

Report

On

Workshop 1: Big data and Hadoop

Workshop 2: Ethical Hacking

Date

12th - 13th October 2018
(Workshop 1: Big data and Hadoop)

14th - 15th October 2018
(Workshop 2: Ethical Hacking)

Venue

**Department of Computer
Science and Application**
Atal Bihari Vajpayee University,
Bilaspur (C.G.), India

Organized by



Department of Computer Science and Application

Atal Bihari Vajpayee University, Bilaspur (C.G.), India

In Collaboration with



And

 Entrepreneurship
Development Cell
Indian Institute Of Technology, Delhi

The Department of Computer Science and Application, Atal Bihari Vajpayee University, Bilaspur (C.G.), India, hosted two workshops: the first centered on **'Big Data and Hadoop'** and the second on **'Ethical Hacking'** in collaboration with Wingfotech Private Limited.

These workshops saw participation from students within the department and affiliated colleges, allowing them to enhance their knowledge in these cutting-edge fields of Information Technology. Both Big Data and Hadoop and Ethical Hacking represent the forefront of IT development. These workshops served as invaluable opportunities for students seeking to secure employment in the competitive IT market. The department's commitment to bridging the gap between the course curriculum and the demands of the IT industry is evident through the organization of such workshops, aimed at benefiting the students.

Here's a breakdown of the workshop details:

S. No	Date	Name of Workshop	No. of Participants
1	November, 12-13, 2018	Big Data and Hadoop	44
2	November, 14-15, 2018	Ethical Hacking	86

The workshops were coordinated by:

S. No	Name of Workshop	Teacher Coordinators	Student Coordinators
1	Big Data and Hadoop	Professor Shriya Sahu	Ms. Pallavi Bhoy
2	Ethical Hacking	1. Professor Rashmi Gupta 2. Professor Anamika Shukla 3. Professor Vivek Tiwari	Mr. Nilesh Kshatri

The inaugural function commenced at 11am on November 12, 2018, incorporating traditional elements. The lighting of the lamp and Saraswati Poojan symbolized the auspicious beginning, followed by extending a warm welcome to esteemed guests with floral bouquets, signifying hospitality and respect for all attendees.

Workshop 1: Big Data and Hadoop

During the workshop, the following course content was covered, along with providing hands-on training:

Big Data Course Content Overview:

Big data refers to data sets of such size or complexity that traditional data processing applications are insufficient to handle them. Challenges include analysis, capture, curation, search, sharing, storage, transfer, visualization, querying, updating, and ensuring information privacy. The term "big data" often involves the use of predictive analytics, user behavior analytics, or other advanced data analytics methods to extract value from data, rather than referring specifically to a particular data set size.

Day 1

Session 1:

- Introduction to Big Data
- Exploring Traditional Data Processing Technologies
- Understanding Apache Hadoop Architecture
 - Hadoop Architecture
 - Hadoop's Relationship with RDBMS
 - Different Hadoop Distributions

Session 2:

- Examining HDFS Architecture
- Understanding the Hadoop Ecosystem: MapReduce, Hadoop Streaming, Hive, HBase
- Identifying Hadoop's Role in an Enterprise
- Introduction to Pig
 - Apache Pig Basics
 - Pig's Components
 - Contrasting MapReduce with Apache Pig
 - Various Data Types in Pig
 - Execution Modes in Pig (Local Mode)

- Execution Mechanism
- Grunt Shell
- Pig Commands
- Pig Examples: Word Count, Batting Examples

Day 2

Session 1:

- Setting up and Installing Hadoop
- Grasping HDFS Programming Basics
 - Hadoop Streaming
 - Performance Tuning
 - Debugging Hadoop Programs
- Understanding MapReduce Architecture
 - MapReduce Programming Basics
 - MapReduce Programming Using Big Insights

Session 2:

- Accessing Hadoop Data via Hive
- Understanding Hive Architecture
- Downloading, Installing, and Configuring Hive
- Learning about Apache Hive and its use cases
- Making basic configuration adjustments in a Hive installation
- Using DDL to create new Hive databases and tables

Session 3:

- Querying
- Competition
- Certificate Distribution

Workshop 2: Ethical Hacking

The Ethical Hacking workshop conducted by Wingfotech Pvt. Ltd. covered the following content and included hands-on training:

Ethical Hacking Course Content Overview:

Ethical hacking aims to assess the security of a network or system's infrastructure. It involves identifying and testing vulnerabilities to ascertain if unauthorized access or malicious activities are possible.

Day 1

Session 1: Introduction to Ethical Hacking

- Introduction to the Internet
- Overview of Networking
- Introduction to Ethical Hacking

Session 2: Ethical Hacking Start-up Basics

- Information Gathering and Google Hacking (Theory and Practical)
- Windows Security (Theory and Practical)
- SQL Injection Attacks (Theory and Practical)

Session 3: Further Practical

- Phishing, Trojan, and Viruses
- Session Hijacking and Cookie Grabbing
- Social Engineering Attacks
- Utilizing SQL Injection Using DVWA
- Introduction to SQL
- Understanding SQL Injection and DVWA
- Demonstrating SQL Injection Vulnerability Check (Demo)
- Basics of SQL Injection Strategy (Demo)

- Live Demonstration of Obtaining Login Credentials via SQL Injection
- Demonstration of URL and Forms
- Execution of SQL Query SELECT, DROP, etc. (Demo)
- Display of SQL Cheat Sheets (Demo)
- Employing Source Changes to Bypass Client-Side Validation (Demo)
- Live Attacks Demonstration
- Utilizing SQL Injection Tools (Demo)
- Methods to Protect Your System Against Attacks

Day 2

Session 1: DNS & Spoofing

- DNS Spoofing
- E-mail Hacking, Forging, and Tracing
- Fake SMS & Calls
- Legal Implications/Penalties of Hacking in India

Session 2: Hacking Using Back Track

- Man-in-the-Middle Attack (MITM Attack)
- Cross-Site-Scripting Attack (XSS)

Session 3: Project Implementation and Testing

- Live Information Gathering (Nmap, Maltego, etc.)
- Active and Passive Scanning
- DNS Hijacking (DNS Spoofing)
- Cache Poisoning
- XSS Attack with Cookie Grabbing
- Testing using DVWA and Web-goat
- Keylogger Attacks
- Simulating Fake Emails and Email Forging
- Fabricating Fake Calls

- Website Hacking using Live SQL Injection
- MITM Attack (APR Spoofing)

Session 4:

- Query Session
- Competition
- Certificate Distribution

Concluding the event, the valedictory function took place at 4:30 pm on November 15, 2018, serving as a significant segment of the event. Professor B.G. Singh, the Honorable Vice-Chancellor of Pandit Sunderlal Sharma (Open) University, Bilaspur, Chhattisgarh, graced the event as the Chief Guest. The program was presided over by Professor G.D. Sharma, the Honorable Vice-Chancellor of Atal Bihari Vajpayee University, Bilaspur. During this ceremony, acknowledgments were expressed, and awards were conferred. Participants received certificates acknowledging their active participation in the workshops, recognizing their valuable engagement. Among the conducted competitions, a proficient student Mr. Nilesh Kshatri successfully advanced to the final round, held at IIT Delhi.

Photographs



Mr. Jeetendra Gupta, Assistant Professor, Department of Computer Science and Application welcomed the HOD Dr. H. S. Hota by presenting a bouquet.



Speech by Dr. H. S. Hota, HOD, Department of Computer Science and Application, Atal Bihari Vajpayee University, Bilaspur, Chhattisgarh, India.



Speech by Expert from Wingfotech Private Limited.



Speech by chief guest Professor B.G. Singh, the Honorable Vice-Chancellor of Pandit Sunderlal Sharma (Open) University, Bilaspur, Chhattisgarh.



Speech by Professor G.D. Sharma, the Honorable Vice-Chancellor of Atal Bihari Vajpayee University, Bilaspur, Chhattisgarh, India.



Participants doing hands on practice during the workshop



Participants receiving certificate from hon'ble vice chancellors





Feedback from participants



Group Photos



Participants of the workshop along with teachers of the department and Chief guest Hon'ble Vice-chancellor Professor B.G. Singh, Pandit Sunderlal Sharma (Open) University, Bilaspur, Chhattisgarh. Hon'ble Vice-chancellor Professor G.D. Sharma, Atal Bihari Vajpayee University, Bilaspur.