

## SIM, STK & OTA Basics

Everything you need to know about the SIM, related Services & Technologies



SIM cards play a larger role today, than simply securing access to a GSM network. They are also used as standard, secure and portable platforms for **Value added services**, remotely updateable in a **standard & secure** way “**Over-The-Air**”.

This training course will allow you to easily understand the **main technologies & features** of these products to optimize management & rapidly deploy your own SIM cards & Value-Added-Services Applications.



### At the end of the training you will

- > Have a clear & comprehensive overview of the main GSM SIM-related standards.
- > Understand SIM card functionality to ease testing of new profiles.
- > Have a clear understanding of what VAS can be implemented & deployed with “SIM Toolkit” technology.
- > Understand the “Over-The-Air” (OTA) process, for optimizing remote management of your SIM card data & services

### Who should attend

- > SIM Manager
- > VAS Manager
- > Handset Validation Team
- > Project Manager
- > Developer Staff
- > Roaming Manager
- > ...

#### Pre-requisites:

- > No specific pre-requisites for this course

This course is held in English

### Key topics

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|--|---|
| <ul style="list-style-type: none"> <li>&gt; SIM</li> <li>&gt; ISO 7816</li> <li>&gt; GSM 11.11/ 3GPP 51.011</li> <li>&gt; GSM 11.14</li> </ul> | <ul style="list-style-type: none"> <li>&gt; GSM 03.48 / 3GPP 23.048</li> <li>&gt; SIM Toolkit &amp; Real examples of VAS</li> <li>&gt; SMS &amp; “OTA” &amp; remote management use-cases</li> <li>&gt; Network &amp; Remote Authentication</li> </ul> |
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# Course Schedule



| Day 1   | Practice   |
|---|--|
| <p><b>Introduction to SIM cards &amp; related solutions</b></p> <ul style="list-style-type: none"> <li>&gt; Different cards for different needs</li> <li>&gt; SIM-related software &amp; solutions for VAS</li> </ul> <p><b>Understanding SIM Cards &amp; Interface with Mobile Equipment (GSM 11.11 standards)</b></p> <ul style="list-style-type: none"> <li>&gt; Card architecture</li> <li>&gt; Card life phases</li> <li>&gt; Memory organization &amp; File System</li> <li>&gt; Access conditions</li> <li>&gt; Security features</li> <li>&gt; Special features</li> <li>&gt; Command set</li> </ul> <p><b>Understanding SIM Application Toolkit</b></p> <ul style="list-style-type: none"> <li>&gt; GSM 11.14 Standards</li> <li>&gt; SIM Toolkit definition</li> <li>&gt; Real use-case benefits &amp; examples of VAS implemented with STK technology</li> </ul> | <p>SIM Files browsing, for testing SIM profile</p> <p>PIN management (change, unlock...)</p> <p>Network Authentication simulation</p> <p>File creation</p> <p>Tools for troubleshooting &amp; optimizing SIM testing phase</p> |

| Day 2   | Practice  |
|---|---|
| <ul style="list-style-type: none"> <li>&gt; SIM toolkit commands</li> <li>&gt; SIM toolkit protocols – Interaction with Handset</li> </ul> <p><b>Remote management of SIM cards &amp; services</b></p> <ul style="list-style-type: none"> <li>&gt; Introduction to SMS for “Over-The-Air” SIM management</li> <li>&gt; Real-life use cases for OTA</li> <li>&gt; Analysis of different steps of message “journey”</li> <li>&gt; Understand OTA platform security parameters &amp; their interaction with the SIM (following GSM 23.048 Standard)</li> <li>&gt; Proof of Receipt: Message acknowledgement &amp; troubleshooting</li> </ul> | <p>STK application loading &amp; testing with SIM ADMIN &amp; Mobile SIMULATION software</p><br><p>OTA testing using SIMu tools:<br/>           Downloading securely GSM data Over-The-Air<br/>           Analysing proof of receipt acknowledgements</p> |

