



# PubSub+ Architecture

EDU-ARCH-101

The essential training to architect and design event driven solutions for PubSub+ Platform.

## Course Overview

This course introduces architecting Event Driven solutions for PubSub+ Platform. It covers deep dives into several key areas of the platform such as Event Brokers, Monitoring, and Event Management and Governance.

**NOTE:** this course covers most of topics from the **Event Driven Foundations** course. If attendees have already taken that course, then the duration of this architecture training can be condensed to 2-days.

## Course Objectives

A combination of lecture content and lab work helps attendees to achieve the following:

- Understand the motivations and business values of being event driven
- Understand the concepts of event driven architectures and event mesh
- Get introduced to the event driven methodology and learn how to apply the methodology to your own use case
- Understand the various event driven design patterns
- Learn how to use the methodology using a real-world sample use case
- Learn the principles of good topic taxonomy and topic best practices
- Learn how to model events and microservices in PubSub+ Event Portal
- Understand guaranteed delivery, and various exchange patterns for applications that are not tolerant to data loss
- Understand how to monitor health of Solace products
- Understand dynamic message routing and bridging of data for hybrid cloud or for horizontal scaling scenarios
- Understand how to deploy Solace Messaging for High Availability, and Disaster Recover

## Certification/Badges

- This course does not offer any certifications or end of course assessments currently.

## Delivery Method

Instructor-led private on-site or virtual classroom.

## Course Duration

Three days of training.

## Target Audience

This course is designed for architects, solution architects, and developers.

## Prerequisites

Prior knowledge in API, SOA, ESB Integration architectures is recommended

## Contact

If you have any questions, contact your account executive or email [services@solace.com](mailto:services@solace.com).

## Course Modules

Day 1 Agenda	
Module	Objective
<b>Introduction &amp; Logistics</b> (INT 1000)	Meet, greet, introductions. Set agenda for the day & Course.
<b>Motivations for Being Event Driven</b> (ARCH 1000)	Become familiar with Event Driven Architecture (EDA) and Event Driven use cases
<b>EDA Methodology</b> (ARCH 1005 & ARCH 1010)	Overview of distributed computing primer and the Event Driven 6+1 step methodology
<b>Distributed Computing Design Patterns</b> (ARCH 1015)	Overview of retry pattern, idempotent processor pattern, publish-subscribe pattern & deferred execution pattern
<b>Being Scalable Design Patterns</b> (ARCH 1015)	Overview of asynchronous request-reply pattern, queue-based load levelling pattern & competing consumer pattern
<b>Data Handling Design Patterns</b> (ARCH 1015)	Overview of eventual consistency pattern, sharding pattern, command & query responsibility segregation pattern
<b>Event Driven Microservices</b> (ARCH 1020)	Understand the difference between choreography and orchestration and overview of RESTful async microservices
<b>Real-Time Candidates</b> (ARCH 1025 & ARCH 1030 ARCH 1035 & ARCH 1040)	Exploring a sample real world use case and mapping it to the Event Driven 6+1 step methodology  Hands-On (Event Portal)

Day 2 Agenda	
Module	Objective
<b>PubSub+ Event Brokers</b> (ARCH 1100)	Understand the basic messaging concepts, terminology & standards, and a high-level overview of PubSub+ Event Brokers. ----- Hands-On (Trying Out Your Service & Testing your Connection)
<b>Solace Multi-Tenancy</b> (INT 1020)	Understanding of Solace Multi-Tenancy, administration, data & resource scoping, and roles-based access.
<b>Security</b> (ARCH 1110)	Understand the various security features on PubSub+ Event Brokers
<b>Client Authentication</b> (ADM 1010)	Become familiar with the different authentication features that can be used to authenticate client applications on the PubSub+ Event Brokers.
<b>Client Authorization</b> (ADM 1015)	Understand the various security features on PubSub+ Event Brokers, and be able to configure, manage, and administer authentication and authorization rules for securing applications. ----- Hands-On (Client Management)
<b>Direct Messaging: Overview &amp; Features</b> (ADM 1055)	Understanding of Solace's Direct Messaging and features like Shared Subscription and Message Eliding. ----- Hands-On (Shared Subscription)
<b>Guaranteed Messaging</b> (ADM 1100)	Understand how Solace provides persistence to applications that cannot tolerate message loss.
<b>Guaranteed Messaging Patterns</b> (ADM 1105)	Understand the various message exchange patterns that administration can manage & configure for applications that use persistence. ----- Hands-On (Guaranteed Messaging, Time-To-Live, Dead Message Queues)
<b>Message Promotion and Demotion</b> (INT 1035)	Administer and implement Guaranteed Messaging patterns using Solace Topics & Queues and understand message promotion & demotion.

Day 3 Agenda	
Module	Objective
<b>High Availability</b> (ARCH 1200)	Understand how PubSub+ Event Brokers can be configured to provide high availability to applications.
<b>Data Center Replication</b> (ADM 1260)	Become familiar with features provided by Solace for disaster recovery and data replication across different data centers or clouds.
<b>VPN Bridging</b> (ADM 1305)	Understand how share data across messaging environments using Solace's VPN Bridges.
	Hands-On (Static Bridging)
<b>Dynamic Message Routing</b> (ADM 1310)	Understand how to connect PubSub+ Event Broker instances over Hybrid Cloud or for Horizontal Scaling.
	Hands-On Event Mesh)
<b>Monitoring</b> (ADM 1150)	Describes the remote monitoring and management capabilities of PubSub+ Event Brokers via the SEMP and Syslog protocols. Introduction to PubSub+ Insights.
	Hands-On (Monitoring & Subscribing to Message Bus Events)
<b>PubSub+ Cache</b> (ADM 1060)	Overview of PubSub+ Cache software daemon, its role as a Last Value Cache, and how to deploy and manage it.
<b>Streaming APIs and Integration</b> (ARCH 1300)	Become familiar with the different Solace Enterprise APIs, Connectors, and the Open Protocols Solace supports.

