GIGASPACES XAP 12.2 ADMINISTRATION TRAINING

ADMINISTRATION, MONITORING AND TROUBLESHOOTING | GIGASPACES XAP DISTRIBUTED SYSTEMS

Learn about GigaSpaces XAP internal protocols, its configuration, monitoring tools, APIs, and how to manage and troubleshoot production systems

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
- Service Grid Runtime Components
- Application Level Components
- Administration and Monitoring Tools
- Metrics

Day 2

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

Day 3

- Networking
- Persistency – Mirror Service
- Maintenance Tasks
- Security
- Troubleshooting Guidelines
- Summary

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HARDWARE AND SOFTWARE REQUIREMENTS

Computer Requirements

- RAM: minimum 6 GB of RAM required for exercises and platform to operate, 8 GB and up recommended.
- Disk Space: At least 10 GB of free disk space
- Wireless Internet connection (recommended)

Supported Operating Systems

- Windows 7, 8, 10 64 bit only (recommended: Linux Ubuntu VM on win machine for configuring XAP metrics)
- Linux
- Mac Os

Additional Software Requirements

- PDF Reader
- Java JDK 7u55 or above (Install in a directory with a short path, without spaces)
- Zip software

Classroom HW requirements

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

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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 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
- SSD support
- 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

Lesson 6
Metrics
75 minutes

- Metrics Architecture
- Metrics Basic Configuration
- Grafana Dashboards
- Lab (Optional)

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AGENDA DAY 2

Lesson 7
Application Deployment (BillBuddy)
45 minutes

- BillBuddy application presentation
- Data Model Basics
- Lab

Lesson 8
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 9
SLA and Deployment Considerations
100 minutes

- SLA configuration options
- Avoiding big jars deployment
- Rolling Server Patching
- Hot Deployment
- Primary Election Process
- Off Heap RAM
- Lab

Lesson 10
Administration API and Alerts
30 minutes

- Administration and Monitoring API
- Alert API
- •Lab

Lesson 11
Logging and Monitoring
90 minutes

- Logging
- Collecting Dump
- Monitoring Statistics
- Lab

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AGENDA DAY 3

Lesson 12
Networking
30 minutes

- Multicast and Unicast discovery
- Multiple network interface cards
- LRMI communications protocol
- Configuring used ports
- Firewall considerations

Lesson 13
Persistency – Mirror service
75 minutes

- Persistency Basics
- Mirror Service Configuration
- Monitoring
- HSQLDB
- Lab

Lesson 14
Maintenance Tasks
45 minutes

- Architecture Recap
- Quiesce Mode
- Safe Shutdown
- Rolling Server Patching
- Hot Deployment
- Lab

Lesson 15
Security
60 minutes

- Security Overview
- Security Authorities
- Securing the Service Grid
- Securing a Space
- Security Manager
- Secured Transport Layer
- Lab

Lesson 16
Troubleshooting Guidelines
45 minutes

- Moving to Production Checklist
- Troubleshooting Tools
- General Troubleshooting Tips
- Troubleshooting Common Issues Topics
- Troubleshooting Common Issues Drill Down
- Support Contact Info

Lesson 17
Summary
15 minutes

- Summary
- Wrap Up