

Event Category : Webinar

**Event Name: “ Application Development using
JDBC”**

Date: 08th January 2021.



National Education Society (R.)

J N N College of Engineering, Shivamogga

(Approved by AICTE, New Delhi, Certified by UGC 2f & 12B, Accredited by NAAC – 'B',
UG Programs: CE, ME, EEE, ECE, CSE, ISE, TCE accredited by NBA: 1.7.2019 to 30.6.2022,
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Department of Information Science and Engineering

An event report on

Webinar - "Application development using JDBC"

The department organized a webinar on "Application development using JDBC" which was conducted on 8th January 2021 from 11 am to 12:30 pm using Google meet platform. Mr. Hemanth Kumar, Assistant Professor, Department of Computer Applications – MCA, JNNCE, Shivamogga, delivered the talk on the topic. There were more than 30 students who actively participated and made it a grand success.

The main goal of this webinar is to carry out the Mini-Project work for the 5th Semester students under Java Application development. The session was focused on building a Desktop application using Swings related to :

➤ Front-end concepts:

1. Java Swings:

Java is one of the most popular and widely used programming language and platform. A platform is an environment that helps to develop and run programs written in any programming language.

Java Swing is a part of Java Foundation Classes (JFC) that is *used to create window-based applications*. It is built on the top of AWT (Abstract Windowing Toolkit) API and entirely written in java. Unlike AWT, Java Swing provides platform-independent and lightweight components. The javax.swing package provides classes for java swing API such as JButton, JTextField, JTextArea, JRadioButton, JCheckbox, JMenu, JColorChooser etc.

➤ Back-end Concepts:

1. MySQL:

MySQL server is a open-source relational database management system which is a major support for web based applications. Databases and related tables are the main component of many websites and applications as the data is stored and exchanged over the web. For all these reasons, MySQL server becomes the default choice for web applications.



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Followed by demonstration and usage of a NetBeans IDE has been delivered in the talk. NetBeans IDE is a free, open source, integrated development environment (IDE) that enables you to develop desktop, mobile and web applications. The IDE supports application development in various languages, including Java, HTML5, PHP and C++. The IDE provides integrated support for the complete development cycle, from project creation through debugging, profiling and deployment. The IDE runs on Windows, Linux, Mac OS X, and other UNIX-based systems.

Finally the session ended with building a Simple Application using Swings for GUI, Java for business-logic and connectivity with MySQL open source RDBMS server has been demonstrated using NetBeans IDE.

Few documents related to Webinar has been attached.



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HEMANTH KUMAR is presenting

JDBC Packages

- The JDBC API is contained in two packages.
- The first package is called `java.sql` and contains core Java data objects of the JDBC API. `java.sql` is part of the J2SE.
- The second package is `javax.sql`, which extends `java.sql` and is in J2EE.

Meeting details

People (34)

- 4JN18ISO18 CHETHAN RR
- 4JN18ISO25 Deepika D
- 4JN18ISO26 Divyashree.R
- 4JN18ISO31 Hemanth k...
- 4JN18ISO35 Kavana K
- 4JN18ISO41 Madhu N
- 4JN18ISO45 Meghana.M
- 4JN18ISO48 Neha pastey
- 4JN18ISO50 Nityashre...

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HEMANTH KUMAR is presenting

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People (34)

- 4JN18ISO54 PAVITHRA R
- 4JN18ISO56 Pooja V Blligi
- 4JN18ISO57 Prajnaya Kal...
- 4JN18ISO58 Pramod he...
- 4JN18ISO59
- 4JN18ISO65- PUNEETH ...
- 4JN18ISO70-Ranjana Sh...
- 4JN18ISO71- Revethi T
- 4JN18ISO95 SINDHU HE...

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HEMANTH KUMAR is presenting



HEMANTH KUMAR is presenting

JDBC Driver Types

- JDBC driver specification classifies JDBC drivers into four groups.
- Type 1 JDBC-to-ODBC Driver**
 - The JDBC-to-ODBC driver (JDBC/ODBC Bridge), is used to translate DBMS calls between the JDBC specification and the ODBC specification.
- Type 2 Java/Native Code Driver**
 - The Java/Native Code driver uses Java classes to generate platform-specific code, that is code only understood by a specific DBMS.
 - The disadvantage of using a Java/Native Code driver is the loss of some portability of code.
- Type 3 JDBC Driver**
 - Also referred to as the Java Protocol, most commonly used JDBC driver.
 - The Type 3 JDBC driver converts SQL queries into JDBC-formatted statements, in turn they are translated into the format required by the DBMS.

Meeting details

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11:20 AM

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JDBC Driver Types

- Type 4 JDBC Driver**
 - Type 4 JDBC driver is also known as the Type 4 database protocol.
 - The driver is similar to Type 3 JDBC driver, except SQL queries are translated into the format required by the DBMS.
 - SQL queries do not need to be converted to JDBC-formatted systems.
 - This is the fastest way to communicate SQL queries to the DBMS.

Meeting details

People (85)

Add people

IN CALL

- SATHYANARAYAN... (You)
- 4JN18IS031 DARSHAN K
- 4JN17IS024 Gururaj NL
- 4JN18IS004 AMOGH D C
- 4JN18IS009
- 4JN18IS015 BALIGARA ...
- 4JN18IS017 Chetan R K
- 4JN18IS019 CHETHAN RR
- 4JN18IS025 Deepika D



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2. Connect to the DBMS

- Once the driver is loaded, the J2EE component must connect to the DBMS using the `DriverManager.getConnection()` method.
- The `JdbcDriverManager` class is the highest class in the `java.sql` hierarchy and is responsible for managing driver information.

```
String url = "jdbc:oracle:oci19c:@localhost:1521:xe";  
String userID = "hr";  
String password = "hr";  
Statement stmt = DriverManager.getConnection(url, userID, password).createStatement();
```

Meeting details

People (32)

- AJN18IS099 SRAVANTH...
- AJN19IS405 Manoj g y
- Abhilash Hebbar
- HEMANTH KUMAR
- HEMANTH KUMAR Presentation
- Pooja MR
- Shwetha M L
- SUDEEP MANOHAR
- Yashaswini EV

HEMANTH KUMAR is presenting

3. Create and Execute a SQL Statement

- Next, if we have to send a SQL query to the DBMS for processing.
- `Connection.createStatement()` method is used to create a Statement object.
- The Statement object is then used to execute a query and return a `ResultSet` object that contains the response from the DBMS, usually in one or more rows of information requested by J2EE component.

```
ResultSet resultSet = stmt.executeQuery("SELECT * FROM Customers");  
DataResultSet dataResultSet = new DataResultSet(resultSet);  
ResultSetMetaData metaData = resultSet.getMetaData();
```

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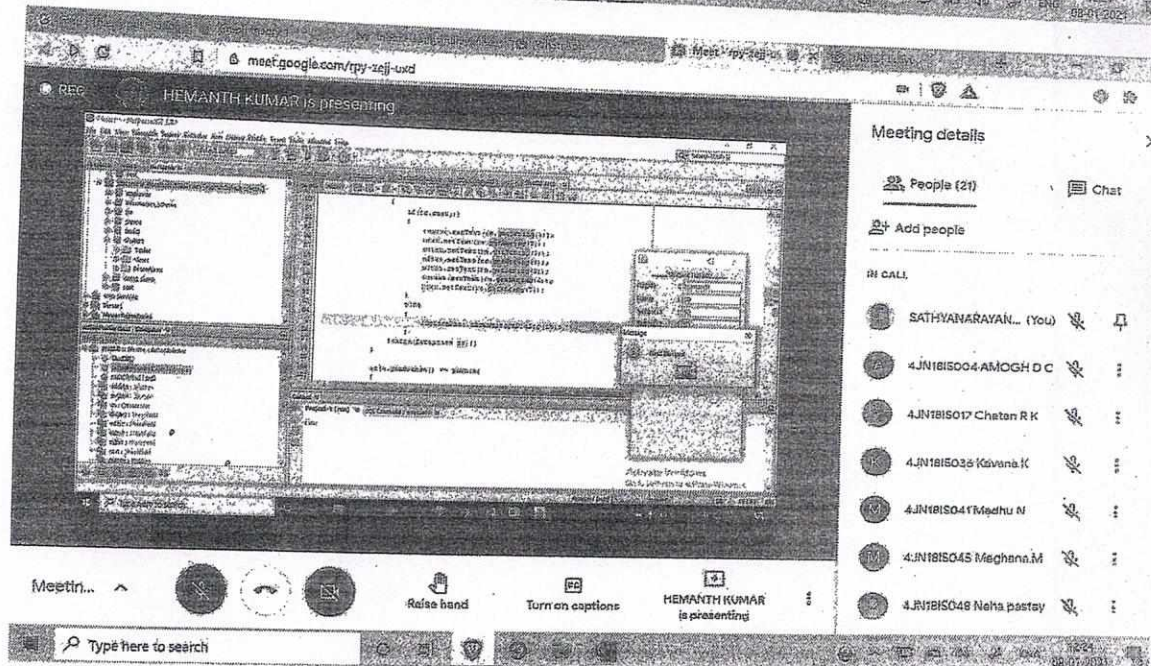
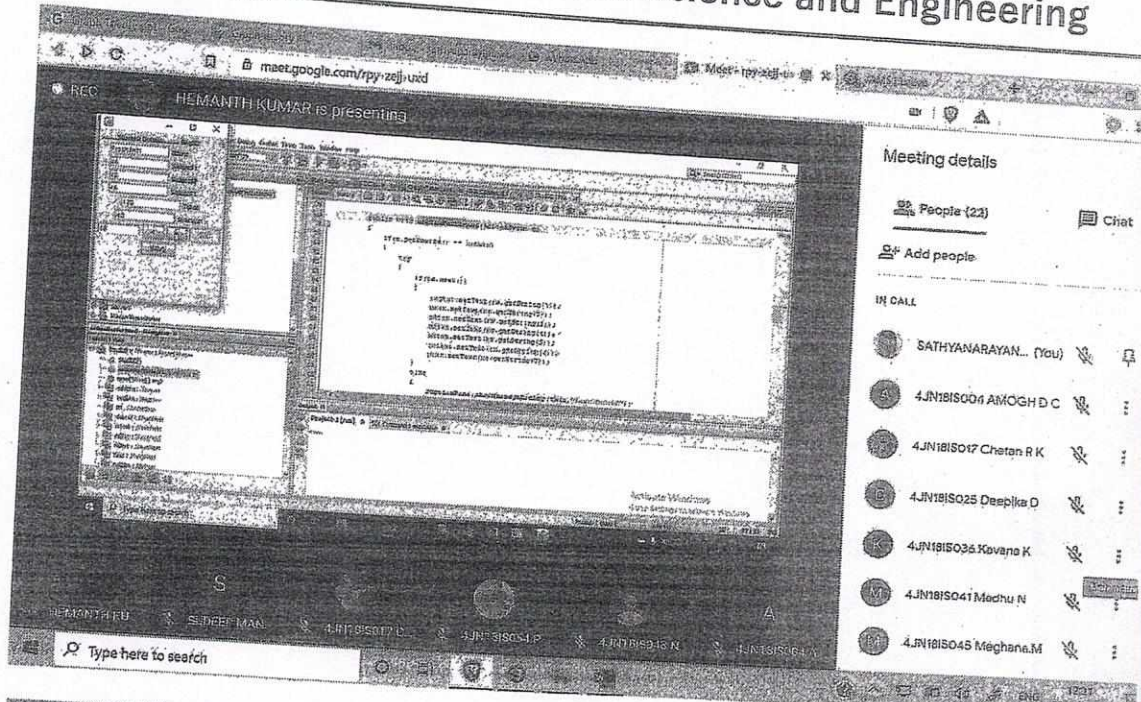
The screenshot shows a Google Meet interface with a presentation slide. The slide title is "A Brief Overview of the JDBC Process". The content of the slide is as follows:

- Though each J2EE component is different, J2EE components use a similar process for interacting with a DBMS.
- This process is divided into five routines.
 1. Loading the JDBC driver
 2. Connecting to the DBMS
 3. Creating and executing a statement
 4. Processing data returned by the DBMS
 5. Terminating the connection with the DBMS

The meeting details panel on the right lists participants: 4.JN1815099 SRAVANTHI..., 4.JN1915405 Manoja g y, Abhilash Hebbar, HEMANTH KUMAR, HEMANTH KUMAR Presentation, Pooja MR, Shwetha M L, SUDEEP MANOHAR, and Yashaswini EV.



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Coordinators:

1. Mr. Sudeep Manohar
2. Mr. Sathyanarayana K B

L. Sathyanarayana
HOD, ISE



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Letter of Appreciation

11-01-2021

To,

Mr. Hemanth Kumar,
Assistant Professor,
Department of Computer Applications - MCA,
JNNCE, Shivamogga.

Dear sir,

We would like to take this opportunity to express our heartfelt thanks to you for your active participation as a resource person in the webinar conducted at Department of ISE, J N N College of Engineering, Shivamogga on 08/01/2021.

You have shared your knowledge about the topic 'Application development using Java and MySQL' with your skills and expertise. Your effort in making our students understand the concepts of database connectivity using JDBC is highly appreciated. We look forward to your continued support in future.

Yours Truly,

R. Srinivas
HOD, ISE

Coordinators:

1. Mr. Sudeep Manohar *Sudeep*

2. Mr. Sathyanarayana K B *Sath*