Internship as Oracle Database design and Development in Ador Composite Ltd.

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

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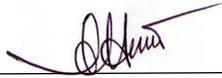
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APPROVAL

This internship titled **Oracle Database Design and Development**, submitted by **Habibur Rahman,** ID No: **172-15-9996** to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 9th July, 2020.

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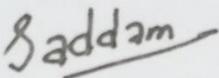Daffodil International University

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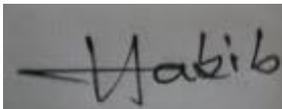United International University

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I hereby declare that, this internship has been done by me under the supervision of **Ahmed Al Marouf, Lecturer, Department of CSE** Daffodil International University. I also declare that neither this internship nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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First, I express my heartiest thanks and gratefulness to almighty God for His divine blessing makes me possible to complete the final year internship successfully.

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Finally, I must acknowledge with due respect the constant support and patients of my parents.

ABSTRACT

The Oracle database has brought on whole new level of issue for the new Developer. The queries for the tuning the database and the individual's queries have not changed much. The data received by these queries has changed and must be analyzed for portioned tables and other cost-based optimizer functions. Oracle is a Symphony and you are the conductor with an opportunity to create a world class Software. There are many different sections you must be coordinated with perfection if you are to succeed. The Chapter in this project represent the different section which are must be tuned. The key to tuning often comes down to how effectively you can tune the database memory and single problem queries.

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CHAPTER 01

INTRODUCTION

1.1 Introduction:

In this internship offers how expertise in working field. Hopefully I achieved how to working in real life, how to manage client, software developing, maintenance and security services. I achieved skilled in oracle database management system. This software is very essential in Bank, Multinational firm, Insurance, NGO and varies area etc. This product is relational Database.

1.2 Internship Motivation:

This internship I can achieve knowledge and real-life experience from the company and this experience may lead me how to learn, work and strength confidence. This internship, I gained the knowledge with responsibility. In this company I worked their ERP software development and implementation. So, I know very much hot handle the client, Project manager and management. It really helpful for my future carrier.

1.3 Internship Objective:

The goal of internship is tackling the issues described above using the solutions the developed by Oracle, by designing a framework that will simplify the implementation of high-performance database programming. This internship to help build up my career to be strength, be motivated

team work, project work and my self-confidence. Internship will increase my sense and analyzing

my working procedure. Whenever, I working in my team then my team met teach me how to

learn and how to explore the analyzing mentality, hopefully I got the point.

So, I am very grateful for this internship because I utilized my habit and procedure.

1.4 Introduction to Company:

Ador Composite Ltd. 1No, C & B Bazar, Gilarchala, Sreepur, Gazipur is one of the best

export-oriented knit readymade garment factories in Bangladesh. They are specialized in Polo

T-shirts, Jacket, Basic Shirt, Trousers, Kids and babies Items etc. The factories are designed

are modern machinery to meet the market demand. they strictly maintain health & safety systems

and all   other labor issues as per Bangladesh labor Act. -2006, BLR -2015 and other

local law, ILO provisions. This factory is 100% compliant. They have got a committed and

skilled team of production and fully pledged, commercial, marketing, merchandising, sourcing

and office management to produce & supply good quality garments at a reasonable cost

within specific time for the satisfaction for our customer through professional excellence

by skilled management.

1.5 Introduction of Oracle SQL:

SQL (Structured Query Language) standard oracle strives comply industry with accepted standard and participates actively in SQL standards committees. Industry accepted committees are the American National Standards Institute (ANSI) and the International organization for Standardization (ISO). Which is affiliated with the International Electrotechnical Commission (IEC). Both ANSI and the ISCO/IEC have accepted the SQL as the standard language for relational database. When a new SQL standard is simultaneously published by these organization. The name of the standards conforms to conventions used by the organization, but they standards are technically identical.

1.6 How SQL works:

The Knowledge of SQL provides benefits for all types of users. Including applications programmers, database administrators, managers and front-end user. Technically Speaking SQL is data sub language. The purpose of SQL is to provide a user interface to a relational database like as Oracle Database. In this SQL differs from general purpose programming language like C and BASIC.

Among the features of SQL are the following:

- It processes sets of data as a group rather than as individual part.

- It provides automatic navigation to the data.

- It uses statements that are complex and powerful individually, and flow control statements·

- SQL genuinely, but the accepted optional part of SQL ISO/IEC 9075-5:1996.

SQL lets you work with data at the logical level. You must need to be concerned with the implementation details only when you want to manipulate and design the data. For example, to retrieve a set of rows from a table, you define a condition used to filter the rows. All rows satisfying the condition are output in a single step and can be passed as a until the user, to another SQL statement., or to an application. You need not deal with the rows one by one, not do you have to worry about how they are physically stored or retrieved.

All SQL statement use the optimizer, the part of Oracle Database that determines the most efficient means of accessing the data. Oracle also provides technique that you can use to make the optimizer perform its better.

SQL provides statement for a variety of tasks, including:

- Querying the data.

- Inserting, updating and deleting rows in the table or database.

- Creating, altering, replacing and dropping objects from the table.

- Controlling access to the database and its objects and data.

1.7 Common language for all relational Database:

All major relational database management systems are Support SQL. So, you can transfer all skills you have gained with SQL form one database to another. In addition, all programs written in SQL are portable. They can often be moved from one database to another with very little modification.

CHAPTER 02

LETERUTRE SURVY

2.1 Elements of oracle SQL:

This Chapter Contains reference information on the basic elements of oracle SQL elements are the simplest

building blocks of SQL statement.

2.1.1 Datatypes:

Each value manipulated by Oracle database has a data type. The datatype of value associates a fixed set of

properties with the value. These properties cause oracle to treat a value of one datatype differently from value

of another.

When we create a table, we must specify a datatype for each of its columns. When you create a procedure or

stored function, you must specify a datatype for each of its arguments. These datatypes define the domain of

values that each domain column can contain or each argument can here.

Oracle database provide a number of built in datatypes as well as several categories for user defined types that

can be used as datatypes. The systems of Oracle database appear in the diagram that can follow.

The text of this section is divided into the following sections.

- Oracle built in datatypes.

- ANSI, DB2 and SQL/DS datatypes.

- User defined types.

- Oracle supplied types.

- Datatypes contain rules.

- Data conversion.

A datatype is either scaler or non scaler. A scaler type contains an atomic value. Whereas a non scaler contains a set of values. A large object is a special form of scaler datatype representing a large scaler value of binary or character data.

2.1.2 Oracle Datatypes:

The table that follows required Oracle built in datatypes. Please refer to the syntax in the preceding sector for the syntactic elements. The codes listed for the datatypes are used internally by Oracle database. The datatype code of a column or object or attribute is returned by the DUMP function.

2.1.3 Character Datatypes:

Character datatype store character data. which are words and free from text in the database character set or national character set. Character column can store all alphanumeric values but number column can store only numeric value.

This datatype is used for character data:

- CHAR datatype.

- NCHAR datatype.

- NVARCHER2 datatype.

- VARCHER2 datatype.

2.1.4 Numeric Datatype:

Oracle Database the numeric datatypes are store true and false fixed- and floating-point like zero, infinity, and values that are the unidentified result of an operation.

2.1.5 Number Datatypes:

The NUMBER datatype stores zero as well as true and false fixed numbers with absolute values from 1.0 *10-130 to 1.0* 10126. If you specify an arithmetic expression whose value has an absolute value greater than or equal to 1.0 * 1.126 then Oracle returns error. Each NUMBER value requires 1 to 22 bytes.

2.1.6 Floating Point Numbers:

Floating point numbers can have decimal point anywhere from the first to the last number or can have no decimal point. An exponent may optionally be used following the numbers to increase the limit.

2.1.7 Long datatype:

Long columns are stores variable length character containing up to gigabytes -1 or 231 -1 byte. LONG columns to stored long text strings. The length of long values may be limited by the memory capacity on your computer

2.2 Defining Tables:

A Schema is a collection of related logical database such as tables, indexes views etc. Following basic Operations can be performed on a schema.

- Creating the Tables
- Changing the definition of existing tables or database.
- Remove existing table data.

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- Viewing the structure of existing table data.

The SQL *PLUS command creates a TABLE is create table.

Syntax of CREATE TABLE

CREATE TABLE   table name ……………..(

column name datatype default……..);

2.2.1 Altering a Table

- Addition of new columns

- Modifying the definition of existing columns.

  Syntax of ALTER TABLE

  Alter Table table_name

  Add (column_name datatype)

  Modify (column_name datatype)

2.3 Data Maintenance:

Once the schema of a database is defined, the next step generally is data maintenance.

The basic operations involved in data maintenance are follows:

- Adding rows into tables

- Editing Existing rows.

- Removing rows from the tables.

2.3.1 Adding Rows in a table

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The INSERT command can be used to add rows to a table.

Syntax for INSERT rows

        INSERT INTO table_name Column_Name

        VALUES (………);

2.3.2 Dropping a Table:

It may be required that you no longer need some table that has been previously created. SQL *PLUS provides

the drop table command to perform the above-mentioned task.

    Syntax for DROP TABLE

        DROP TABLE table_Name;

2.3.3 Updating all or Selected Rows:

The update command allows to change the existing values in a table.

    Syntax for UPDATE rows

        UPDATE table_name

        SET column_name

        WHERE conditions;

2.3.4 Deleting all or selected Row:

The DELETE all selected rows the delete command is used. the command is allowing to remove selected or all

rows from table.

    Syntax for DELETE rows

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DELETE FEOM table_name

WHERE conditions;

2.4 Data Retrieval:

After defining the schema of a database, and inserting data in it. The next step to retrieve the data.

The main objective of maintaining the data is to retrieve information whenever required.

there are two basic database retrieval operations relational database table:

- **SELECTION**

- **JOIN**

Selection refers to the horizontal filtering of data from a table and returning the result as a new table.

Horizontal is done to select rows from a table.

Joining refers to retrieval of data from two or more tables and creation of new result table.

2.4.1 Select Command:

SQL Provide the SELECT command for data retrieval. SELECT command is the basic retrieval command.

The SELECT command allows the user to select rows from one or more tables.

Syntax of SELECT Command

SELECT DISTINCT column_name

FROM table_name

WHERE conditions

GROUP BY … HEAVING conditions

ORDER BY ASC OR DESC;

2.4.2 Joining Tables:

A join query is that the combination rows from two or more tables, views or modification views. Oracle

database performs a join whenever two or multiple tables appear in the FROM clause of the query.

The select list of the query can selected any column from form any of these tables.

Syntax for Joining Command:

> **SELECT column_name**
>
> **FROM table_name1, table_name2**
>
> **WHERE t1.name=id and t2.name=id;**

2.5 Operators:

An operator manipulates data items and return result. Syntactically, an operator appears before or after

operand or between two operands.

operate manipulate individual data items called operands or arguments. operator are represented by special

characters or by keywords.

These are different types of operator list:

- Unary and Binary Operator

- Arithmetic Operator

- Concatenation Operator

- Hierarchical Operator

- Set Operators

- User defined Operators

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2.6 Functions:

Functions are similar to operator in that they manipulate data items and return result. Functions differ from

operator in the format of their arguments.

Function (argument,argument….);

The available functions can be classified into two major categories:

- Single Row Function

- Aggregate Function

2.7 Conditions:

A Conditions specially a combination of one or more expressions and logical operators and returns a value

of TRUE, FALSE or UNKNOWN.

The sections that follows describe the various forms of conditions. You have must use appropriate

conditions syntax whenever conditions appear in SQL statements.

You can use a condition in the WHERE clause of these statements.

- DELETE

- SELECT

- UPDATE

- WHERE

- START WITH

- CONNECT BY

- HAVING

A condition could be said to be of a logical datatype.

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2.8 Package:

A package is a schema object that groups logically related PL/SQL types, variable, subprograms, constant, cursor and exceptions. A package is compiled and stored in the database, where many applications can share its contents. A package always has specification, which declares   the public items, that can be referenced from outside the package.

2.8.1 Advantages of packages:

- **Modularity**
- **Easier Applications Design**
- **Hidden Implementations Details**
- **Added Functionality**
- **Better Performance**
- **Easier to Grant Roles**

2.8.2 Creating a Package:

A Package consist two parts.
- Specification
- Body

Syntax of PACKAGE SPWCIFICATION

> **CREATE OR REPLACE PACKAGE package_name**
> **IS**
> **PL/SQL_package_space**
> **END [PACKAGE_NAME];**

Syntax of PACKAGE BODY

> **CREATE OR REPLACE PACKAGE package_name**
> **IS**
> **PL/SQL_package_space**
> **END [PACKAGE_NAME];**

Package name specification the name of the package it must be unique in its namespace.

CHAPTER 3
EXISTING WORK

If you are a PL/SQL programmer, your value depends on your organization using the Oracle database. However, even if your organization is currently working Oracle, you cannot Count on this counting to be the case.

Oracle has too many advantages and lots of features that makes it popular and thereby makes it as the World's Largest enterprise Software company. Oracle comes with update versions with new features implemented in latest versions while the features of earlier versions still being continued. One important aspect is oracle databases tend to be backwards compatible. Also, when Oracle serve a new version, their documentation and resource contains a list of all the features up to date to that version thus makes it user friendly for one and more to learn the new advantages and lots of features.

Nowadays, Oracle mostly used for stored data, transaction such as banking transaction. In this admin manage transaction which is done publicly in many ways such as online recharge, payment bill etc. This application is complete solution of Organization, the reason of an employee direct connection of management and govt. their facelifts and their rights.

CHAPTER 4
PROPOSED WORK

Oracle is a database that responds very well with excellent performance in demanding environments. Oracle is a major database which along with its added features passes the ACID test, which is important in ensuring the integrity and constantly reduce of data. This is very important because data is the oxygen of any system or organization.

Oracle is used for almost all large application and one of the main applications in which Oracle takes its major presence is banking sector. In fact, ten of the world's top 10 banking sector using Oracle applications. This is the reason of Oracle offers a most powerfully combination of technology and comprehensive pre integrated business applications, including key functionality built specially for bank, construction firm, Public works department and many other site or sector. Oracle can provide their all information like academic; job history is stored there.

This application uses any kind of people who have basic knowledge of computer and using internet, but an application user is very attentive and dedicate to his/her works.
You must have your mind; which server are installed this Oracle application server must be faster and the room is air conditioned.
That's why Oracle is the powerful combination of all other Application.

CHAPTER 5
CONCLUSIONS

In this Report, we will discuss various code or command such as create table, Insert rows, update rows etc. We also discus supported datatypes, function, package, operators is also necessary to known because all of these is important to create a good or efficient script.

It also has too many advantage and features that makes popular and it as the world's largest enterprise software company. Oracle comes with update versions with new features implemented in latest versions while the features of earlier versions still being maintained. One important aspect is oracle databases is tending to be backwards compatible.

Also, with the features available in Oracle with the earlier versions in market the Oracle Company continue upgrading and releasing new products to market. New versions releases which gives better than the earlier versions and thus the performance is improved very much in later versions and thereby rating in the market growth and thus it proves greater satisfiability to the customers using the technology. Thus, the advantage of latest versions is that one would have more feature and much more batter capabilities.

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