

DIGITAL NETWORKING USING CYBER SPACE

Submitted in partial fulfilment of the required for the award of

Master of Computer Science

by

R RAKESH

REGISTER NO (42734028)



DEPARTMENT OF COMPUTER SCIENCE

SCHOOL OF SCIENCE AND HUMANITIES

SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

Accredited with Grade “A++” by NAAC

JEPPIAAR NAGAR, RAJIV GANDHI SALAI, CHENNAI 600 119

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SATHYABAMA

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BONAFIDE CERTIFICATE

This is to certify that this Project Report is the Bonafide work of **R RAKESH** (42734028) who carried out the project entitled **DIGITAL NETWORKING USING CYBER SPACE** who carried out the project entitled under my supervision from JANUARY 2024 to APRIL 2024.

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DECLARATION

I, **R RAKESH (42734028)** hereby declare that the Project Report entitled “**DIGITAL NETWORKING USING CYBER SPACE**” done by me under the guidance of **Ms. SHAMILI V M.Sc., Assistant Professor**, Department of Computer Science at **SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY**, Jeppiaar Nagar, Rajiv Gandhi Salai, Chennai-600 119 is submitted in partial fulfilment of the requirements for the award of Master of Science degree in Computer Science.

DATE: 20.04.2024

PLACE: CHENNAI

R RAKESH

SIGNATURE OF THE CANDIDATE

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R RAKESH

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1. INTRODUCTION

1.1. COMPANY PROFILE:



TechRel Technology with Relation is here to stay forever, and it would only continue to strengthen its grip over the business world in the years to come. Amidst such a situation, companies would continue requiring technology specialists, programmers, tester in large numbers. However, supporting this need and further fulfilling it will be possible only when the fundamental element of the entire ecosystem – education, would be correct, comprehensive, and focused.

At TechRel Institute, we aren't just a computer training institute, but industry experts that aim at empowering the technology industry with highly qualified, result-oriented, and agile professionals.

Organisation Website:	techrel.in
TECHREL TECHNOLOGIES:	IT Services
Headquarters Location:	Pune, Maharashtra-411004
TechRel Technology Employee Size:	150-200 Employees
Age of the company:	4years 8months

1.2. Project Overview:

Cyberspace is the software aimed at providing a wide range of access to the administrator in managing and monitoring the complaints registered by the customers regarding the problems they face in accessing the connections extended by the Cyberspace.

The administrator can even maintain the record of the employees working in the organization in allocating the tasks of attending to the complaints raised by the customers. This intranet-based application provides the user of the system a centralized view of the things maintained in the software depending on the privileges assigned by the administrator accordingly. Customers also see their data and they can send complaints to service provider if they have any problems regarding internet.

In this, there are different types employees are there to solve problems which have posted by the customers. Administrator has to assign the work to employees. Whenever employee logging in site he can see the latest work.

Employee has to solve the problem send the answer to customer directly.

2. SYSTEM ANALYSIS

System Analysis is first stage according to System Development Life Cycle model. This System Analysis is a process that starts with the analyst. Analysis is a detailed study of the various operations performed by a system and their relationships within and outside the system. One aspect of analysis is defining the boundaries of the system and determining whether or not a candidate should consider other related systems. During analysis, data is collected from the available files, decision points, and transactions handled by the present system.

Logical system models and tools are used in analysis. Training, experience, and common sense are required for collection of the information needed to do the analysis.

2.1. FEASIBILITY SYSTEM:

All projects are feasible, given unlimited resources and infinite time. But the development of software Cyberspace plagued by the scarcity of resources and difficult delivery rates. It is both necessary and prudent to evaluate the feasibility of a project at the earliest possible time.

Three key considerations are involved in the feasibility analysis.

2.1.1. Economical Feasibility:

The Cyberspace procedure is to determine the benefits and savings that are expected from a candidate system and compare them with costs. If benefits outweigh costs, then the decision is made to design and implement the system. Otherwise, further justification or alterations in proposed system will have to be made if it is to have a chance of being approved. This is an ongoing effort that improves in accuracy at each phase of the system life cycle.

As CYBERSPACE which provides continuous communication to users at the front end, provides solutions to different queries to various different problems as get from the use of

different product. And the solutions for their queries are sent to them by messaging to their sites within the expiry time or the time mentioned i.e., within 12hrs or 24hrs.

2.1.2. Technical Feasibility:

Technical feasibility centers on the existing computer system (hardware, software, etc.,) and to what extent it can support the proposed addition. If the budget is a serious constraint, then the project is judged not feasible.

CYBERSPACE is the product that is designed mainly on Java. The main reason behind choosing the Java environment is that, as the users. In order to post the queries to related Organization always require Input screen which usually provides services all around the time. Such environment that always gives instant reply to the users should support input screen. These requirements are satisfied by Java, as it is multi platform environment supports web Browser where as other languages lack these features.

In order user to continuously communicate he/she needs a reliable protocol i.e., is TCP/IP protocol. The Cyberspace protocol frequently transfers messages between client and user. Communication Standards such as HTTP is used An HTTP is a client/server interaction consists of a single request/reply interchange, it user-friendly environment.

2.1.3. Operational Feasibility:

People are inherently resistant to change, and computers have been known to facilitate change. It is understandable that the introduction of a candidate system requires special effort to educate, sell, and train the staff on new ways of conducting business.

Operations done in the CYBERSPACE are very fast and are able to succeed in sending the responses very fastly. Updating is done very quickly that the modified data is stored in the database in no time. Its supports up to five hundred simultaneously users against the central database at any given time.

2.2. EXISTING SYSTEM:

Cyberspace has been automated in 2003 using Html as front end and MS access as backend. This system is well adopted but could cater only stores the complaints but could not send

complaints. It requires lot of attention and risk from the user's side. Other departments such as employee had not automated. So this Intranet solution proves to be extremely good. In the present system the user has to login and he can send the problems. He also maintains the details of the old complaints.

Administrator cannot maintain old complaints in this system and last disadvantage is database. In this data base is MS access so that's why it's old one.

2.3. PROPOSED SYSTEM:

Proposed system are those that are automated, so that it is easy to retrieve the responses from the system fast and updating the details once the response or services are provided to the end-users upon their request without any difficulty and saves time.

Cyberspace using jsp as front end and Oracle as backend. This system is Very good it stores the details of all customers and also employees. In the present system we can maintain the old complaints and also update the customers and employees information. by using oracle we store the stored procedures, so that why we are using oracle.

3. SYSTEM CONFIGURATION

3.1. Hardware Specification:

Processor : Intel P-III based system

Processor Speed : 250 MHz to 833MHz

RAM : 64MB to 256MB

Hard Disk : 2GB to 30GB

3.2. Software Specification:

Language : JDK 1.5

Database : Oracle

Operating System : Any Operating System.

4. SYSTEM DESIGN

The most creative and challenging phase of the life cycle is system design. The term design describes a final system and the process by which it is developed. It refers to the technical specifications that will be applied in implementations of the candidate system. The design may be defined as “the process of applying various techniques and principles for the purpose of defining a device, a process or a system with sufficient details to permit its physical realization”.

The designer’s goal is how the output is to be produced and in what format. Samples of the output and input are also presented. Second input data and database files have to be designed to meet the requirements of the proposed output. The processing phases are handled through the program Construction and Testing. Finally, details related to justification of the system and

an estimate of the impact of the candidate system on the user and the organization are documented and evaluated by management as a step toward implementation.

The importance of software design can be stated in a single word “Quality”. Design provides us with representations of software that can be assessed for quality. Design is the only way where we can accurately translate a customer’s requirements into a complete software product or system. Without design we risk building an unstable system that might fail if small changes are made. It may as well be difficult to test, or could be one who’s quality can’t be tested. So it is an essential phase in the development of a software product.

4.1. DATABASE TABLES:

Database Tables:

ILogin-MasterAdmin:

User Name	Varchar2(20)
Password	Varchar2(20)

ILogin-MasterCustomer:

Customer-id	Number
Username	varchar2(20)
Password	varchar2(20)
Customer-type	varchar2(20)
Address1	varchar2(30)
Address2	varchar2(30)

Email-id	varchar2(20)
Phone	Number
Fax-no	Number
Conn-Type	Number

Employee CYBERSPACE:

Emp-id	Number
Emp-name	varchar2(20)
Password	varchar2(20)
Emp-type	varchar2(20)
Department	varchar2(20)
Contact-no	Number
Email	varchar2(20)
address1	varchar2(20)
address2	varchar2(20)

Customer-Compliant:

Customer-id	Number
Complaint-id	Number
Complaint-type	varchar2(20)
Complaint-desc	varchar2(20)

Complaint-date	Date
----------------	------

Assign Complaints:

Emp-id	Number
Comp-id	Number
Cust-id	Number
Comp-type	varchar2(20)
Comp-desc	varchar2(20)

Solve Problem:

Emp-id	Number
Comp-id	Number
Cust-d	Number
Comp-type	varchar2(20)
Comp-desc	varchar2(20)
Solution	varchar2(20)

4.2. NOTATIONS USED IN DATA FLOW DIAGRAMS

The logic dataflow diagrams can be drawn using only four simple notations i.e., special symbols or icons and the annotation that associates them with a specific system. Since the choice of notation we follow, does not affect impede or catalyze the system process; we used three symbols from YOURDON notation and one from Gain and Sarson notation as specified below.

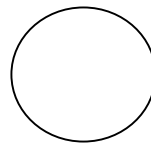
Element References

Symbols

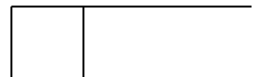
Data Flow Process



Process



Data Store



Source or Sink



Description:

Process: Describes how input data is converted to output data.

Data Store: Describes the repositories of data in a system.

Data Flow: Describes the data flowing between process, Data stores and external entities.

Sources: An external entity causing the origin of data.

Sink: An external entity, which consumes the data.

Context Diagram:

The top-level diagram is often called a “*context diagram*”. It contains a single process, but it plays a very important role in studying the current system. The context diagram defines the system that will be studied in the sense that it determines the boundaries. Anything that is not inside the process identified in the context diagram will not be part of the system study. It represents the entire software element as a single bubble with input and output data indicated by incoming and outgoing arrows respectively.

Types of data flow diagrams:

DFDs are two types:

1. Physical DFD:

Structured analysis states that the current system should be first understood correctly. The physical DFD is the model of the current system and is used to ensure that the current system has been clearly understood. Physical DFDs show actual devices, departments, people etc., involved in the current system

2. Logical DFD:

Logical DFDs are the model of the proposed system. They

Clearly should show the requirements on which the new system

Should be built. Later during design activity this is taken as the Basis for drawing the system's structure charts.

4.3. DATAFLOW DIAGRAMS (DFD)

The data flow diagram is used for classifying system requirements to major transformation that will become programs in system design. This is starting point of the design phase that functionally decomposes the required specifications down to the lower level of details. It consists of a series of bubbles joined together by lines.

Bubbles: Represent the data transformations.

Lines: Represents the logic flow of data.

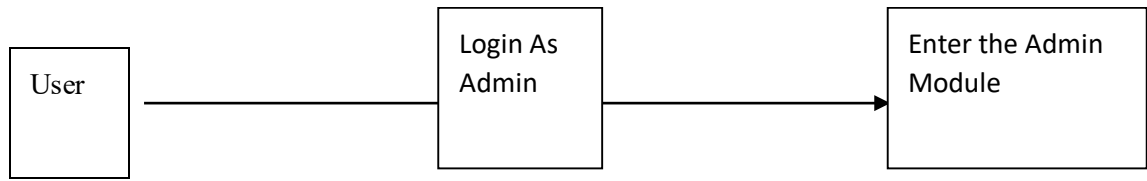
Data can trigger events and can be processed to useful information. System analysis recognizes the central goal of data in organizations. This dataflow analysis tells a great deal about organization objectives are accomplished.

Dataflow analysis studies the use of data in each activity. It documents this finding in DFD's. Dataflow analysis give the activities of a system from the viewpoint of data where it originates how they are used or hanged or where they go, including the stops along the way from their destination. The components of dataflow strategy span both requirements determination and system's design. The first part is called dataflow analysis.

As the name suggests, we didn't use the dataflow analysis tools exclusively for the analysis stage but also in the designing phase with documentation.

Data flow Diagrams:

Zero Level



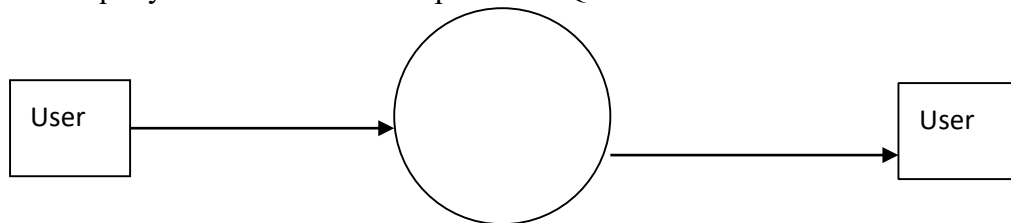
Id, password query

Responses of Queries

Context Level

Id, password & query

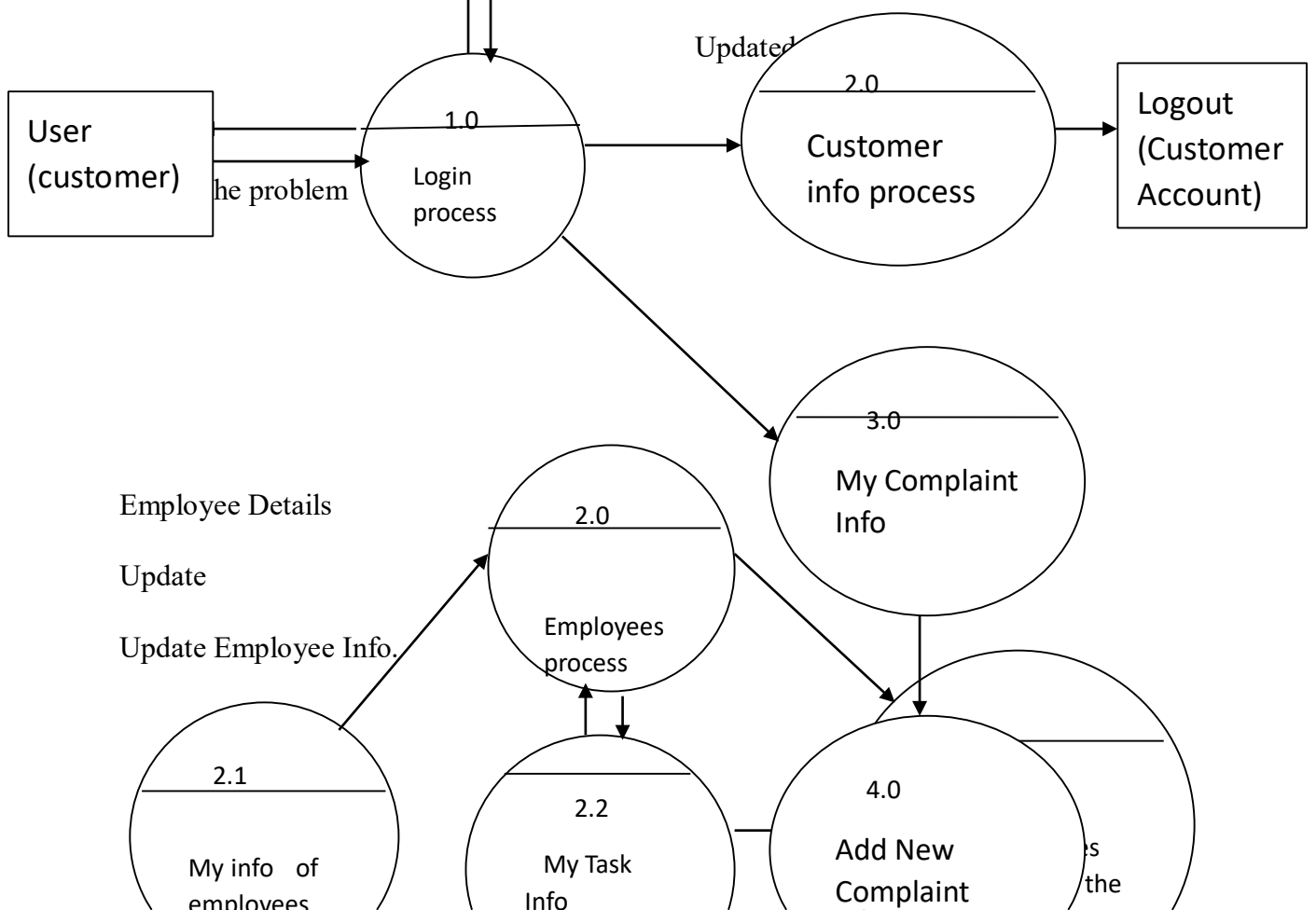
Responses of Queries



(If req

Pwd, Username

Second Level 2 (Employee's Module)



4.4. ER Diagrams:

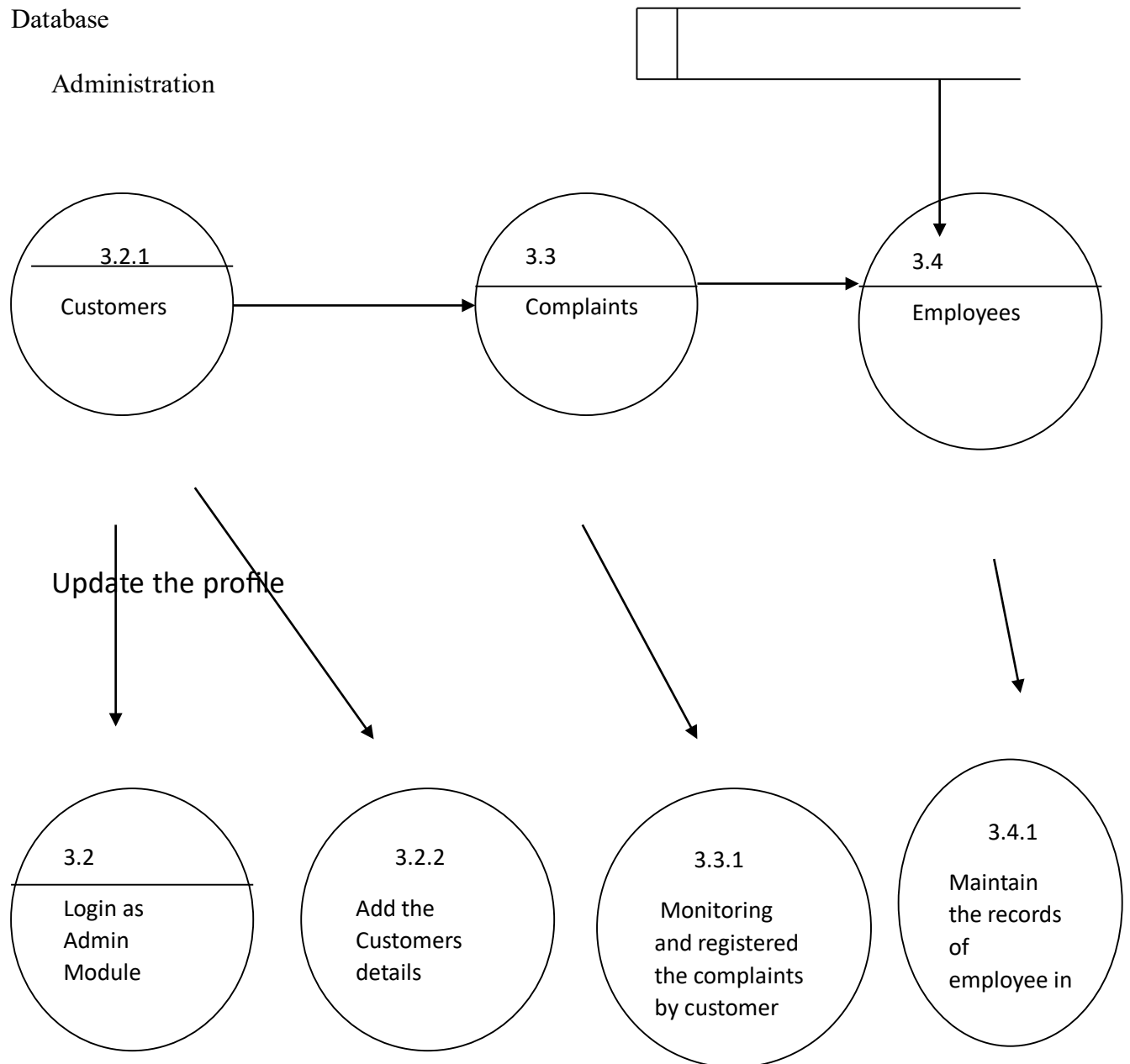
First level (Customer Module)

User database	5.0
cust details	
Updated	

Third level 3.0 (Admin Module)

Database

Administration



5. SYSTEM DESCRIPTION

5.1. MODULE:

5.1.1. Project Modules:

The following are the modules related to be as follows: -

1. Administrator
2. Employee
3. Customer

1. Administrator:

Administrator can add employees and also customers whenever they join in to organization. He has to maintain the details of all employees as well as customers. If any customer post problem he has to assign that problem to related employee. And also admin can update customer details.

2. Employee:

Employee has to login and if admin assign any work to employee, he has to solve the problem and post solution to that particular customer. So he can see his details and he cannot change the details.

3. Customers:

In this module customers can login by using their own id and password.

Customers can see their details and also if they have problem in internet also post that problem to provider. You will get solution after employee solved.

DICTIONARY:

The logical characteristics of current systems data stores, including name, description, aliases, contents, and organization, identifies processes where the data are used and where immediate access to information required, Serves as the basis for identifying database requirements during system design.

Uses of Data Dictionary:

1. To manage the details in large systems.
2. To communicate a common meaning for all system elements.
3. To Document the features of the system.
4. To facilitate analysis of the details in order to evaluate characteristics and determine where system changes should be made.
5. To locate errors and omissions in the system.

6. SOFTWARE TESTING AND IMPLEMENTATION

Software Testing is a critical element of software quality assurance and represents the ultimate review of specification, design and coding, Testing presents an interesting anomaly for the software engineer.

Testing Objectives include:

1. Testing is a process of executing a program with the intent of finding an error
2. A good test case is one that has a probability of finding an as yet undiscovered error
3. A successful test is one that uncovers an undiscovered error.

Testing Principles:

- All tests should be traceable to end user requirements
- Tests should be planned long before testing begins
- Testing should begin on a small scale and progress towards testing in large
- Exhaustive testing is not possible
- To be most effective testing should be conducted by a independent third party

6.1.TESTING STRATEGIES:

A Strategy for software testing integrates software test cases into a series of well planned steps that result in the successful construction of software. Software testing is a broader topic for what is referred to as Verification and Validation. Verification refers to the set of activities that ensure that the software correctly implements a specific function. Validation refers he set of activities that ensure that the software that has been built is traceable to customer's requirements

Unit Testing:

Unit testing focuses verification effort on the smallest unit of software design that is the module. Using procedural design description as a guide, important control paths are tested to uncover errors within the boundaries of the module. The unit test is normally white box testing oriented and the step can be conducted in parallel for multiple modules.

Integration Testing:

Integration testing is a systematic technique for constructing the program structure, while conducting test to uncover errors associated with the interface. The objective is to take unit tested methods and build a program structure that has been dictated by design.

Top-down Integration:

Top down integrations is an incremental approach for construction of program structure. Modules are integrated by moving downward through the control hierarchy, beginning with the main control program. Modules subordinate to the main program are incorporated in the structure either in the breath-first or depth-first manner.

Bottom-up Integration:

This method as the name suggests, begins construction and testing with atomic modules i.e., modules at the lowest level. Because the modules are integrated in the bottom up manner the processing required for the modules subordinate to a given level is always available and the need for stubs is eliminated.

Validation Testing:

At the end of integration testing software is completely assembled as a package. Validation testing is the next stage, which can be defined as successful when the software functions in the manner reasonably expected by the customer. Reasonable expectations are those defined in the software requirements specifications. Information contained in those sections form a basis for validation testing approach.

System Testing:

System testing is actually a series of different tests whose primary purpose is to fully exercise the computer-based system. Although each test has a different purpose, all work to verify that all system elements have been properly integrated to perform allocated functions.

Security Testing:

Attempts to verify the protection mechanisms built into the system.

Performance Testing:

This method is designed to test runtime performance of software within the context of an integrated system.

6.2. IMPLEMENTATION:

The Internet helped catapult Java to the forefront of programming, and Java, in turn, has had a profound effect on the Internet. The reason for this is quite simple: Java expands the universe of objects that can move about freely in the Cyberspace. In a network, two very broad categories of objects are transmitted between the server and our computer passive information and dynamic, active programs.

As desirable as dynamic, networked programs are, they also present serious problems in the areas of security and portability. Java achieves this security or protection by confining a Java program to the Java execution environment and not allowing it to access to other parts of the computer. Many types of the computers and operating systems are in use throughout the world and many are connected to the Internet. For programs to be dynamically downloaded to all the various types of platforms connected to the Internet, some means of generating portable executable code is needed.

Java was designed to be easy for the professional programmers to learn and use efficiently. The object model of Java is simple and easy to extend, while simple types, such as integers are kept as high-performance non-objects.

CYBERSPACE is implemented using the Java language so as to make the programmers (which include customers and employees) and different corporate clients and corporate users to handle CYBERSPACE easily without any difficulty.

The multiplatform environment of the web places extraordinarily demands on a program, because the program must execute reliably in a variety of systems. Thus, the ability to create robust programs was given a high priority in the design of Java. At the same time, Java frees us from having to worry about many of the most common cause of programming errors. Because Java is strictly typed language, it checks our code at the compile time and also at runtime.

Java was designed to meet the real world requirements of creating interactive, Networked programs. Java supports multithreaded programming, which allows us to write programs that do many things simultaneously. A central issue for the Java designers was that of code longevity and portability. Their goal was “write once; run anywhere, any time , forever “.

Java enables the creation of the cross-platform programs by compiling into intermediate representation called Java bytecode. This code can be interpreted on any system that provides a java virtual machine. Java is designed for the distributed environment of the Internet, because it handles TCP/IP protocols. In fact, accessing a resource using a URL is not much different from accessing a file. The original version of Java (OAK) included features for intra-addressspace messaging. Java programs carry with them substantial amounts of the run-time type information that is used to verify and resolve accesses to objects at run-time. This makes it possible to dynamically link code in a safe and expedient manner.

ABOUT INTERNET AND INTRANET:

Technologically, the Internet is network of computers. Not just a few special Computers, but over nine million of all kinds of computers. Similarly it is not just a network, but a network of networks hence the name and using TCP/IP (transmission control protocol and internet protocol).

INTERNET:

Internet is the name for a vast, worldwide system consisting of people, information and computers. Internet is global communication system of diverse, INTER connected computer NETWORK for the exchange of information of virtually every conceivable topic known to man.

Internet is not just one thing. It is a lot of things to lot of people. In today's world it is one of the most important commodity of life. The Internet is more important in what it enables than what it is, more of a phenomenon than fact.

INTRANET:

The classical definition of Intranet is the application of the Internet technologies to the internal business applications media most refer to the Intranet in terms of applying web technologies to information systems in the organization.

ABOUT JDBC (JAVA DATA BASE CONNECTION)

It is a java data base connectivity having data base as a back-end of java as front end. Database is a collectivity of related data. A data base management system (DBMS) controls the storage or retrieval of data in the database. The main use of this JDBC is the database connectivity.

Using drivers we can get connection to the back-end:

1. which drive we are going to connect back-end.
2. Create a data source name (DSN).
3. Create a statement for connection.

The package we use here is `import java. SQL. *`

Interfaces of jdbc include driver, connection, and statement; prepare statement, callable statement, Result Set, Result Set Meta data. Classes of JDBC are driver manages, driver property information, date, time, and timestamp, type. The driver defined by the class Jdbc

odbc driver in package sun.jdbc.odbc. Class sun.jdbc.odbc.jdbc odbc driver represents the jdbc to odbc bridge driver.

ABOUT SERVLETS:

Servlet is server side applet. It contains several advantages. They are:

- Performance is significantly better. Servlets execute within the address space of the web server. Creating a separate process to handle each client request isn't necessary.
- Servlets are platform-independent, because they are written in Java. Several web servers, from vendors such as sun, Netscape, and Microsoft, offer the servlet API. Programs developed for this API can be moved to any of these environments without recompilation.
- The java security manager on the server enforces a set of restrictions to protect the resources on a server machine.
- The full functionality of the Java class libraries is available to a servlet. It can communicate with applets, databases, or other software via the sockets and RMI mechanisms.

The Lifecycle of a Servlet:

Three methods are central to the lifecycle of a servlet: `init()`, `service()`, and `destroy()`. First, assume that a user enters a Uniform Resource Locator (URL) to the web browser. The web browser then generates an HTTP request for this URL and sends it to the appropriate server. Second the web server receives this HTTP request. The server maps this request to particular servlet. The servlet is dynamically retrieved and loaded into the address space of the server.

Third, the server invokes the `init()` method of the servlet. This method is invoked only when the servlet is first loaded into the memory. Fourth, the server invokes the servlet `service()` method, which is called to process the HTTP request. The `service()` method is called for each HTTP request.

Two packages are required to build the servlet they are `javax.servlet` and `javax.srvlet.http`. They constitute of servlet API. `ServletRequest` interface is used to read the data from a client request and `ServletResponse` is used to write data to the client response. The `javax.srvlet.http` package include interfaces like `HttpServletRequest` which enables

servlets to read data from HTTP request and HttpServletResponse which enables servlets to write data from HTTP response.

6.2.2. Introduction to HTML:

The hypertext markup language (HTML) is a simple markup language. Used to create a hypertext documents that are portable from one platform to another HTML documents are SGML (Standard generalized markup language) documents with generic semantics that are appropriate for representing information from a wide range of applications. This specification defines HTML version 3.2. HTML 3.2 aims to capture recommended practice as of early '96 and as such a replacement for HTML2.0 (RFC 1866).

A set of instructions embedded in a document is called mark up language. These instructions describe what the document text means and how it should look like in a dCyberspacelay. Hyper Text Mark Up language (HTML) is the language used to encode World Wide Web documents.

WHY TO USE HTML?

Website is a collection of pages, publications, and documents that reside on web server. While these pages publications and a document as a formatted in a single format, you should use HTML for home page and all primary pages in the site. This will enable the millions of web users can easily access and to take advantage of your website.

HTML is considered first for formatting any new material you plan to publish on the web. HTML documents are platform independent, meaning that they don't confirm to any standard. If they are created properly you can move home page to any server platform or you can access them with any complaint www browser.

STRUCTURE OF HTML:

HTML elements perform a defined task. HTML uses two types of elements

- . Empty Tags
- . Container Tags

These tags differ because of what they represent. Empty tags represent formatting constructs such as line breaks and horizontal rules. Container tags define a section of text, format and do all of the selected text. A container tag has both a beginning and an ending.

HTML LAYOUT:

An HTML document consists of text, which comprises the content of the document and tags, which, defines the structure, and appearance of the document. The structure of an HTML document is simple, consists of outer.

<HTML>tag enclosing the document header and body

<HTML>

<HEAD>

<TITLE>the title of HTML document</TITLE>

</HEAD>

<BODY>

This is where the actual HTML documents

Text lies, which is displayed in the browser

</BODY>

</HTML>

Each document has a head and body delimited by the <HEAD> and <BODY> tag. The head is where you give your HTML document a title and where you indicate other parameters the browser may use when displaying the document. This includes the text for displaying the text. Tag also references special and indicates the hot spots that link your document to other documents.

HTML FORMS:

Creating a form usually involves two independent steps: Creating the layout for the form itself and then writing a script program on the server side to process the formation you get back from a form.

To create a form, You use the <FORM> tag. Inside the opening and closing FORM tags are each of the individual form elements plus any other HTML content to create a layout for that form.

The opening tag of the FORM element usually includes the attributes: METHOD and ACTION. The METHOD attributes can be either GET or POST which determines how your form data is sent to the script to process it.

The ACTION attribute is a pointer to the script that processes the form on the server side. The ACTION can be included by a relative path or by a full URL to a script on your server or somewhere else. For example, the following <FORM> tag would call a script called formname in cgi-bin directory on server www.myserver.com

```
<FORM Method= post action=http://www.myserver.com/cgi-bin/form-name.pl>
```

```
.....
```

```
</FORM>
```

METHOD ATTRIBUTE:

The other required attribute for the <form> tag sets the methods by which the browser form's data to the server for processing. There are two ways: the POST method and GET method. With POST method, the browser sends the data in two steps: the browser first contacts the form-processing server specified in the action attributes, and once contact is made, sends the data.

The GET method in the other hand, contacts the form processing server and sends the form data in a single transaction step: the browser appends the data to the form's action URL, separated by the question mark (?) character.

6.2.3. INTRODUCTION TO JAVA:

CREATION OF JAVA:

Java was conceived by James Gosling, Patrick Naughton, Chris Warth, Ed Frank and Mike Sheridan at SUN Microsystems Incorporation in the year 1991. It took 18 months to develop the 1st working version. This language was initially called “OAK”, but was renamed “JAVA” in 1995, many more contributed to the design and evolution of the language.

JAVA OVERVIEW:

Java is a powerful but lean object-oriented programming language. It has generated a lot of excitement because it makes it possible to program for Internet by creating Applets. Programs that can be embedded in web page. The context of an applet can be an animation with sound, an interactive game or a ticker tape. With constantly updated stock prices. Applets can be just little decorations to liven up web page, or they can be serious applications like Word processor or Spreadsheet.

But Java is more than a programming language for writing Applets. It is being used more and more for writing standalone applications as well. It is becoming so popular that many people believe it will become standard language for both general purpose and Internet programming.

There are many buzzwords associated with Java, but because of its spectacular growth in popularity, a new buzzword has appeared ubiquitous. Indeed, all indications are that it will soon be everywhere.

Java builds on the strength of C++. It has taken the best features of C++ and discarded the more problematic and error prone parts. To this lean core, it has added garbage collection (automatic memory management), multithreading (the capacity for one program to do more than one thing at a time), security capabilities. This result is that Java is simple, elegant, and powerful and easy-to-use.

Java is actually a platform consisting of 3 components:

1. Java Programming Language.

2. Java Library of Classes and Interfaces.
3. Java Virtual Machine

The following sections will say more about these components.

JAVA CYBERSPACEORTABLE:

One of the biggest advantages Java offers is that it is Cyberspaceortable. An application written in Java will run on all the major platforms. Any computer with a Java-based browser can run the applications or Applets written in the Java-Programming-Language. A programmer no longer has to write one program to run on a Macintosh, another program to run on a Windows-machine still another to run on a UNIX-machine and so on. In other words, with Java developers write their programs only once.

The Virtual Machine is what gives Java its cross platform capabilities. Rather than being compiled into machine language, which is different for each OS's and computer architecture, Java code is compiled into Byte codes.

With other languages, the program code is compiled into a language that the computer can understand. The problem is that other computers with different machine instruction sets cannot understand that language. Java code on the other hand is compiled into Byte-Code rather than a machine language. These byte codes go to the JVM, which executes them directly or translates them into the language that is understood by the machine running it.

In summary, this means that with the JDBC API extending Java, a programmer writing Java code can access all the major RDBMS on any platform that supports the JVM.

JAVA IS OBJECT-ORIENTED:

The Java programming language is OBJECT-ORIENTED, which makes program design focus on what you are dealing with, rather than on how you are going to do something. This makes

it more useful for programming in sophisticated projects, because one can break the things into understandable components. A big benefit is that these components can then be reused. Object-Oriented Languages use the paradigm of classes. In simplest term, a class includes both the data and the functions to operate on data. You can create an instance of a class, also called an object, which will have all the data members and functionality of its class. Because of this, you can think of a class as being like template, with each object being a specific instance of a particular type of class.

The class paradigm allows one to encapsulate data so that specific data values are those using the data cannot see the function implementation. Encapsulation makes it possible to make the changes in code without breaking other programs that use that code.

If for example, the implementation of a function is changed, the change is invisible to any programmer who invokes that function, and does not affect his/her program, except hopefully to improve it.

Java includes inheritance, or the ability to derive new classes from existing classes. The derived class, is also called as Sub-Class, inherits all the data in the functions of the existing class.

JAVA DEVOLPMENT EVNIRONMENT:

To code, edit, debug and test the java programs, one needs to have a java development environment. At the minimum this will consists of a java compiler interpreter and applet viewer where applets can be tested.

Sun's java development kit (JDK) latest version is 2.2 can be freely downloaded from the Internet.

Java compiler is available on DOS, Win95, WIN'NT, Solaris and MAC etc.

Introduction to JavaScript:

JavaScript:

JavaScript is a new scripting language for WebPages. Scripts written with java script can be embedded into your HTML pages. With java script you have many possibilities for enhancing your HTML page with interesting elements. For example you are able to respond to

userinitiated events quite easily. Some effects that are now possible with java script were some time ago only possible with CGI. So you can create really sophisticated pages with the helps of java script on the Internet.

Difference between java and Java Script:

Although the names are almost the same Java is not the same as Java Script. These are two different techniques for Internet programming. Java Cyberspace Programming language. JavaScript is a scripting language as the name implies. The difference is that we can create real programs with java. But java script is not real programming. Java Script is meant to be easy to understand and easy to use. JavaScript authors should not have to care too much about programming. We could say that Java Script is rather an extension to HTML than a separate computer language. Of course this is not the official definition but it makes it easier to understand the difference between java and java script.

How can Java Script Scripts run?

The first browser to support java script was the Netscape Navigator 2.0 of course the higher versions do have java script as well. You might know that java does not run on all Netscape Navigators 2.0 (or higher versions) versions. But this is not true for java script -although there are some problems with the different versions.

The Mac version for example seems to have many bugs. In the near future there are going to be some other browsers, which support java script. The Microsoft Internet explorer 3.0 is going to support java script. JavaScript enabled browsers are going to spread soon - it is worth learning this new technique now. You might realize that is really easy to write Java Script scripts. We have to know is some basic techniques and some work-around for problems you might encounter. Of course we need a basic. Understanding HTML before reading this tutorial you can find many really good online resources about HTML. Best you make an online search about 'html' at yahoo if you want to get informed about HTML. Now I want to show some small scripts so you can learn how they are implemented into HTML-documents and to show

which possibilities you have with the new scripting language. The following is a very small script, which will only print a text into an HTML document.

```
<html>
```

```
<head>
```

```
My first JavaScript
```

```
</head>
```

```
<body><br>
```

```
This is a normal HTML document
```

```
<br>
```

```
<script language="JavaScript">
```

```
Document.write ("this is a java script")
```

```
</script><b r>
```

```
Backing HTML again
```

```
</body>
```

```
</html>
```

If you are using a java script enabled-browser at the moment then you will have the possibility to see this script working. If your browser doesn't support Java Script then this output might be some kind of strange... This is a normal HTML document

This is java script!

Back in HTML again.

Functions:

Functions are bet declared between the <Head> tag of HTML page. Functions are called by user-initiated events. Seems reasonable to keep the functions between the <Head> tags. They are loaded first before a user can do anything that might call a function. Scripts can be placed between inside comment fields to ensure that older browser do not dCyberspacelay the script itself.

```
<html>

<head>

<script language="JavaScript">

function pushbutton () { alert

("Hello!");

}

</script>

</head>

<body>

<form>

<input type="button" name="Button1" value="push me" onclick="pushbutton ()">

</form>

</body>

</html>
```

If we want to test this one immediately and you are using a Java Script enabled browser then please go ahead and push the button.

This script will create a button and when you press it a window will pop up saying "hello!". In fact we have a lot of possibilities just by adding functions to our scripts.

The common browsers transmit the form information by either method: here's the complete tag including the GET transmission method attribute for the previous form

Example:

```
<Form method =GET action=http://www.mycompany.com/cgi-bin/upfdate.pl>  
  
.....  
  
</form>
```

Input elements.

Use the <input> tag to define any one of a number of common form elements including text fields multiple choice lists click able images and submission buttons. There are many attributers for this tag only that types and name attributes are required for each element, each type of input element uses only a subset of the followed attributes. Additional <input> attributes may be required based upon which type of the form element you specify.

Submit button:

The submit button (<input type=submit>) does what its name implies, settings in motion the form's submission to the server from the browser. We many have more than submit buttons will be added to the parameter list the browser sends along to the server.

Example:

```
< Input type ="submit">  
  
<Input type="submit" value="submit" name="name">
```

Reset button:

The reset button if firm <input> button is nearly self- explanatory; it lets the user reset erase or set to some default value all elements in the form. By default the browser dCyberspacelays a

reset button worth the label “reset”. We can change that by specifying a value attribute with our own button label.

INTRODUCTION TO JDBC:

JDBC (Java Database connectivity) is a front-end tool for connecting to a server to ODBC in that respect, however JDBC can connect only java client and it uses ODBC for the connectivity. JDBC is essentially a low-level API since any data manipulation, storage and retrieval has to be done by the program itself. Some tools, which provide a higher-level abstraction, are expected shortly.

The next question that needs to be answered is why we need JDBC, once we have ODBC on hand. We can use the same ODBC to connect the entire database and ODBC is a proven technology.

Problem for doing this is ODBC gives a ‘c’ language API, which uses pointers extensively. Since java does not have any pointers and is object-oriented sun Microsystems, inventor of java developed to suit its needs.

Requirements to use JDBC:

To use JDBC you need a basic knowledge of databases and SQL. Apart from this you need the jdk1.1 (Java Development Kit 1.1 available java soft’s website) or a version of Java since jdk1.1 and above come bundled with JDBC software.

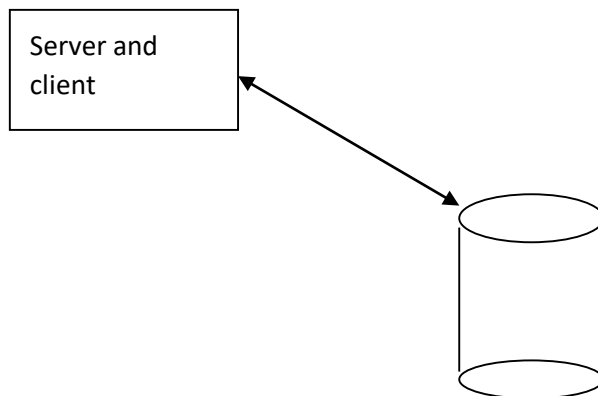
After that you need to have a back-end database engine for which a JDBC driver is available. When JDBC drivers are not available JDBC-ODBC bridge drivers are used to access the database through ODBC. Back-end is not needed when JDBC driver is capable of storing and retrieving the data itself, or if JDBC-ODBC Bridge and the ODBC driver can be used to store and retrieve the information.

DATABASE MODELS:

JDBC and accessing the database through applets and JDBC API via an intermediate server resulted server resulted in a new type of database model which is different from the clientserver model. Based on number of intermediate server through the request should go it is named as single tire, two tire and multi tire architecture

Single Tier:

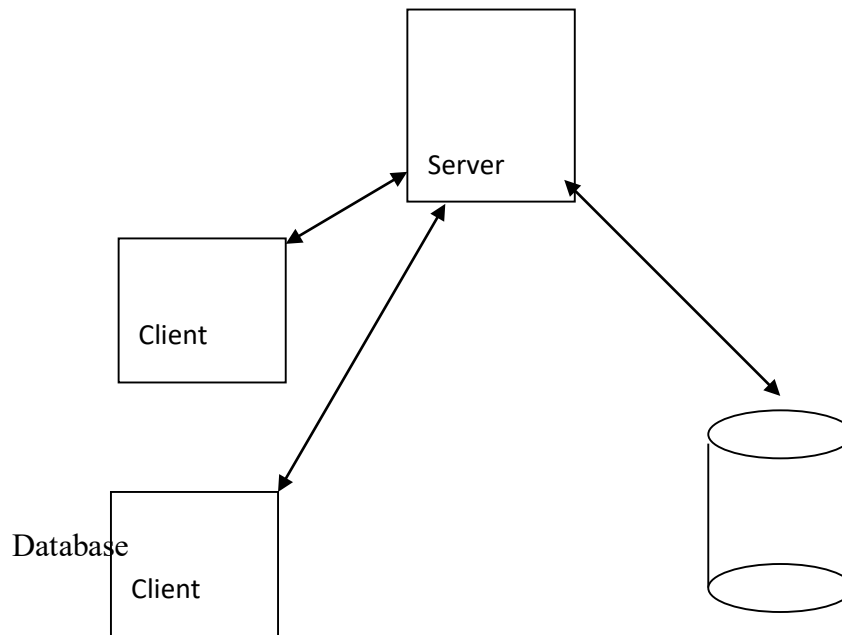
In a single tier the server and client are the same in the sense that a client program that needs information (client) and the source of this type of architecture is also possible in java, in case flat files are used to store the data. However this is useful only in case of small applications. The advantage with this is the simplicity and portability of the application developed



Database

Two Tier (client-server):

In two tier architecture the database resides in one machine and client in different machine they are connected through the network. In this type of architecture a database management takes control of the database and provides access to clients in a network. This software bundle is also called as the server. Software in different machines, requesting for information are called as the clients.



Three Tier and N-Tier:

In the three-tier architecture, any number servers can access the database that resides on server. Which in turn serve clients in a network. For example, you want to access the database using java applets, the applet running in some other machine, can send request only to the server from which it is down loaded. For this reason we will need to have a intermediate server which will accept the requests from applets and them to the actual database server. This intermediate server acts as a two-way communication channel also. This is the information or data from the database Cyberspaceassed on to the applet that is requesting it. This can be extended to make n tiers of servers, each server carrying to specific type of request from clients, however in practice only 3 tiers architecture Cyberspaceopular.

JDBC Driver Types:

The JDBC drivers that we are aware of at this time fit into one of four categories:

1. JDBC-ODBC BRIDGE PLUS ODBC DRIVER:

The java soft bridge product provides JDBC access via ODBC drivers. Note that ODBC binary code end in many cases database client code must be loaded on each client machine that uses this driver. As a result, this kind of driver is most appropriate on a corporate network where client installations are not major problem, or for application server code written in java in a 3tier architecture.

2. NATIVE API PARTLY-JAVA DRIVER:

This kind of driver converts JDBC calls into calls on the client API for oracle Sybase, Informix, DB2, or other DBMS. Note that, like the bridge driver, this style of driver requires that some binary code be loaded on each client machine.

3. JDBC-NET ALL-JAVA DRIVER:

This driver translates JDBC calls into a DBMS independent net protocol, which is then translated, to a DBMS protocol by a server. This net server middle-ware is able to connect its all java clients to many different databases. The Specific protocol used depends on the vendor. In general, this most flexible JDBC alternative. It is likely that all vendors of this solution will provide products suitable for intranet use. In order for these products to also support Internet access, they must handle the additional requirements for security, access through firewalls, etc that the web imposes. Several vendors are adding JDBC drivers to their existing database middleware products.

4. NATIVE PROTOCOL ALL-JAVA DRIVER:

This kind of driver converts JDBC calls into the network protocol used by DBMS directory. This allows a direct call from the client machine to the DBMS server that Cyberspaceractical solution for intranet access. Since many of these protocols are proprietary, the database vendors themselves will be the primary source. Several database vendors have these in progress. Eventually, we expect that driver categories 3 and 4 will be the preferred way to access databases from JDBC. Driver categories one and two are interim solutions where direct all java

drivers are not yet available. Category 4 is in some sense the ideal; however, there are many cases where category 3 may be preferable: eg: -where a thin DBMS-independent client is desired, or if a DBMS –independent protocol is standardized and implemented directly by many DBMS vendors.

Servlets:

Servlets provides a Java-Based solution used to address the problems currently associated with doing server side programming, including inextensible scripting solutions, platform specific APIs, and incomplete interfaces. Servlets are objects conform to a specific interface that can be plugged into a Java-based server. Servlets are to the server-side what applets are to the client-side-object byte codes that can be dynamically loaded off the net. They differ from applets in that they are faceless objects (without graphics or a GUI component). They serve as platform independent, dynamically loadable, plug gable helper byte code objects on the server side that can be used to dynamically extend server-side functionality.

For example, an HTTP servlet can be used to generate dynamic HTML content. When you use servlets to do dynamic content you get the following advantages:

- 1.They're faster and cleaner than CGI scripts.
- 2.They use a standard API (the Servlet API)
- 3.They provide all the advantages of Java (run on a variety of servers without needing to be rewritten)

The attractions of Servlets:

There are many features of servlets that make them easy and attractive to use. These include:

Easily configured using the GUI-based Admin Tool.

Can be loaded and invoked from a local disk or remotely across the network.

Can be linked together, or chained, so that one servlet can call another servlets, or several servlets in sequence.

Can be called dynamically from within HTML pages, using server-side include tags

Invoking the Servlet:

To invoke a servlet you call it by creating a URL with “/servlet/” pretended to the servlet name. Then enter this URL in your favorite browser to see the output of the Servlet.

Example:

After installing according to the directions above, access the HelloServlet by entering the following URL in your favorite browser: <http://server-host-name:8080/servlet/hell>

Internal Servlets:

The Java Server servlet architecture is very flexible and the server takes advantage of this by dividing up its work among several internal servlets.

They are:

- 1.File Servlet
- 2.Invoker Servlet
- 3.Server side include servlet
- 4.Admin Servlet
- 5.CGI Servlet
6. Image map servlet

File Servlet:

The file servlet provides the standard document serving capabilities of java server. This servlet includes a caching mechanism to speed up response times of frequently accesses files. In addition it recognizes files that are to be parsed for server side includes and passes them on to the SSInclude Servlet.

Servlets are an effective substitute for CGI scripts and provide a faster and cleaner way to generate dynamic documents.

The java server is both flexible and extensible. Using the java server APIs you can write your own servlet and incorporate it into the server. To do this follows these three steps

1. Write the servlet
2. Configure the servlet
3. Invoke the servlet

Writing the Servlet:

Unless they are used with the http protocol, servlets subclass the servlet. GenericServlet class and override the service (Servlet Request, ServletResponse) method.

Servlets use with the HTTP protocol should subclass the javax.servlet.HttpServlet class override one or both of the doGet (HttpServletRequest, HttpServletResponse) and doPost (HttpServletRequest, HttpServletResponse) methods

Servlets class may choose to override the default implementations of the servlet “lifecycle” servlet methods, init (ServletConfig) and destroy ().

Configuring the Server:

The real beauty of the java server is that it is extensible. But, before you can use a Servlet to add an extended functionality to the Java Server. You have to use the Java Server administration applet to install the Servlet and specify the default parameters and arguments.

Cyberspace lay the Administration Applet by connecting to:

http://server_Host_Name:9090/index.html

Are secure-even when downloading across the network, the servlets security model and the Servlet sandbox to protect your system from unfriendly behavior.

The advantage of the Servlet API:

One of the great advantages of the Servlet API Cyberspace protocol independence. It assumes nothing about:

The protocol being used to transmit on the net.

How it is loaded.

The server environment it will be running in.

These qualities are important, because it allows the Servlet API to be embedded in many different kinds of Servers. There are other advantages to the servlet API as well.

Servlet Features:

The Java Server provides several important Servlet features. These include:

Loading & Invoking Servlets.

Servlets can be loaded both locally and remotely.

Filters and Servlets change.

The Java Server uses MIME types to call Servlets sequentially.

Server size includes:

Servlets can be invoked from dynamic HTML documents using Server side include tags.

Replacing the CGI Scripts.

ORACLE:

INTRODUCTION:

Oracle is a relational database management system, which organizes data in the form of tables. Oracle is one of many database servers based on RDBMS model, which manages a seer of data that attends three specific things-data structures, data integrity and data manipulation. With oracle cooperative server technology we can realize the benefits of open, relational systems for all the applications. Oracle makes efficient use of all systems resources, on all hardware architecture; to deliver unmatched performance, price performance and scalability. Any DBMS to be called as RDBMS has to satisfy Dr. E.F. Codd's rules.

DISTINCT FEATURES OF ORACLE:

- ORACLE CYBERSPACEORTABLE:

The Oracle RDBMS is available on wide range of platforms ranging from PCs to super computers and as a multi user loadable module for Novel NetWare, if you develop application on system you can run the same application on other systems without any modifications.

- ORACLE IS COMPATIBLE:

Oracle commands can be used for communicating with IBM DB2 mainframe RDBMS that is different from Oracle that is Oracle compatible with DB2. Oracle RDBMS is a high performance fault tolerant DBMS, which is specially designed for online transaction processing and for handling large database applications.

- MULTITHREADED SERVER ARCHITECTURE:

Oracle adaptable multithreaded server architecture delivers scalable high performance for very large number of users on all hardware architecture including symmetric multiprocessors (sumps) and loosely coupled multiprocessors. Performance is achieved by eliminating CPU, I/O, memory and operating system bottlenecks and by optimizing the Oracle DBMS server code to eliminate all internal bottlenecks.

FEATURES OF ORACLE:

Most popular RDBMS in the market because of its ease of use

- Client/server architecture.
- Data independence.
- Ensuring data integrity and data security.
- Managing data concurrency.
- Parallel processing support for speed up data entry and online transaction processing used for applications.
- DB procedures, functions and packages.

Dr. E.F. CODD's RULES:

These rules are used for valuating a product to be called as relational database management systems. Out of 12 rules, a RDBMS product should satisfy at least 8 rules +rule called rule 0 that must be satisfied.

RULE 0: FOUNDATION RULE:

For any system that is to be advertised as, or claimed to be relational DBMS. That system should manage database with in it self, with out using an external language.

RULE 1. INFORMATION RULE:

All information in relational database is represented at logical level in only one way as values in tables.

RULE 2. GUARANTEED ACCESS:

Each and every data in a relational database is guaranteed to be logically accessibility by using to a combination of table name, primary key value and column name

RULE 3. SYSTEMATIC TREATMENT OF NULL VALUES:

Null values are supported for representing missing information and inapplicable information. They must be handled in systematic way, independent of data types.

RULE 4. DYNAMIC ONLINE CATALOG BASED RELATION MODEL:

The database description is represented at the logical level in the same way as ordinary data so that authorized users can apply the same relational language to its interrogation as they do to the regular data.

RULE 5. COMPRHENSIVE DATA SUB LANGUAGE:

A relational system may support several languages and various models of terminal use. However there must be one language whose statement can express all of the following:

Data Definitions, View Definitions, Data Manipulations, Integrity, Constraints, Authorization and transaction boundaries.

RULE 6. VIEW UPDATING:

Any view that is theoretical can be updatable if changes can be made to the tables that effect the desired changes in the view.

RULE 7. HIGH LEVEL UPDATE, INSERT and DELETE:

The capability of handling a base relational or derived relational as a single operand applies not only retrieval of data also to its insertion, updating, and deletion.

RULE 8. PHYSICAL DATA INDEPENDENCE:

Application program and terminal activities remain logically unimpaired whenever any changes are made in either storage representation or access method.

RULE 9. LOGICAL DATA INDEPENDENCE:

Application programs and terminal activities remain logically unimpaired whenever any changes are made in either storage representation or access methods.

RULE 10. INTEGRITY INDEPENDENCE:

Integrity constraints specific to particular database must be definable in the relational data stored in the catalog, not in application program.

RULE 11: DISTRIBUTED INDEPENDENCE:

Whether or not a system support database distribution, it must have a data sub-language that can support distributed databases without changing the application program.

RULE 12: NON SUB-VERSION:

If a relational system has low level language, that low language cannot use to subversion or by pass the integrity rules and constraints expressed in the higher level relational language.

ORACLE SUPPORTS THE FOLLOWING CODD'S RULES:

Rule 1: Information Rule (Representation of information)-YES.

Rule 2: Guaranteed Access-YES.

Rule 3: Systematic treatment of Null values-YES.

Rule 4: Dynamic on-line catalog-based Relational Model-YES.

Rule 5: Comprehensive data sub language-YES.

Rule 6: View Updating-PARTIAL.

Rule 7: High-level Update, Insert and Delete-YES.

Rule 8: Physical data Independence-PARTIAL.

Rule 9: Logical data Independence-PARTIAL.

Rule 10: Integrity Independence-PARTIAL.

Rule 11: Distributed Independence-YES.

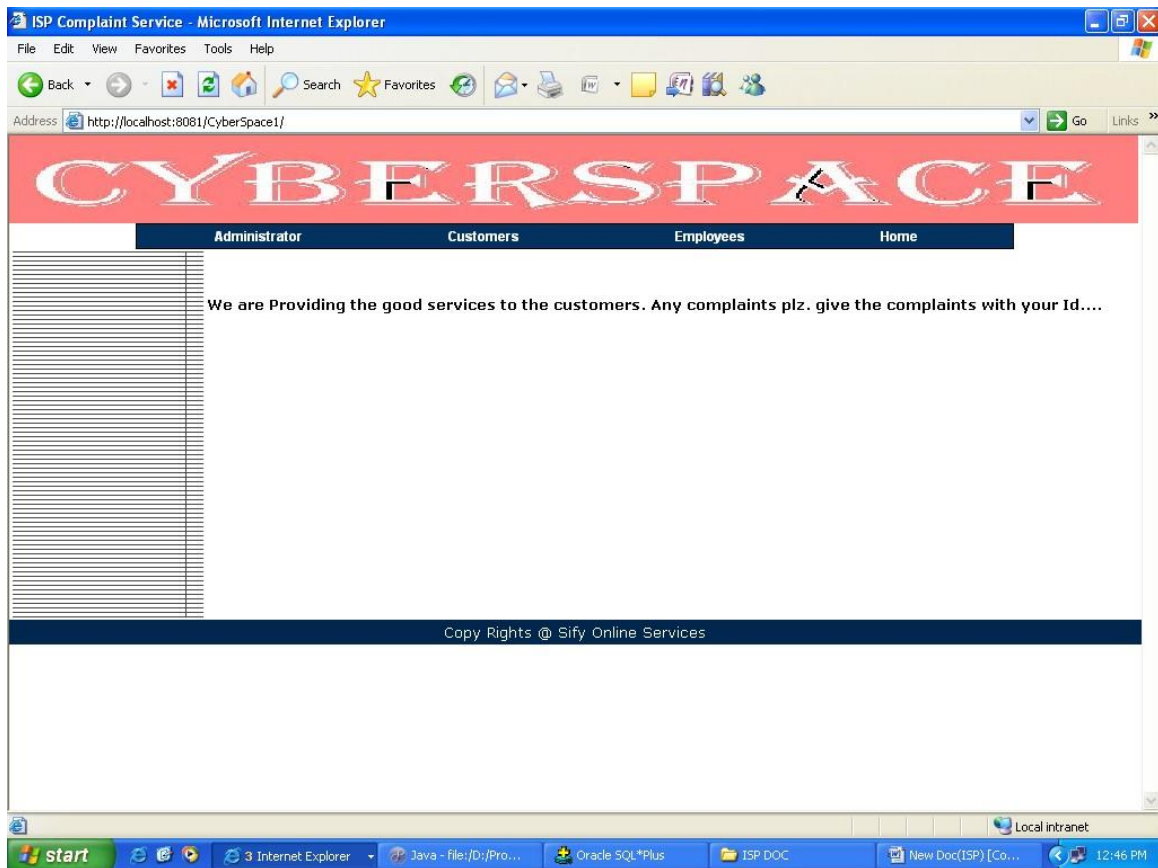
Rule 12: Non-subversion-YES.

07. CONCLUSION

The result of the CYBERSPACE is that it supports many solved complaints from admin and the individual users or the end-users with unique interface, through which the employee problems are solved within given time and it shows efficiency in the internal messaging system and results in accurate task scheduling system and this can be run with the minimal administration.

8. FORMS AND REPORT

Home Page from administrator, customers and employees can login using their id.



Admin Login:

The screenshot shows a web browser window titled "ISP Complaint Service - Microsoft Internet Explorer". The address bar displays "http://localhost:8081/CyberSpace1/AdminLoginPage.jsp". The page features a red header with the word "CYBERSPACE" in large, white, stylized letters. Below the header is a dark blue navigation bar with links for "Administrator", "Customers", "Employees", and "Home". The main content area has a light gray background and contains the text "Admin Login from Here....". Below this text are two input fields labeled "User Name" and "Password", followed by a "Submit" button. A vertical sidebar with a striped pattern is visible on the left side of the page. At the bottom of the page, a dark blue footer contains the text "Copy Rights 2008-09 @OITC Services". The Windows taskbar at the bottom shows the Start button and several open applications: Internet Explorer, Java, Oracle SQL*Plus, ISP DOC, and New Doc(ISP).

ISP Complaint Service - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Refresh Print Mail New Window New Tab

Address http://localhost:8081/CyberSpace1/AdminLoginPage.jsp Go Links

CYBERSPACE

Administrator Customers Employees Home

Admin Login from Here....

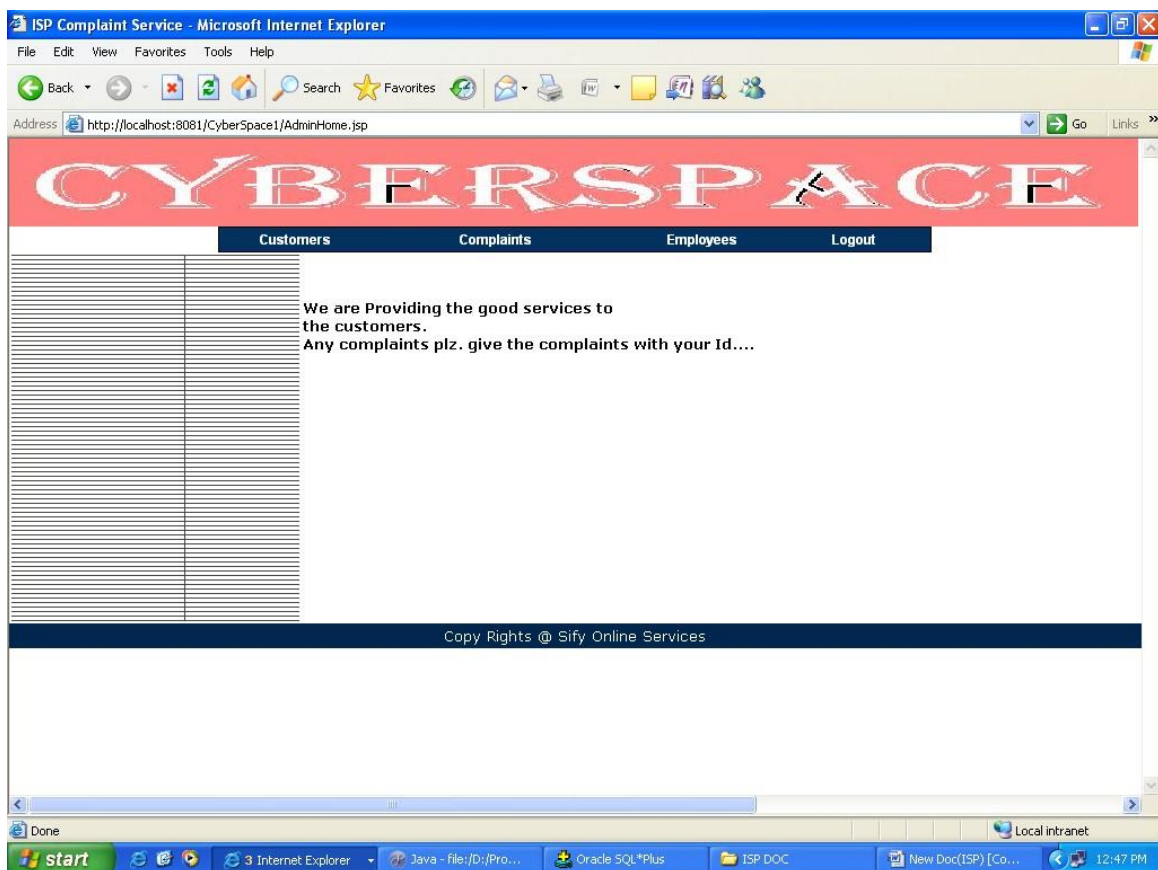
User Name

Password

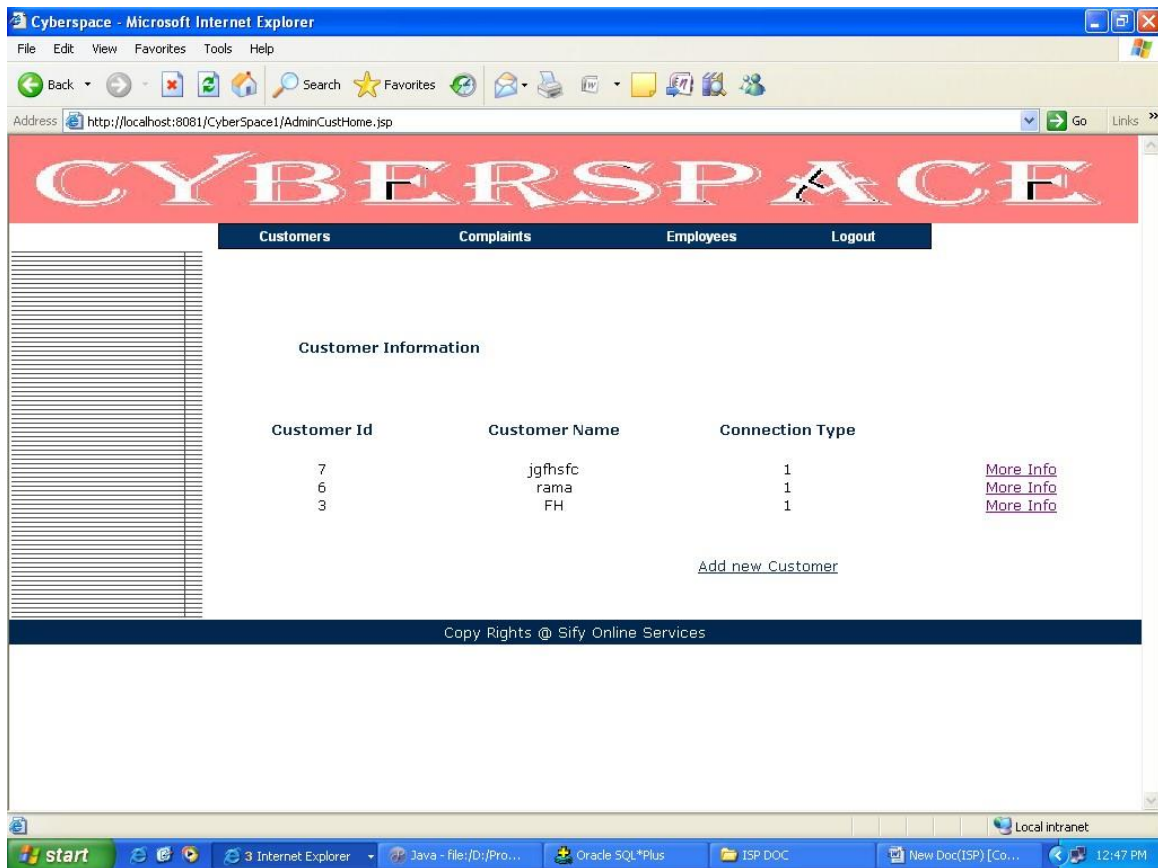
Copy Rights 2008-09 @OITC Services

start Internet Explorer Java - file:/D:/Pro... Oracle SQL*Plus ISP DOC New Doc(ISP) [Co... 12:47 PM

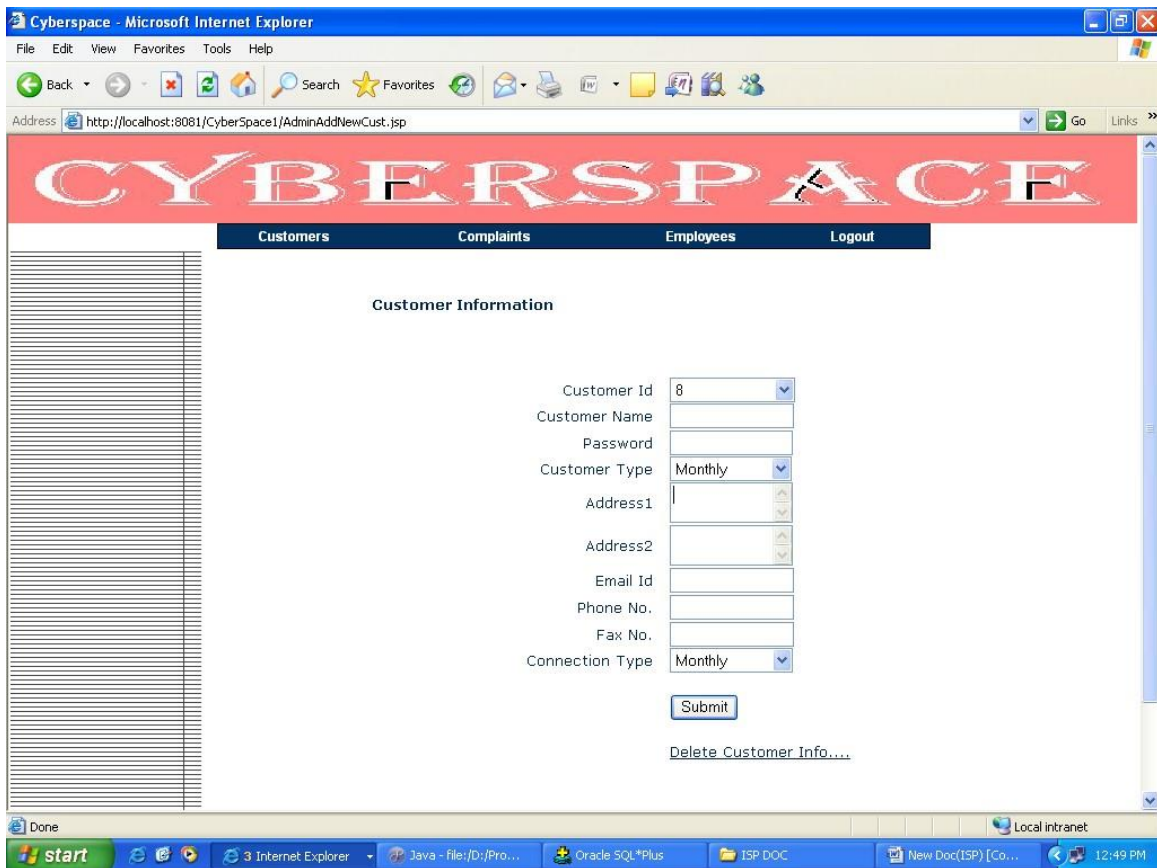
Admin Home Page:

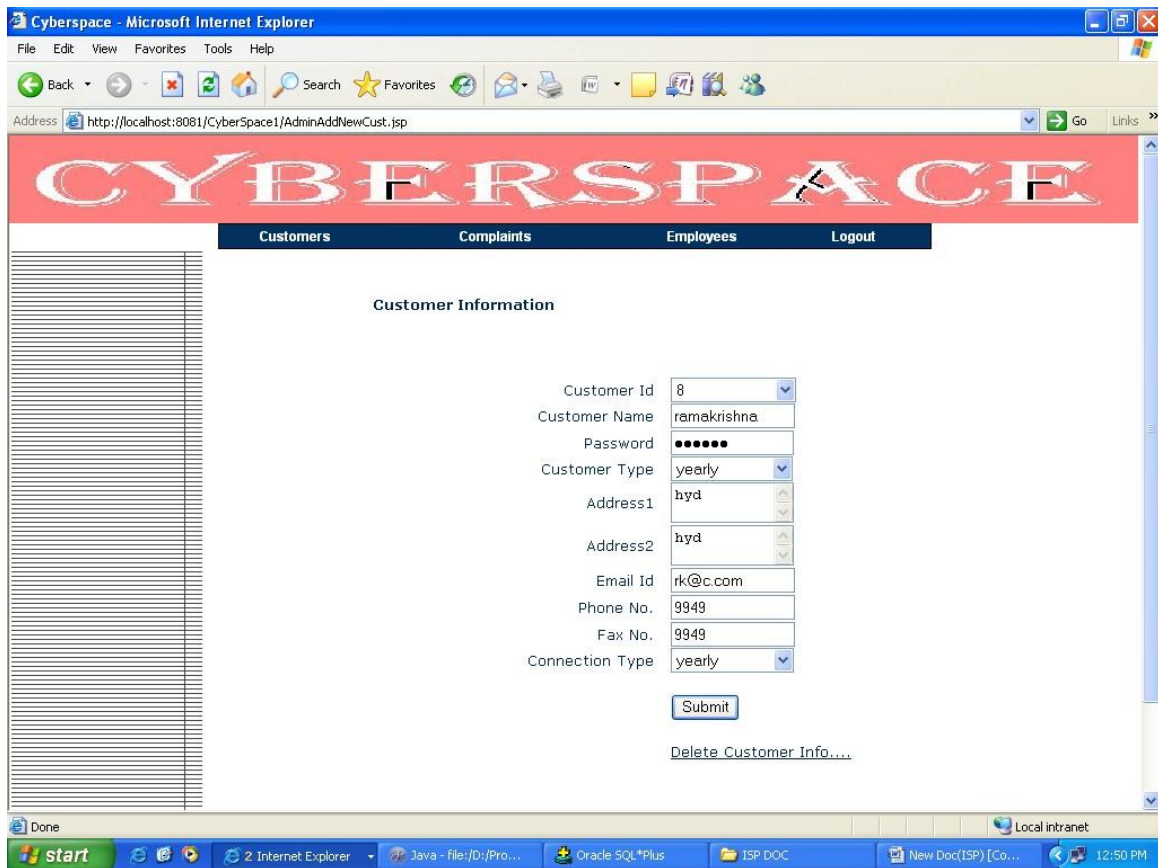


Customer Details in Admin Page:

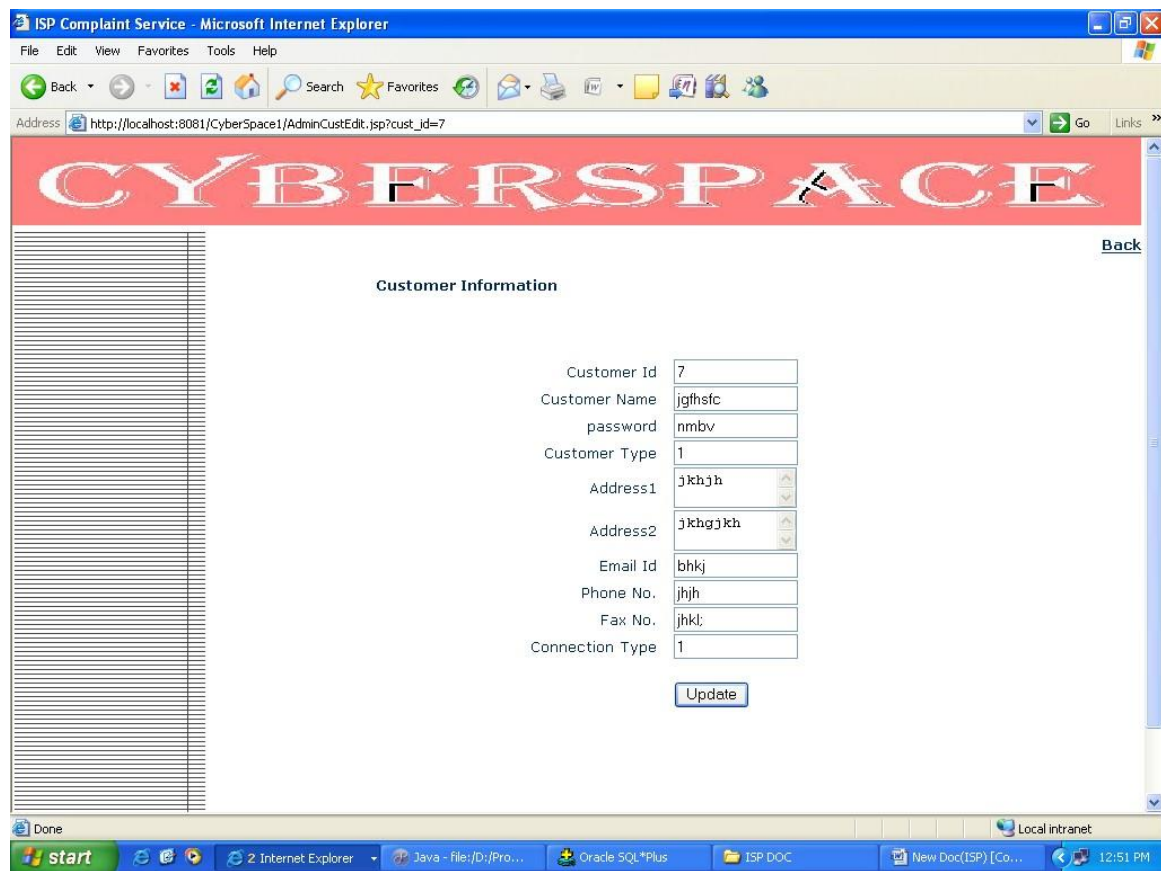


Add New Customer in admin page:

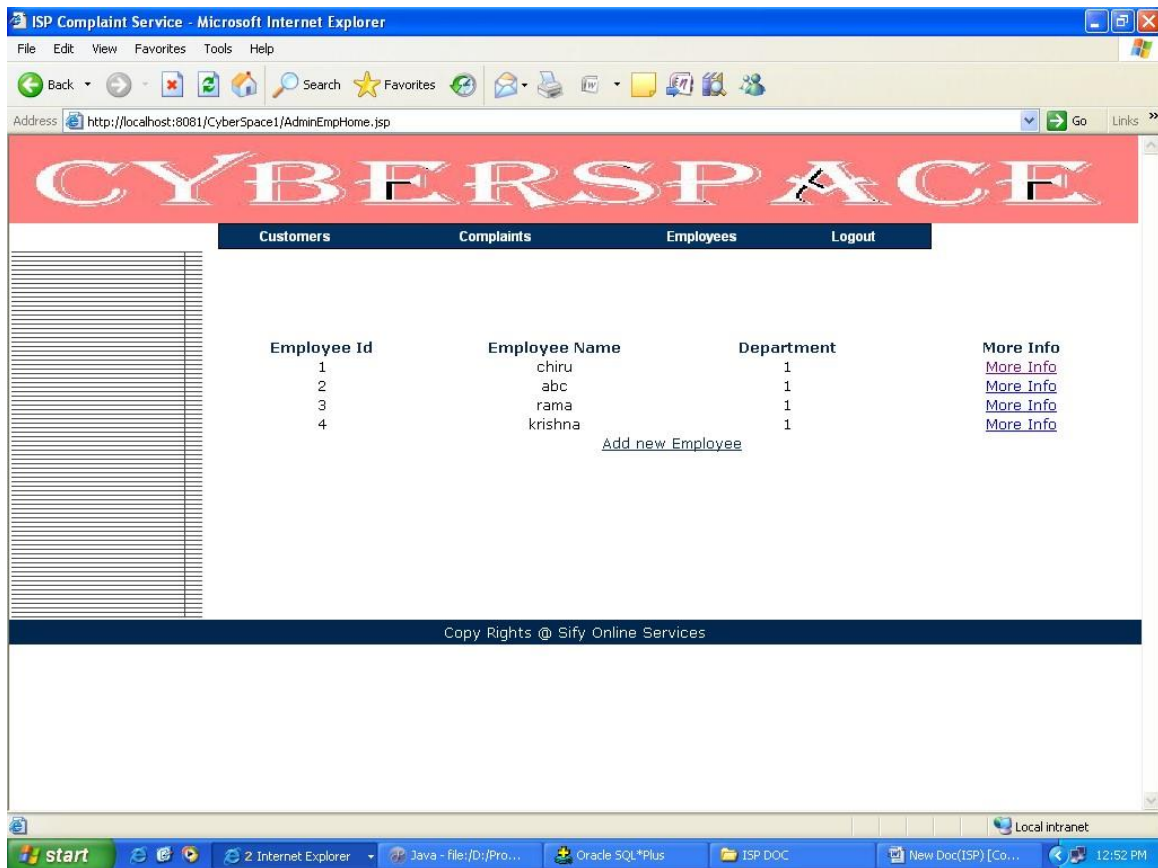




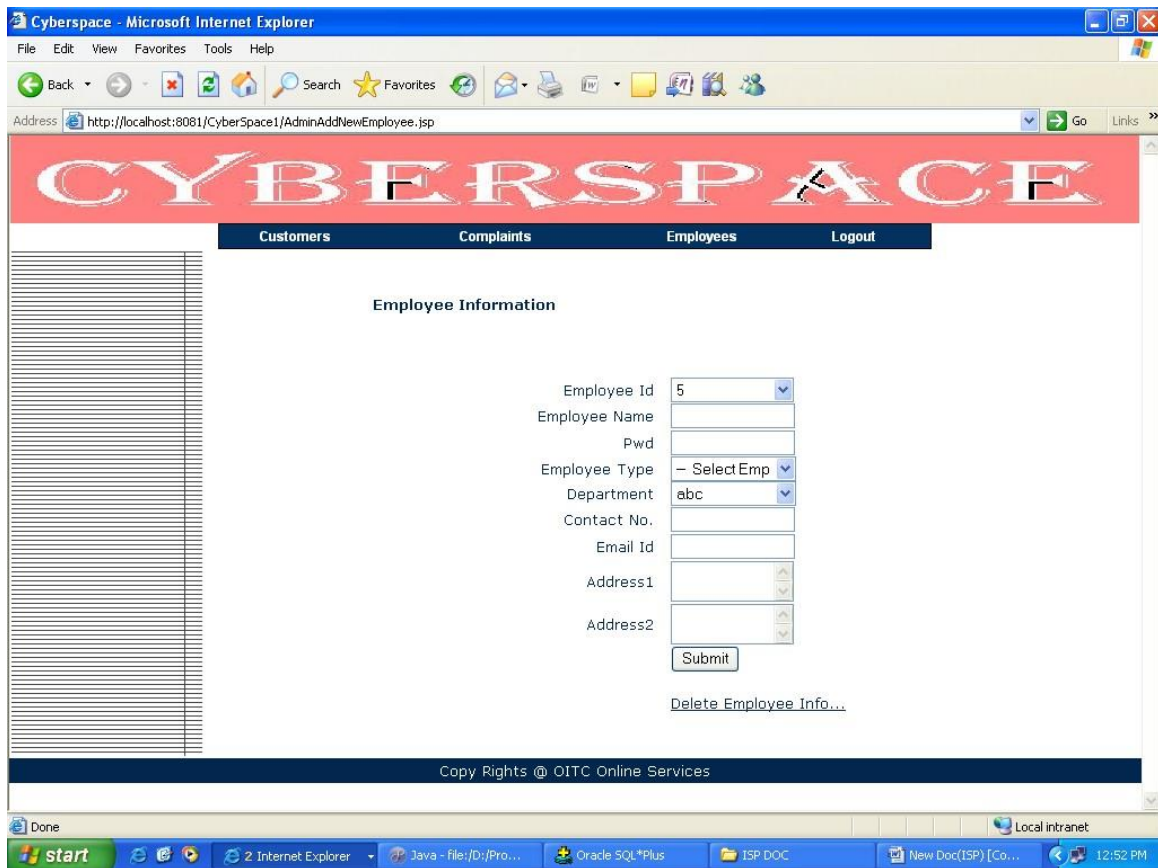
Existed customers details can update Here:



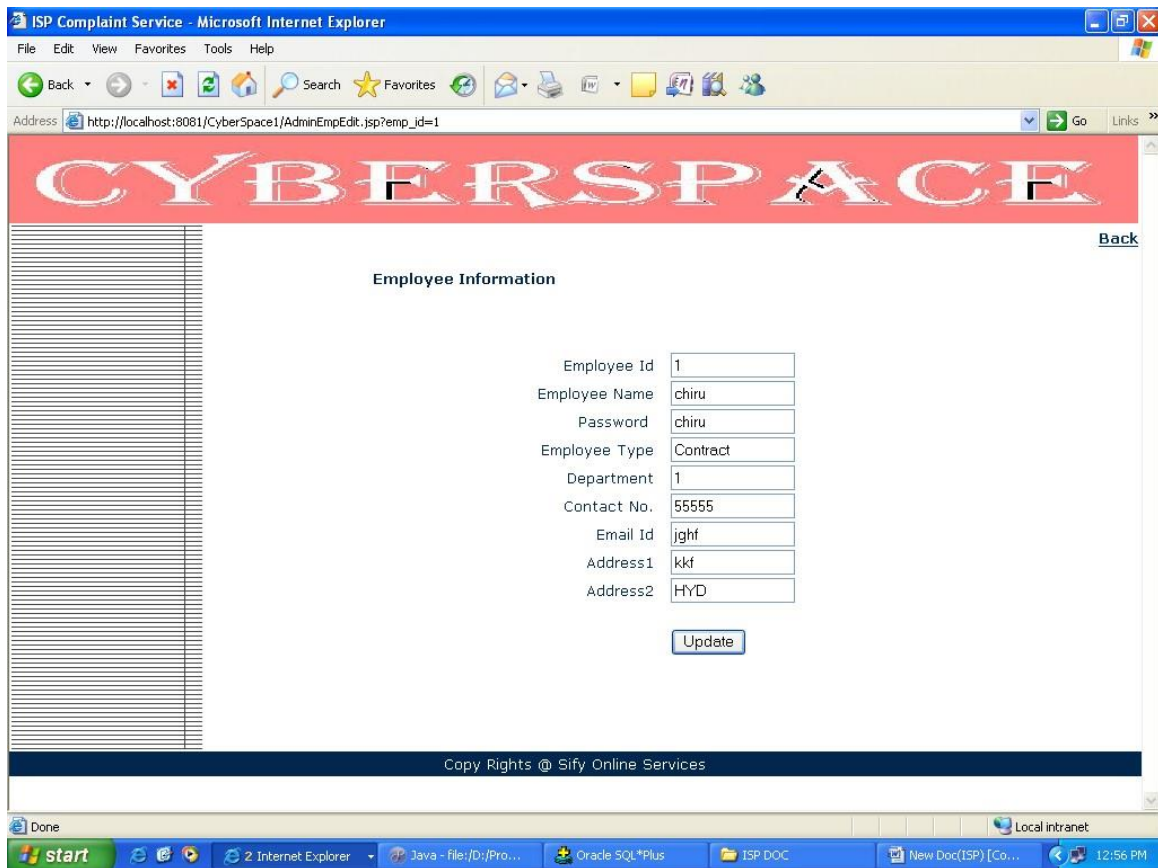
Employees Page in admin Module:



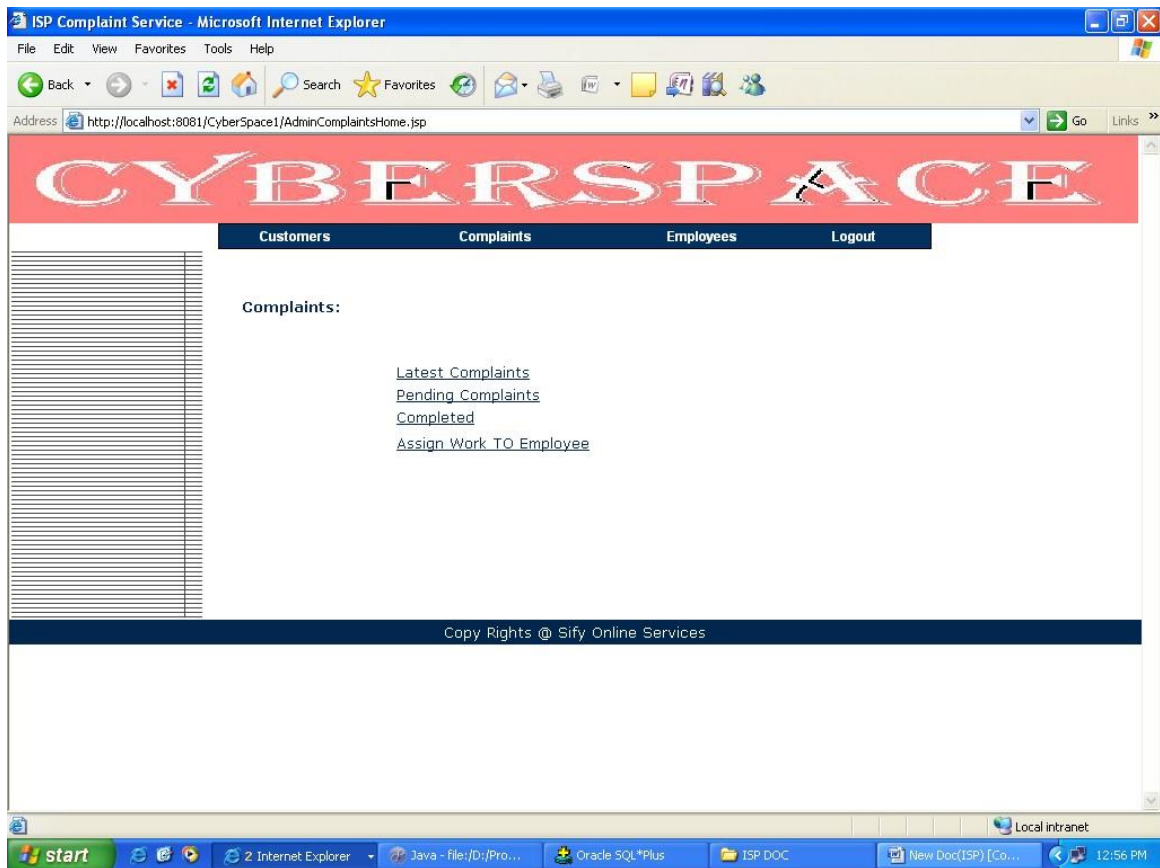
Admin can add new employee:



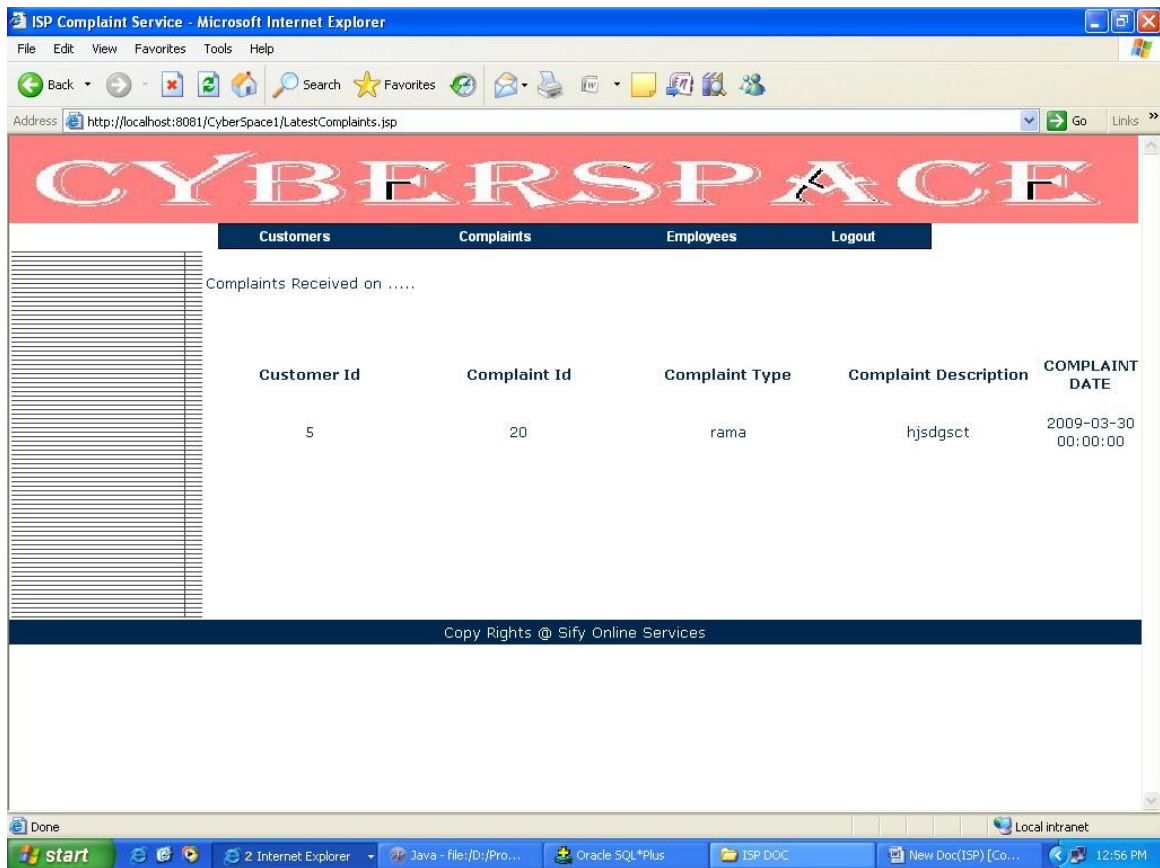
Admin can update employee details:



Complaints Module in administrator:



Latest Complaint:



Pending Complaints:

ISP Complaint Service - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Home Print Mail

Address http://localhost:8081/CyberSpace1/PendingComp.jsp Go Links

CYBERSPACE

Customers Complaints Employees Logout

[Back](#)

EmpId	ComplaintId	Customer Id	COMPLAINT_TYPE	Complaint desc
2	3	2	abcd	chiruchiru
3	4	2	NETWORK	Net work problem
3	2	2	dsfsdf	dfs
4	1	2	drg	dfg
3	5	3	abc defg	chiruabc defg

Copy Rights @ Sify Online Services

Done Local intranet

start 2 Internet Explorer Java - file://D:/Pro... Oracle SQL*Plus ISP.DOC New Doc(ISP) [Co... 12:57 PM

Completed Problems:

ISP Complaint Service - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Go Links

Address http://localhost:8081/CyberSpace1/CompletedProblems.jsp

Customers Complaints Employees Logout

Complited Problems

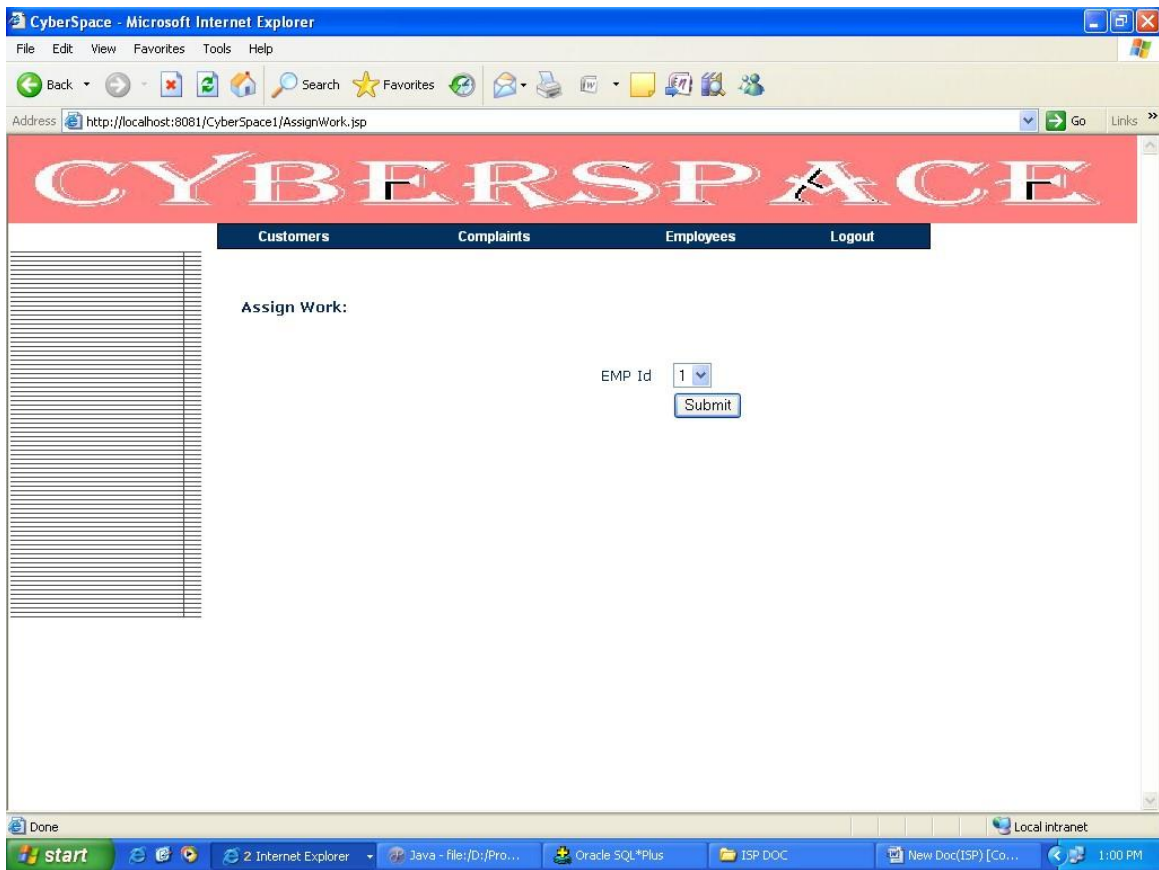
Employee Id	Complaint Id	Customer Id	Compalaint Type	Complaint Desc	Solution
2	1	2	drg	dfg	null
2	1	2	drg	dfg	null
2	3	2	abcd	chiruchiru	null
1	4	2	NETWORK	Net work problem	null
2	4	2	NETWORK	Net work problem	chiru
2	6	2	dfgfgs	orbitrkhkshfd	cghkjhdffgd
2	7	2	jhk	hdkhksdfgsdj	abcds
2	8	2	Most Problems	dfgdfgf	serfsdfsdfdx we will
1	10	1	Internet	Slow Coneection	increase the speed
2	11	2	PC	jhbktfgkjinhasdfhbkjktthfurg	
2	12	2	kjhkhk	hihyiuh	jkhh
2	12	2	kjhkhk	hihyiuh	dfdf
2	12	2	kjhkhk	hihyiuh	dfdf
2	7	2	jhk	hdkhksdfgsdj	fghg
1	3	2	abcd	chiruchiru	problem clear

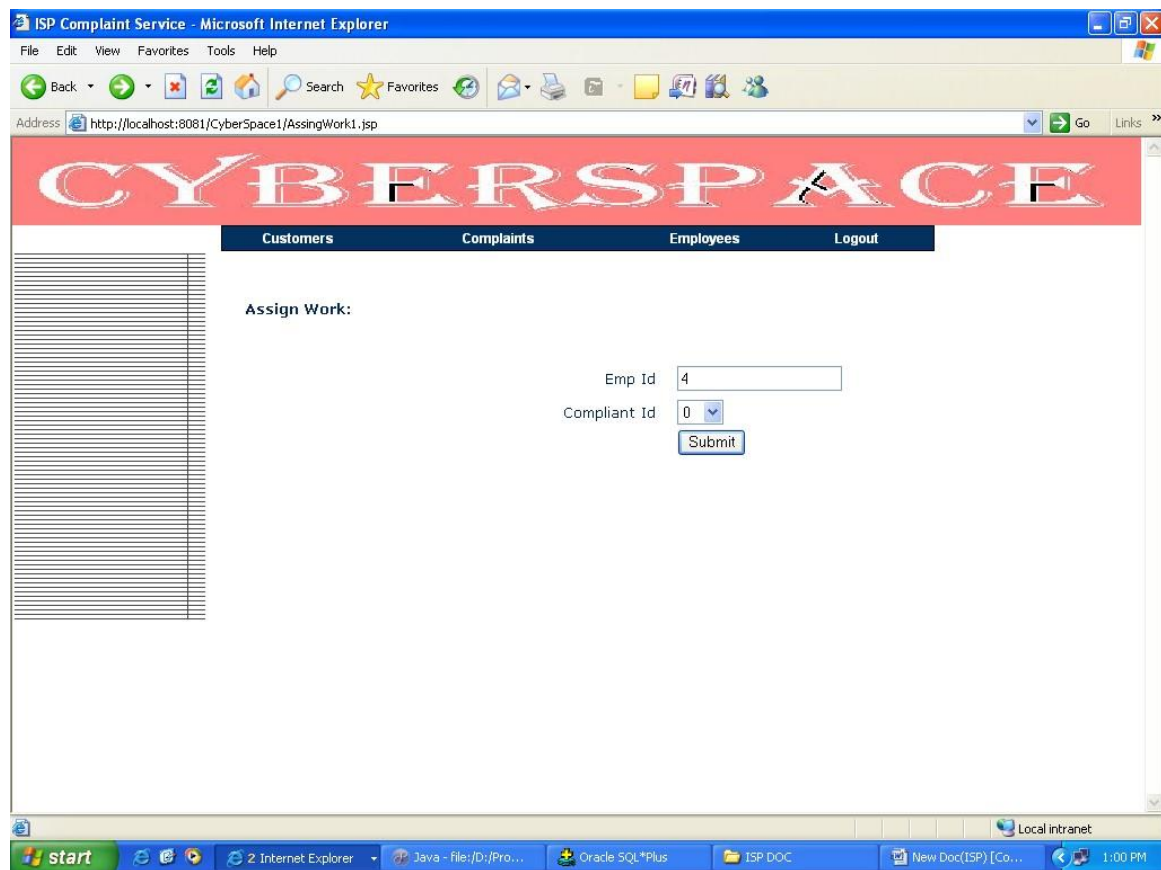
Copy Rights @ Sify Online Services

Done Local intranet

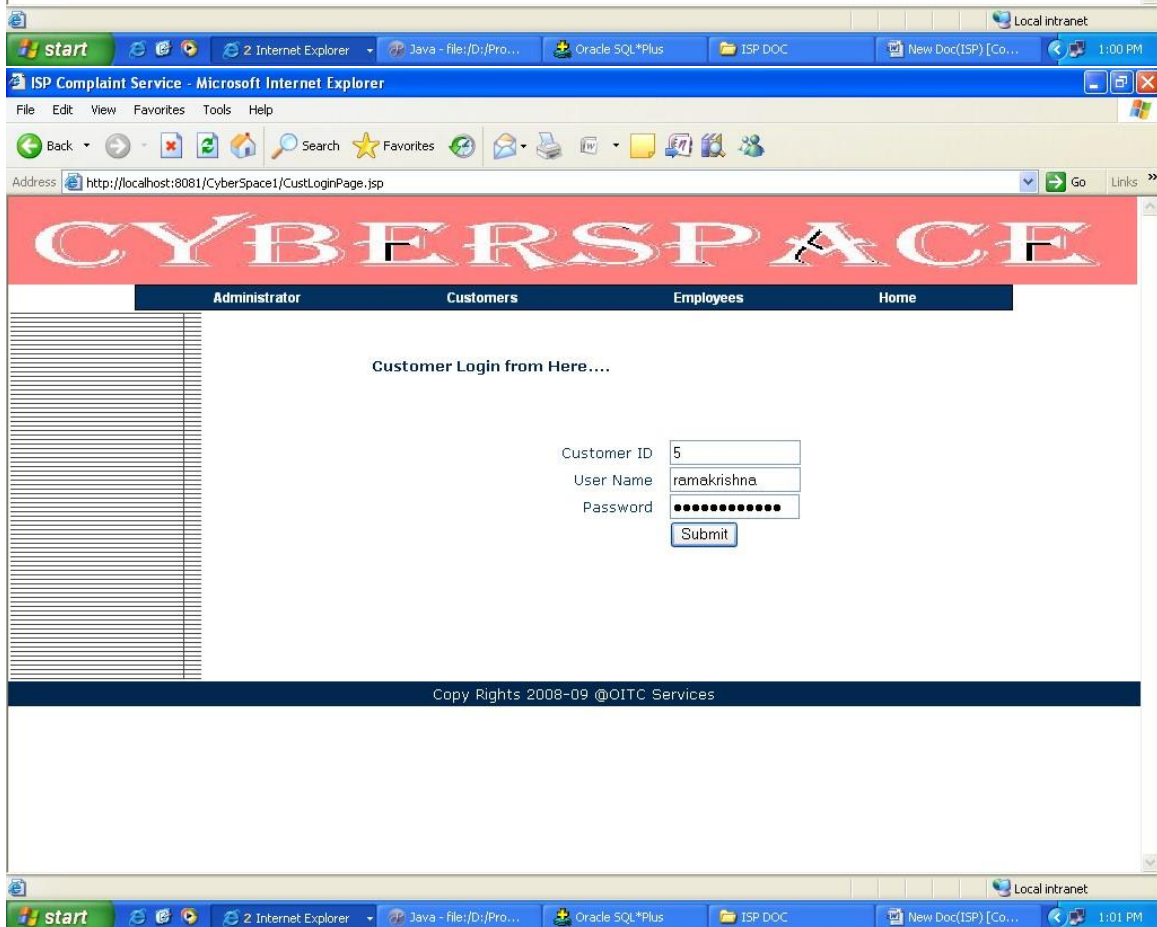
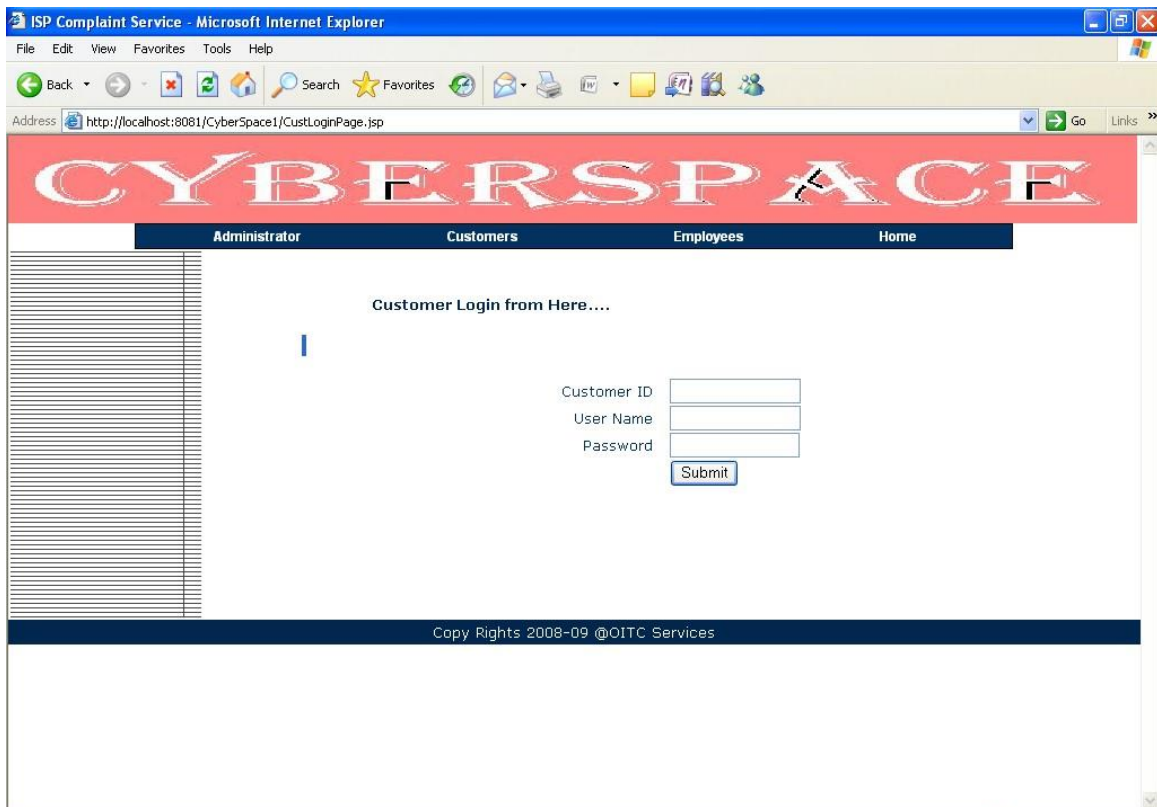
start 2 Internet Explorer Java - file://D:/Pro... Oracle SQL*Plus ISP.DOC New Doc(ISP) [Co... 12:57 PM

Assigning work to Employee:

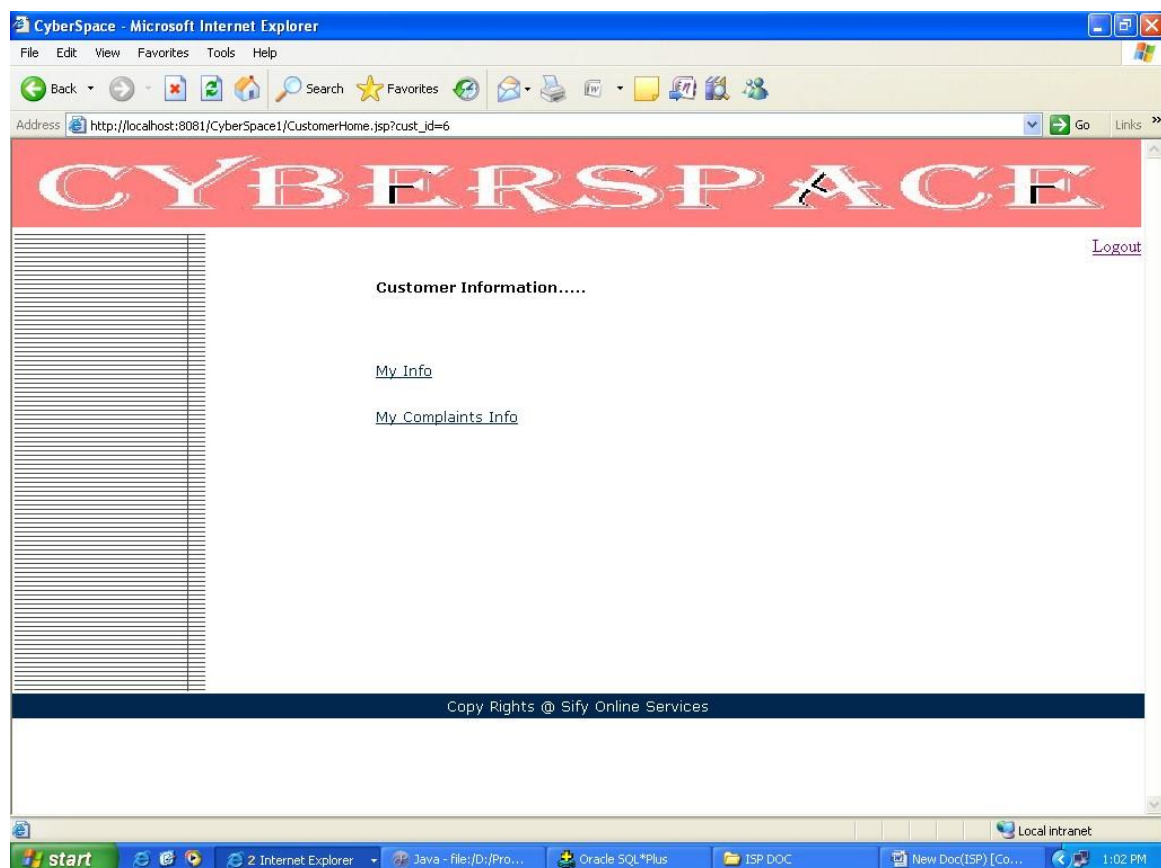




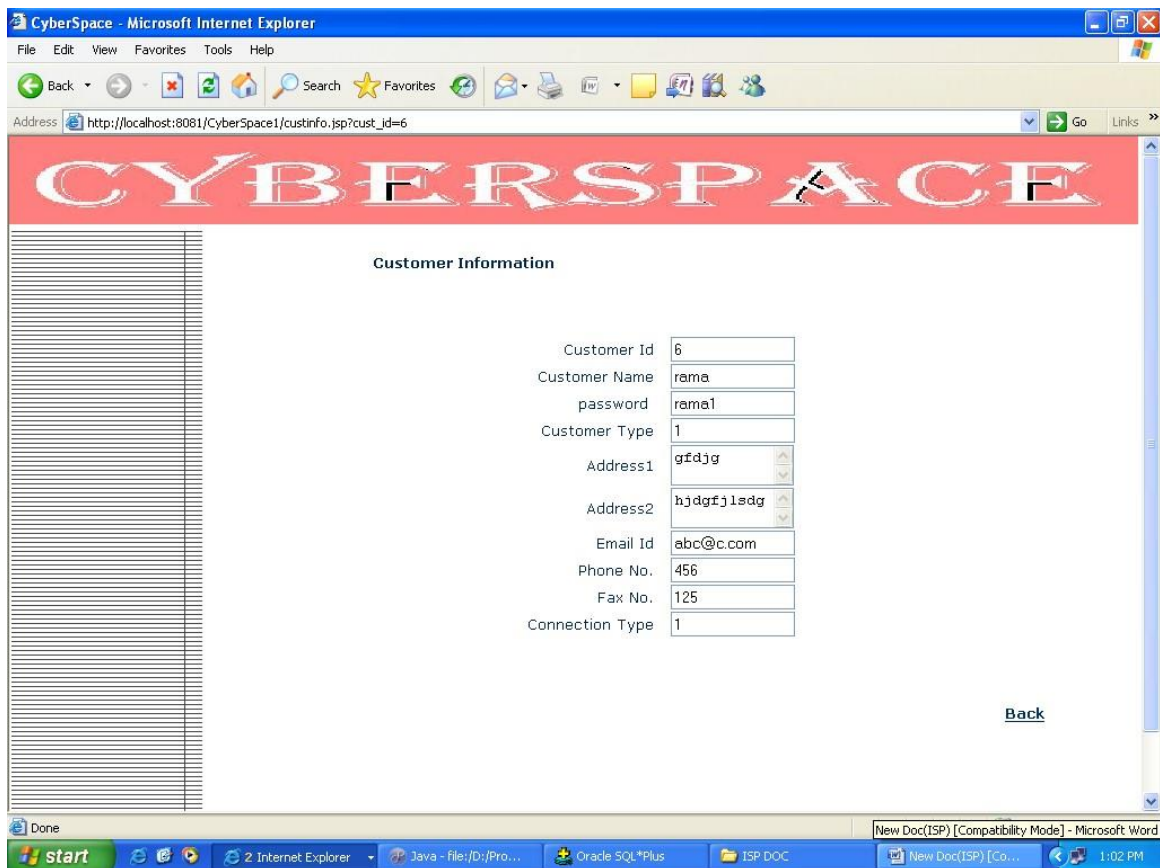
Customer Module:



Customer Home Page:



Customer Information:

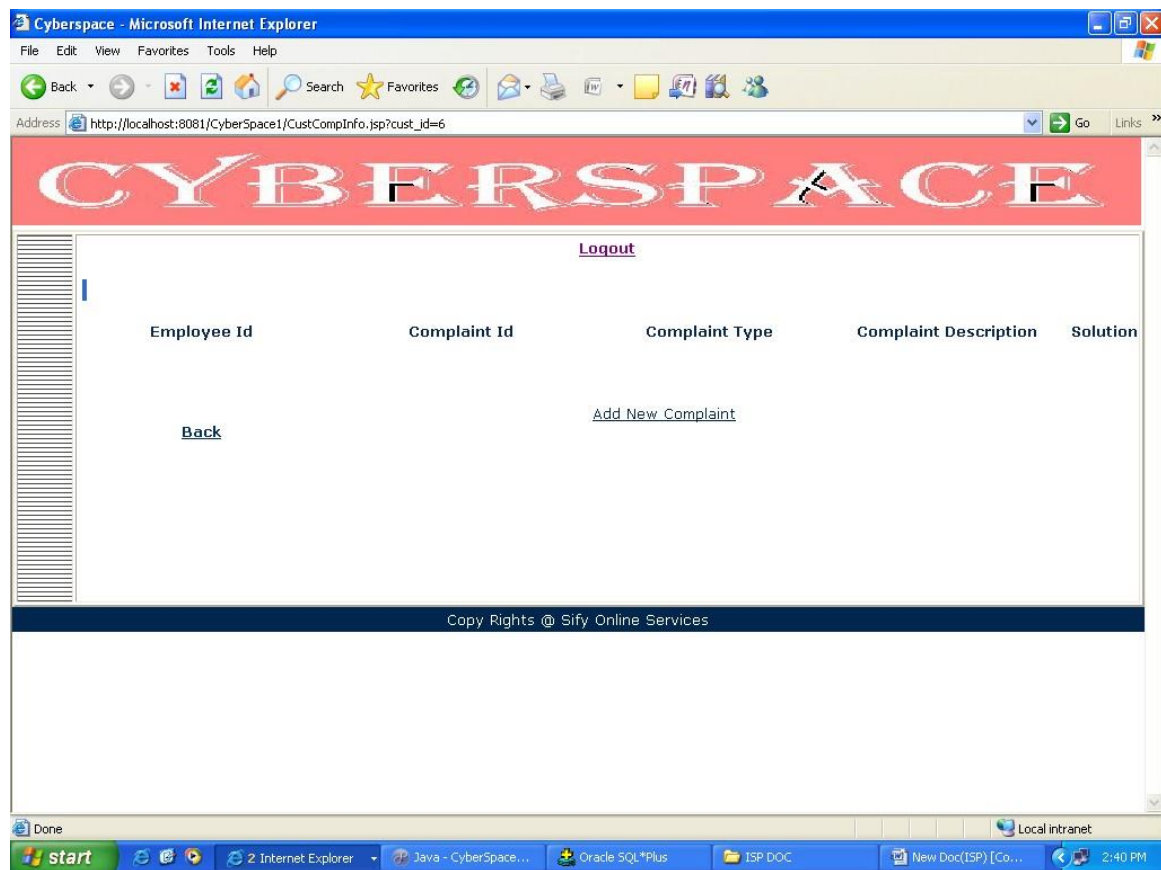


The screenshot shows a Microsoft Internet Explorer window titled 'CyberSpace - Microsoft Internet Explorer'. The address bar displays 'http://localhost:8081/CyberSpace1/custinfo.jsp?cust_id=6'. The page features a large red banner with the word 'CYBERSPACE' in white, stylized letters. Below the banner, the title 'Customer Information' is centered. To the left of the form is a vertical table with many empty rows. The form itself contains the following fields and values:

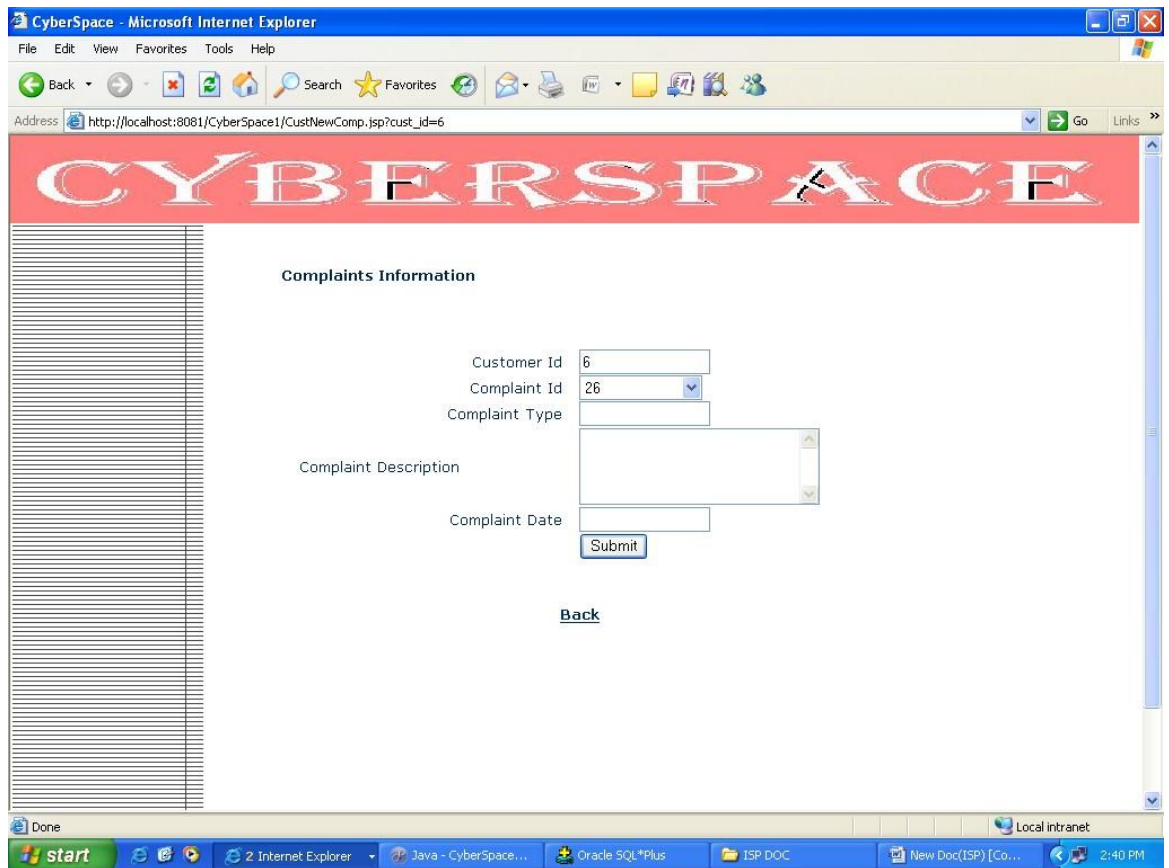
Customer Id	6
Customer Name	rama
password	rama1
Customer Type	1
Address1	gfdjg
Address2	hjdgrfjledg
Email Id	abc@c.com
Phone No.	456
Fax No.	125
Connection Type	1

At the bottom right of the form area, there is a 'Back' button. The Windows taskbar at the bottom shows the Start button, several open applications (Internet Explorer, Java, Oracle SQL*Plus, ISP DOC, and Microsoft Word), and the system clock indicating 1:02 PM.

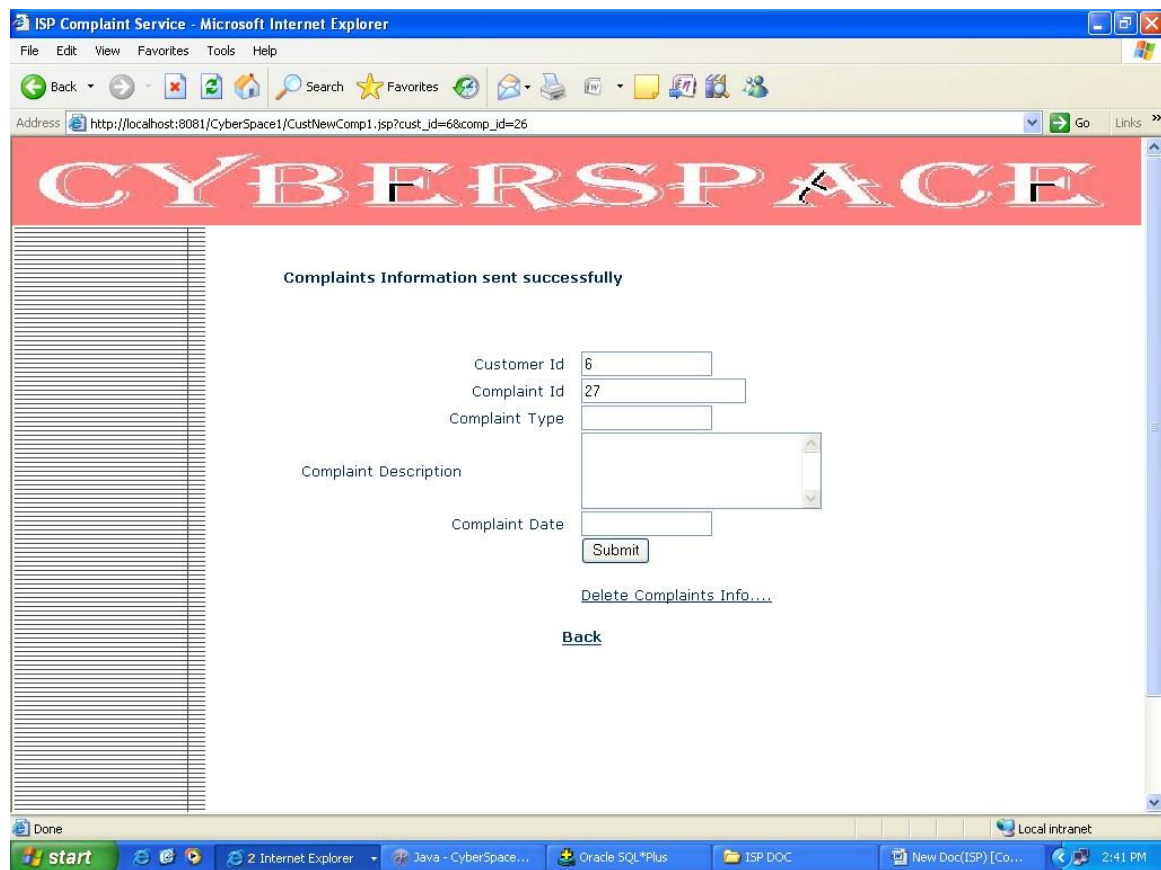
Complaint Information:



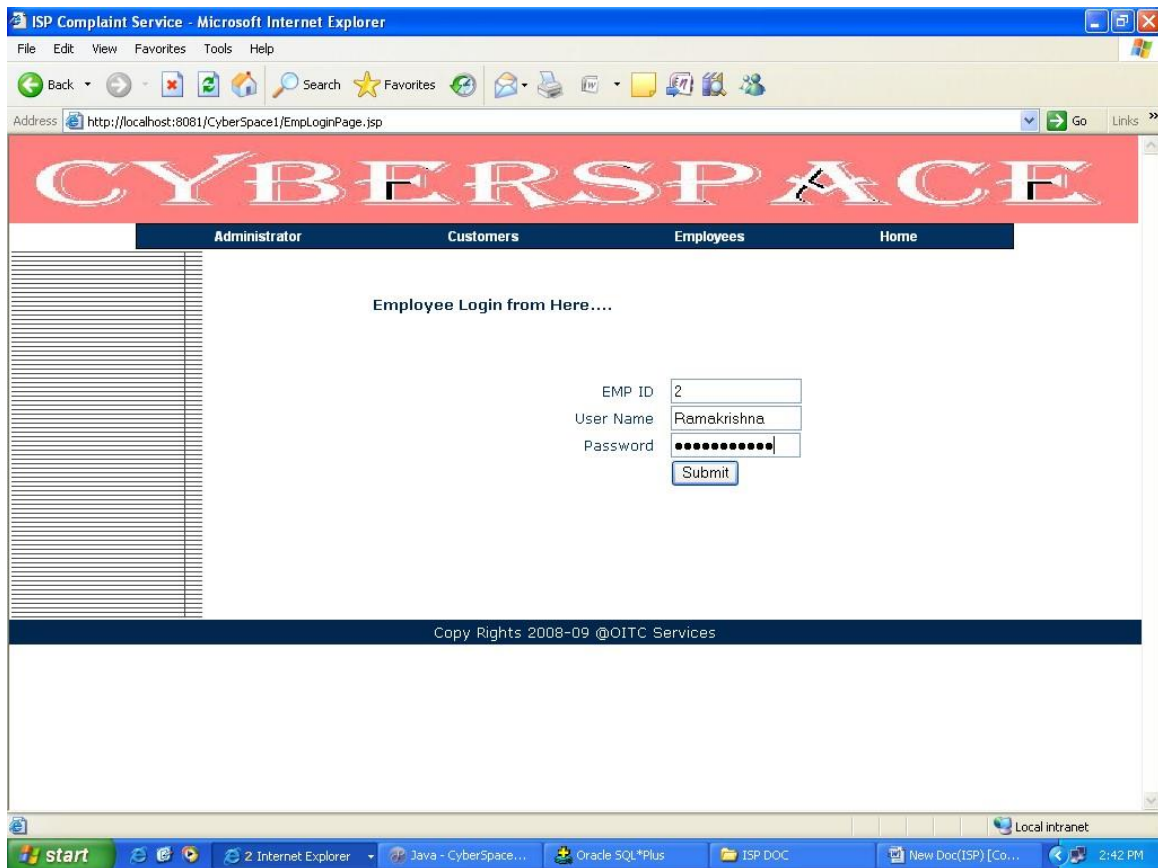
Add new Complaint:



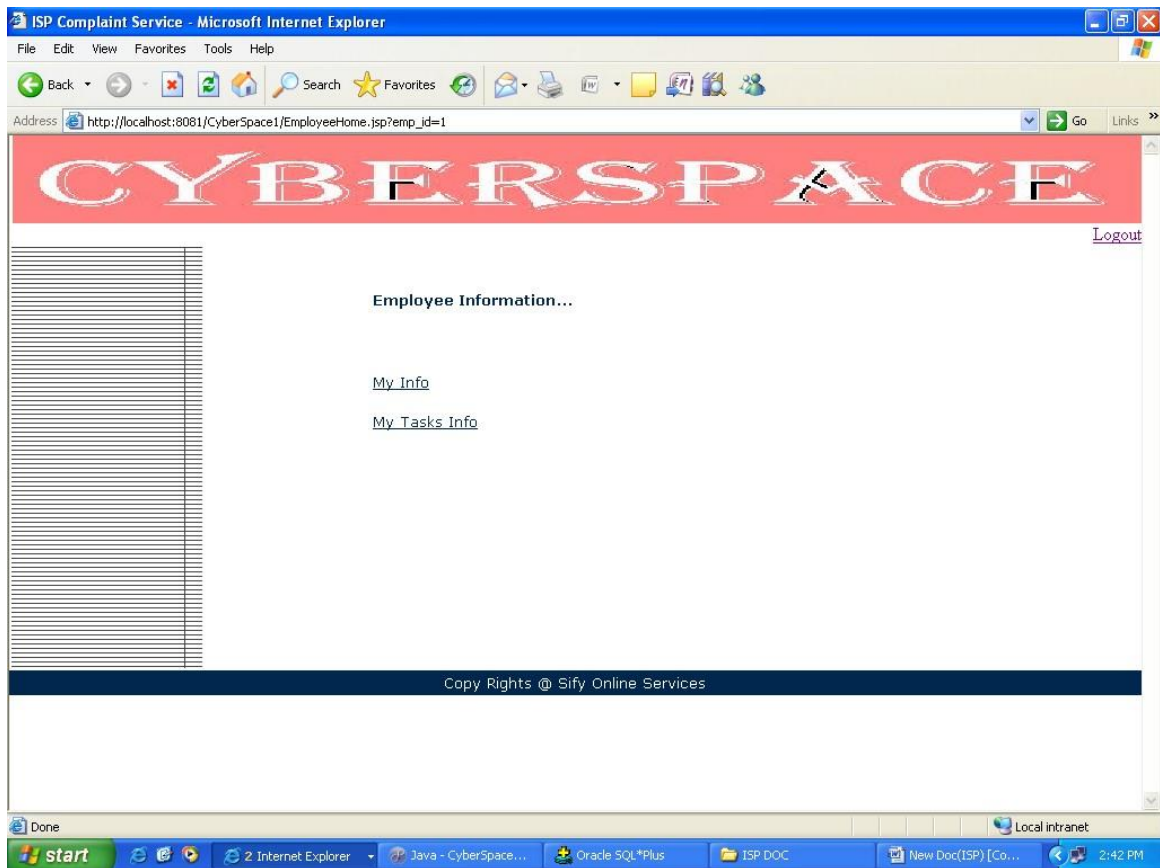
Added complaint successfully:



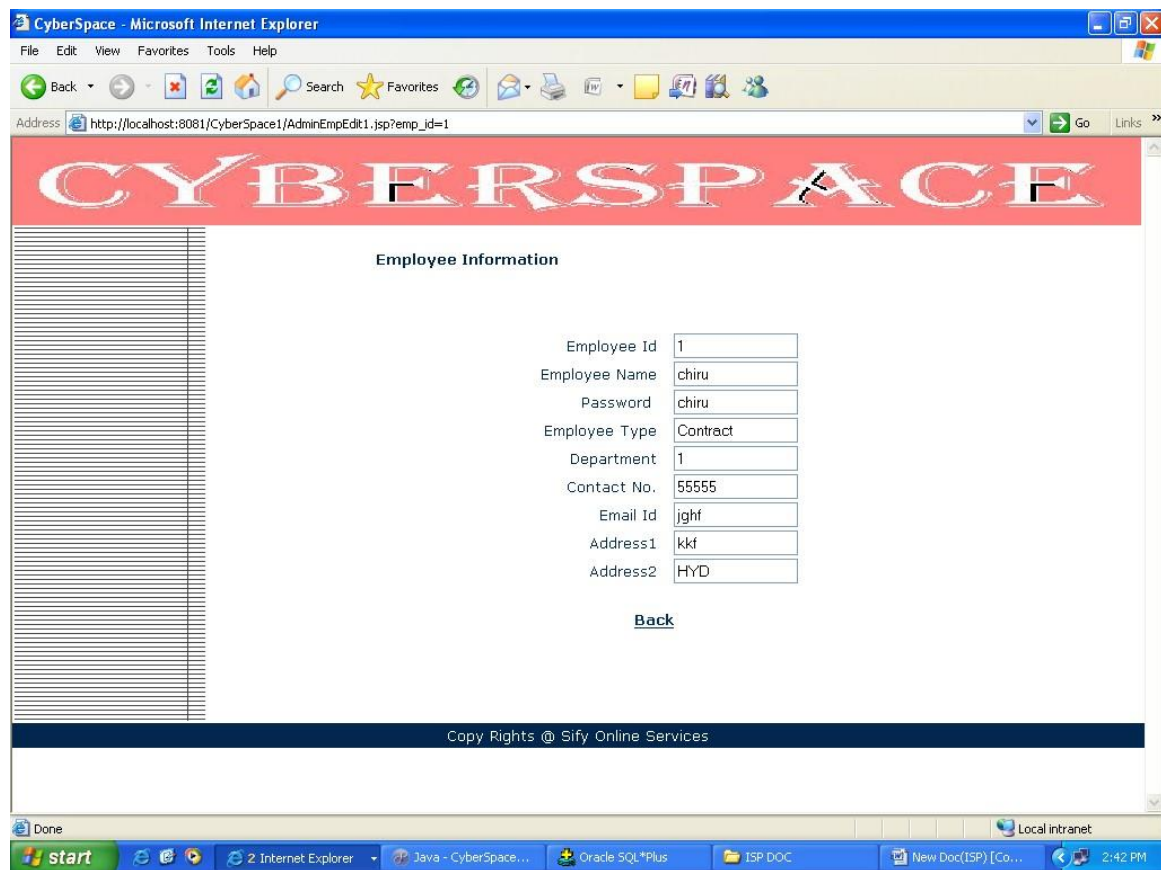
Employee Login:



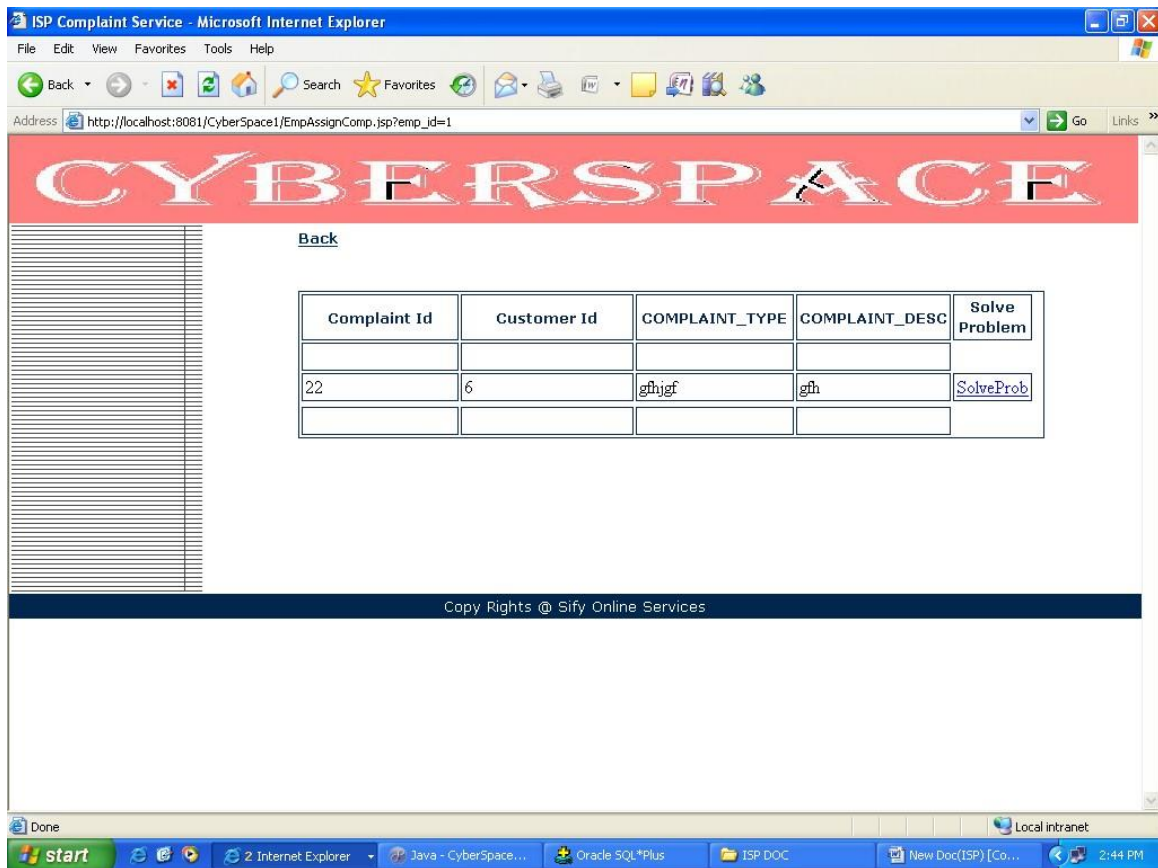
Employee Home page:



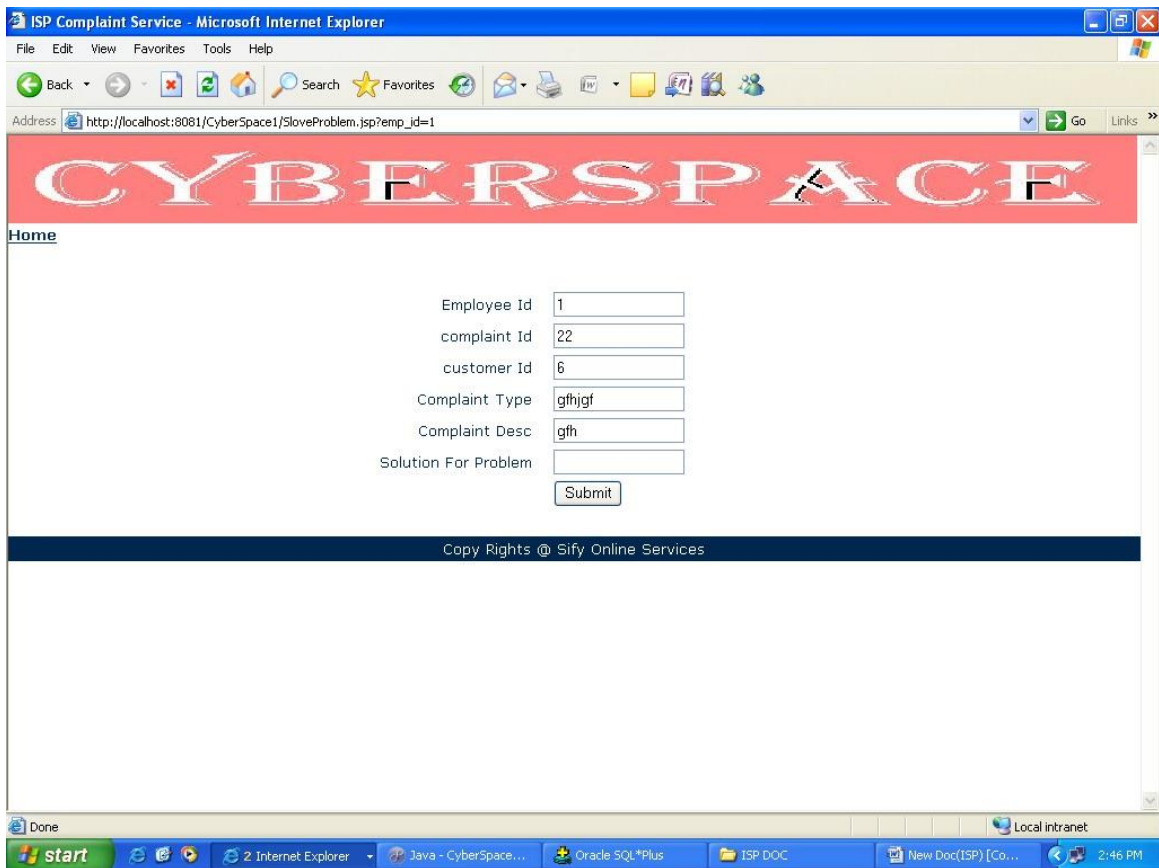
Employee Information:



Task Information:



Employee solving the problem:



BOOKS AND MANUALS:-

1. JAVA-2 Complete-Reference

Author : Patric Norton & Herberlt Schild

Publisher: Tata McGraw Hill

2. System Analysis & Designing

Author : James A. S enn

Publisher: Tata McGraw Hill

3. Software Engineering Concepts

Author : Fairley

Publisher: Tata McGraw Hill Publication,3rd Edition.

4. Software Engineering Principles

Author : Pressman

5. Java Server Pages

Author : James Good Will

Publisher: Tech media