

REVIEW

COURSE CODE: DAM 461

COURSE TITLE: STATISTICAL DATABASE SYSTEM.

Course Reviewer:

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The study units of this course were reviewed as follow:

Module 1 Fundamentals of Database Systems

Unit 1 Databases and Database Users

Unit 2 Database System Concepts and Architecture

Unit 3 Data Modelling Using the Entity-Relationship Model

Module 2 The Statistical database system

Unit 1 Statistical Database Concepts

Unit 2 Statistical Data Analysis, Mining and Decision Tree

Unit 3 Computer Security and Statistical Databases

Module 3 Application of Statistical Database System

Unit 1 SPEA SMART Airport Statistical Data Management System (SMART  
STAT)

**#### General Comments**

## **Module 1 Fundamentals of Database Systems**

### **Unit 1 Databases and Database Users**

1.0 Introduction

2.0 Objective

3.0 Definitions and functions

3.1 Characteristics of the Database Approach

3.2 Actors on the Scene

3.3 Advantages of Using a Database Management System

3.4 Implications of the Database Approach

3.5 When Not to Use a Database Management System

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignment

7.0 Further Reading and Other Resources

1.0 Good

2.0 God

3.0 Definition of database is standard and of are of the authors word. The functions of a database can be worked upon by add recent functions such as:

- Data Dictionary Management
- Data Storage Management
- Data Transformation and Presentation
- Security Management
- Multiuser Access Control
- Backup and Recovery Management
- Data Integrity Management
- Database Access Languages and Application Programming Interfaces
- Database Communication Interfaces
- Transaction Management

3.1 Good

3.2 Good

3.3 Good

3.4 Implications of Database Approach

Flexibility in? “Flexibility in altering data” would be preferred.

This could also be added:

- Readily Available Information Across Network

3.5 Good

4.0 Good

5.0 Good

6.0 Good

7.0 Good

**PLEASE NOTE:** Module 1 and it units’ alongside subsequent modules and their units should be on a page (New page).

**Then again, page numbers should be included.**

## **Module 1 Fundamentals of Database Systems**

### **Unit 2 Database System Concepts and Architecture**

1.0 Introduction

2.0 Objective

3.0 Data Models and Their Categories

3.1 History of Data Models

3.2 Schemas, Instances, and States

3.3 Data and the Three-Schema Architecture

3.4 Data Independence

3.5 DBMS Languages and Interfaces

3.6 The Database System Environment

3.7 Database System Utilities and Tools

3.8 Centralized and Client-Server Architectures

3.9 Classification of DBMSs

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignment

7.0 Further Reading and Other Resources

1.0 Good

2.0 Good

3.0 “Figure 1: An ERD showing a relationship between products and suppliers” should be named on the same page with the diagram itself for easy understanding of the material. “Figures 6 and 7” should also be worked upon, text are not visible to the readers.

3.1 Good

3.2 Should be taken to a new page (Good)

3.3 Good

3.4 Data and the Three-Schema Architecture

**This should be added: Advantages of Three-schema Architecture:**

Following are the advantages of three schema architecture:

- This architecture makes the database abstract. It is used to hide the details of how data is physically stored in a computer system, which makes it easier to use for a user.
- This architecture allows each user to access the same database with a different customized view of data.
- This architecture enables a database admin to change the storage structure of the database without affecting the user currently on the system.

3.5 DBMS Languages and Interfaces

An introduction of diagram/figure here, would benefit the user of this material in better assimilating.

**This should be added:**

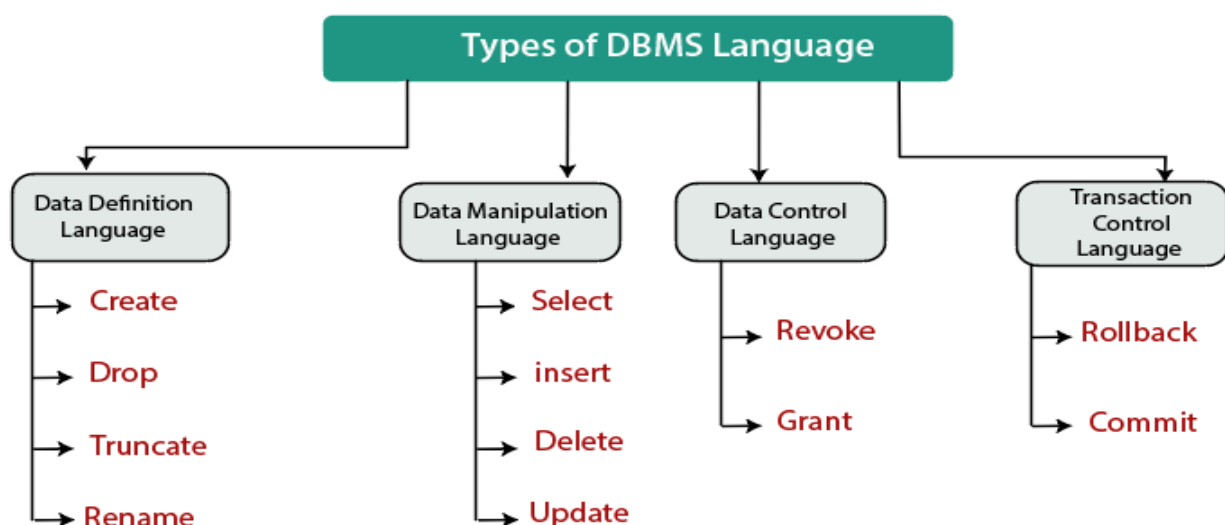


Figure (Number): An illustration of the types of DBMS Languages

3.6 Good

3.7 Good

3.8 Good

3.9 Good

4.0 Good

5.0 Good

6.0 Added Tutor Marked Assignment

1. What is a data model?
2. What is a high-level conceptual data model?
3. What is an entity? An attribute? A relationship?
4. List and briefly describe the common record-based logical data models.
5. There is a database and there were 50 data insert/manipulation operation. Please prove that this database state is valid.
6. There is a new database that has only 2 levels (conceptual and internal). Please discuss the advantages and disadvantages of this database architecture.

7.0 Good

Quotes in the last referencing should be removed.

## **Module 1 Fundamentals of Database Systems**

### **Unit 3 Data Modelling Using the Entity-Relationship Model**

1.0 Introduction

2.0 Objective

3.0 Using High-Level Conceptual Data Models for Database Design

3.1 A Sample Database Application

3.2 Entity Types, Entity Sets, Attributes, and keys

3.3 Relationships, Relationship Types, Roles, and Structural Constraints

3.4 Weak Entity Types

3.5 Refining the ER Design for the Company Database

3.6 ER Diagrams, Naming Conventions, and Design Issues

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignment

7.0 Further Reading and Other Resources



1.0 Good

2.0 Good

3.0 Good

3.1 A Sample Database Application (This section should be updated)

#### Understanding Sample Database Application

*Sample Database Application* features an easy-to-use interface for viewing, updating, and searching order and customer information for clothing products. Users can navigate among the pages using the Home, Customers, Products, Orders, and Reports navigation menu. Like all sample packaged applications, Sample Database Application is fully editable.

#### Topics:

- Installing and Running Sample Database Application
- Understanding Sample Database Application
- Modifying Sample Database Application

3.1.1 Installing and Running Sample Database Application

To install *Sample Database Application*:

1. Sign in to Oracle Application Express. The Workspace home page appears.
2. Click the **Packaged Apps** icon. The Packaged Apps page appears.
3. Locate and select *Sample Database Application*

#### Hint:

Use the Search field at the top of the page to narrow the display.

4. Click **Install Packaged App**.
5. Select an Authentication scheme and click **Next**.
6. Click **Install Packaged App** again.

The Packaged Application Details page appears. The success message, Application installed, displays at the top of the page.

7. To run the application, click **Run**. Enter the appropriate login credentials:
8. Username - Enter your workspace username.
9. Password - Enter your workspace password.
10. Click **Sign In**.

#### Hint:

Once you install a packaged application, it displays under Installed Packaged Apps on the Packaged Apps page.

### 3.1.2 Understanding Sample Database Application

*Sample Database Application* demonstrates:

- Examples of ways to display summary information.
- Reports and forms for viewing, updating, and adding customers, products, and orders
- Various charts and maps available in Oracle Application Express
- Mobile pages to replicate the majority of functionality available in the desktop pages

*Sample Database Application* features the following built-in functionality and key pages:

**Hint:**

The size of left navigation menu changes depending upon the size of the window. In some of the images in this section, the navigation menu is minimized.

**Topics:**

- Home Page
- Customers Page
- Using the Customers Page
- Products Page
- Using the Products Page
- Orders Page
- Using the Orders Page
- Reports Page
- Administration Page
- Accessing the Mobile Version

#### 3.1.1.1 Home Page

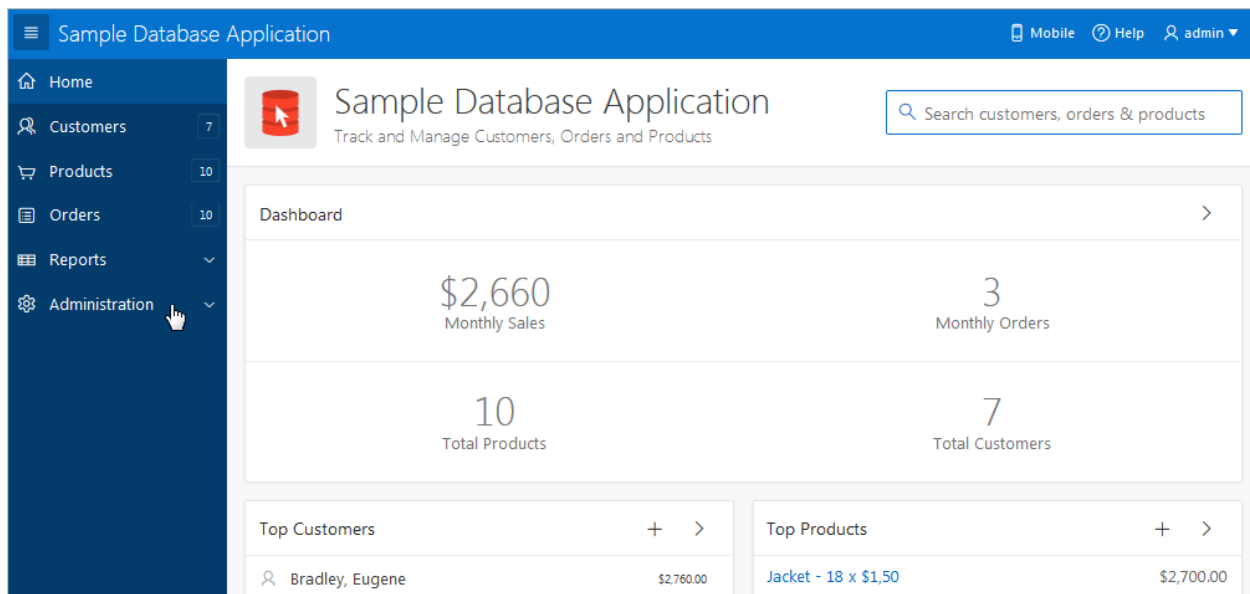


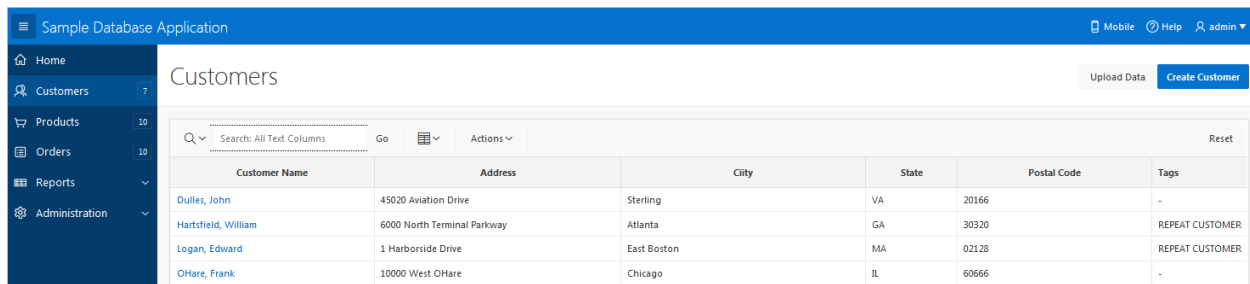
Figure (Number): Home Page

The home page contains the following main regions:

- **Dashboard** - Demonstrates the use of a Badge List plug-in. This regions displays a value based on an underlying SQL statement. Links in this region take you to reports on Monthly Sales, Monthly Orders, Total Products, and Total Customers.
- **Top Customers** - Demonstrates the Slider Tooltip plug-in. This regions displays a value based on an underlying SQL statement. Links in this region take you to reports on Monthly Sales, Monthly Orders, Total Products, and Total Customers.
- **Top Products** - Top Products is an interactive report. The report is based on an underlying SQL statement and displays a subset of the information that appears on the Customers page. Users can view the additional details by clicking the product or by clicking the view Products icon (a right arrow) in the upper right corner of the region.
- **Top Orders by Date** - Demonstrates the use of a HTML5 Bar Chart plug-in. This chart displays orders by date and order amount, based on an underlying SQL statement. Users can view the Orders page by clicking the right arrow in the upper right corner.
- **Tags** - Demonstrates the use of a Tag Cloud plug-in. This region displays a value based on an underlying SQL statement. Links in this region take you to search results matching the selected tag.

### 3.1.1.2 Customers Page

The Customers page enables users to view and edit customer information.



Customer Name	Address	City	State	Postal Code	Tags
Dulles, John	45020 Aviation Drive	Sterling	VA	20166	-
Hartsfield, William	6000 North Terminal Parkway	Atlanta	GA	30320	REPEAT CUSTOMER
Logan, Edward	1 Harborside Drive	East Boston	MA	02128	REPEAT CUSTOMER
O'Hare, Frank	10000 West O'Hare	Chicago	IL	60666	-

Figure (Number): Customers Page

**Customers** is an interactive grid tracking customer information. To search for a customer information, enter search terms in the Search field and click **Go**. To sort by customer, click the column heading and then select the sort icons.

### 3.1.1.3 Using the Customers Page

This section describes functionality built into the Customers page.

#### Topics:

- Editing a Customer
- Creating a Customer
- Uploading Data

### 3.1.1.3a Editing a Customer

To update existing customer information:

1. Click the customer name.
2. On the Customer Details page, edit the fields and click **Apply Changes**.
3. To delete a customer, click **Delete**.

### 3.1.1.3b Creating a Customer

To add a new customer:

1. Click the **Create Customer** button.
2. On the Customer Details page, edit the fields and click **Add Customer**.

### 3.1.1.3c Uploading Data

To upload data:

1. Click the **Upload Data** button.
2. For Import From:
  - a. Import From - Select either:
    - i. Upload file, comma separated (\*.csv) or tab delimited. If selected, select the file in the **File Name** form element.
    - ii. Copy and Paste. If selected, a Copy and Paste field displays at the bottom on the window.
  - b. Separator - Identify a column separator character. Use \t for tab separators.
  - c. Optionally Enclosed By - Enter a delimiter character. See field-level Help for more details.
  - d. First Row has Column Names - Select or deselect **Yes**.
  - e. File Character Set - Select the appropriate file character set.
  - f. Click **Next**.
3. On Data/Table Mapping, review the mappings and click **Next**.
4. Click **Load Data**.
5. Review Results.
6. Click **Finish**.

#### 3.1.1.4 Products Page

The Products page enables users to view and edit product information. The Products region is based on a SQL query that uses a custom function for displaying images stored in the database.

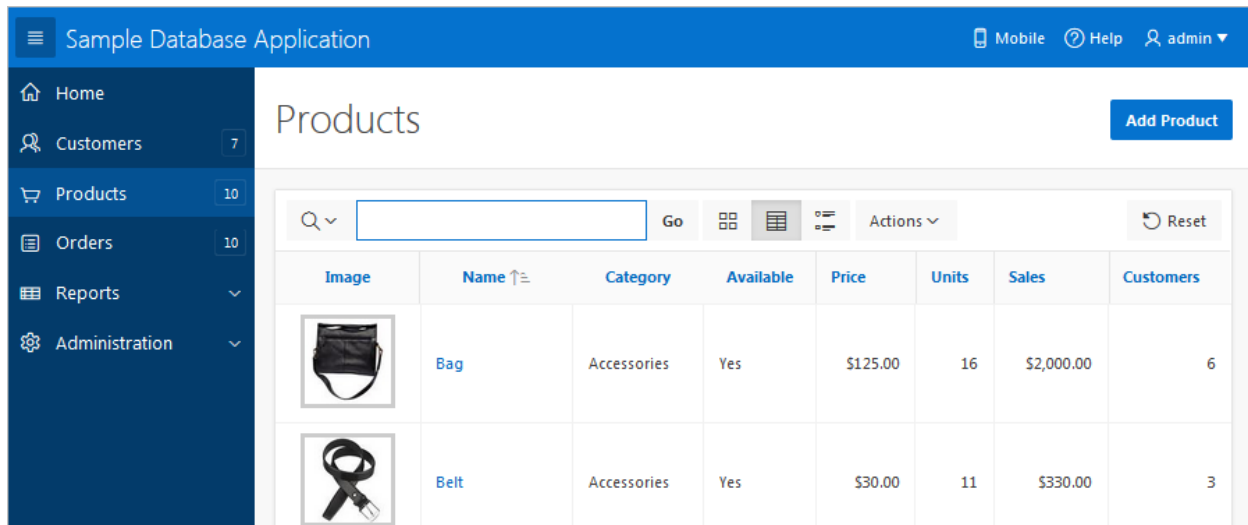




Image	Name	Category	Available	Price	Units	Sales	Customers
	Bag	Accessories	Yes	\$125.00	16	\$2,000.00	6
	Belt	Accessories	Yes	\$30.00	11	\$330.00	3

Figure (Number): Product Page

By default, this page displays in Report view. You can change the view by clicking **View Icons** and **View Detail** to the left of the Actions menu. In Report view, you can sort by column by clicking the column heading and then selecting the icons. Users can change the appearance of the report using the Actions menu.

#### 3.1.1.5 Using the Products Page

This section describes functionality built into the Customers page.

##### Topics:

- Editing a Product
- Adding a Product

##### 3.1.1.5a Editing a Product

To update existing product:

1. Click the product name.
2. On the Product Details page, edit the fields and click **Apply Changes**.
3. To delete a product, click **Delete**.

##### 3.1.1.5b Adding a Product

To add a new product:

1. Click the **Add Product** button.
2. On the Product Details page, edit the fields and click **Add Product**.

### 3.1.1.6 Orders Page

The Orders page enables users to create, view, and edit customer orders.

Order #	Customer Name	Order Date	Order Items	Order Total	Sales Rep	Tags
0010	Bradley, Eugene	7/13/2016	3	\$870.00	DEMO	-
0009	Hartsfield, William	7/10/2016	3	\$730.00	DEMO	-
0008	OHare, Frank	7/4/2016	4	\$1,060.00	DEMO	-

Figure (Number): Order Page

**Orders** is an interactive report for tracking order information. To sort by column, click the column heading and then select the appropriate sort icon. You can change the appearance of the report using the Actions menu.

### 3.1.1.7 Using the Orders Page

This section describes functionality built into the Orders page.

#### Topics:

- Editing an Order
- Placing an Order

#### 3.1.1.7a Editing an Order

To edit an order:

1. Click the Order number.  
The Order Details page appears.
2. On the Order Details page, edit the fields and click **Apply Changes**.
3. To delete an order, click **Delete**.

### 3.1.1.7b Placing an Order

To create an order:

1. Click the **Place order** button.  
The Identify Customer wizard appears.
2. Follow the on-screen instructions to enter order information.
3. Click **Complete Order**.  
The order confirmation page appears.
4. Click **Close**.

### 3.1.1.8 Reports Page

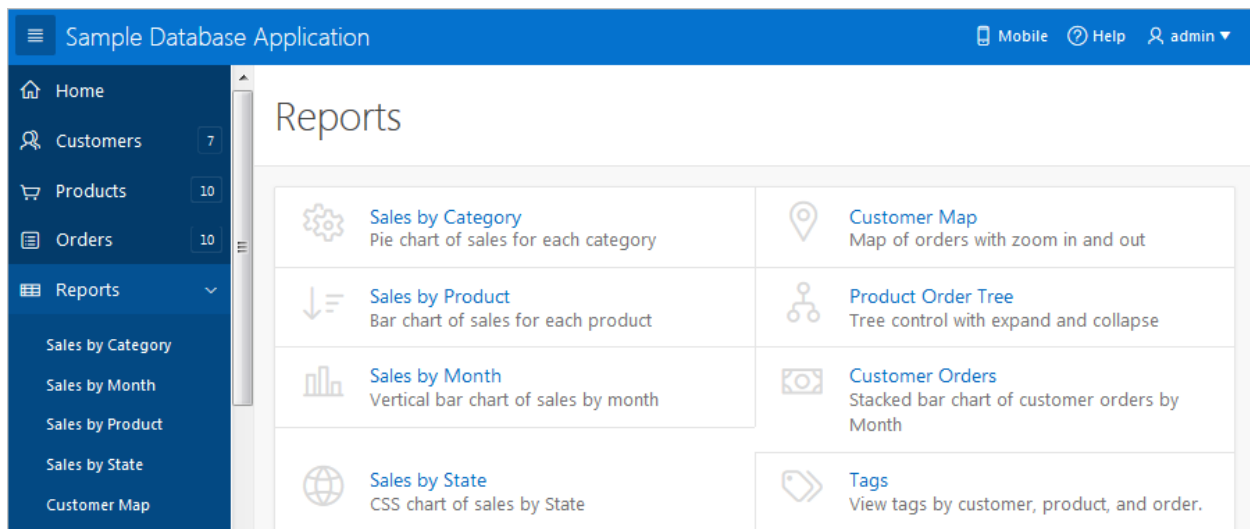


Figure (Number): Reports Page

The Reports page enables you to view information in various formats, including bar chart, pie chart, map, tree, and tags. To view a report or chart, select it.

### 3.1.1.9 Administration Page

Use the Administration page to manage sample data, manage state codes and names, and enable user feedback capability. Use the reports on the right side of the page to view user activity, view page views, and view page views in a monthly calendar.

The Administration contains two regions: Administration and Reports.

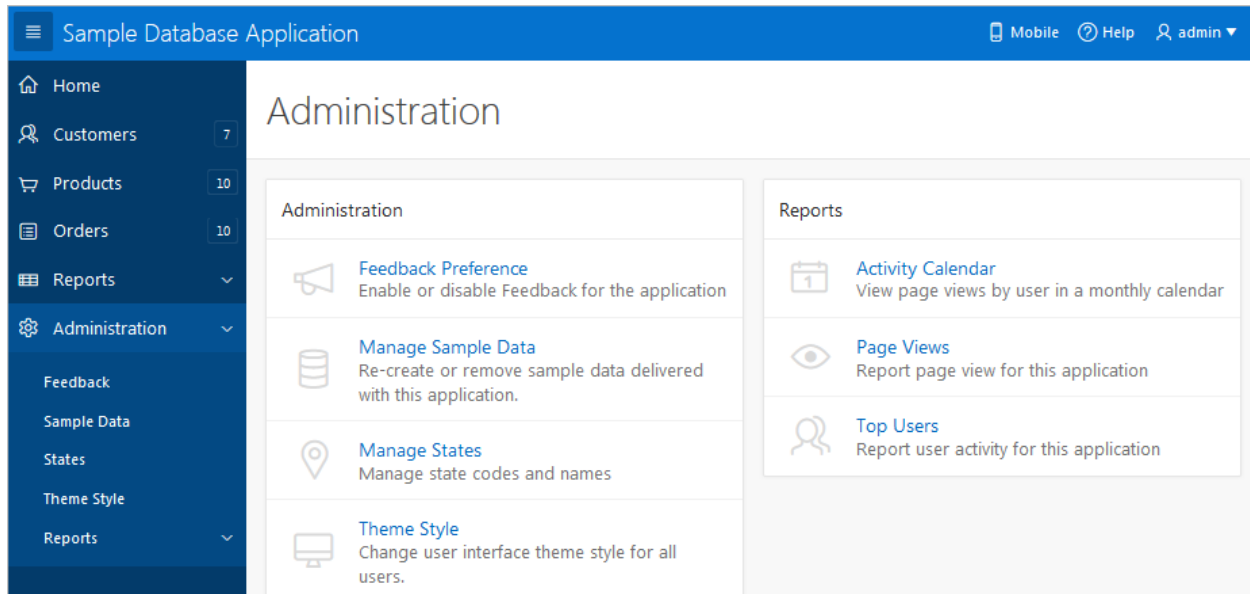


Figure (Number): Administration Page

The Administration region contains these sections:

- **Feedback Preference** - Enable, disable, and manage feedback for the application.
- **Manage Sample Data** - Remove or re-create the sample data that ships with *Sample Database Application*.
- **Manage States** - Add, edit, or delete states.
- **Theme Styles** - Change the user interface theme style for all users.

The Reports region contains these sections:

- **Activity Calendar** - Displays page views by user in a monthly calendar.
- **Page Views** - Displays a report of page views by user in the application.
- **Top Users** - Displays a report of user activity for this application.

### 3.1.1.10 Accessing the Mobile Version

Clicking Mobile in the upper right corner of the home page displays Sample Database Application in a format compatible with a mobile device. This mobile version replicates the majority of functionality available in the desktop version.



To access the mobile version of Sample Database Application:

1. Go to the Packaged Apps page and run Sample Database Application.
2. Click Mobile in the upper right corner.  
The Mobile version of Sample Database Application appears.
3. To view a page, select it.
4. To edit a specific customer or product, select it.  
A form appears. You can edit the content and click Apply Changes.  
To delete a record, click Delete.
5. To return to the home page, click the Home icon in the upper left corner.  
The home page appears.
6. On the home page:
  - a. Click Full Site to return to the desktop version of Sample Database Application.
  - b. Click Logout to return to App Builder.

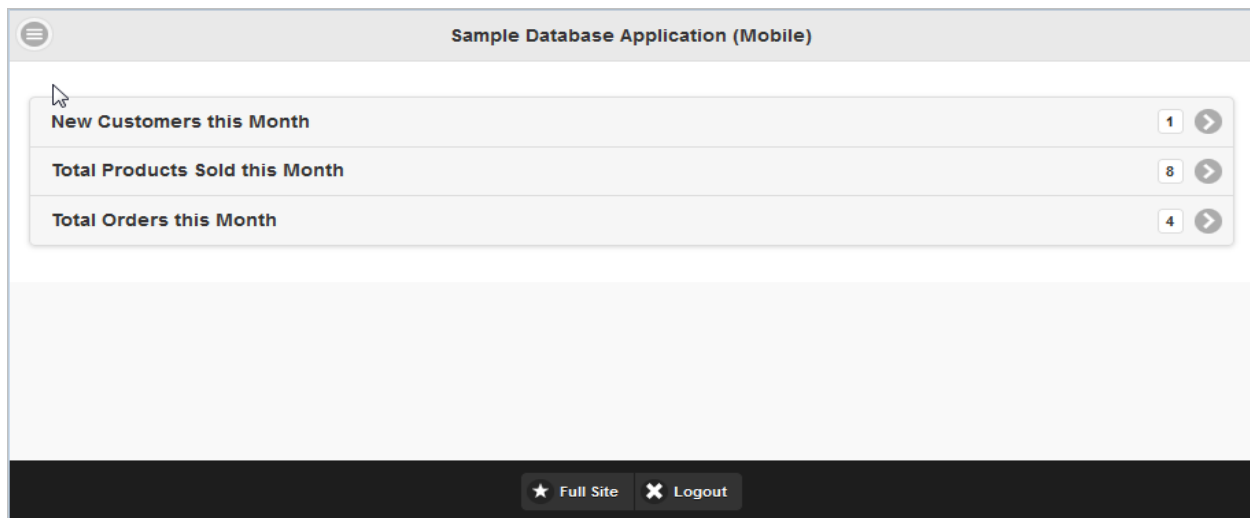


Figure (Number): Sample Database Application (Mobile) Page

3.2 Good

3.3 Good

3.4 Good

3.5 Good

3.6 Good

4.0 Good

5.0 Good

6.0 Good

7.0 **ADD:** Application Express App Builder User's Guide: <https://docs.oracle.com/database/apex-5.1/HTMDB/understanding-sample-database-application.htm#HTMDB02006>

## **Module 2 The Statistical database system**

### **Unit 1 Statistical Database Concepts**

1.0 Introduction

2.0 Objective

3.0 Basic Definition

3.1 Concept of Public Policies on Statistical Data

3.2 The Design of a Statistical Database

3.3 Features and Requirements of a Statistical Database

3.4 Statistical Database Modelling

3.5 Some Statistical Data Models

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignment

7.0 Further Reading and Other Resources

1.0 Good

2.0 Good

3.0 Good

3.1 Should be properly arranged in such a way that the header would follow their body of text

3.2 Should be properly arranged in such a way that the header would follow their body of text. In materials for student fonts and font sizes should remain consistent.

3.3 Should be properly arranged in such a way that the header would follow their body of text

3.4 Good

3.5 Good

4.0 Good

5.0 Good

6.0 Good

7.0 Good

## **Module 2. The Statistical Database System**

### **Unit 2 Statistical Data Analysis, Mining and Decision Tree**

1.0 Introduction

2.0 Objective

3.0 Statistical analysis of Oracle performance data using R

3.1 Data Mining and the Semantic Conference Organizer

3.2 Data Mining and Decision Tree

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignment

7.0 Further Reading and Other Resources

1.0 Good

2.0 Good

3.0 Good

3.1 Good

3.2 Good

4.0 Good

5.0 Good

6.0 Good

7.0 Referencing should be in alphabetical order.

#### #### General Comments

1. Page number should be present for easy referencing between students and tutors.
2. Page Margins should also be justified.
3. Modules and it units should be on a page (New page).