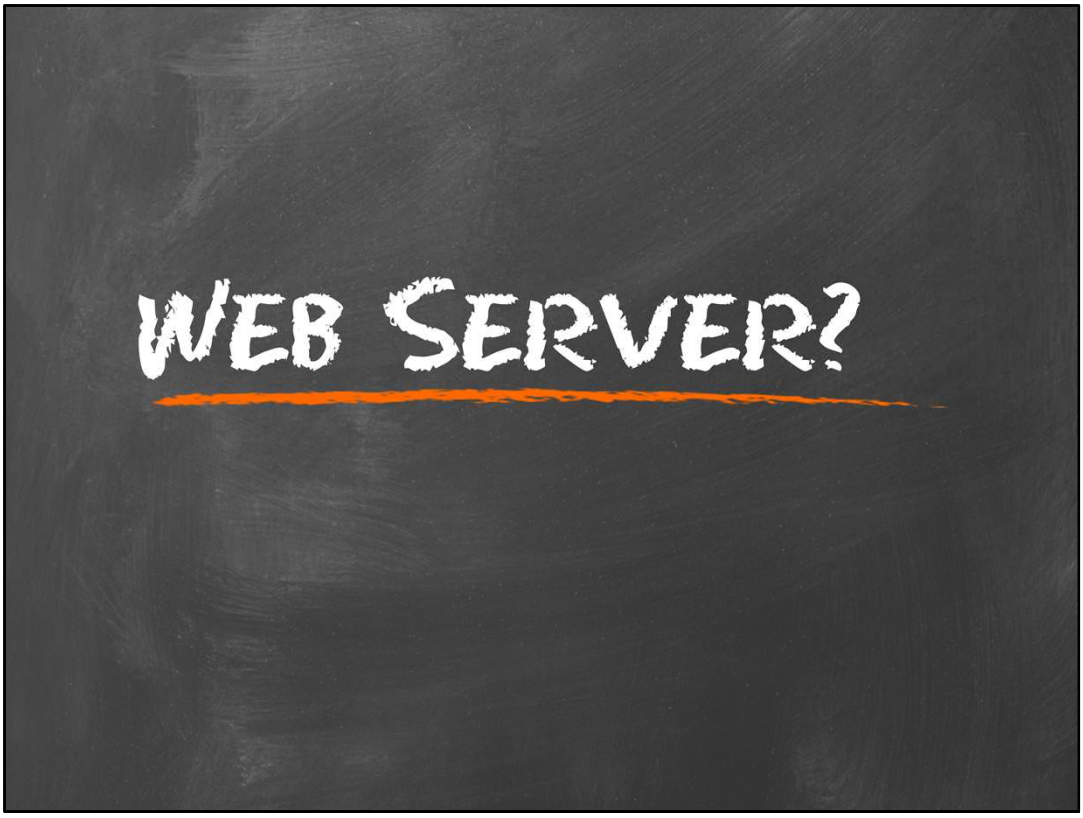


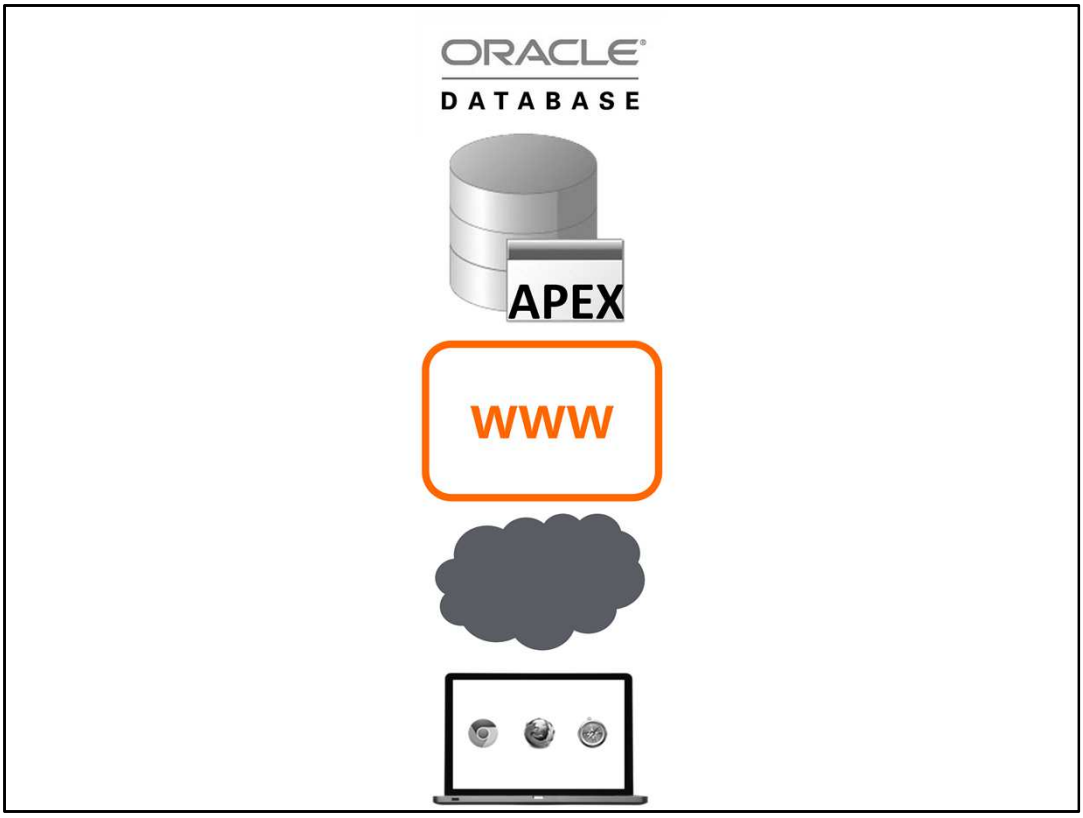
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7839	KING	PRESIDENT	-	17-NOV-81	$5,000.00	ACCOUNTING
7698	BLAKE	MANAGER	7839	01-MAY-81	$2,850.00	SALES
7782	CLARK	MANAGER	7839	09-JUN-81	$2,450.00	ACCOUNTING
7566	JONES	MANAGER	7839	02-APR-81	$2,975.00	RESEARCH
7788	SCOTT	ANALYST	7566	09-DEC-82	$3,000.00	RESEARCH
7902	FORD	ANALYST	7566	03-DEC-81	$3,000.00	RESEARCH
7369	SMITH	CLERK	7902	17-DEC-80	$800.00	RESEARCH
7499	ALLEN	SALESMAN	7698	20-FEB-81	$1,600.00	SALES
7521	WARD	SALESMAN	7698	22-FEB-81	$1,250.00	SALES
7654	MARTIN	SALESMAN	7698	28-SEP-81	$1,250.00	SALES
7844	TURNER	SALESMAN	7698	08-SEP-81	$1,500.00	SALES
7876	ADAMS	CLERK	7788	12-JAN-83	$1,100.00	RESEARCH
7900	JAMES	CLERK	7698	03-DEC-81	$950.00	SALES
7934	MILLER	CLERK	7782	23-JAN-82	$1,300.00	ACCOUNTING

- Interactive Report



- Ability to create charts and reports very quickly


WEB SERVER?



- APEX resides in the database



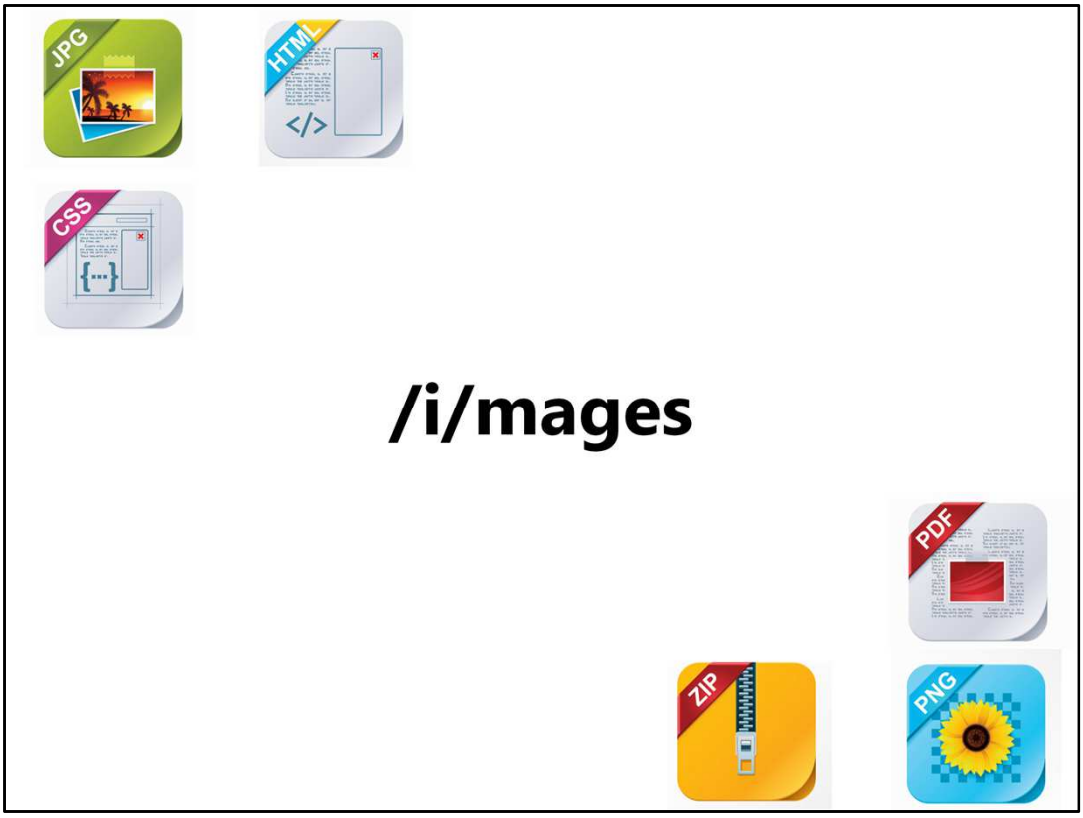
- Oracle HTTP Server (OHS)
  - Based off Apache
  - Mod_plsql
  - Most popular option due to Apache
- Embedded PL/SQL Gateway (EPG)
  - Embedded directly in the database

```
exec dbms_xdb.sethttpport(8080);

SELECT DBMS_XDB.GETHTTPPORT
FROM DUAL;
```

\Oracle\rdbms_scripts\epgstat.sql

- APEX Listener
  - J2EE
  - Can run off
    - Oracle Web Logic Server (WLS)
    - Oracle Glassfish Server and OC4J
    - Tomcat



- APEX requires that it hosts web files such as images, CSS, and JavaScript files
- The files must reside somewhere where the webserver can access them
    - Or can put on a 3rd party server
    - Ex: Content Delivery Network (CDN) or a different webserver in your domain
- By default APEX will use the /i/ directory
    - Each time you upgrade APEX it'll install the images there
    - DON'T put custom files there
- Custom files
    - Can bundle with the application (Not recommended)
        - Performance won't be as good
        - Difficult for developers to maintain
        - Only useful when reselling application
    - Put on a webserver
        - Can be any webserver
        - Avoid putting in /i/ directory
        - Create a second directory that developers can easily access
            - Ex: /clarifit/ instead of /i/


Release
Management?

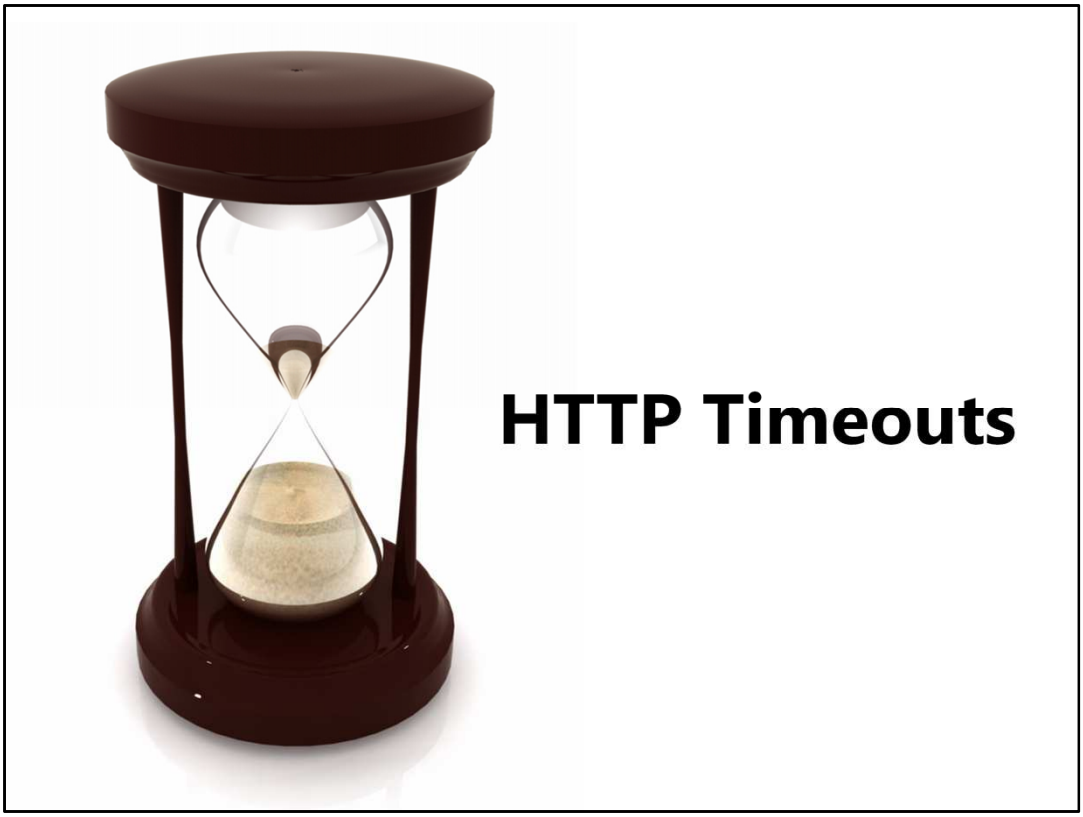


- "Old" way of doing things
  - Manual (via the web interface) Import/Export application
  - Tedious for DBAs to do over large scale environments with many applications and servers
- "New" way
  - Can export/import via command line
    - Only in the ideal conditions where application IDs are the same and workspace IDs are the same to preserve saved IRs
  - Will help with backups of application & release to multiple applications
- Review: APEX_INSTALL API info and the following articles BEFORE doing command line installs. Know what happens behind the scenes
  - http://dpeake.blogspot.ca/2009/01/preserving-user-saved-interactive.html
  - http://joelkallman.blogspot.ca/2010/07/where-did-my-saved-interactive-reports.html

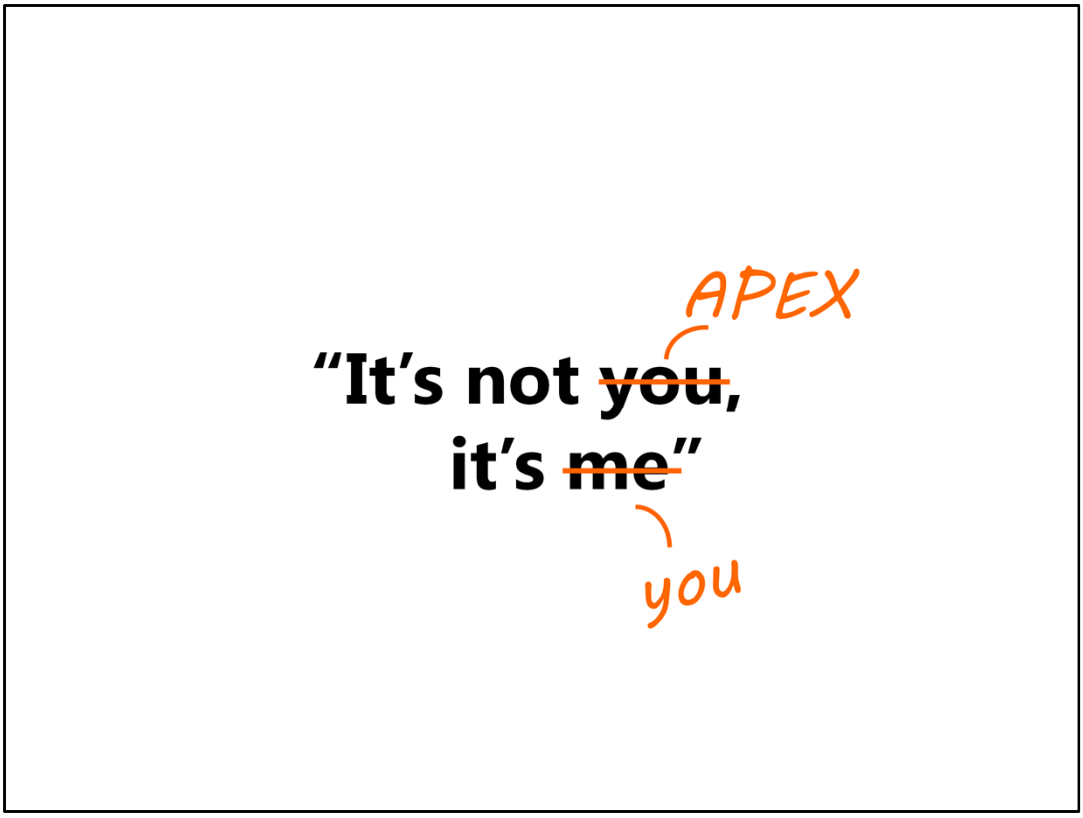


- Version control doesn't really exist compared with traditional web scripting languages that are file based
    - Hopefully we'll see some options in the future
- Work around:
    - Can schedule backups every x period of time
    - See http://www.talkapex.com/2012/04/command-line-backups-for-apex.html for example script


PERFORMANCE?



- Usually what's happening is a page is taking so long that the webserver timesout
  - Can increase the time that the web server holds an APEX session open for
    - (*Hint: don't do this, not solving the problem)*
  - Or
  - Deal with problem



- A lot of people start to use apex and will eventually run into a situation where a page doesn't work very quickly
    - Some developers will insist that "Apex is slow"
- Reality is that it's not APEX, but your process/query
- APEX is good for two things Reports, and data entry/processing
    - Reports: query the activity logs
    - Processing: Schedule long running jobs to run offline

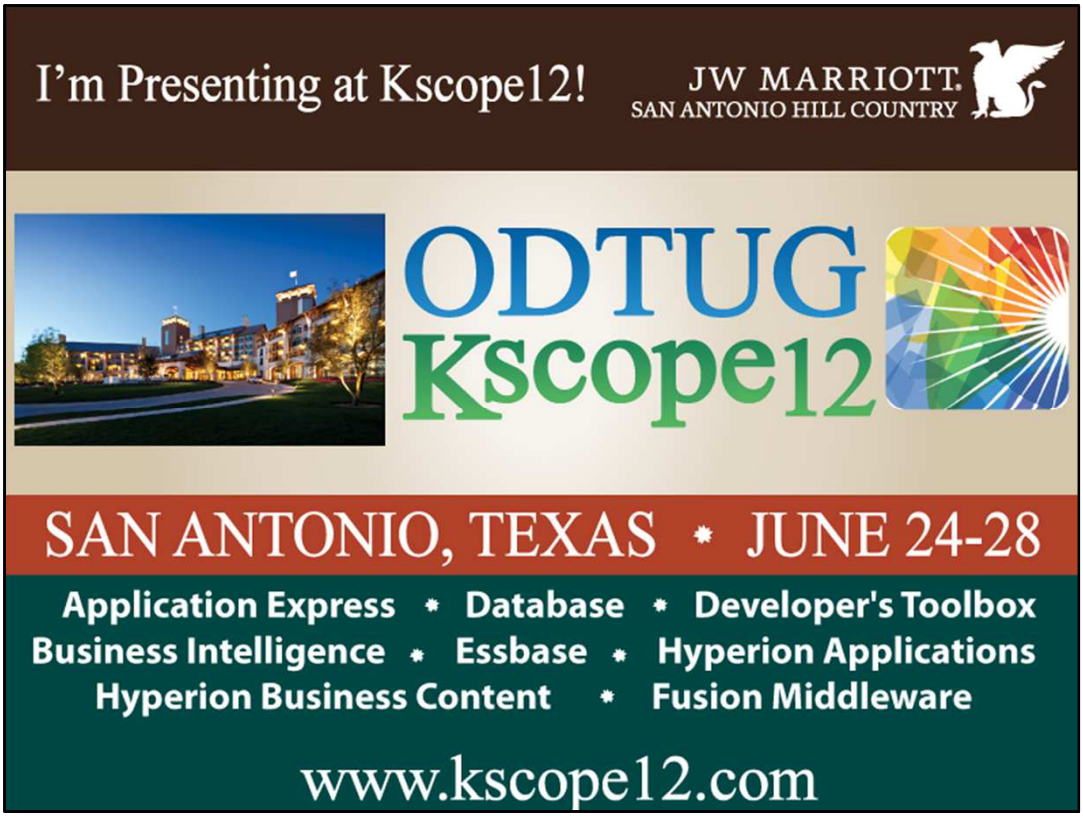
```
-- Find pages that take a lot of time to load
SELECT page_id, page_name, elapsed_time
FROM APEX_WORKSPACE_ACTIVITY_LOG
WHERE application_id = 200
ORDER BY elapsed_time DESC
```



- Store code in PL/SQL packages and procedure
  - APEX doesn't version well, but PL/SQL does
- Store large complex queries in views
  - Again, same point
- Use the advisor
  - Worst thing you can do is make things worse by opening up security holes
  - APEX advisor will let you know about that for SQL injection and more
  - VPD
- Expect the unexpected (i.e. errors)
  - We're not perfect
  - 2 things to do:
    - Track through logs
    - Error handler (http://goo.gl/SfLwx)
  - Know before the user knows
- Explicit conversions of dates
  - http://tkyte.blogspot.co.uk/2012/02/all-about-security-sql-injection.html
  - Date format attribute
  - Takes any confusion out of the picture



- APEX is performant and scales
- apex.oracle.com gets over 11M pages views a week!



- The premier Oracle Developer's conference: http://kscope12.com/



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- Web: http://www.ClariFit.com
- Presentation: http://presentations.ClariFit.com