

# CSE: 409 Advanced Enterprise Java(J2EE)

## Lecture 1

Supta Richard Philip

Department of CSE  
City University

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# Instructor Notes

## About Me

Instructor: Supta Richard Philip

Designation: Senior Lecturer

Office: Room 403

Email: [supta.philip@gmail.com](mailto:supta.philip@gmail.com)

Home: <https://suptaphilip.github.io/>



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# Course Notes and Books

## Reference Book

- Essential Books (Text Books): Java EE 8 Application Development, David R. Heffelfinger
- Beginning EJB in Java EE 8: Building Applications with Enterprise JavaBeans, Jonathan Wetherbee, Massimo Nardone, Chirag Rathod, Raghu Kodali

# Assessment Policies

- Mid Term Exam - 30%
- Final Term Exam - 40%
- Quizzes- 10 % (Best 1 out of 2)
- Assignments - 10 % (Best 1 out of 2)
- Attendance and others- 10%



# Course overview

- OOP: encapsulation, abstraction, inheritance, polymorphism, interface.
- Serializing Object, JAXB API, JSON API.
- Multithreaded Programming.
- Java Collections and Generics- List, Set.
- Java GUI and JavaFx.
- Java JDBC.





# Course overview- Continue

- Design patterns and SOLID principle.
- Networking & Sockets programming in java.
- JSP and Servlet Programming.
- Java Enterprise Bean (EJB) and Java Persistence API (JPA 2.2).
- Hibernate and Java API for Restful Web Services (JAX-RS 2.1).
- Spring MVC and Spring Boot.



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# Course Notes and Books

## Reference Book

- Java EE 8 Application Development, David R. Heffelfinger
- Java EE 7 Essentials by Arun Gupta.
- Work on Eclipse IDE for Java EE Developers(with Maven).



# Assessment Policies

- Mid Exam - 20%(Project-1,JDBC & GUI).
- Quizzes- 10% (Best 1 out of 2).
  - Project-1 Convert java GUI to JavaFX
  - Project-1 Convert JDBC to Hibernate.
- Assignments - 10% (Best 1 out of 2).
  - Generate Report using JasperReport.
  - Create Spring application using Maven.
- Final Exam - 30%(Project-2 Spring MVC).
- Practical - 20%(Mid 10%, Final 10%)
- Attendance and others- 10%.



# Project and Presentation

- Everyone should have one github account.
- Make a group of two members.
- Project-1 and Presentation(Before mid term).
- Project-2 and Presentation(Before Final term).



# Project Category

- Online Reservation for Cinema.
- Organization Survey Tool /Online Survey Tool.
- Online Crime Report / Police Online.
- Airline Reservation System.
- Banking System.



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# Role: Software Engineer

- OOP and Design Pattern.
- Agile development methodologies.
- Work with C#/ Java .
- work with Spring MVC, Spring boot or REST API.
- Experience in Git, Jenkins, Docker, etc.





# Role: Java Application Developer

- OOP and Design Pattern.
- Core Java 8, Core Spring, REST, test frameworks (JUnit, Mockito, Wiremock etc), Maven, databases (Oracle, Postgres), version handling (GIT), Amazon Web Services.



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# Lets start coding with Java 8

- Install Java 8(JDK 8).
- Download Eclipse IDE for Java EE.
- Java Language: Data Type, conditional statement, iteration, function.
- <https://www.w3resource.com/java-exercises/>
- <https://www.includehelp.com/java-language-solved-programs.aspx>

