

GIGASPACES XAP .NET 12.2 ADMINISTRATION TRAINING

ADMINISTRATION, MONITORING AND TROUBLESHOOTING GIGASPACES | XAP.NET 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, administering, 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

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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

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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 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

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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

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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