

TELES Training Catalogue

As of June 2021



Table of Contents

| | | |
|-----|---------------------------------------|----|
| 1 | General Notes | 3 |
| 2 | Course Overview | 5 |
| 2.1 | Webinars | 5 |
| 2.2 | Presence Trainings | 5 |
| 3 | Basic Training Webinar..... | 6 |
| 3.1 | Basic Standard Modules | 6 |
| 3.2 | Basic Add-On Modules..... | 7 |
| 4 | Advanced Training Webinar..... | 8 |
| 4.1 | Advanced Training Modules..... | 8 |
| 5 | Regular Training Webinar | 9 |
| 6 | Presence Training | 10 |
| 6.1 | Softswitch Basic..... | 10 |
| 6.2 | Softswitch Advanced | 11 |
| 7 | Customized Training..... | 12 |
| 8 | Module Descriptions | 12 |
| 8.1 | Basic Training Standard Modules | 12 |
| 8.2 | Basic Training Add-On Modules..... | 14 |
| 8.3 | Advanced Training Modules..... | 15 |

1 General Notes

TELES offers technical training for partners and customers as webinars and presence trainings. By providing different training modules in combination with practical examples and detailed solution approaches, as well as several certification levels, customers are given the opportunity to equip their employees with the necessary skills to deploy, operate and maintain the TELES Softswitch and other TELES software components.

Registration and valid training order is required before training participation. The customer receives an invitation with the date and the access data for the booked training.

Number of Participants

To guarantee an optimal level of efficiency and output of the training, the maximum number of course participants is fixed at 8 for webinar and 6 for presence trainings.

Course Activation and Cancellation

Minimum number of participants required for a scheduled course to take place is 3. Scheduled course activation will be confirmed 3 weeks in advance of the scheduled date by TELES. If the minimum number of participants is not reached 3 weeks before the course is due to beginning, participants will be offered an alternative date or a refund of pre-payment. Companies can substitute participants up until the day the course starts.

Cancellations or rescheduling requests are valid only if received at least 7 days before the course is due to start. If the request is deemed valid, a rescheduled date must be agreed upon with TELES. There are no other rescheduling/cancellation options available. In all other cases, TELES charges 25% of the cost of the order as compensation for expenses incurred. Any prepayment made over and above this

amount will be refunded. The rescheduling option is available only for the entire list of participants. Single participants cannot be rescheduled. The cancellation option is available for single participants provided at least 3 participants remain in the course.

Language

Courses are conducted in German or English (check actual availability with your account manager in TELES).

Course Certificate and Re-certification

The successful participation on a training course will be documented by a personal TELES certificate. This certificate is the base for maintaining the status as TELES certified network professional.

Renewing of certification is required on regular base for each Softswitch major release or at least all two years after upgrade to a new Softswitch major release. The participation on at least two Regular training webinars or alternative an Advanced or Customized training is necessary for a successful certification renewal.

For details about customer obligations on TELES certified personnel please see the SLA contract.

2 Course Overview

2.1 Webinars

The following table lists the available webinar courses. Each course is divided into sessions. The duration of a session is one or two hours. For Advanced and Customized webinars a minimum of two sessions need to be ordered.

| Course Name | Order Code | Sessions | Price (per participant) |
|---------------------------------|------------|------------|----------------------------|
| Softswitch (SSW) | | | |
| Webinar - Basic Training | 737055230 | 6 | EUR 1.800 |
| Webinar - Basic Training Add-On | 737055231 | 1 | EUR 300 * |
| Webinar - Advanced Training | 737055232 | Minimum: 2 | EUR 300 * |
| Webinar - Customized Training | 737055233 | Minimum: 2 | EUR 350 * |
| Webinar - Regular Training | 737055234 | 1 | EUR 200 * |

* Price per session

2.2 Presence Trainings

The following table lists the available presence training courses. The presence training curriculum is divided into full-day sessions includes teaching sessions and instructor guided hands-on on dedicated trainings systems.

| Course Name | Order Code | Duration (days) | Price (per participant) |
|-------------------------|------------|--------------------|----------------------------|
| Softswitch (SSW) | | | |
| Basic Training | 737055240 | 4 | EUR2.880 |
| Advanced Training | 737055241 | 4 | EUR2.880 |
| Customized Training | 737055242 | 1 | EUR 800 |

3 Basic Training Webinar

3.1 Basic Standard Modules

| | |
|-------------------------------|---|
| Course description | This course provides a general overview off the TELES Softswitch and its main components and functions. It introduces the operation of the TELES Softswitch with the essential protocols and the call routing configuration as well as the security configuration. Participants will also learn to troubleshoot using the TELES Tracer. |
| Audience | System Administrators, System Architects, Technicians |
| Prerequisites | Basic knowledge Unix/Linux, SS7, TCP/IP and VoIP protocols |
| Duration | 6 sessions of two hours each, two sessions per day |
| Course delivery method | Webinar training via web browser on a TELES training system |

| Module Name | ID | Duration |
|--|--------|----------|
| Basic Training Webinar Standard Modules | | |
| General overview of the TELES Softswitch setup | SSW-01 | 2 hours |
| Management of Softswitch using the TELES EMS | SSW-02 | 2 hours |
| Supported protocols and the configuration - Overview | SSW-03 | 2 hours |
| Call routing configuration - Basics | SSW-04 | 2 hours |
| Troubleshooting using TELES Tracer | SSW-05 | 2 hours |
| Maintenance and security | SSW-06 | 2 hours |

3.2 Basic Add-On Modules

| | |
|-------------------------------|---|
| Course description | These additional one-hour webinars serve as a supplement to the Basic Training Webinar and can be booked individually, as required, in combination with the Basic Training Webinar. |
| Audience | System Administrators, System Architects, Technicians |
| Prerequisites | Participation in the Basic Training Course |
| Duration | 4 sessions of one hour each, 4 sessions per day |
| Course delivery method | Webinar training via web browser on a TELES training system |

| Module Name | ID | Duration |
|--|--------|----------|
| Basic Training Webinar Add-On Modules | | |
| TELES DataServer and routing integration | SSW-11 | 1 hour |
| TELES CDR Mediation Server | SSW-12 | 1 hour |
| TELES NBE with transcoding | SSW-13 | 1 hour |
| 3rd party media gateways and integration | SSW-14 | 1 hour |

4 Advanced Training Webinar

4.1 Advanced Training Modules

| | |
|-------------------------------|--|
| Course description | <p>This course offer detailed solution approaches in the carrier environment for the optimal use of the flexible TELES SSW solutions based on practical examples. It introduces the operation of the TELES Softswitch with the essential protocols and the call routing configuration as well as the security configuration.</p> <p>A successful participation on the basic training course is required for participation on an advanced training.</p> |
| Audience | System Administrators, System Architects, Technicians |
| Prerequisites | Basic knowledge Unix/Linux, SS7, TCP/IP and VoIP protocols |
| Duration | 6 sessions of two hours each, two sessions per day |
| Course delivery method | Webinar training via web browser on a TELES training system |

| Module Name | ID | Duration |
|--|--------|----------|
| Advanced Training Webinar Modules | | |
| Call routing configuration - Advanced | SSW-21 | 2 hours |
| TELES DataServer and routing integration | SSW-22 | 2 hours |
| TELES DataServer Flex-Routing | SSW-23 | 2 hours |
| TR-Notruf with TELES DataServer and Flex-Routing | SSW-24 | 1 hour |
| Media configuration - media realms and transcoding | SSW-25 | 2 hours |
| Announcement services with TELES Softswitch | SSW-26 | 1 hour |
| Advanced troubleshooting using log files and Raw CDR | SSW-27 | 2 hours |
| OS configuration and maintenance of the TELES Softswitch | SSW-28 | 2 hours |

5 Regular Training Webinar

In the offered courses, new features of the current software release are presented, as well as practical solutions to individual current topics.

| | |
|-------------------------------|---|
| Course description | This regular course provides detailed information and instructions on new features and changes of the actual TELES Softswitch. This includes individual TELES solutions of common requirements as well as practical solutions to individual current topics. |
| Audience | System Administrators, System Architects, Technicians |
| Prerequisites | Participation in the Basic Training Course |
| Duration | One session of one hour |
| Course delivery method | Webinar training via web browser on a TELES training system |

| Module Name | ID | Duration |
|---|--------|----------|
| Regular Webinar Modules | | |
| New features / releases | SSW-31 | 1 hour |
| Best practice of different topics (to be defined) | SSW-32 | 1 hour |

6 Presence Training

6.1 Softswitch Basic

| | |
|-------------------------------|--|
| Course description | <p>This course provides a general overview off the TELES Softswitch and its main components and functions. It introduces the operation of the TELES Softswitch with the essential protocols and the call routing configuration as well as the security configuration. Participants will also learn to troubleshoot using the TELES Tracer.</p> <p>Additional hands-on sessions are integrated into the training.</p> |
| Audience | System Administrators, System Architects, Technicians |
| Prerequisites | <p>Basic Knowledge Unix/Linux</p> <p>Basic Knowledge of SS7, TCP/IP and VoIP protocols</p> |
| Duration | 4 days, 8 hours per day |
| Course delivery method | Instructor-led training at TELES Berlin; course material presented using slides (Copies of the course slides will be provided along with handouts when appropriate) |

| Module Name | ID | Duration |
|--|--------|----------|
| Basic Training Modules | | |
| General overview of the TELES Softswitch setup | SSW-01 | 4 hours |
| Management of Softswitch using the TELES EMS | SSW-02 | 4 hours |
| Supported protocols and the configuration - Overview | SSW-03 | 2 hours |
| Call routing configuration - Basics | SSW-04 | 4 hours |
| Troubleshooting using TELES Tracer | SSW-05 | 4 hours |
| Maintenance and security | SSW-06 | 4 hours |
| TELES DataServer and routing integration | SSW-11 | 3 hours |
| TELES CDR Mediation Server | SSW-12 | 3 hours |

| Module Name | ID | Duration |
|--|--------|----------|
| TELES NBE with transcoding | SSW-13 | 2 hours |
| 3rd party media gateways and integration | SSW-14 | 2 hours |

6.2 Softswitch Advanced

| | |
|-------------------------------|--|
| Course description | This course gives a build up on TELES Softswitch topics, emphasizing on routing, configuration and maintenance. Additional hands-on sessions are integrated into the training. |
| Audience | System Administrators, System Architects, Technicians |
| Prerequisites | Basic knowledge Unix/Linux, SS7, TCP/IP and VoIP protocols Successful completion of the Softswitch Basic Training |
| Duration | 4 days; 8 hours per day |
| Course delivery method | Instructor-led training at TELES Berlin; course material presented using slides (copies of the course slides will be provided along with handouts when appropriate) |

| Module Name | ID | Duration |
|--|--------|----------|
| Advanced Training Modules | | |
| Call routing configuration - Advanced | SSW-21 | 4 hours |
| TELES DataServer and routing integration | SSW-22 | 4 hours |
| TELES DataServer Flex-Routing | SSW-23 | 4 hours |
| TR-Notruf with TELES DataServer and Flex-Routing | SSW-24 | 2 hours |
| Media configuration - media realms and transcoding | SSW-25 | 4 hours |
| Announcement services with TELES Softswitch | SSW-26 | 4 hours |
| Advanced troubleshooting using log files and Raw CDR | SSW-27 | 4 hours |
| OS configuration and maintenance of the TELES Softswitch | SSW-28 | 4 hours |

7 Customized Training

TELES offers the customer the option of putting together their own training agenda from the available training modules in order to be able to optimally cover the training needs of employees. Further training content relating to the TELES SSW solution can be defined and adapted after consultation with the TELES service team. Customized trainings are offered as webinar or presence training. Talk to us.

8 Module Descriptions

8.1 Basic Training Standard Modules

SSW-01 – General overview of the TELES Softswitch setup

- Common setup variants of the TELES Softswitch: Compact, Cluster
- Integration of media gateways: TELES NBE, 3rd party Mediagateways
- TELES Element Management System (EMS)
- Recommended hardware and virtualization options
- Common network configuration

SSW-02 – Management of TELES Softswitch using the TELES EMS

- Access to the EMS and installation requirements
- Login and user management
- Main EMS Client view, configuration and monitoring
- Event Monitor & alarm forwarding options
- Call statistics and TELES PerfMon

SSW-03 – Supported Protocols and the configuration – Overview

- SIP Signaling – Basics
- SIP Signaling – Configuration with the EMS
- SIP Signaling – Security considerations
- SIP-I – transport of ISUP messages using SIP
- Megaco – Basics
- Megaco – Media gateway configuration with the EMS
- Megaco – Transcoding and non-transcoding mode

SSW-04 – Call routing configuration – Basics

- General routing process
- Syntax of the routing configuration files
- Call routing variables for SIP and TDM/ISUP
- Regular expressions in different routing functions
- Basic call routing configuration
- Call Detail Records (CDR)

SSW-05 – Troubleshooting using TELES Tracer

* This module requires the knowledge of the modules SSW-03 and SSW-04.

- Main use of the TELES Tracer
- Main screen and available filter settings
- Call flow analysis

SSW-06 – Maintenance and Security & Backup/Restore

* This module requires the knowledge of module SSW-04.

- Operating system and general network configuration
- System status and TELES Software
- Firewall configuration
- Monitoring of system components
- Backup and restore

8.2 Basic Training Add-On Modules

SSW-11 – TELES DataServer and routing integration

- General information about the TELES DataServer
- Definition of the database structure and SQL statements to be used
- Redundancy of the TELES DataServer, data replication
- Integration of the DataServer into the Softswitch configuration and call routing

SSW-12 – TELES CDR Mediation Server

- General information about the TELES CDR Mediation Server
- CDR mediation process workflow
- CDR Parser
- CDR Formatter
- Monitoring and maintenance

SSW-13 – TELES NBE with transcoding

* This module requires the knowledge of modules SSW-03 and SSW-04. TELES also recommends taking part in the advanced module SSW-25.

- Setup, configuration, operation of the TELES Network Border Element
- Additional features of the NBE with transcoding license
- Required changes in the Megaco configuration
- Requirements to the call routing configuration

SSW-14 – 3rd party media gateways and integration

- Configuration & integration of different 3rd party media gateways

8.3 Advanced Training Modules

SSW-21 – Call routing configuration – Advanced

* This module requires the knowledge of modules SSW-04.

- Advanced call routing configuration
- APMs
- Call Detail Records (CDR)

SSW-22 – TELES DataServer and routing integration

* This module requires the knowledge of modules SSW-04 and SSW-07.

- General information about the TELES DataServer
- Definition of the database structure and SQL statements to be used
- Redundancy of the TELES DataServer, data replication
- Integration of the DataServer into the Softswitch configuration and call routing

SSW-23 – TELES DataServer Flex-Routing

* This module requires the knowledge of modules SSW-04.

- General information about Flex-Routing with the TELES Softswitch and DataServer
- Definition of the database structure and SQL statements to be used
- Integration into the call routing configuration

SSW-24 – TR-Notruf with TELES DataServer and Flex-Routing

* This module requires the knowledge of modules SSW-04 and SSW-07.

- General information about Flex-Routing with the TELES Softswitch and DataServer
- Definition of the database structure and SQL statements to be used with TR-Notruf
- Call Routing configuration required to request the required information and create the XML Body as of "TR Notruf Ausgabe 2.0"

SSW-25 – Media configuration - media realms and transcoding

* This module requires the knowledge of modules SSW-03 and SSW-04.

- General meaning of realms and the use of different media codecs
- Transcoding capabilities of supported media gateways
- Media realm configuration and border gateway groups
- Media configuration options within the call routing configuration

SSW-26 – Announcement services with TELES Softswitch

* This module requires the knowledge of modules SSW-03 and SSW-04.

- Overview of available announcement services and use cases
- Supported media gateways and media server and their capabilities and integration into the TELES Softswitch configuration
- Call routing configuration for different use cases

SSW-27 – Advanced troubleshooting using log files and raw CDRs

* This module requires the knowledge of module SSW-04.

- Different log files of the system
- Log files of the TELES Software and different log levels
- Raw CDR files of the TELES Softswitch

SSW-28 – OS configuration and maintenance of the TELES Softswitch

- Configuration and maintenance of the TELES Systems in regards to the Operating System (OS)

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