ICWS/SCC/CLOUD/SERVICES 2011
Tutorials

Tutorial 1: A Practitioner's Perspective of Cloud Roadmapping
Tony Shan, Chief Cloudologist, Keane/NTT Data

ABSTRACT: This talk presents a methodical strategic planning approach, called Cloud Adoption Roadmapping Tool (CART), from the viewpoint of a practitioner. CART is a part of the implementation of the Cloud Adoption Lifecycle Framework (CALF) developed in previous work. The tool comprises 4 stages: 1) Discover: Baseline and identify pain areas and issues; 2) Investigate: Assess current state & explore cloud suitability; 3) Map: Establish target state vision and lay out transformation routes; and 4) Enable: Formulate multi-generation plan with priorities and measures of impacts. We will discuss a comprehensive process matrix, where the concept, objectives, inputs, activities, outputs, and checkpoints in each stage are defined. We will articulate the advanced cloud planning patterns and sophisticated techniques for hybrid roadmapping in complex IT environments, such as multi-attribute decision making and multi-player cooperative strategization. Working examples and case studies will be demonstrated.

Tutorial 2: Large Scale Text Analytics Using Hadoop/Hbase/Solr
David Buttler, Lawrence Livermore National Laboratory, USA

ABSTRACT: Google has pioneered a new paradigm in computing: large clusters of commodity hardware processing billions of documents a day, with analytics that make searching and finding relevant documents fast and efficient. Thanks to a large collection of open-source efforts, much of that power is available for the average researcher to assemble for very little cost. This provides an excellent platform to launch innovative research efforts that can have a significant impact, not only on the research community, but also on companies and governments from around the world.

This tutorial will take attendees through the process of setting up a cluster of machines to provide data storage and search capabilities. We will then add functionality for real-time ingest, and add advanced analytics to incoming data streams. The entire course will rely purely on open-source software, and attendees will have a chance to take home a CD with the software. The projects used in the course include Hadoop, HBase, Solr, and various academic packages.

About the Speaker: David Buttler finished his PhD in 2003 at the Georgia Institute of Technology. He is working in the Informatics group at LLNL. His research interests are in information management systems for distributed data. The main challenges he is working with are information discovery, update monitoring, and source selection. Dr. Buttler earned a B.Sc. in Computer Science from the University of Alberta in 1998, and he obtained his B.S. in Mathematics from Andrews University in 1995.

Tutorial 3: Cloud and eGovernment: Challenges, Solutions and Experiences
Dr. Surya Nepal, Principal Research Scientist, CSIRO ICT Centre
Dr. Mukaddim Pathan, Research Fellow, CSIRO ICT Centre

ABSTRACT: eGovernment has started to utilize Cloud computing to deliver government information and services to the citizens. However, Cloud computing raises new questions in terms of interoperability between services, compliance on data store, migration of legacy applications, and the issues of privacy, security and trust. The aim of this tutorial is to provide a comprehensive guide on new ideas, usage, experience, and results of Cloud computing in Government and enterprise domains. It will capture the state-of-the-art in Cloud technology in terms of design, architecture, and applications. This tutorial will also provide a coverage of trusted Cloud data storage system, Cloud service monitoring, application optimization, and Cloud-based CDNs.

About the Speakers:
Surya Nepal is a Principal Research Scientist working on Service and Cloud Computing at CSIRO ICT Centre. His main research interest is in the development of technologies in the area of SOA and Web
Services. He received his PhD from RMIT University, Australia. He edited a book on “Managing Multimedia Semantics”. He is also a pc member in international conferences including ICSOC, CLOUD, WISE, and SACMAT.

Mukaddim Pathan is a research fellow at CSIRO, also an adjunct lecturer at the Australian National University. He holds a PhD in Computer Science and Software Engineering from the University of Melbourne. His research interests include data management, resource allocation, load balancing, and coordination policies in wide-area distributed systems. He has authored and co-authored a number of research papers in internationally recognized journals and conferences.

**Tutorial 4: Cloud Development and Deployment**  
Steve Bobrowski, Senior Developer Evangelist, Salesforce.com

**ABSTRACT:** Designed for developers by developers, this workshop mixes presentations with hands-on coding exercises that teach you how to build a cloud app using the world’s premier cloud platform, Force.com. This tutorial will provide you with a deeper understand of cloud computing and help you build a fully functional cloud app that you can extend on your own. Workbook included!

**About the Speaker:** Steve Bobrowski (@sbob909) is a Senior Developer Evangelist with salesforce.com. Previously, Steve worked as Director of SaaS Technology with BEA, SaaS CTO/architect with CSC, led a large database operations team at the EPA’s National Computer Center, and worked for Oracle in many roles within the core Server Technologies group. He is an award-winning author of six books about database technology, writes for many publications, and speaks regularly at conferences and meet ups.

**Tutorial 5: Knowledge Cloud: Harnessing knowledge on the Web**  
Karthik Gomadam, Kunal Verma, Peter Yeh, Accenture Technology Labs  
Amit Sheth, and Prateek Jain, Wright State University, USA

**Abstract:**  
The amount of data on the web has been growing exponentially. An emerging theme in both industrial and academic settings is the ability to harness this content to create useful knowledge. We use the term “knowledge cloud” to refer to extractable knowledge present on the Web. In this tutorial, we will provide an overview of efforts across industry and academia that leverage the knowledge cloud. We will also share our experiences on designing and developing two applications that leverage the knowledge cloud: 1) contextually enhances information about objects by leveraging structured and unstructured sources of data on the Web; 2) uses existing models on the Web (like DBPedia) for ontology alignment.

**About the Speakers:**  
Dr. Karthik Gomadam is a senior research specialist at Accenture Technology Labs with research interests in data management and integration on the Web and their applications to healthcare and social computing. Before moving to Accenture, he was a research scientist in the Electrical Engineering Department at the University of Southern California. He holds a Ph.D in Computer Engineering from Wright State University.

Dr. Kunal Verma is a Research Manager at Accenture Technology Labs. He has published over 40 research papers in the areas of Semantic Web, Web Services, Software Engineering and Databases. He has organized a number of international workshops and acted as a reviewer for a number of international conferences and journals. He graduated with a Ph.D. in Computer Science from the University of Georgia.

Dr. Peter Z. Yeh is a researcher manager at Accenture Technology Labs where he defines and leads technology projects that apply AI and semantic technologies to address key business problems ranging from competitive intelligence to data and information management. Dr. Yeh has published extensively on the topics of AI and semantic technologies; and regularly serves as pc members. Dr. Yeh received his PhD from The Department of Computer Science at The University of Texas at Austin.

Dr. Amit Sheth is the LexisNexis Ohio Eminent Scholar at Wright State University. He directs the Center of Excellence on Knowledge-enabled Human Centered Computing (Knucomp) which includes the...
Kno.e.sis Center. His recent work are in Semantic Web/Web3.0, including semantics-empowered Services/Cloud Computing, Sensor and Social computing over Web and mobile platforms. Prof. Sheth is an IEEE fellow, is among the highly-cited authors in computer science. He is EIC of the Intl. Journal of Semantic Web & Information Systems, and is joint-EIC of Distributed & Parallel Databases. By licensing his funded university research, he has also founded and managed two successful companies.

Prateek Jain is currently a Computer Science Ph.D student at the Kno.e.sis Center at Wright State University. His research interests are in the area of data management and integration, querying, and related Semantic Web technologies.

**Tutorial 6: Platform as a Service**

Nianjun (Joe) Zhou, IBM T.J. Watson Research Center, USA

**About the Speaker:** Dr. Nianjun Zhou (Joe) is a research staff member at IBM T.J. Watson Research Center. He is serving as PIC (Professional Interest Community) Chair of Services Computing at IBM research. His current research areas mainly focus on services sciences and service computing to achieve IT and services solution optimization. He is leading research for resource estimation and optimization of IT solution and maintenance under global integration environment; and leading a solution framework development using standardized toolset, method, and assets to simplify service engagement.

**Cloud Bootcamp**

The Cloud Bootcamp is an intensive content-packed workshop to effectively jumpstart Cloud awareness, understanding, significance, and education for attendees. It aims to equip the participants with the Cloud Computing concepts, characterization, business values, terminologies, usage scenarios, evolution history, major players, platforms, taxonomy, standards, roadmapping, transformation, operationalization, modeling, design, engineering, solutioning, development, implementation, lifecycle, governance and management. The hands-on session bridges the existing IT knowledge assets with Cloud, facilitates the retooling of existing skillsets of IT stakeholders and accelerates the transition with boosted cloudification readiness of resources.

The following is a list of selected topics in the session: Cloud fundamentals; Cloud capabilities; Cloud taxonomy; Cloud solution lifecycle; Cloud suitability assessment; Cloud adoption strategy; Cloud architecture; and Cloud standards.

The highlights of what you will learn from the workshop are: Get an insightful industry perspective of Cloud Computing; Demystify the concept of Cloud Computing; Understand the multi-aspects of Cloud Computing: what, which, why, who, when, where and how; Familiarize with a holistic cloudification approach; View Cloud adoption from a lifecycle perspective; Comprehend a methodical framework to strategize and operationalize Cloud Computing; Gain deep knowledge on the industry-leading services and solutions; Examine selected case studies; Deep-dive on best-in-class Cloud practices and tools; and Learn key Cloud facets, such as security, risk, quality, and standards.