

ESOA-Training for Technical Architects & Developers

Course Syllabus & Content (Course ID: ESOA-TA):

Preliminary session: (Duration 3 hrs)

1. Introduction to EA/SOA Field, opportunities and various division of labor.

Various Job opportunities in EA-SOA-BPM, Current Market trend, Future growth of the segments, how to get trained in the field.

2. Goal Setting and reaching Process. -A practical approach.

How to write Goals - How to convert wish list to goal through qualification process- Seven Step Goal Setting Process – How to practically achieve goals.

3. Enterprise Architecture Introduction.

E-SOA views/View points – Where do EA-SOA stand- Why EA-SOA? – What is architecture? – What is Blue print? – What is Design? – Difference between architect & Engineer Job roles- Need for architecture framework – Zachman framework

4. Enterprise Integration Introduction.

Need for Enterprise Integration – Integration points – Integration mechanism explained using real-world examples – Difference between Enterprise Integration and Technology integration – Concepts of Business Process Integration explained.

Session 1: Business Process Models & Design (Duration : 3 hrs)

5. Introduction to TOGAF.

TOGAF-ADM-introduction– Enterprise Continuum introduction – Technical Reference Architectures explained.

6. Introduction to Business Modeling.

Controlled and uncontrolled systems explained - Business Modeling – Business Process analysis & Design – Process Engineering & Re-Engineering explained – Business Process Modeling Notation explained (BPMN)

7. Introduction to UML.

UML notational language – Structural and behavioral elements and their UML representation explained – Use case diagrams – Activity diagram – sequence diagram – Class diagrams – packages-

8. Design and Modeling of Business Systems and Processes.

Designing business processes using UML – Designing Business Systems using UML – Samples- Introduction to UML tools like Visio & Telelogic Tau – Introduction to IBM process server for BPM – Introduction to ORACLE BPM(OBPM)

Session 2: Services Identification Analysis & Design (Duration: 3 hrs)

9. Service Life Cycle explained in detail.

Need for Life Cycle – Introduction to governance - EA life Cycle – SOA Life Cycle – Business Services Life cycle – Technical Services Life cycle – Connectivity between service life cycles – Activities & deliverables at various stages of life cycle - How to modify life cycle for specific customer need.

10. Service Identification & Analysis.

Service Nee analysis – Service analysis- Process, Domain, and Entity based analysis - Similarity analysis – Character analysis – Coarse grained, fine grained services – Granularity matrix and map, various set theory analysis for service granularity.

11. Service Design.

Top down approach on service design – Bottom up approach on service design – various service design principles – service design methodologies – service components – solutions design, service orientation – service models – service composability analysis – service patters.

12. Exercise on sample Service Analysis & Design.

Practical & real-world examples.

Session 3: Technical Services Design & Development (Duration: 3 hrs)

13. Introduction to XML, SOAP, WSDL, UDDI

XML – the foundation for all Business development and Business Integration development and SOA – XML language notations explained – structure explained – Schema explained – namespace explained – SOAP protocol explained – Relationship between SOAP and webservice explained – SOAP Engine explained – SOAP bindings explained – What is WSDL? - Structure of WSDL – Creating Java Bindings – UDDI introduction – tmodel – category bag- identifier bag- Registry – How to register and read WSDL from to UDDI.

14. Web Services analysis and Development

Webservice development using Rational Application developer – Webservice development using Jdeveloper – exposing java classes as service- creating services from scratch – exposing PL/SQL stored procedure as service- Java connector architecture – JAX-RPC explained.

15. SLA, Service Contracts and SLO.

What is SLA? - Difference between SLA, Contract and SLO – How to write SLA? – Sample SLA – How to write contracts and SLOs – Enforcing SLA using design time – Enforcing SLA/SLO using runtime components – Enforcing SLA using governance – graphs -

Session 4: BPEL and Business Integration Development using Industry Tools(Duration 3 hrs)

16. Business Process Orchestration using BPEL & ESB.

What is BPEL? – Difference between BPML and BPEL.- Why BPEL? – Alignment of business & service layers using BPEL- Partnerlink –structures – activities – loops – datatypes - various functions and methods – scopes – correlation sets – fault handling – compensation - concurrency

17. BPEL using IBM BPEL Engine and IBM ESB.

Introduction to IBM Integration developer – SOA development using IBM Rational application developer – Introduction to websphere Enterprise Service Bus – Websphere Message broker – Integration of Websphere registry and repository using ESB – Websphere Transformation extender. BPEL using IBM Business Process Choreographer – BPC (part of IBM Process Server)

18. BPEL using ORACLE BPEL Engine and ORACLE ESB.

Oracle SOA development using Jdeveloper & Oracle SOA suite – Creating business service – creating service WSDL - message flow –proxy service – creating services from files – creating service from database – composite business process using BPEL- human flow as part of BPEL- designing service contracts- Business rules using rule author – Process state monitoring and KPI- BPEL process management using Oracle BPEL Process manager

Session 5: SOA Technology Solutions Architecture, Design & Development (Duration: 3 hrs)

19. Solutions Architecture & Design using SOA.

Technology Solutions Architecture from Business Solutions recommendation from Business design – Solutions replacing components by service components – Various sample technology architectures.

20. Service Component Architecture (SCA) and Service Data Object(SDO) introduction.

What is SCA? – components & composites – domains – process boundary and machine boundary – Services & references – Property – SCA's Java Component model – Various bindings(webservices, JMS, IIOP)- wires and promotions.- SDO- Data graphs- Path and life of SDO- Data Access Service

21. SCA /SDO development using eclipse.

SCA development using Eclipse and Tuscany project explained – SCA using small beans – SCA using POJOs.

Session 6: SOA Principles, Project Management & Governance LifeCycle (Duration: 3 hrs)

22. SOA Principles, Service Orientation

Various principles of SOA explained – How to achieve SOA principles – metrics – converting organizational business processes and applications through service orientation.

23. SOA governance, Life Cycle Management, Architecture Review and Requirements change management.

Role of Governance in SOA – How to configure Life cycles on governance – Governance process development – Governance life cycle activities and actors – Approval/voting process for various stages – Governance implementation using HP systinet/ eBlitz Governance tools. Connecting Business Service life cycle and technical service life cycle with or without the use of governance tool.

24. SOA project Management, division of Labor & SOA Deliverables.

Difference between SOA program and SOA project – How to develop/modify lifecycle for SOA projects – SOA project management deliverables and activities – Various roles and responsibilities of members of Project team. Difference between typical technology project and SOA based project.

Session 7: Case Study 1: SOA Implementation using IBM SOA tools(Duration: 4 hrs)

25. SOA development using IBM Technologies – Websphere Business Modeler, Websphere Integration developer, Process Server, BPEL engine, Websphere Enterprise Service Bus.

Session 8: Case Study 2: SOA Implementation using ORACLE SOA suite(Duration: 4 hrs)

26. SOA development using Oracle Fusion – SOA suite. Oracle JDeveloper 10g, Oracle BPEL Process Manager, Oracle Web Services Manager, Oracle Enterprise Service Bus.

Bonus Session: Career Guidance, Resume preparation and Interviews skills.(2 hrs).