



## **JOB SCHEDULER**

# **Product Training Services**

**Information on Training Services**

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We would appreciate any feedback you have, or suggestions for changes and improvements; please forward your comments to [info@sos-berlin.com](mailto:info@sos-berlin.com).

## Contents

<b>1</b>	<b>Management Summary .....</b>	<b>4</b>
1.1	Training Levels .....	4
1.2	Training Procedures .....	4
1.3	Recommendations .....	4
<b>2</b>	<b>Training Levels .....</b>	<b>5</b>
2.1	Training Level: JobScheduler Operations Training .....	6
2.1.1	Training Session: JobScheduler Introduction.....	6
2.1.2	Training Session: JobScheduler Job Control and Support .....	6
2.2	Training Level: JobScheduler Installation Training .....	7
2.2.1	Training Session: JobScheduler Installation .....	7
2.2.2	Training Session: JobScheduler Updates .....	7
2.3	Training Level: Job Management Training.....	8
2.3.1	Training Session: Job Management.....	8
2.4	Training Level: Job Development Training.....	9
2.4.1	Training Session: Job Development .....	9
2.5	Training Level: Special Interest Training .....	10
2.5.1	Training Session: Distributed Scheduling and Clusters .....	10
2.5.2	Training Session: Backups and Safeguarding Against Failure .....	10
2.5.3	Training Session: Individual Training .....	11
<b>3</b>	<b>Training Procedures.....</b>	<b>12</b>
3.1	Training Prerequisites .....	12
3.2	Training Environment .....	12
3.3	Feedback Evaluation .....	12
<b>4</b>	<b>Training Tools.....</b>	<b>13</b>
4.1	Web Conferencing.....	13
4.2	Virtual Training Environment.....	13

## 1 Management Summary

### 1.1 Training Levels

JobScheduler training is oriented towards specific target audiences in IT organizations and provided at the following levels:

Training Level	Target Audience	Relevant Skills	Duration
<a href="#">JobScheduler Operations Training</a>	Operations Team, Service Desk	<ul style="list-style-type: none"> <li>Understand architecture and job handling.</li> <li>Manage daily operations for JobScheduler.</li> <li>Provide 1<sup>st</sup> Level Support and manage trouble tickets with SOS Support Team.</li> </ul>	1 day
<a href="#">JobScheduler Installation Training</a>	Engineering Team, Application Management	<ul style="list-style-type: none"> <li>Install and configure JobScheduler.</li> <li>Connect JobScheduler to databases.</li> <li>Manage patches and updates.</li> </ul>	1 day
<a href="#">Job Management Training</a>	Engineering Team, Application Management	<ul style="list-style-type: none"> <li>Configure basic jobs, job chains, schedules.</li> <li>Manage job parameterizations and complex workflows (split &amp; synchronize).</li> </ul>	2 days
<a href="#">Job Development Training</a>	Developers	<ul style="list-style-type: none"> <li>Develop individual jobs for complex tasks based on the JobScheduler Java API.</li> <li>Add performance optimizations to jobs.</li> </ul>	3 days
<a href="#">Special Interest Training</a>	Engineering Team, Developers	Subjects not focused in other training levels: <ul style="list-style-type: none"> <li>Specialized requirements</li> <li>Reliability and safeguarding against failure</li> <li>Backup and Fail-over</li> <li>Management of a JobScheduler cluster</li> </ul>	on agreement

### 1.2 Training Procedures

- Training is performed by web conferencing or on site (except for *Job Development Training*).
- A maximum of 5 participants is accepted as a [prerequisite](#) to ensure the overall quality of the training.
- Training is carried out in a [Virtual Training Environment](#) that is equipped with the software components required for training execution and exercises. Participants have 24/7 access to their individual Virtual Training Environment during training days. Alternatively environments at customer sites can be used.
- [Feedback](#) is essential to ensure customer satisfaction. Therefore questionnaires are collected at the end of the training; answers are categorized and added to an evaluation matrix that is discussed with the customer's management.

### 1.3 Recommendations

- It is recommended that a minimum of *JobScheduler Operations Training* and *Job Management Training* is booked for the teams who are in charge of setting up the job scheduling environment.
- If the scheduling tasks are considered to be vital for business processes then additional know how transfer can be established by coaching sessions. Coaching enables the teams in charge to handle critical situations more competently.

## 2 Training Levels

The following training levels are provided to meet specific requirements of target audiences in IT organisations:

Training Course		Training Coverage		Training Execution			Training Materials	
Product	Training Level	Required Previous Trainings	Target Audience	Duration	Mediation	Environment	Documentation / Samples	Exercises
JobScheduler	JobScheduler Operations Training		Operations Team, Service Desk	8 hrs.	Web Conferencing, On Site	Virtual Training Environment, Customer Environment	Product Documentation, Sample Jobs, Job Chains	Operations Exercises
	JobScheduler Installation Training	JobScheduler Operations Training	Engineering Team, Application Management	8 hrs.	Web Conferencing, On Site	Virtual Training Environment, Customer Environment	Installation Instructions	Installation Exercises
	Job Management Training	JobScheduler Operations Training	Engineering Team, Application Management	16 hrs.	Web Conferencing, On Site	Virtual Training Environment, Customer Environment	Product Documentation, Sample Jobs, Job Chains	Job, Job Chain Exercises
	Job Development Training	Job Management Training	Developers	24 hrs.	On Site	Customer Environment	API Documentation, Sample Java Jobs	Java Job Exercises
	Special Interest Training	JobScheduler Operations Training	Engineering Team, Developers	on agreement	Web Conferencing, On Site	Virtual Training Environment, Customer Environment		

## 2.1 Training Level: JobScheduler Operations Training

Target audiences are Service Desk and Operations Teams. Basic knowledge of the JobScheduler will be provided for IT operations. This knowledge is also required for participation in the training sessions for more advanced users and experts.

### 2.1.1 Training Session: JobScheduler Introduction

Materials:

- Architecture Presentation, JobScheduler Documentation

#### Training Topic: An Overview of the JobScheduler

Subjects:

- 2.1.1.1
- The relationships between Jobs, Orders, Job Chains and Schedules

Focus:

- Understanding the JobScheduler Architecture
- Documentation Overview
- Features of the JobScheduler
- The relationships between Jobs, Orders and Job Chains
- An introduction to Run Times and Schedules

### 2.1.2 Training Session: JobScheduler Job Control and Support

Materials:

- Training Exercises
- Each participant is provided with an environment and a functional JobScheduler
- Trouble Ticket System, Change Management System, Knowledge Base

2.1.2.1

#### Training Topic: Use of the Interfaces for Job Control

Subjects:

- The JobScheduler environment
- The JobScheduler Operations Center (JOC)
- The JobScheduler Information Dashboard (JID)

Focus:

- 2.1.2.2
- Presentation of the JobScheduler JOC and JID features
  - Starting, stopping, pausing, restarting Jobs and Job Chains
  - Accessing the Job History and Log Files
  - Managing Orders
  - Housekeeping Jobs

#### Training Topic: Requesting Assistance and Handling of Trouble Tickets

Subjects:

- Requesting Assistance
- Trouble Ticket System, Change Management System, Knowledge Base

Focus:

- Terminology for Support Requests and Service Requests
- Requesting assistance from the Support Team
- Adding Trouble Tickets
- Severity and Impact of Trouble Tickets
- Handling of Trouble Tickets by the Support Team
- Use of Change Management System and Knowledge Base

## 2.2 Training Level: JobScheduler Installation Training

Target audiences are Engineering Team and Application Management. Participants will receive the knowledge required to install, update and configure JobScheduler.

### 2.2.1 Training Session: JobScheduler Installation

Materials:

- Installation Procedures, JobScheduler Documentation
- Training Exercises
- Each participant is provided with an environment for exercises

#### Training Topic: Installation of the JobScheduler

Required knowledge:

- Training Level: [JobScheduler Operations Training](#)
- Basic knowledge of system administration and of databases

Subjects:

- Downloading the JobScheduler
- The target environment: Windows or Unix

Focus:

- Installing and configuring the JobScheduler
- Setting up database connections
- Restricting access to the JobScheduler Operations Center (JOC) interface
- Configuring Housekeeping Jobs
- Setting up Secure Configuration
- Basic set-up for a JobScheduler Cluster
- JobScheduler Information Dashboard (JID)
- Batch Installation

### 2.2.2 Training Session: JobScheduler Updates

Materials:

- Installation Procedures, JobScheduler Documentation
- Training Exercises
- Each participant is provided with an environment for exercises

#### Training Topic: Updates of the JobScheduler

Required knowledge:

- Training Level: [JobScheduler Operations Training](#)
- Basic knowledge of system administration and of databases

Subjects:

- Downloading the JobScheduler Updates
- The target environment: Windows or Unix

Focus:

- Compatibility of JobScheduler Updates and Upgrades
- Updating and configuring the JobScheduler
- Automating JobScheduler updates

## 2.3 Training Level: Job Management Training

Target audiences are Engineering Team and Application Management. Participants will receive the knowledge required to develop and configure basic jobs, job chains and schedules.

### 2.3.1 Training Session: Job Management

Materials:

- Real world examples for scheduling tasks, JobScheduler Documentation
- Training Exercises
- Each participant is provided an individual environment with JobScheduler running

#### Training Topic: The Use of Jobs and Job Chains

Required knowledge:

- Training Level: [JobScheduler Operations Training](#)

Subjects:

- The JobScheduler environment
- The JobScheduler Object Editor (JOE)

Focus:

- Job Attributes (Tasks, Timeout, etc.)
- Creating Jobs, Job Chains and Schedules
- Scripting of Jobs and Job Monitor
- Developing Shell Jobs
- Managing Job Execution Patterns: Parallelization, Split & Synchronize
- Using the Base File and Hot Folders
- Using the Standard Jobs delivered with the JobScheduler (called JITL Jobs)
- Job Parameterization
- Developing Job Chains
- Handling Errors in Job Chains
- Process Classes and Locks
- Run Times
- File Orders



## 2.4 Training Level: Job Development Training

The Training is targeted at Developers who intend using the JobScheduler for more complex tasks that cannot be solved with the standard JobScheduler configuration options. In particular this means developing complex jobs based on the Java API.

### 2.4.1 Training Session: Job Development

Materials:

- Real world example for scheduling tasks, JobScheduler Documentation
- Training Exercises
- Each participant is provided with an environment and a functional JobScheduler
- Each participant prepares his/her development environment (IDE, e.g. Eclipse)

#### Training Topic: The JobScheduler API

Required knowledge:

2.4.1.1

- Training Level: [JobScheduler Operations Training](#)
- Training Level: [Job Management Training](#)
- One of the following programming languages: Java, JavaScript

Subjects:

- The JobScheduler environment
- One of the supported programming languages: Java, JavaScript
- Training tasks for the participants will be prepared by SOS GmbH

Focus:

- Developing example Jobs
- Using one's own Job implementations
- Standalone Jobs
- Order Jobs
- Handling Job errors (Java only)
- spooler\_init() / spooler\_exit()
- Forwarding Order Parameters between Jobs
- Starting / modifying Jobs
- Changing the status of Orders
- Using Setback
- Developing Monitors
- Sending E-Mail
- Processing File Orders

2.4.1.2

#### Training Topic: The JobScheduler XML API

Subjects:

- JobScheduler environment

Focus:

- Controlling the JobScheduler
- Manipulating Jobs / Orders
- Testing the JobScheduler

## 2.5 Training Level: Special Interest Training

Target audiences are Engineering Team and Developers. Subjects not covered in other levels, for instance: Distributed Scheduling and Clusters, Backups and Safeguarding against Failure, etc. or Individual Trainings for Advanced Topics.

### 2.5.1 Training Session: Distributed Scheduling and Clusters

This training unit is intended for JobScheduler users who want to develop an environment with multiple servers. Participants are required to have previous knowledge of:

- Technical administration of the target environment (Windows / Unix)

#### Training Topic: Central Configuration

2.5.1.1

Required knowledge:

- Training Level: [JobScheduler Operations Training](#)
- Training Level: [Job Management Training](#)

Subjects:

- JobScheduler environments with multiple JobScheduler instances
- JobScheduler Object Editor (JOE)

Focus:

- Advantages of Central Configuration, DO's and DON'Ts
- Setting up a Central Configuration

2.5.1.2

#### Training Topic: Distributed Orders

Required knowledge:

- Training Level: [JobScheduler Operations Training](#)
- Training Level: [Job Management Training](#)

Subjects:

- Presentation
- JobScheduler environments with multiple JobScheduler instances

Focus:

- How Distributed Orders work
- Configuring a JobScheduler Cluster
- Configuring Distributed Job Chains
- DO's and DON'Ts for Distributed Orders

### 2.5.2 Training Session: Backups and Safeguarding Against Failure

Required knowledge:

- Training Level: [JobScheduler Operations Training](#)
- Training Level: [JobScheduler Installation Training](#)
- Training Level: [Job Management Training](#)

Subjects:

- Presentation
- JobScheduler environments with multiple JobScheduler instances

## Focus:

- Possibilities for safeguarding against failure
- Configuring a JobScheduler Cluster
- Configuring Primary and Backup JobScheduler instances
- Manual / Automatic Fail-Over

### 2.5.3 Training Session: Individual Training

## Required knowledge:

- Training Level: [JobScheduler Operations Training](#)
- Training Level: [Job Management Training](#)
- Statements for the customer's scheduling requirements

## Subjects:

- Subjects are agreed on and tailored individually with the customer

## Focus:

- To be agreed: individual training will be adapted to the customer's requirements, for example:
  - Implementing Jobs and Job Chains meeting specific specifications
  - JobScheduler Operations Training for specific environments

## 3 Training Procedures

### 3.1 Training Prerequisites

- Training language is English or German.
- A maximum of 5 participants is accepted for training sessions. This restriction is intended to ensure the overall quality of the training and that the trainer can provide individual trainees with sufficient attention.
- Participants are asked to confirm that they have completed previous training levels that might be required for a proper understanding of the training offered.

### 3.2 Training Environment

SOS provides a Virtual Training Environment for participants. Alternatively a Training Environment provided by the Customer can be used,

#### Virtual Training Environment

- Virtual machines with Windows Server or Linux
- Dedicated environment for each participant
- Accessible by Remote Desktop Protocol (rdp)
- Equipped with the software components and with exercises for participants
- Administrator access
- Available 24/7 during training days, possible extension on agreement

#### Customer Training Environment

- Customer is responsible for setting up the Training Environment, user accounts and permissions

### 3.3 Feedback Evaluation

#### Feedback Relevance

- Feedback is essential in order to constantly improve the quality of training
- SOS strives to ensure customer satisfaction and respects feedback from trainings

#### Feedback Questionnaire

- Participants are handed over a questionnaire at the beginning of the last training day and are asked to fill out the form accordingly
- The questionnaire is collected at the end of the final training session
- Training evaluations are performed anonymously.

#### Feedback Evaluation

- The trainee's answers to the feedback questionnaire are categorized and added to an evaluation matrix
- The evaluation matrix is handed over to the customer's management
- Results of the training evaluation will be discussed with the customer's management who in return will communicate the results to the trainees

## 4 Training Tools

### 4.1 Web Conferencing

- Web Conferencing Tool: [GotoMeeting](#)
  - Requires outbound tcp port 80, 443, 8200 and udp port 8200
  - For details on port settings see [GotoMeeting IP Range](#)

### 4.2 Virtual Training Environment

- Virtual Server for each participant
  - Virtual Machines with Windows or Linux
  - Dedicated environment for each participant
  - Accessible by Remote Desktop Protocol (rdp)
  - Equiped with the software components and with exercises for participants
  - Administrator access
  - Available 24/7 during training days, possible extension on agreement