

GigaSpaces XAP.NET 10.0 Core Training

Using Core Features of GigaSpaces XAP

Enter the SBA world with GigaSpaces XAP

This training is designed to provide you with the knowledge required to build high throughput, low latency applications for scaling with GigaSpaces XAP on .NET platforms.

You will not only learn how to code such applications, but you will also gain a better understanding of how GigaSpaces XAP is a unique enabler of highly transactional, high volume, low latency applications, as well as exactly what types of architecture GigaSpaces XAP is best suited for.

AUDIENCE

Developers
Project Managers
SI Architects

KNOWLEDGE REQUIREMENTS

.NET 4.0 or later knowledge Required
Experience with Visual Studio 2008

LENGTH

3 Days

BONUS

Plenty of hands-on lab sessions on modifying the BillBuddy applications

SYLLABUS

Foundations (Day 1)

Course Introduction
XAP Introduction
BillBuddy Application
Connecting to a Space-My First XAP
Application
POCOs - Space Classes

XAP API (Day 2)

Space Topologies and Data
Model
Space Access API
Document API
Messaging - Event Containers
Transactions

XAP API Continued (Day 3)

Task Executors
Space based remoting
Mirroring Service
other services and considerations
Summary

HARDWARE AND SOFTWARE REQUIREMENTS

Computer Requirements

- RAM: minimum 3 GB of RAM required for exercises and platform to operate, 4 GB and up recommended.
- 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

Additional Software Requirements

- PDF Reader
- .NET 4.0 or .NET 4.5
- IDE (any of the below):
 - Visual Studio c# 2010/2012 express
 - Visual Studio 2010/2012 pro
- 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)
- Internet connectivity for all participants
- Electricity outlets for all computers/monitors and other equipment.
- At least 3 electricity outlets next to instructor location.

DAY 1 – FOUNDATION

GOALS:

- Understand the paradigm and implications of Space Based Architecture (SBA), viewed in light of Tier Based Architecture (TBA)
- Understand the product structure
- Run a fully functional BillBuddy application
- Gain some hands-on experience
- Develop your first XAP application

Lesson 1: course Introduction

Duration: 0.5 hour

- Introduction and background of the trainer, participants, labs and expectations
- Lab Session

Lesson 2: XAP Introduction

Duration: 1.5 hour

- Why XAP?
- XAP Terminology Comparison to Common Platforms and Servers
- XAP Runtime Environment
- XAP Application Components
- Configuring your Environment
- GigaSpaces Management Center (gs-ui)
- Lab Session

Lesson 3: BillBuddy Application

Duration: 1 hour

- BillBuddy application presentation
- Configuring Visual Studio project for XAP.NET
- Lab Session

Lesson 4: Connecting to a Space – My First XAP Application

Duration: 1.5 hour

- My First XAP Application
- Create a Processing Unit with an embedded space
- Deploy Processing Unit to Service Grid Processing Unit Container
- Deploy Processing Unit to Integrated Processing Unit Container
- Lab Session

Lesson 5: POCOs – Space Components

Duration: 1 hour

- POCOs - Space Classes
- ISpaceProxy Interface - Basic Read and Write operations
- Lab Session

DAY 2 – XAP API

GOALS:

- Gain more practical understanding of Space Base Architecture
- Lots of hands-on experience
- Coding and configuration
- Experience complex space access
- Experience XAP messaging

Lesson 6: Space Topologies and Data Model Duration: 1.5 hour

- Space Topologies
- Data Model Considerations
- Lab Session

Lesson 7: Space Access API Duration: 1.5 hour

- Space Operations
- Read By Id
- Read By Template
- Read By SQLQuery
- Additional Read considerations and options
- Projection API
- Change API
- Aggregations
- Take and Clear Operations
- Write Operations
- Lab Session

Lesson 8: Document API Duration: 1 hour

- GigaSpaces Document API
- The Document Type
- Creating a Document
- Reading and Removing a Document
- Lab Session

Lesson 9 : Messaging - Event Containers Duration: 1 hour

- Messaging and Event Containers Basics
- Event Containers API
- Event Driven Architecture
- Lab Session

Lesson 10: Transactions Duration: 1 hour

- Transaction Basics
- Enabling Transactions
- Read Modifiers
- Pessimistic and Optimistic Locking
- Lab Session

DAY 3 – XAP API CONTINUES

GOALS:

- Gain a more complete understanding of XAP functionalities adding
 - Task Executors
 - Space Based Remoting
 - More business logic
 - Scalability
 - Persistency to disk

Lesson 11: Task Executors

Duration: 1.5 hour

- Task Executors Basics
- Task Executor API
- Distributed Task Executor API
- Lab Session

Lesson 12: Space Based Remoting

Duration: 1 hour

- Space Based Remoting Basics
- Space Based Remoting API
- Space Based Remoting Routing
- Lab Session

Lesson 13: Persistency – Mirror Service

Duration: 1.5 hour

- Persistency Basics
- Initial load introduction
- Mirror Service Configuration
- Monitoring the Mirror Service
- MySql
- Lab Session

Lesson 14: Configuration

Duration: 1 hour

- XAP.NET under the hood
- SLA
- Memory Management
- Admin API
- The XAP Web Based Dashboard – Web UI
- POCO XML Space Mapping (gs.xml)

Lesson 15: Summary

Duration: 1 hour

- XAP – Why XAP
- Wrap Up