

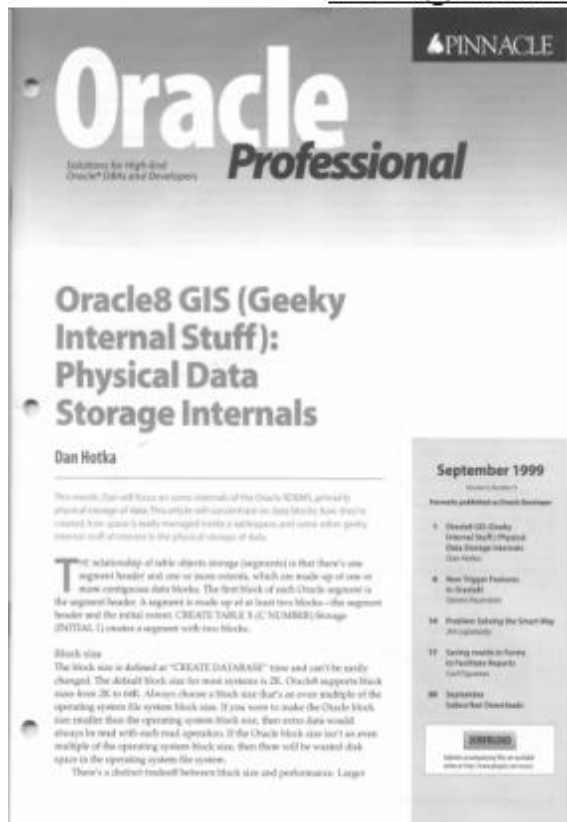
Intro to PSP, JSP, and XML

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Author/Speaker/Oracle Expert

About Dan Hotka:

Dan Hotka has over 24 years in the computer industry and over 19 years experience with Oracle products. He is an internationally recognized Oracle expert with Oracle experience dating back to the Oracle V4.0 days. His current book, The TOAD Handbook by SAMS is now available on www.Amazon.com. He has authored the books Oracle9i Development By Example and Oracle8i from Scratch by Que and has co-authored the popular books Oracle Unleashed, Oracle8 Server Unleashed, Oracle Development Unleashed by SAMS and Special Edition using Oracle8/8i by Que, is frequently published in Oracle Professional, the monthly trade journal, by Pinnacle Publications, and regularly speaks at Oracle conferences and user groups around the world. Visit his website at www.DanHotka.com. Dan can be reached at dhotka@earthlink.net.





Dan is a Training Consultant

❖ **www.DanHotka.com**

2-day Hands-on Workshops

- SQL Tuning and Troubleshooting
- Oracle/Unix Scripting Techniques
- Oracle9i New Features
- Power User Courses:
 - Intro to SQL & SQL*Plus
 - Intro to PL/SQL

❖ **New speaking Topic:**

– **25 Years of Taking Care of Business:**

- A humorous look at technology, the workplace, progress, winners & losers

Agenda

- ❖ Introduction to book web site
- ❖ A Little Oracle History
- ❖ Creating PL/SQL Pages (PSP)
- ❖ Creating Java Pages (JSP)
- ❖ Simple XML Wireless Example





About this PPT

❖ Examples are excerpts from my book:

- Oracle9i Development by Example, Chapter 11
- All Rights Reserved: Que Publishing

❖ Examples are on website:

- www.quepublishing.com
 - Search on '0789726718' or by author 'Hotka'
 - www.DanHotka.com



A Little Oracle History

❖ Oracle4

- Performance, size, backup & recovery
- Assist with development
- Fastforms, RPT

❖ Oracle5

- Client/Server, SQL*Net, Tuning, Auditing
- SQL*Forms V2.0, 2.3
- SQL*Reports



A Little Oracle History

❖ Oracle6

- Parallel Server, VLDB, Ora Apps (ie: Email), PL/SQL, Database Triggers

❖ SQL*ReportWriter

❖ SQL*Forms v3.0

❖ Glue



A Little Oracle History

❖ Oracle7

- RI, Replication, Rman & OEM, Cost based optimizer, various new index & servers
- SQL*Forms V4.0, 4.5

❖ Oracle8

- Partitioning, more index options
- Forms & Reports v6.0

❖ Oracle8i

- iFS, Java, etc.



A Little Oracle History

❖ Oracle9i

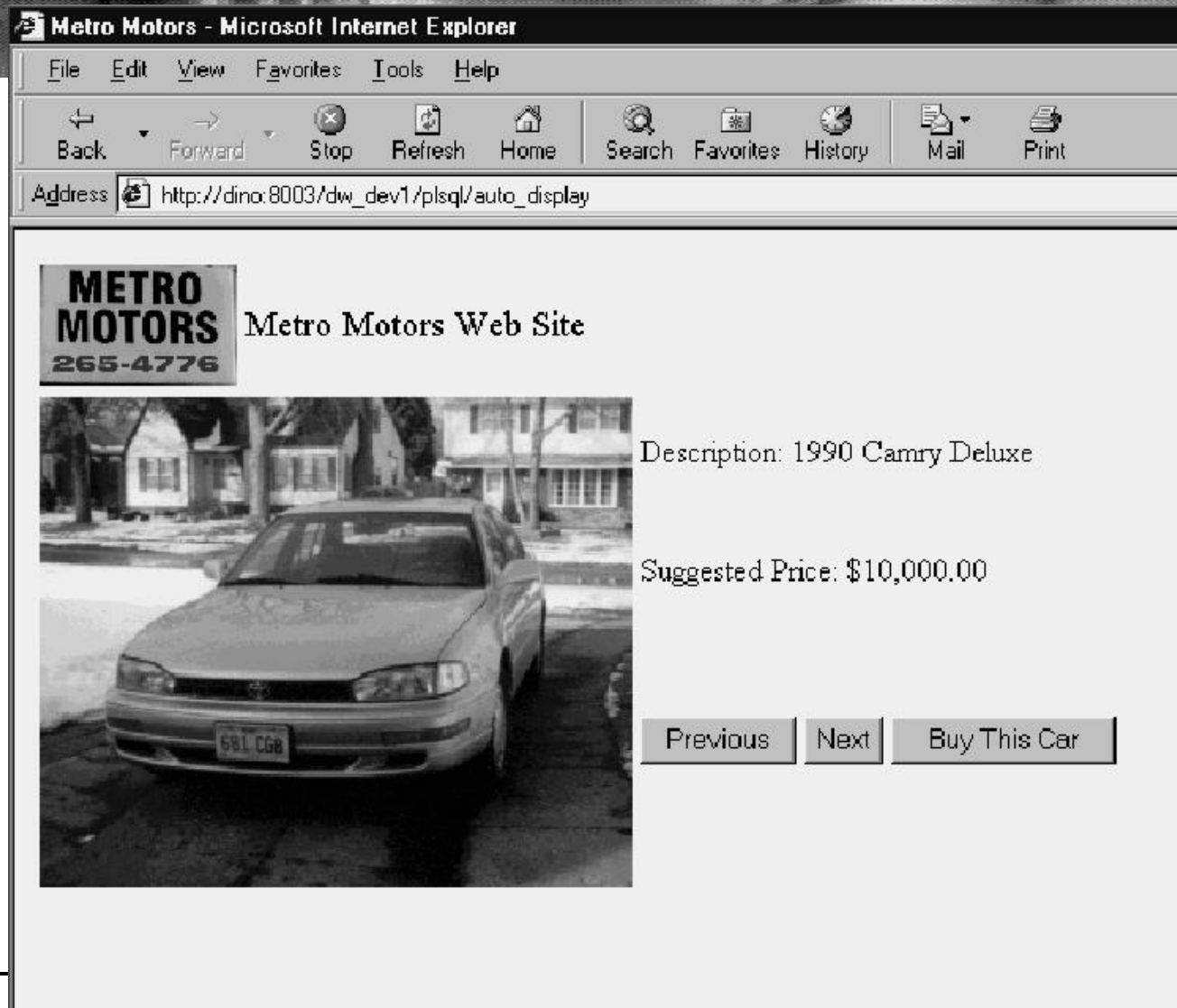
- Many new features
 - List Partitioning
 - Flashback queries
 - Multiple block size
- Forms & Reports 6i
- XML



PL/SQL Pages

- ❖ **Build static HTML with about any generator**
- ❖ **Easily add PL/SQL tags to make page dynamic**

PL/SQL Pages



PL/SQL Pages

Metro Motors - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print

Address  http://dino:8003/dw_dev1/plsql/auto_buy



**METRO
MOTORS**
265-4776

Metro Motors Web Site - Make an offer



Description: 1990 Camry Deluxe

Buyer Name:

Buyer Phone:

Offer:



PL/SQL Pages

```
create table st_cars_for_sale
(
  inv_id  Number
, auto_description VARCHAR2(60)
, sale_amt number
, sale_photo_location VARCHAR2(50)
, buyer_name VARCHAR2(20)
, buyer_phone VARCHAR2(10)
, buyer_offer number
, buyer_date date
);
```

PL/SQL Pages

1 <html>

2 <head>

3 <title>Metro Motors</title>

4 <meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1"/>

5 </head>

6 <body bgcolor="#CCCCCC" text="#990000">

7 <p>

8

9 Metro Motors Web Site 265-4774</p>

PL/SQL Pages

10 <table width="100%" border="0">

11 <tr>

12 <td rowspan="3" width="46%">

13 </td>

14 <td width="54%" height="83">

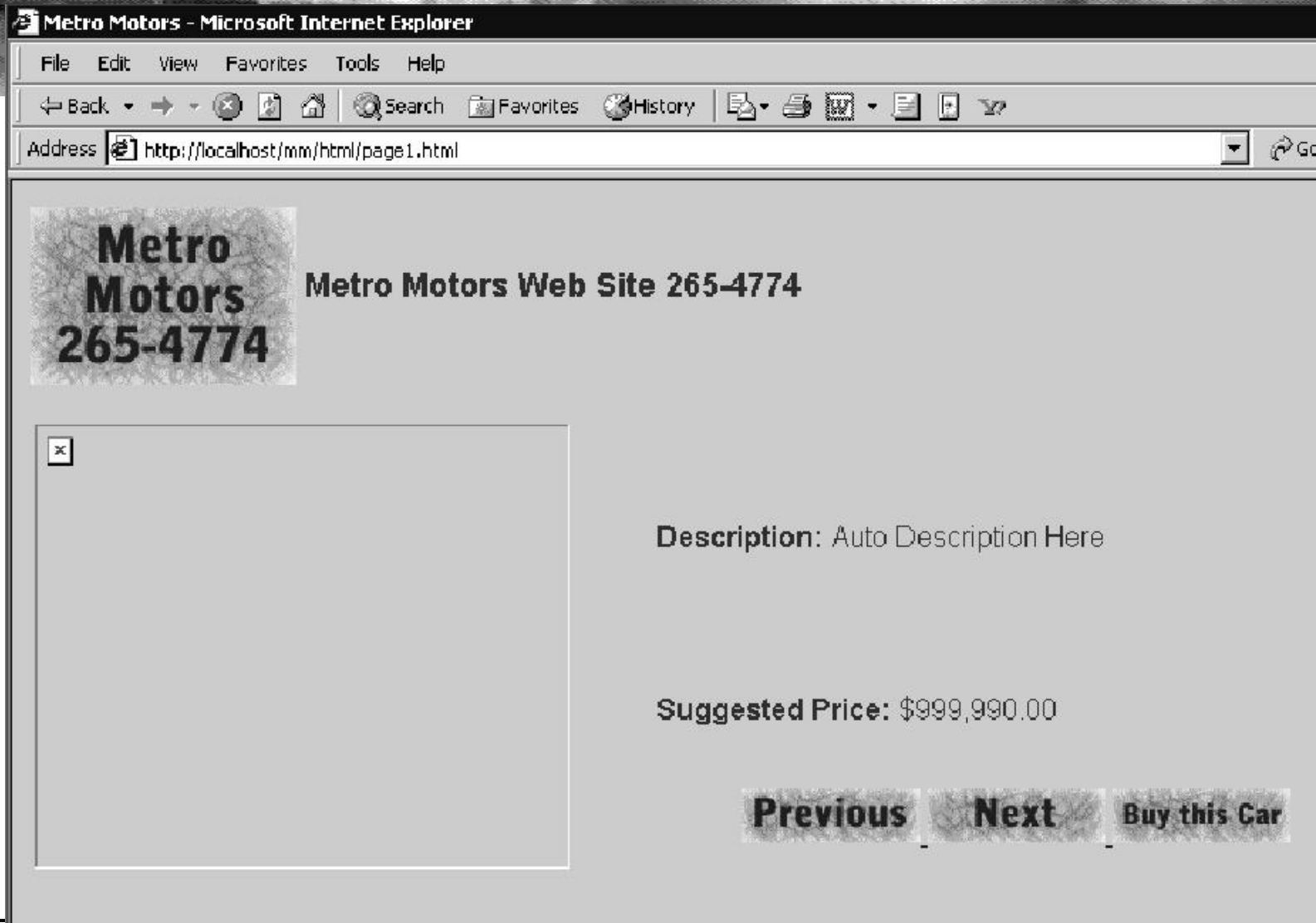
15 Description:

16 Auto Description Here</td>

17 </tr>

18 <tr>

PL/SQL Pages



PL/SQL Pages

```
1 <%@ page language="PL/SQL"%>
2 <%@ plsql procedure="page1" %>
3 <%@ plsql parameter="id" type="NUMBER" default="1" %>
4 <%! l_id st_cars_for_sale.inv_id%TYPE :=id;%>
5 <%! l_sale_photo_location st_cars_for_sale.sale_photo_location%TYPE;%>
6 <%! l_auto_description st_cars_for_sale.auto_description%TYPE;%>
7 <%! l_amount VARCHAR2(15);%>
8 <%
9 get_car
10 (
11 px_id      => l_id
12 , x_description => l_auto_description
13 , x_image      => l_sale_photo_location
14 , x_amount     => l_amount
15 );
16 %>
```

PL/SQL Pages

17 <html>

18 <head>

19 <title>Metro Motors</title>

- <meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1"/>
- ...
- <td width="54%" height="83">
- Description:
- <%=l_auto_description%></td>
- </tr>
- <tr>
- <td width="54%" height="39">
- Suggested Price:
- <%=l_amount%></td>
- </tr>
- <tr>



Alias Resolution

www.Globecom.se/tora

Tora 1.3.8 - [sales_tracking@ORAXP9I [9.2.0.1.0] Schema Browser <2>]

File Edit Tools Browser Window Help

sales_tracking@ORAXP9I [9.2.0.1.0]

SALES_TRACKING

Object Name	Object Type	Type
GET_CAR	PROCEDURE	VALID
GET_CAR_XML	PROCEDURE	INVALID
HELLOWORLD	PROCEDURE	VALID
HELPPAGE	PROCEDURE	VALID
MAKE_OFFER	PROCEDURE	VALID
MAKE_OFFER_XML	PROCEDURE	INVALID
PAGE1	PROCEDURE	VALID
PAGE2	PROCEDURE	VALID
ST_CALC_PROFIT	FUNCTION	INVALID

Declaration Body Grants Dependencies Script

```
PROMPT CREATE OR REPLACE PROCEDURE sales_tracking.page1

CREATE OR REPLACE PROCEDURE sales_tracking.page1 (
id IN NUMBER default 1) AS
  l_id st_cars_for_sale.inv_id%TYPE :=id;
  l_sale_photo_location st_cars_for_sale.sale_photo_location%TYPE;
  l_auto_description st_cars_for_sale.auto_description%TYPE;
  l_amount VARCHAR2(15);
BEGIN NULL;

http.prn('
');
http.prn('
');
http.prn('
');
http.prn('
');
http.prn('
');
http.prn('
');
http.prn('
');
http.prn('
');

get_car
(
  px_id          => l_id
,   x_description => l_auto_description
,   x_image       => l_sale_photo_location
```

Welcome to Tora (Commerical site license)

PL/SQL Pages

```
C:\WINNT\System32\cmd.exe
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-1999 Microsoft Corp.

C:\>cd metromotors\psp

C:\metromotors\psp>loadpsp
usage: loadpsp [-replace] -user <logon> [<page1> <page2> ...]
       where <logon> ::= <username>/<password>[@<connect_string>]

C:\metromotors\psp>loadpsp -replace -user scott/tiger page1.psp
"page1.psp": procedure "page1" created.

C:\metromotors\psp>
```

PL/SQL Pages





Java Server Pages

- ❖ JSP = PSP, Java Servlets = PL/SQL Packages
- ❖ JSP compiled first time upon access
- ❖ Apache ojsp.conf file:

```
1 # Set aliases for Oracle JSP  
2 Alias /jspdocs/ "C:\oracle\ora81\jsp\doc/"  
3 #  
4 # Associate OJSP extension with OJSP class to be called  
5 ApJServAction .jsp /servlets/oracle.jsp.JspServlet  
6 ApJServAction .sqljsp /servlets/oracle.jsp.JspServlet  
7 #
```

Java Server Pages

```
1 <html>
2 <head>
3 <title>Metro Motors</title>
4 <meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1"/>
5 </head>
6 <jsp:usebean id="getcar" class="beans.CarGetCar" scope="page" />
7 <jsp:setProperty name="getcar" property="id" param="id" />
8 <body bgcolor="#CCCCCC" text="#990000">
9 <p>
10 <b><font face="Geneva, Arial, Helvetica, san-serif">
11 <font size="4">Metro Motors Web Site 265-4774</font></font></b></p>
12 <table width="100%" border="0">
13 <tr>
```


Java Server Pages

```
14 <td rowspan="3" width="46%">
15 "
16 width="300" height="250"/></td>
17 <td width="54%" height="83">
18 <font face="Geneva, Arial, Helvetica, san-serif"><b>Description:</b>
19 <jsp:getProperty name="getcar" property="description" /></font></td>
20 </tr>
21 <tr>
22 <td width="54%" height="39">
23 <font face="Geneva, Arial, Helvetica, san-serif"><b>Suggested Price:</b>
24 <jsp:getProperty name="getcar" property="amount" /></font></td>
25 </tr>
```

Java Server Pages





XML

- ❖ Easily incorporated into C, C++, PL/SQL, Java
- ❖ XML is HTML like that is useful for formatting data for all kinds of environments
 - Web
 - Wireless
 - Handheld devices
- ❖ **XSQL.conf :**

```
#  
# Associate .xsql extension to XSQL Servlet  
ApJServletAction .xsql /servlets/oracle.xml.xsql.XSQLServlet  
#
```

XML

```
1 <?XML version='1.0'?>
2 <xsql:query XMLNs:xsql="urn:oracle-xsql" connection="scott">
3   SELECT inv_id
4     , auto_description
5     , sale_photo_location
6     , sale_amt
7   FROM st_cars_for_sale
8   ORDER BY inv_id
9
10 </xsql:query>
```

```
C:\WINNT\System32\cmd.exe
C:\metromotors\xml>xsql inventory.xsql
<?xml version = '1.0'?>
<ROWSET>
  <ROW num="1">
    <INV_ID>1</INV_ID>
    <AUTO_DESCRIPTION>1995 Toyota Camry</AUTO_DESCRIPTION>
    <SALE_PHOTO_LOCATION>/camry_after.jpg</SALE_PHOTO_LOCATION>
    <SALE_AMT>9999</SALE_AMT>
  </ROW>
  <ROW num="2">
    <INV_ID>2</INV_ID>
    <AUTO_DESCRIPTION>1994 Ford Winstar</AUTO_DESCRIPTION>
    <SALE_PHOTO_LOCATION>/ford_van_after.jpg</SALE_PHOTO_LOCATION>
    <SALE_AMT>10999</SALE_AMT>
  </ROW>
  <ROW num="3">
    <INV_ID>3</INV_ID>
    <AUTO_DESCRIPTION>1965 Ford Galaxie U8 Automatic</AUTO_DESCRIPTION>
    <SALE_PHOTO_LOCATION>/galaxie.jpg</SALE_PHOTO_LOCATION>
    <SALE_AMT>3000</SALE_AMT>
  </ROW>
  <ROW num="4">
    <INV_ID>4</INV_ID>
    <AUTO_DESCRIPTION>2000 Austin Martin DB7 Coupe</AUTO_DESCRIPTION>
    <SALE_PHOTO_LOCATION>/austinmartin.jpg</SALE_PHOTO_LOCATION>
    <SALE_AMT>142000</SALE_AMT>
  </ROW>
  <ROW num="5">
    <INV_ID>5</INV_ID>
    <AUTO_DESCRIPTION>1999 Lexus ES300</AUTO_DESCRIPTION>
    <SALE_PHOTO_LOCATION>/lexuses300.jpg</SALE_PHOTO_LOCATION>
    <SALE_AMT>29000</SALE_AMT>
  </ROW>
</ROWSET>
C:\metromotors\xml>
```



XML

- ❖ **Rename HTML file to .XSL (style sheet)**
- ❖ **Line 1 contains XML identifiers**
- ❖ **Use { } or 'xsl:value-of' to substitute data**
- ❖ **Style Sheets accessed via XSQL**
- ❖ **Data supplied via XSQL**



XML

Data.xsql

```
1  <?XML version="1.0" encoding='ISO-8859-1'?>
2
3  <RESULTS XMLns:xsql="urn:oracle-xsql" connection="scott"
id="1">
4  <xsql:include-owa>
5  get_car_XML({@id});
6  </xsql:include-owa>
7
8  </RESULTS>
```

Page1.xsql

```
1  <?XML version="1.0" encoding='ISO-8859-1'?>
2  <?XML-stylesheet type="text/xsl" href="page1.xsl"?>
3  <xsql:include-xsql href="data.xsql" XMLns:xsql="urn:oracle-
xsql"/>
```

XML

```
1 <html xsl:version="1.0" XMLNs:xsl="http://www.w3.org/1999/XSL/Transform">
2 <head>
3 <title>Metro Motors</title>
4 <meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1"/>
5 </head>
6 <body bgcolor="#CCCCCC" text="#990000">
7 <xsl:for-each select="RESULTS/CAR">
8 <p>
9 <b><font face="Geneva, Arial, Helvetica, san-serif">
10 <font size="4">Metro Motors Web Site 265-4774</font></font></b></p>
11 <table width="100%" border="0">
12 <tr>
```

XML

```
13 <td rowspan="3" width="46%">
14 </td>
15 <td width="54%" height="83">
16 <font face="Geneva, Arial, Helvetica, san-serif"><b>Description:</b>
17 <xsl:value-of select="DESCRIPTION"/></font></td>
18 </tr>
19 <tr>
20 <td width="54%" height="39">
21 <font face="Geneva, Arial, Helvetica, san-serif"><b>Suggested Price:</b>
22 <xsl:value-of select="AMOUNT"/></font></td>
23 </tr>
```


XML





Wireless XML

- ❖ XML very useful for wireless & handheld devices
- ❖ WML is used for wireless devices in place of HTML
- ❖ Page1.xsql modified for wml:

```
1 <?XML version="1.0" encoding='ISO-8859-1'?>  
2 <?XML-stylesheet type="text/xsl" href="page1.xsl" media="MSIE"?>  
3 <?XML-stylesheet type="text/xsl" href="page1w.xsl" media="UP"?>  
4 <xsql:include-xsql href="data.xsql" xmlns:xsql="urn:oracle-xsql"/>
```

Wireless XML

```
<xsl:stylesheet XMLNs:xsl="http://www.w3.org/1999/XSL/Transform"
version="1.0">
<xsl:output method="XML" doctype-public="-//WAPFORUM//DTD WML
1.1//EN" media-type="text/vnd.wap.wml" doctype-
system="http://www.wapforum.org/DTD/wml 1.1.xml" />
<xsl:template match="/">
<wml>
<card id="page1" title="Metro Motors Cars">
<p><b>Metro Motors:</b></p>
<xsl:for-each select="RESULTS/CAR">
<p><xsl:value-of select="DESCRIPTION"/></p>
<p>Price:$<xsl:value-of select="AMOUNT"/></p>
<p align="center">
<anchor><go><xsl:attribute name="href">
page1.xsql?id=<xsl:value-of select="ID - 1"/></xsl:attribute>
</go>
Prev </anchor>
```

Wireless XML

```
<anchor><go><xsl:attribute name="href">
page1.xsql?id=<xsl:value-of select="ID + 1"/></xsl:attribute>
</go>
Next</anchor>
</p>
<p align="center">
<anchor><go><xsl:attribute name="href">
page2.xsql?id=<xsl:value-of select="ID + 0"/></xsl:attribute>
</go>
Make Offer</anchor>
</p>
-
</xsl:for-each>
</card>
</wml>
</xsl:template>
</xsl:stylesheet>
```

Wireless XML





Datapump Metadata Component

```
SQL> select DBMS_METADATA.GET_DDL('TABLE', emp) FROM  
user_tables;
```

```
CREATE TABLE "SCOTT"."EMP"  
  ( "EMPNO" NUMBER(4,0) NOT NULL ENABLE,  
    "ENAME" VARCHAR2(10),  
    .  
    .  
    .  
    "DEPTNO" NUMBER(2,0)  
  ) PCTFREE 20 PCTUSED 50  
STORAGE (INITIAL 256, NEXT 256 ... BUFFER_POOL DEFAULT)  
TABLESPACE "USERS"
```

Datapump Metadata Component

```
SQL> select DBMS_METADATA.GET_XML('TABLE', emp) FROM  
user_tables;
```

```
<?xml verison="1.0"?>  
<ROWSET>  
  <ROW>  
    <TABLE_T>  
      <OBJ_NUM>1234</OBJ_NUM>  
      .  
      .  
      .
```



More Information

TOr a t: www.Globecom.se/tora

- ❖ [www. Orapub.com](http://www.Orapub.com)
- ❖ Technet.oracle.com
- ❖ [www. Ixora .com](http://www.Ixora.com)
- ❖ Evdbt.com – [www. Sagelogix .com](http://www.Sagelogix.com)
- ❖ www.jlcomp.demon.co.uk
- ❖ [www. DBASupport.com](http://www.DBASupport.com)
- ❖ www.tusc.com
- ❖ **Presentation downloads**

[www. DanHotka.com](http://www.DanHotka.com) click on Downloads

[www.*DanHotka*.com](http://www.DanHotka.com)

What have we learned?

- ❖ All examples on www.DanHotka.com
- ❖ A little Oracle History
- ❖ PL/SQL Pages
- ❖ Java Pages
- ❖ XML
- ❖ Wireless XML

