



ISO 9001:2008 Certified Institute

Java Institute for Advanced Technology

Department of Examinations



SUBMISSION DATE	2021 /06 /22
UNIT NAME	Business Component Development I
UNIT ID	JIAT/DSA
EXAMINATION ID	JIAT/DSA/EX/01
SUBMISSION MEDIUM	SOFT COPY (PDF DOCUMENT) AND PROJCT CODE
PRESENTATION TIME	10 MINS

INSTRUCTIONS TO CANDIDATES

- Answer all questions.
- Maximum marks attainable for this paper is 100.
- The assignment Documentation should be submitted on or before the mentioned deadline.
- After the submission, the presentation date will be given to you.
- Presentation duration: 10 minutes
- Presentation type: Oral Test
- During the 10 minutes, you should present your assignment to the assessor.
- Please note that your presentation will be recorded and sent to BCU for assessment.

NAME	: (BLOCK CAPITALS)
ADMISSION NO	:
NIC NO	:

GENERAL GUIDELINES FOR CANDIDATES

Java Institute for Advanced Technology
Sri Lanka

- Students are expected to use reference books, the Internet, journals and other similar sources in order to accomplish the task.
- Students are expected to refrain from repeating any content in their research document.
- Students will be penalized for any plagiarism.

QUESTION

Q1. EJB provides a server-side platform for developing distributed business applications, which designed for Enterprise beans are used in large-scale business applications and systems. Do you agree? Critically Evaluate your Answer with EJB Architecture diagram.

Q2. What is the suitable Session bean type (stateful, stateless, singleton) for developing a shopping cart facility for an online e-commerce system? Compare and contrast your implementation among other bean types.

Q3. Dependency Injection (DI) makes developers life easier to implement session beans with @EJB annotation, but InitialContext.Lookup() is also important since DI limited to Instance variables, do you agree? Take a sample scenario and elaborate your answer with critical analysis.

Q4. “The National Train system is going to implement an IoT device to capture and transmit its attributes (GPS location, speed, Temperature and humidity) to the Messaging server. They are willing to process data asynchronously with an analytical server. “

- a. Analyze the above scenario and design an appropriate solution using Java messaging System. (Provide Architectural, component, activity & sequence diagrams with relevant evaluations/descriptions.)
- b. Implement your proposed design using principles, terminology, and concepts pertaining to the Java Messaging System with EJB. (Simulate IoT device input using java SE application)
- c. Submit your working sample code with project documentation
- d. Demonstrate your implementation as a viva presentation.

Assignment Submission Guidelines for Students

Students are advised to strictly follow the guidelines specified herein when formulating and submitting research assignments

Important Information for Students

1. The assignment should be submitted only as a soft copy in a Microsoft Word format on or before the specified assignment due date.
2. The soft copy of the assignment should be uploaded to the student portal using the SCN number.
3. The submission date provided for all assignments are the final dates on which you can hand upload the assignments. Please note that late submissions are not allowed.
4. Plagiarism is treated as a serious offence and the work you produce should be individual and original. However, note that students will have to work in groups in certain scenarios.
5. All sources of information in any assignment must be referenced using the “Harvard referencing” system, where a reference listing should be included at the end of the assignment.
6. Please contact your branch on assignments, re-submission, and related procedures.
7. Students are expected to maintain a backup of all assignments. The Java Institute for Advanced Technology retains all the rights to re-call soft copies of any assignment at any time during the course.
8. Students should use the attached assignment coversheet and declaration of authentication form to the assignment
9. Students are expected to provide the following information in their assignment coversheet of the softcopy in the CD:

Student name

Student ID number

NIC No

Subject name

Subject code

Branch.

10. Assignment Report Rules

- Paper Size:A4
- Word Count:1500 words
- Line Spacing:1.5
- Printing Margin:1 inch on LHS and RHS
- Binding Margin:½ inch
- Header and Footer:1 inch
- Printing: Single-sided
- Basic Font Size:12pt
- Heading:16pt
- Sub-headings:14pt, Bold
- Body:12pt, Justified Aligned
- Font Style: Times New Roman/Calibri.

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