This training introduces the core concepts of GigaSpaces XAP and best practices for installing, administrating, monitoring and troubleshooting the GigaSpaces XAP platform.

AUDIENCE
System Administrators | Operations | Support | DevOps | Developers

KNOWLEDGE REQUIREMENTS
System administration

LENGTH
3 Days

BONUS
Hands-on lab sessions

SYLLABUS

Day 1
Course Introduction
XAP Overview
Grid Service Runtime Components
Application Level Components
Administration and Monitoring tools

Day 2
Application Deployment
Grid Service Internals
SLA and Deployment Considerations
Administration API and Alerts
Logging and Monitoring

Day 3
Troubleshooting hands on
Networking
Persistency – Mirror Service
Security
Troubleshooting Guidelines
Summary
HARDWARE AND SOFTWARE REQUIREMENTS

Computer Requirements
- RAM: minimum 4 GB of RAM required for exercises and platform to operate.
- Disk Space: At least 4 GB of free disk space
- Wireless Internet connection (recommended)
- Admin privileges are required to install XAP.NET

Supported Operating Systems
- Windows 7 64 bit only / windows 8 64 bit only / windows 10 64 bit only

Additional Software Requirements
- PDF Reader
- .NET 4.0 or .NET 4.5
- Administration rights in order to
  - Install .msi files (GigaSpaces XAP and MySQL)
  - Use USB keys (Disk on keys) and copy the courseware to c: drive
  - Configure system environment variables

Classroom HW requirements
- Projector 1024*768 minimum resolution
- White Board
- Erasable Markers
- Desktops or Laptops (see HW Requirements)
- 12-24 ports
- Internet connectivity
- Electricity outlets for all computers/monitors and other equipment.
- At least 3 electricity outlets next to instructor location
AGENDA DAY 1

Lesson 1
Course Introduction
30 minutes
- Course Introduction
- Courseware walkthrough
- Documentation – docs.gigaspaces.com
- Lab

Lesson 2
XAP Overview
90 minutes
- Why XAP?
- XAP Terminology Comparison to Common Platforms and Servers
- XAP Runtime Environment
- XAP Application Components
- Configuring your Environment
- GigaSpaces Management Center
- XAP Web Dashboard
- Lab

Lesson 3
Grid Service Runtime Components
75 minutes
- XAP Runtime Environment
- XAP Installation Folders
- Configuring the Runtime Environment
- Lab

Lesson 4
Application Level Components
75 minutes
- XAP Application Components
- Space Topologies
- Processing Unit vs. Processing Unit Instance vs. Space Instance
- Processing Units and Space Proxy
- Scaling Your Space
- GigaSpaces Application Lifecycle
- Lab

Lesson 5
Admin & Monitoring Tools
75 minutes
- Web Management Console (Web UI)
- Management Center (GS-UI)
- Command Line Interface (gs CLI)
- Jconsole
- Jvisualvm
- Lab
AGENDA DAY 2

Lesson 6
Application Deployment (BillBuddy)

- 45 minutes
- BillBuddy application presentation
- Data Model Basics
- Lab

Lesson 7
Grid Service Runtime Environment

- 100 minutes
- Grid Component Interaction
- Processing Unit Deployment
- How High Availability Works
- Primary Backup Communication
- Space Proxy Failover Process
- Lab

Lesson 8
SLA and Deployment Considerations

- 100 minutes
- SLA configuration options
- Avoiding big jars deployment
- Rolling Server Patching
- Hot Deployment
- Split Brain
- Lab

Lesson 9
Administration API and Alerts

- 30 minutes
- Administration and Monitoring API
- Alert API
- Lab

Lesson 10
Logging and Monitoring

- 45 minutes
- Logging
- Collecting Dump
- Monitoring Statistics
- Lab – Logging Capabilities
- Lab – Memory Troubleshooting
AGENDA DAY 3

Lesson 11
Networking  30 minutes
- Multicast and Unicast discovery
- Multiple network interface cards
- LRMI communications protocol
- Configuring used ports
- Firewall considerations

Lesson 12
Persistency – Mirror service  75 minutes
- Persistency Basics
- Mirror Service Configuration
- Monitoring
- MySQL DB
- Lab

Lesson 13
Security  75 minutes
- Security Overview
- Security Authorities
- Securing the Service Grid
- Securing a Space
- Security Manager
- Secured Transport Layer
- Lab

Lesson 14
Troubleshooting Guidelines  45 minutes
- Troubleshooting Tools
- General Troubleshooting Tips
- Troubleshooting Common Issues Topics
- Troubleshooting Common Issues Drill Down (If Time Permits)
- Support Contact Info

Lesson 15
Course Summary  15 minutes
- Summary
- Wrap Up