

# Getting an In-Depth Experience of Java Card™ and SIM Toolkit Programming

*This document supplements the detailed description in the course brochure, and provides answers to the most frequently asked questions.*

## What Is This Course About?

This course provides a focused description of the concept of Java Card™ technology. This training can be logically extended to the SIM Toolkit technology. You will learn about the possibilities and limitations today's technology and market offers. The introduction proposes to give an overview of the Java Card™ and SIM Toolkit technologies as well as the current implementation in the industry.

## What Will I Learn In Java Card™?

As this course mainly targets application developers, you will learn the history and the evolution of smart card technologies over the last 20 years from the first patent to Java Card™. It covers architecture, Java Card Runtime Environment, Applet Management, Virtual Machine, Java Card™ API, Security Features, and Optimization Techniques.

## What Will I Learn In SIM Toolkit?

Regarding the SIM Toolkit part of the course, an introduction to the GSM world is provided as well as the path from SIM to STK. The course then involves Data Management, Security, Content Data, Proactive Commands, Event Management, and GSM 03.19 API SIM Toolkit and Files.

After having attended this course and solved a number of practical exercises, you will be able to build your own Java Card™ and SIM Toolkit Java Card™ solutions.

## Who Will Benefit From This Course?

This course is valuable for embedded systems, smart card and GSM enthusiasts and/or Java programmers interested in diversification of the Java technology. This includes:

- Software developers who want to learn more about smart card programming in Java
- Java developers who want to quickly leverage their knowledge for advanced Java technologies such as Java Card
- Security developers who want to extend their knowledge to the mobile world

- GSM applet developers

## What Background Do I Need?

Basic knowledge about the Java programming is a prerequisite for this course. No in-depth experience of Object-Oriented programming is necessary. Notions of cryptography and smart card are advantageous but not compulsory.

## Why Are Simulators Used?

In many cases, software emulators provide an easier development environment as compared to real devices. Hands-on experience with emulators is invaluable for low cost, rapid development of embedded software. In addition, the complexity of mobile phone subscription for training makes the use of real devices unrealistic.

## Which Simulator Will Be Used?

The practical session concentrates on the Java Card SIM Toolkit. Bantry Technologies provides its own development, demonstration and test tools for the practical sessions. The tool is called *VirtuoSimo™*. More information on this platform can be found on our web site at the address given below. This product can be purchased or can be evaluated by contacting Bantry Technologies.

## Are Security Issues Covered In This Course?

Absolutely. Even though this course is not about security, it is fundamental to understand how security works and how it is used in the Java Card™ environment. Many applications such as on-line banking require some high-level of security. A detailed coverage of general aspects of Java Card™ security techniques is explained in the course. After having attended this course you will know how to build secure Java Card™ applets and you will have knowledge about security technology in general.

## What Is A Smart Card? Is It Fundamental For The STK Java Card™ Training?

Smart cards are secure portable microprocessor cards. They contain personal information and sensible data such as private keys. SIM cards are present in all GSM phones.

Most of the time, part of the WAP security is, for instance, ensured with the use of a Wireless Identity Module (WIM) application, which is an applet located on the SIM card (SWIM). The knowledge of the smart card is not required for the course, but would facilitate the overall understanding.

*You can gain the knowledge of WAP security and WAP in general by WAP 1.2 (5 days) course proposed by Bantry Technologies.*

### When and Where Do Sessions Take Place?

Bantry Technologies organizes the SIM Toolkit Java Card™ training on a monthly basis in its premises in Dublin, Ireland. In addition, due to the growth of the demand, Bantry Technologies can arrange any additional training to meet your logistical needs, being performed in your organization's facilities anywhere in the world on the schedule that suits you best. Based on the content of the current training, courses can be tailored to meet your exact needs.

For instance you can decide to take Java Card™ only or SIM Toolkit only.

### What Size Group Can Attend?

In order to maintain a high level of quality, the number of attendees is limited to 10 persons per session. For practical sessions a maximum of 2 attendees per PC is advised.

### What Does Bantry Technologies Provide?

Bantry Technologies provides a high quality instructor for each of its trainings. The instructor has been always deeply involved in the conception of the training and on the elaboration of the content. The instructor has also strong academic experience and knows how to adapt himself to the students. Bantry Technologies also provide each attendant with a course manual at the beginning of the class. The customer can download all software in advance. However, the instructor will be pleased to arrive in advance to download on all machines the required software.

### What Is The Necessary Equipment For The Training?

The premises must be equipped with PC workstations to manage the practical work

sessions. One PC must be provided for two attendees. The PCs must run Microsoft Windows NT 4.0 and 2000 operating system and have enough memory to run the necessary emulators used during the training.

### How Much Time Is Spent On Each Part?

Part	Title	Hours
Part 1	Java Card™ Basics	4.00
Part 2	Standard Java Card™ API	2.00
	Practical Work #1: Basic Java Card™ Applet	2.00
Part 3	Java Card™ Specific Features	2.00
	Practical Work #2: Advanced Java Card™ Applet	3.00
Part 4	Advanced Java Card™ API	3.00
	Practical Work #3: Cryptographic Java Card™ Applet	4.00
Part 5	More about Java Card™	4.00
Part 6	SIM (GSM 11.11)	3.00
Part 7	SIM Toolkit (GSM 11.14)	3.00
Part 8	SIM API for Java Card™ (GSM 03.19)	3.00
Part 9	SIM Toolkit API	3.00
	Practical Work #4: SIM Toolkit Java Card™ Applet	4.00

### Do I Get To Learn To Practice?

The trainings consist of an interactive class using slide presentations for theoretical sessions and written exercises for practical work sessions (about 40% of the course is hands-on exercises). You work with the latest software that is available today. You build software on emulators that react exactly as the real device would do. After the training and a little bit of practice, you should be fully familiar with the technologies included in the course.

### How Is The Training Evaluated By The Participants?

At the end of the course, each participant will be asked to provide feedbacks on all aspects of the course on an evaluation form. This aims at always improving the quality of the course thanks to the comments of the students.

## Do I Get A Training Certificate?

Absolutely! Bantry Technologies provides a training certificate validating your understanding and attendance to the full-class.