

# TECHNICAL TUTORIALS

The Internet Society is offering 11 highly focused tutorials conducted by industry experts from around the world. The tutorials, full of in-depth, practical information on current and emerging technologies, compliment the INET 2000 conference and can be an important part of your professional development. *Separate fee required.*

For the latest information on tutorials see  
<http://www.isoc.org/inet2000/>

## Tutorial 1

- Monday, 17 July 2000 - Full Day - 09:00 - 17:30

### *Running Applications on High-speed Networks - Theory, Practice, and Case Study*

Mark Gates, NLANR

This tutorial will focus on the most essential skills needed to develop applications for today's high-performance networks, such as vBNS and Abilene. The tutorial will provide a basic understanding of the TCP/IP protocol stack, high-speed networking, and common diagnostic tools. Included is a quick section on the BSD Socket programming interface in both C and Java using an effective learn-by-example strategy. An intermediate-level talk and hands-on lab follows, featuring tuning application performance for high-speed networks. Several case studies will be presented as examples of network applications, each in a different area. One case study covers real-time network performance monitoring tools (created by NLANR) called Netlog and Viznet. Another case study will be Cactus, winner of an HPC Challenge Award at SC98. Cactus is an ambitious distributed astrophysical simulation which can run on multiple supercomputers.

## Tutorial 2

- Monday, 17 July 2000 - Full Day - 09:00 - 17:30

### *Java and Database Connectivity*

Simon Brooke, Weft Technologies Ltd.

Java database connectivity (JDBC) provides a common interface to a wide range of databases including Oracle, Informix, MS-SQL, and MSAccess. Combining the Platform independence of Java with the database independence of JDBC gives a very powerful design paradigm. This is a two-section tutorial covering general introduction to Java as well as Java-Database connectivity.

In the first section, attendees will learn to write small Java programs and to make an informed decision as to whether or not these technologies are appropriate for their requirements. A historical perspective on Java as well as future directions will be included. The second section provides an overview of JDBC design philosophy, architecture, and details such as relevant portions of the Java Development Kit (JDK). This section also contains a walkthrough of examples including connecting to a database, several sample Java development environments, basics of connecting to MSAccess (and example report generation), and emerging JDBC architectures.

## Tutorial 3

- Monday, 17 July 2000 - Full Day - 09:00 - 7:30

### *Building Accessible Web Sites, or Making Sure Everyone Gets Your Message*

Michael Burks, International Center For Disabilities on the Internet

As more and more information becomes available on the Internet, it is imperative that web sites are constructed in a manner that will allow as many people as possible to access the information available on the web site. Accessibility goes beyond people with disabilities to consider also users whose network connections are low bandwidth. This tutorial will explore the various ways to build web sites that are attractive, useful and most especially accessible to the widest audience possible.

Current accessibility technologies and techniques will be explored and future and upcoming techniques will also be presented. The tutorial will have an interactive format involving attendees working with the presenter to analyze and comment upon the ways to make existing web sites more accessible and how to build accessibility into design standards. Attendees should have a basic understanding of HTML and large desire to make web sites accessible.

## Tutorial 4

- Monday, 17 July 2000 - Full Day - 09:00 - 17:30

### *E-Business in Practice: "Evolving Your Business to e-Business"*

Gordon Howell, Electronic Commerce One

Electronic Commerce (EC) has been targeted by National Governments worldwide as a strategic issue for the creation of new markets, new points-of-sale, automate trading relationships and redesign their fundamental business operations. This course provides a general management and technical framework to assist companies in planning their evolution to electronic commerce, presenting a step-by-step development plan for adoption of electronic commerce and e-business practice into their business. Participants will receive a well-rounded overview of EC applications, technology, and specific example systems including secure commerce systems and payment technology. With this foundation, attendees will learn to formulate migration plans and business cases as well as practical development plans. Critical implementation and operational issues and technologies will be emphasized.



INET'99 Tutorial Attendees

## ■ Tutorial 5

- Tuesday, 18 July 2000 - Half Day - 09:00 - 12:30

### *An Overview of Security in Windows 2000*

Todd Needham, Microsoft Research

This half day tutorial will focus on the security architecture and features in Windows 2000 from an IT professional perspective. Coverage will include: Kerberos authentication facilities, X.509 and PKI support, the EFS encrypting file system, Internet Information Server, Active Directory, Cryptographic Service Providers and interoperability issues among others. This talk will also discuss security resources available for Windows 2000.

## ■ Tutorial 6

- Tuesday, 18 July 2000 - Half Day - 14:00 - 17:30

### *Brittle - Prepare Your DNS for the Future*

Bill Manning, USC Information Sciences Institute

This is a hands-on tutorial designed to help attendees learn to troubleshoot, maintain, and upgrade DNS as well as to prepare for new features. Participants will learn how to identify known problems in various releases of the DNS code, how to check which version(s) are running on your servers and how to upgrade. Upgrading will reduce the possibility of your domain being hijacked or corrupted, protecting your e-Business site. It will also prepare you for new DNS features such as Secure DNS and IPv6 support.

## ■ Tutorial 7

- Tuesday, 18 July 2000 - Full Day - 09:00 - 17:30

### *Moving to XML*

Simon Brooke, Weft Technology Ltd.

XML (Extensible Markup Language) is rapidly emerging as the "lingua franca" of the Internet and World Wide Web. XML provides mechanisms to embed semantic content within web forms and pages, supporting a range of new intelligent capabilities. This tutorial will provide attendees with a solid grasp of what is XML, its status, and general benefits to using XML. Document Type Definitions (DTD's) and dialects of XML will be explained, and a hands-on session will give participants opportunity to learn to create a DTD, use XSL, convert legacy data to XML, and use XML for communication between agents.

## ■ Tutorial 8

- Tuesday, 18 July 2000 - Full Day - 09:00 - 17:30

### *Multiprotocol Layer Switching (MPLS) - Technology and Implementation*

Marty Shulman, Juniper Networks, Inc.

Conventional IPv4 forwarding and routing protocols encounter scalability limits in large Internet backbones. This tutorial explains how Multiprotocol Label Switching (MPLS) avoids these limits while improving functionality and availability. The tutorial consists of four parts, covering conventional routing, MPLS technology and architecture, MPLS-based services, and implementation issues. Attendees with any level of IPv4 experience and with engineering, operations, or management responsibilities will benefit from this tutorial.

## ■ Tutorial 9

- Tuesday, 18 July 2000 - Full Day - 09:00 - 17:30

### *Cryptography for Privacy and Secure Distributed Systems*

Charlie Catlett, Argonne National Laboratory

This one-day tutorial provides an overview of cryptographic technologies (algorithms, protocols, etc.) that are used to construct secure and private services and systems. An overview of existing and emerging technologies and implementations of secure and private systems will be given. This will include both current practice and technologies (Java, Kerberos, PGP, SSL, etc.) and their application in the real world for secure computing as well as capabilities necessary to support commerce on the Internet (digital cash, digital signatures, payment systems). Emerging capabilities such as those supporting anonymity or advanced content delivery (e.g. Secure Digital Music Initiative- SMDI) will also be discussed. Participants should be familiar with networked computing (the Internet, client/server applications, etc.) as well as basic mathematics and computer programming. This course serves as a primer that is essential to anyone involved in the Internet today, including technical staff as well as executives.

## ■ Tutorial 10

- Tuesday, 18 July 2000 - Full Day - 09:00 - 17:30

### *IP Version 6 Primer*

Florent Parent and Marc Blanchet, Viagenie, Inc.

IPv6, the next generation IP protocol, is designed to improve scalability, security, ease-of-configuration, and network management. The tutorial includes an overview of IPv6, tools for migrating to IPv6, and steps required to connect to the IPv6 Internet.

The overview of IPv6 includes key features of IPv6 including flexible and scalable address allocation, autoconfiguration, security and mobility. The tutorial will also describe what transition mechanisms are available to help a site in the migration to IPv6. The transition will involve dual-stack IPv4/IPv6 hosts and routers and tunnelling IPv6 in IPv4. Finally, the steps required to connect to the IPv6 Internet will be explained including address configuration, routing, and the registry. Examples will be presented on FreeBSD, Sun, Microsoft Windows and Cisco.

## ■ Tutorial 11

- Tuesday, 18 July 2000 - Full Day - 09:00 - 17:30

### *Synchronous and Asynchronous Collaboration and Knowledge Management on the Internet*

John Maloney, Net-Intelligence

This tutorial includes a basic overview of electronic collaboration and knowledge management. Particular focus is on the underlying technical architectures and infrastructures enabling enterprise-wide collaboration and knowledge management. Also described is a proven diagnostic and simulation experience that helps assure collaborative success against the backdrop of organizational and behavioral factors. Benefits of these processes and technologies establish the basis for a comprehensive survey of available technologies. Case studies including Cisco Systems, British Telecom, and Motorola will be presented. The tutorial also provides an in-depth, comprehensive methodology for moving the enterprise to collaborative systems and knowledge management and benchmarking its effectiveness.