

## TOP LOC 052023 SIP for everyday work usage

The Session Initiation Protocol / SIP has developed into one of the most important protocols for voice communication in the Internet world.

This training gives a comprehensive insight into the SIP context and the necessary elements and other players. The idea of the errors is to train technicians and engineers to identify what is missing, what they expected to see, etc, and thereby build up knowledge of SIP and troubleshooting experience.

The workshop is based on practical exercises which gives you a good and fundamental education to cope with everyday life cases.

### Target Group

Engineers, technicians, installers and administrators

### Requirements

- | Basics of telecommunications and telephone systems, line switching, packet switching, IP knowledge is preferable.

### Methods

**Instructor Leader Led/ILL:** Physical classroom environment

**Remote Leader Led/RLL:** Virtual classroom environment

**Hybrid:** ILL or RLL. You can attend the course on-site or remotely.

Equipment and Setup Requirements for Remote Leader Led Training:

- | 2x SIP phones (can be a mixture of soft phone, Mitel Phone or other brand, since the course would be a general SIP course)
- | 1x PC or laptop with 2x screens / 2x PC or laptops

Further information will be provided prior to the start of the course.

### Key Features

#### Day 1

- | SIP components (UAS, UAC)
- | Typical SIP call flow
- | Introduction to open-source tools: microSIP, netcat, telnet client, wireshark, tcpdump
- | SIP without servers
- | Analyse SDP
- | Basic of NAT and netflows

#### Day 2

- | SIP w/ Servers (Registrars, Proxies)
- | Music-on-hold
  - | REFER, RFCs
- | MicroSIP to test SIP ext and SIP trunk

- | ASCII live output of tcpdump
- | RTP
  - | Direct Media vs Forced Gateway
  - | Codec negotiation
  - | Audio, Video

### Day 3

- | SBCs
  - | B2BUA
- | Quality of Service (QoS)
- | Future: WebRTC
- | Exam

## Events

### Duration

3 Days

### Customized training

We tailor the content and duration of the trainings according to your individual needs.

### Certificate

TOP Certification

### Contact Person



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