POORNIMA
COLLEGE OF ENGINEERING

Promoted by Shanti Education Society, Affiliated to Rajasthan Technical University & Approved by AICTE

A Report on 5-days Faculty Development Program

- **TITLE AND DURATION:** "Big Data Analytics" from 3rd – 7th February, 2020
- **SPONSORS:** Poornima College of Engineering, Jaipur
- **SUPPORTERS:** N/A
- **ORGANIZERS:** Computer Engineering Department in association with AICTE
- **OBJECTIVES:** To learn fundamental concepts in Big Data Analytics
  - To understand various data analytics methods
  - To implement Hadoop, Map Reduce, HDFS and Hive
  - To extract and evaluate live data from social media
  - To analyze data using R, Numpy, Pandas and Matplotlib
- **EXPECTED OUTCOMES:**
  - The objective of bringing together academic scientists, professors, research scholars and students working in various fields of engineering and Technology.
  - It will provide the authors, research scholars, listeners with opportunities for national and international collaboration and networking among universities and institutions for promoting research and developing the technologies globally.
  - To promote translation of basic research into institutional and industrial research and convert applied investigation into real- time application.

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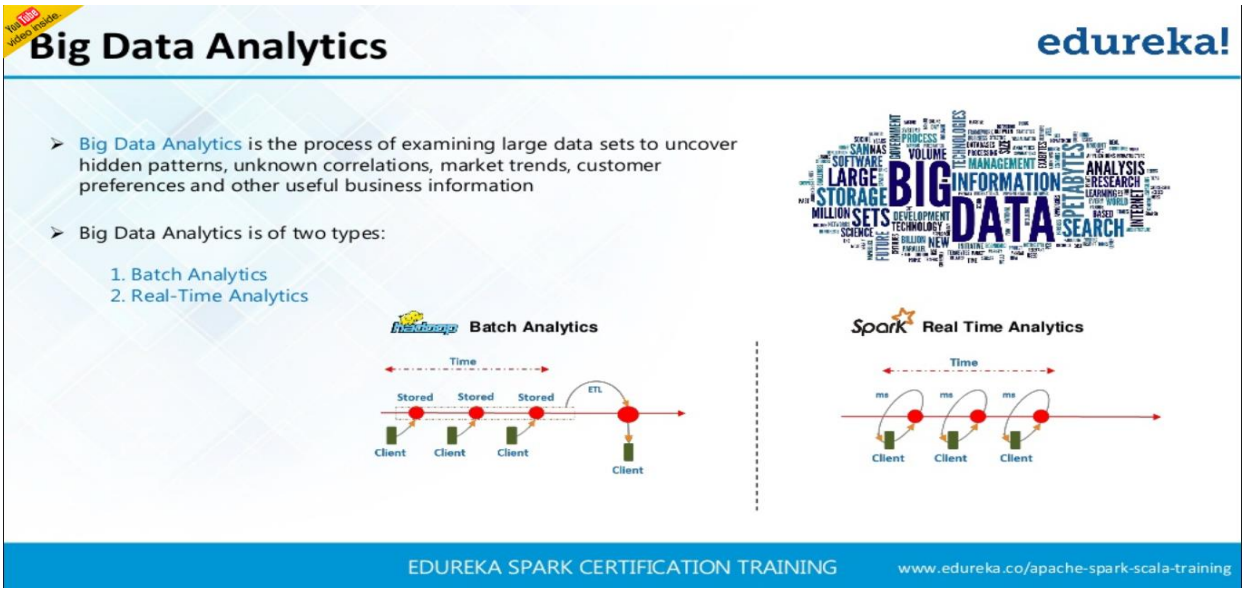
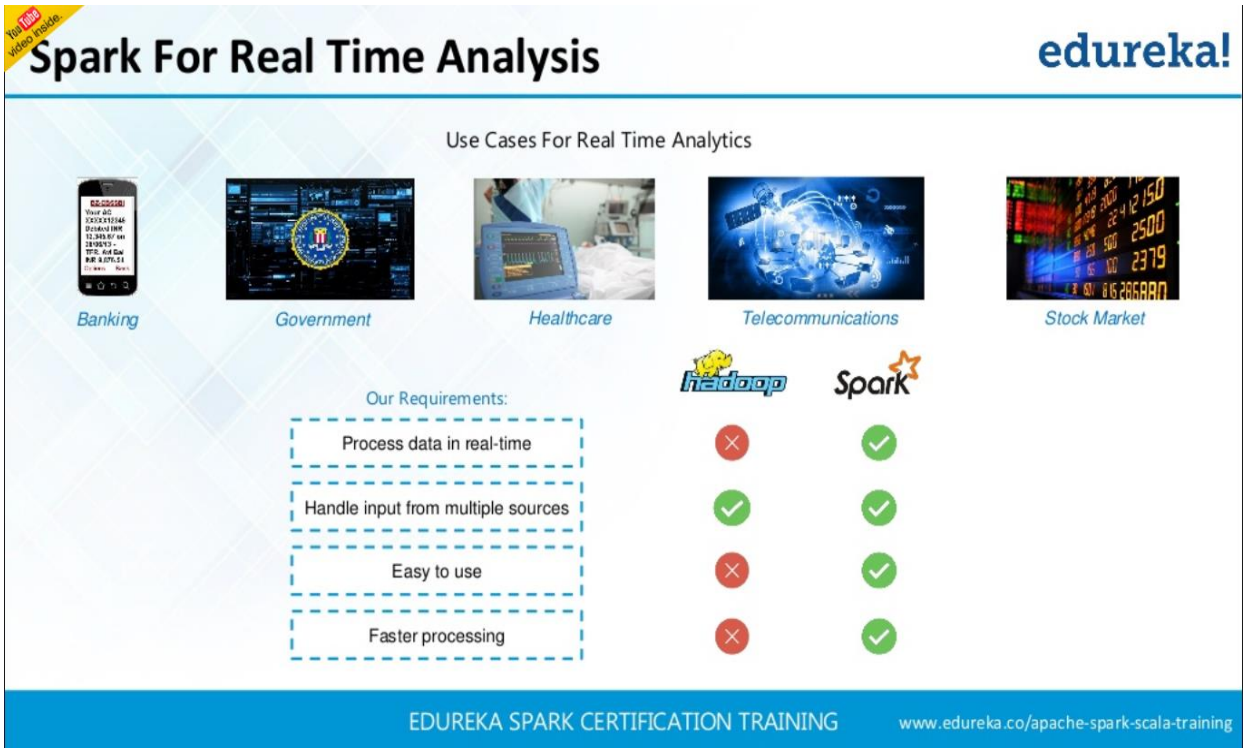
- **BROCHURE / POSTER / LEAFLET / FLYER:**





- **PROGRAM SCHEDULE:** Poornima College of Engineering (PCE), under the aegis of its Department of Computer Engineering, and Department of Electronics & Comm. Engineering, organized the Short-Term Training Program on **Big Data Analytics** from 03rd-07^{sth} February, 2020. This STP was sponsored by Poornima College of Engineering, Jaipur.

- **COURSE CONTENTS:**

  - Introduction to Big Data Analytics
  - Data Analytics
  - Machine Learning Techniques for Big Data Analytics
  - Hadoop, Map Reduce and HDFS

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- Data Extraction from Social Media
- Predictive Mining
- Big Data Analytics on Cloud
- Data Analytics using R
- Data Analytics using Numpy, Pandas and Matplotlib
- Data Processing using Hive

CONTENTS COVERED:

- Introduction to Big Data Analytics (Prof. Mala Kalra)
- Data Analytics using Python (Er. Shano Solanki)
- Hadoop, MapReduce and HDFS (Er. Vipin Gupta)
- Data Processing using Hive/HBase (Er. Vipin Gupta)
- Analysis of YouTube Data using Pyspark (Er. Shruti Wadhwa)
- Advance Data Visualization and Plotting (Er. Shruti Wadhwa)
- Knowledge Discovery from Bio-Informatics Based Big Data (Dr. Gaurav Kumar)
- Big Data Analytics on Cloud Platforms (GK)

INAUGURAL SESSION:

STC Program on

Sponsored by

Poornima College of Engineering, Jaipur

Organized by:

Department of Computer Engineering

Poornima College of Engineering, Jaipur

Q- Sheet Inaugural Session

3rd February 2020 to 7th February, 2020, Venue: CG 05, PCE, Jaipur

S. No	Activity
1.	Reporting and Registration of Delegates
2.	Welcome of Dignitaries by the anchors
3.	Request the dignitaries for lighting of lamp (Parallel Sarasvati Vandana) Introduction to Big Data Analytics (Prof. Mala Kalra)
4.	Data Analytics using Python (Er. Shano Solanki) Machine Learning Techniques for Big Data Analytics

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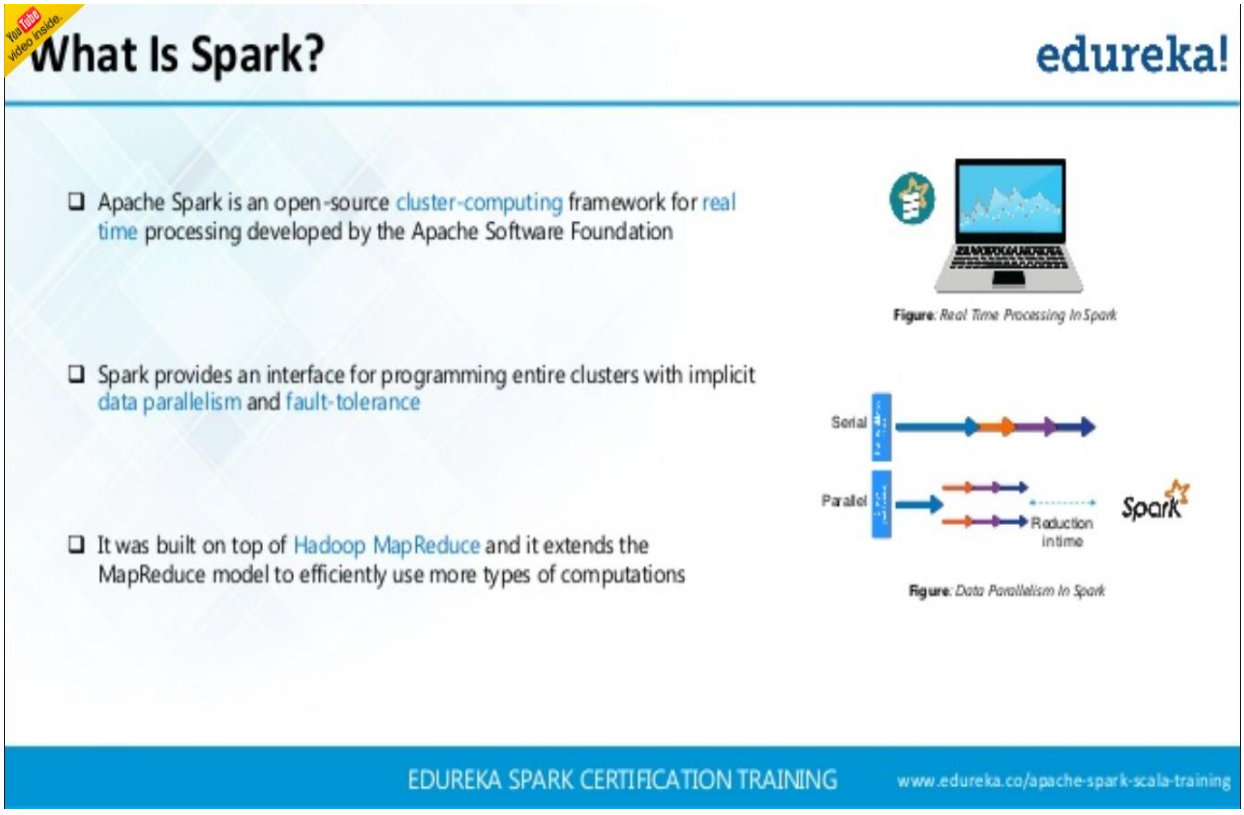
5.	Hadoop, MapReduce and HDFS (Er. Vipin Gupta) Data Processing using Hive/HBase (Er. Vipin Gupta) Analysis of YouTube Data using Pyspark (Er. Shruti Wadhwa)
6.	Advance Data Visualization and Plotting (Er. Shruti Wadhwa) Knowledge Discovery from Bio-Informatics Based Big Data (Dr. Gaurav Kumar) Big Data Analytics on Cloud Platforms (GK)
7.	Welcome address by **Dr. Mahesh Bundele**, Director, Poornima College of Engineering
9.	Group Photograph
10.	High Tea

DETAILS OF RESOURCE PERSONS:

- Prof. Mala Kalra (Coordinator), NITTTR, Chandigarh
- Er. Shano Solanki, Assistant Professor, NITTTR Chandigarh
- Er. Amit Doegar, Assistant Professor, NITTTR Chandigarh
- Er. Vipin Gupta, Sr. Consultant, U-Net Solutions, Moga
- Dr. Gaurav Kumar, Director, Magma Research & Consultancy Pvt. Ltd., Ambala
- Er. Shruti Wadhwa, CEO, Nidus Technologies, Chandigarh

GLIPMSES OF CONDUCTION:



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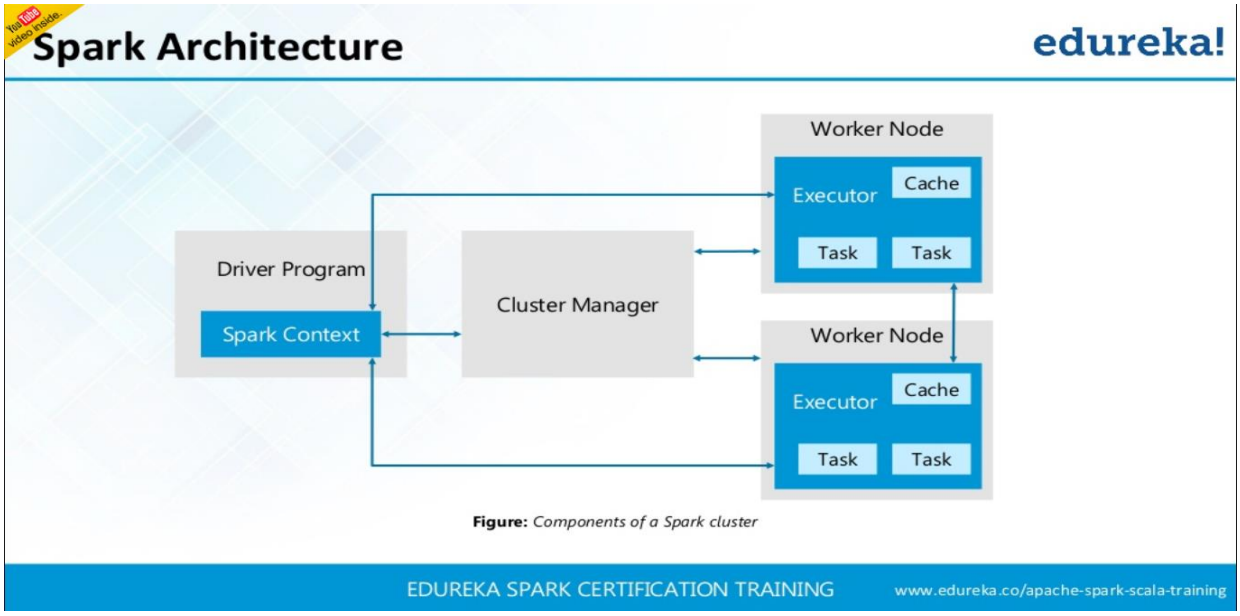
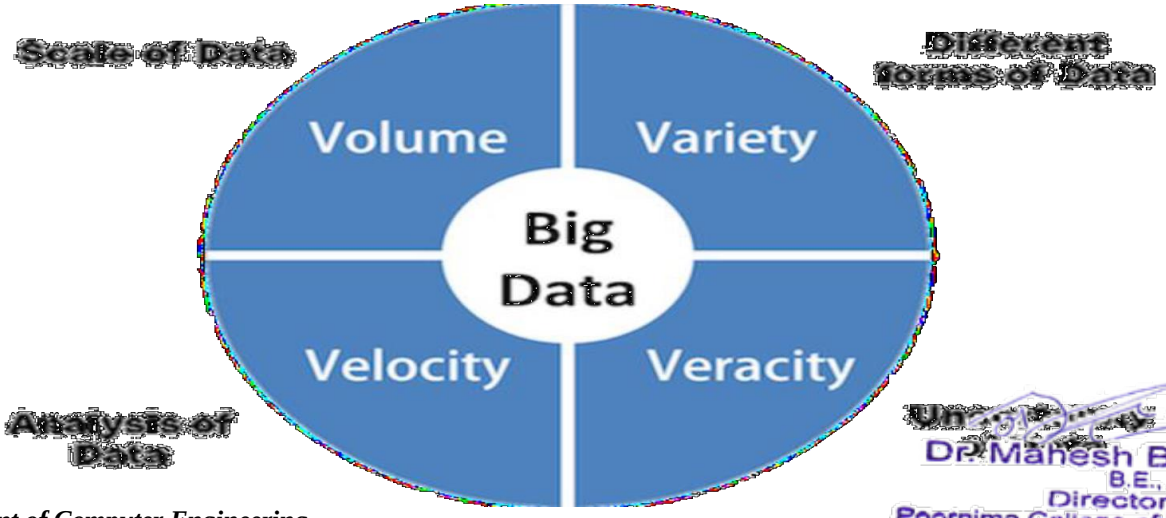


Figure: *Components of a Spark cluster*

- **FACTORS OF BIG DATA:**



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- **FOUR VS OF BIG DATA:**

- **APACHE HADOOP:**

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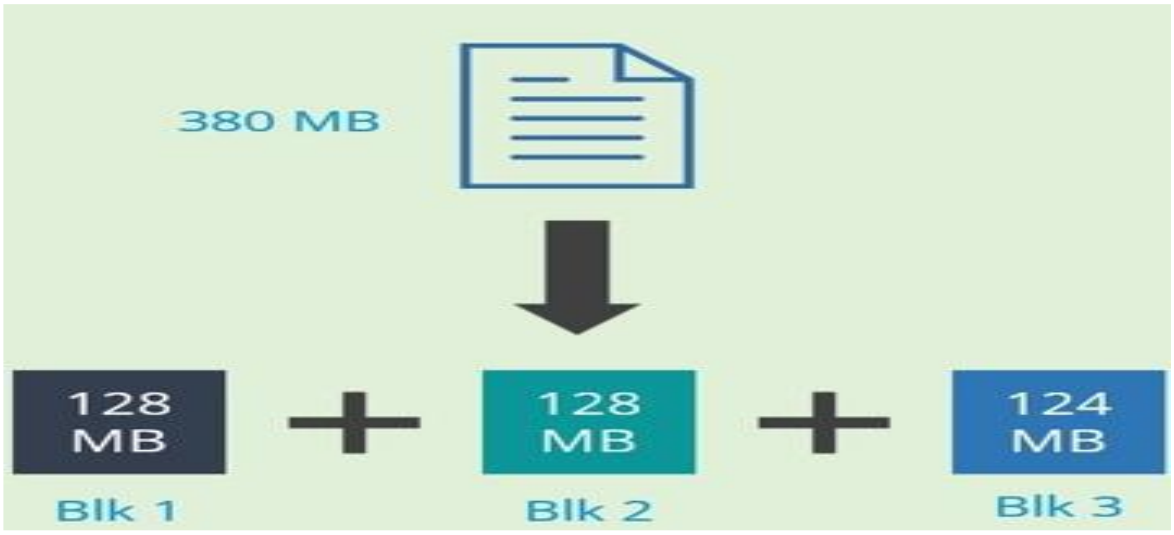
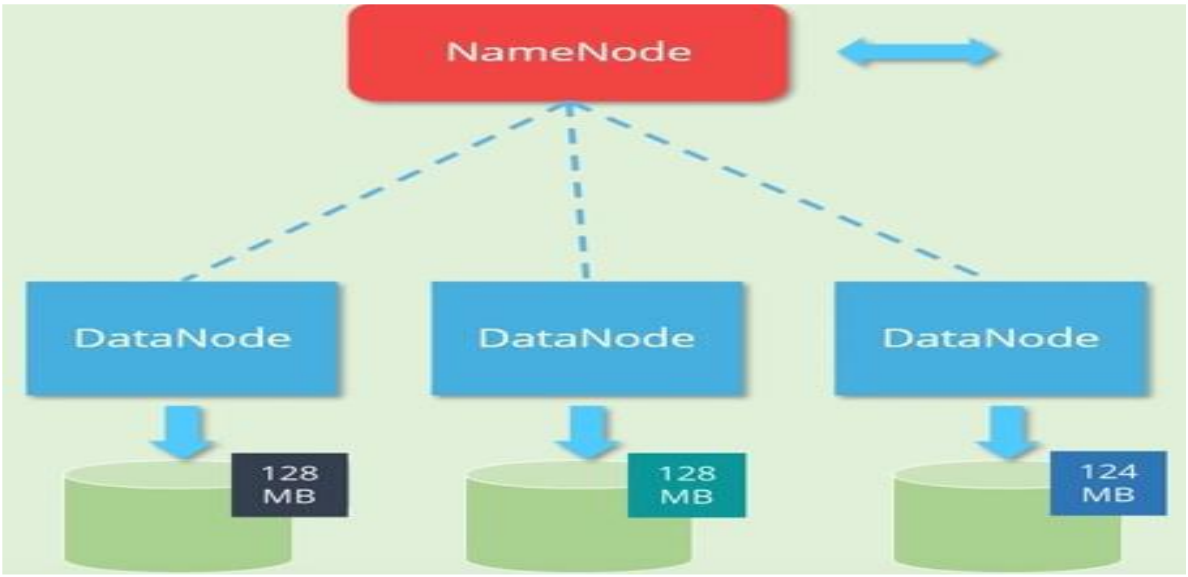
CONTENT DELIVERY / PRACTICAL SESSIONS:

- **HDFS data block:**





- **Get file from HDFS to Linux file system:**

```
[cloudera@quickstart ~]$ hadoop fs -get student/student.txt /tmp
[cloudera@quickstart ~]$
[cloudera@quickstart ~]$ cd /tmp/
[cloudera@quickstart tmp]$
[cloudera@quickstart tmp]$ ls -l student.txt
-rw-r--r-- 1 cloudera cloudera 56 Jul 22 08:25 student.txt
```

- **Remove file from HDFS:**

```
[cloudera@quickstart ~]$ hadoop fs -rm -r student/student.txt
Deleted student/student.txt
[cloudera@quickstart ~]$
[cloudera@quickstart ~]$ hadoop fs -ls
Found 1 items
drwxr-xr-x   - cloudera cloudera          0 2019-07-22 08:28 student
[cloudera@quickstart ~]$
[cloudera@quickstart ~]$ hadoop fs -ls student
[cloudera@quickstart ~]$
```

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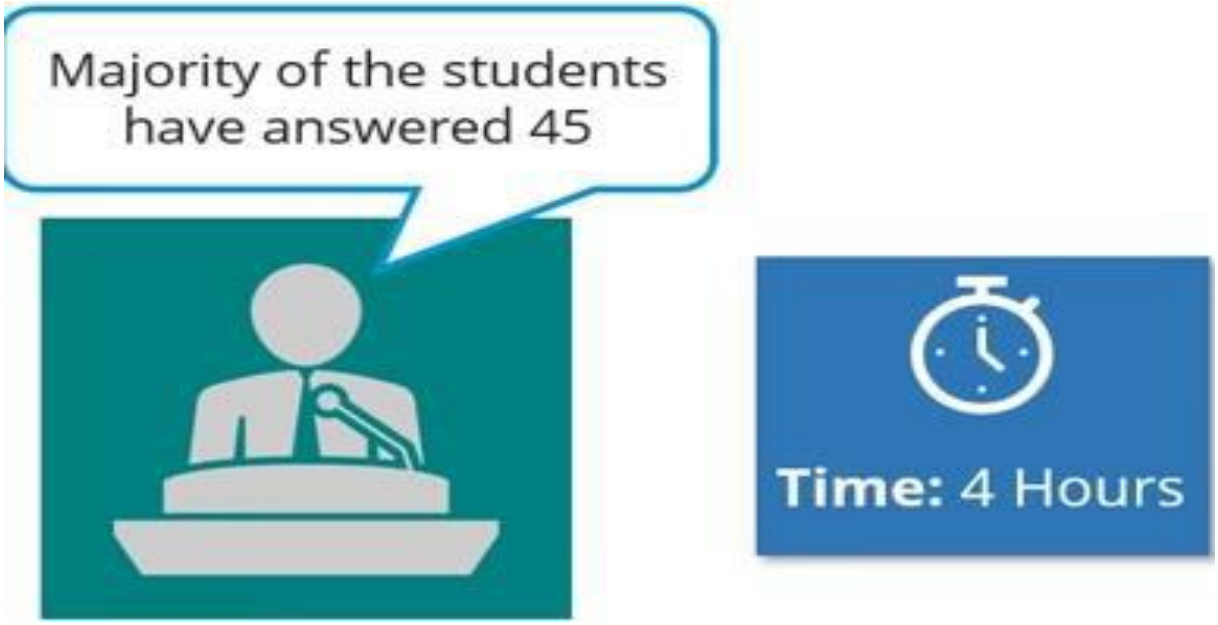
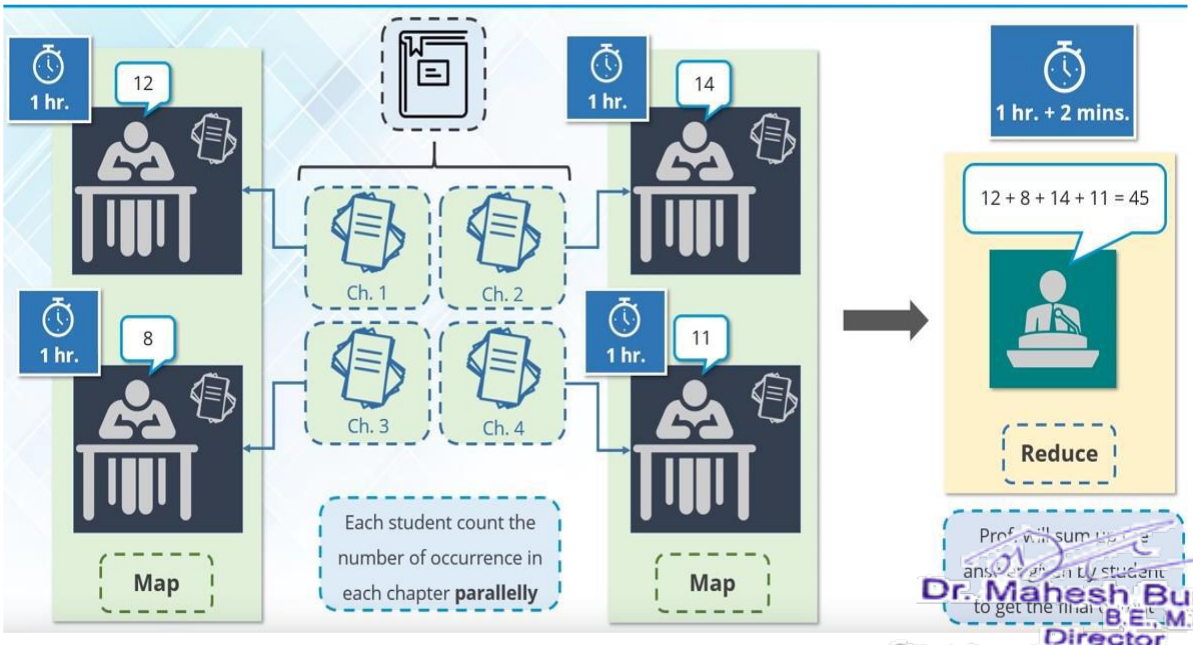
- **MAPREDUCE:**



- **EFFECTIVE SOLUTION:**



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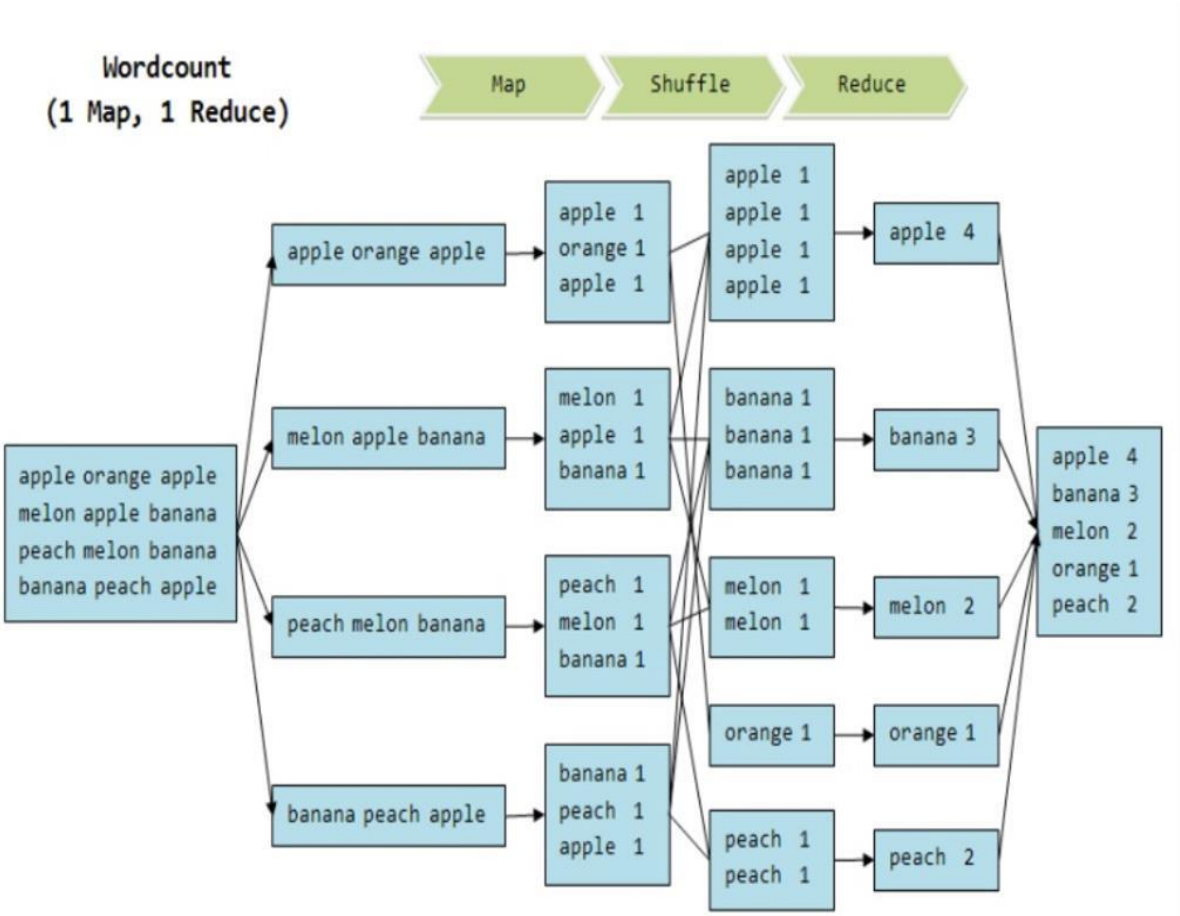
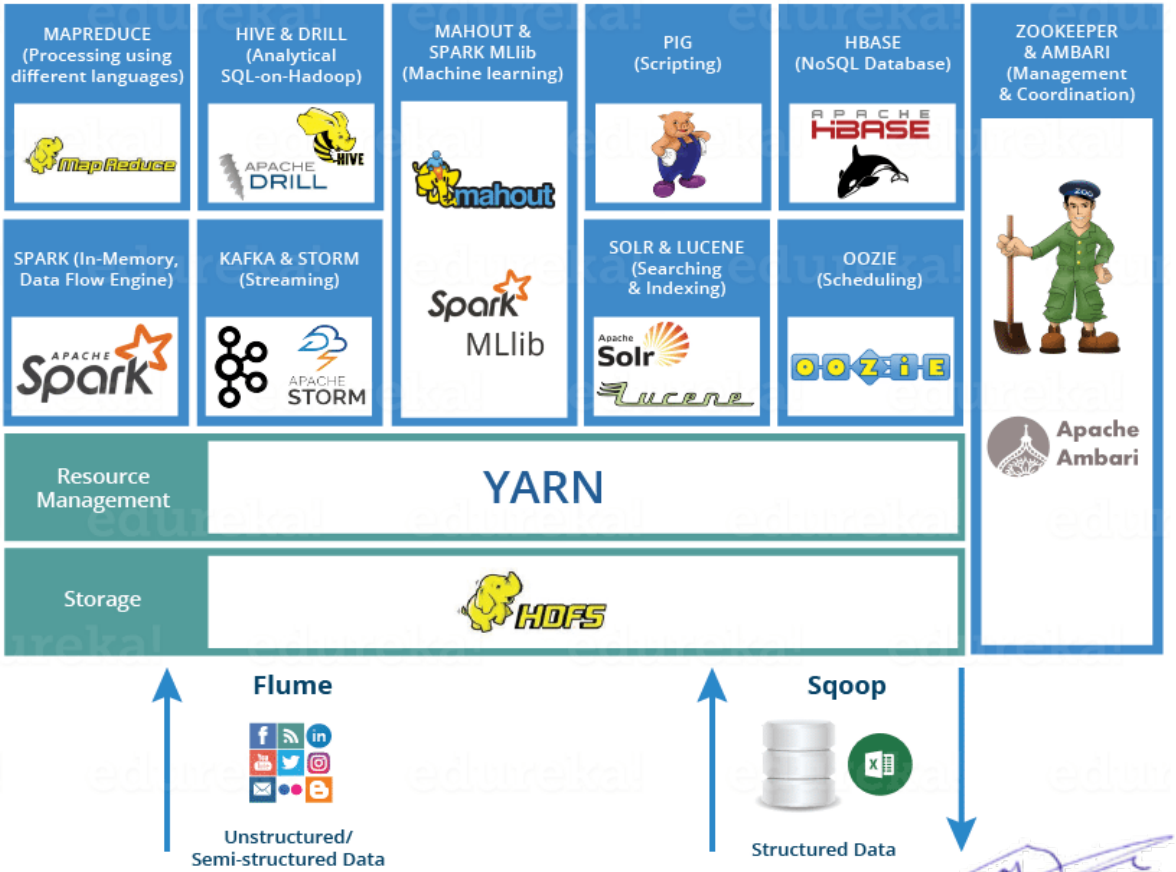
♦ MAP REDUCE WORD COUNT PROBLEM AND SOLUTION:



♦ HADOOP ECOSYSTEM:



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VALEDICTORY SESSIONS:

Dr. Mahesh Bundele Principal, PCE in his valedictory talk, started with congratulating coordinators and organizing committee for the successful conduct of STC on Big Data Analytics 3rd to 7th February 2020.

He emphasized the need of such programs as they provide a unique opportunity to explore and known in various domains of Engineering and Technology. He also mentioned that such programs provide a common platform to discuss and learn new methodology to upgrade ourselves.

After that Course Coordinator, STC-2020 along with department presented the glimpse of activity report based on the deliberations held during the STTP. The function ended with a Vote of Thanks presented by Dr. Surender Kumar Yadav HOD, CSE.

LIST OF PARTICIPANTS:

S. No.	Name	Organization
1	Mr. Satpal Singh	Manipal University Jaipur
2	Mr. Amit Kumar Jha	Poornima College Of Engineering, Jaipur
3	Mrs. Deepika Sharma	Manipal University Jaipur
4	Mr. Amit Kumar Jain	Poornima College Of Engineering, Jaipur
5	Mr. Manish Dubey	Poornima College Of Engineering, Jaipur
6	Ms. Bhawana Sharma	Manipal University Jaipur
7	Mr. Kalpit Jain	Poornima College Of Engineering, Jaipur
8	Mr Manoj R	Manipal University Jaipur
9	Mr. Satpal Singh Kushwaha	Manipal University Jaipur
10	Mr.Devender Kumar Dhaked	Rajasthan College Of Engineering For Women
11	Ms. Seeta Gupta	Poornima College Of Engineering, Jaipur
12	Mr. Prashant Hemrajani	Manipal University Jaipur
13	Mr. Anil Kumar	BSNL Jaipur
14	Ms. Reena Sharma	Poornima College Of Engineering, Jaipur
15	Ms. Richa Singh	Pranveer Singh Institute Of Technology, Kanpur
16	Mr. Amit Kumar Bairwa	Manipal University Jaipur
17	Mr. Ankit Saxena	Invertis University
18	Mr. Uttam Sharma	BSNL Jaipur
19	Mr. Ashok Kumar Kumawat	Manipal University Jaipur
20	Vineeta Soni	Manipal University Jaipur
21	Dr. Lokesh Sharma	Manipal University Jaipur
22	Mr. Prem Kumar Bhaskar	Lord Buddha Education Foundation, Kathmandu, Nepal
23	Mr. Shamneesh Sharma	Poornima University, Jaipur, Rajasthan, India
24	Er. Dharmveer Yadav	Zone Tech The Institute Of Engineers

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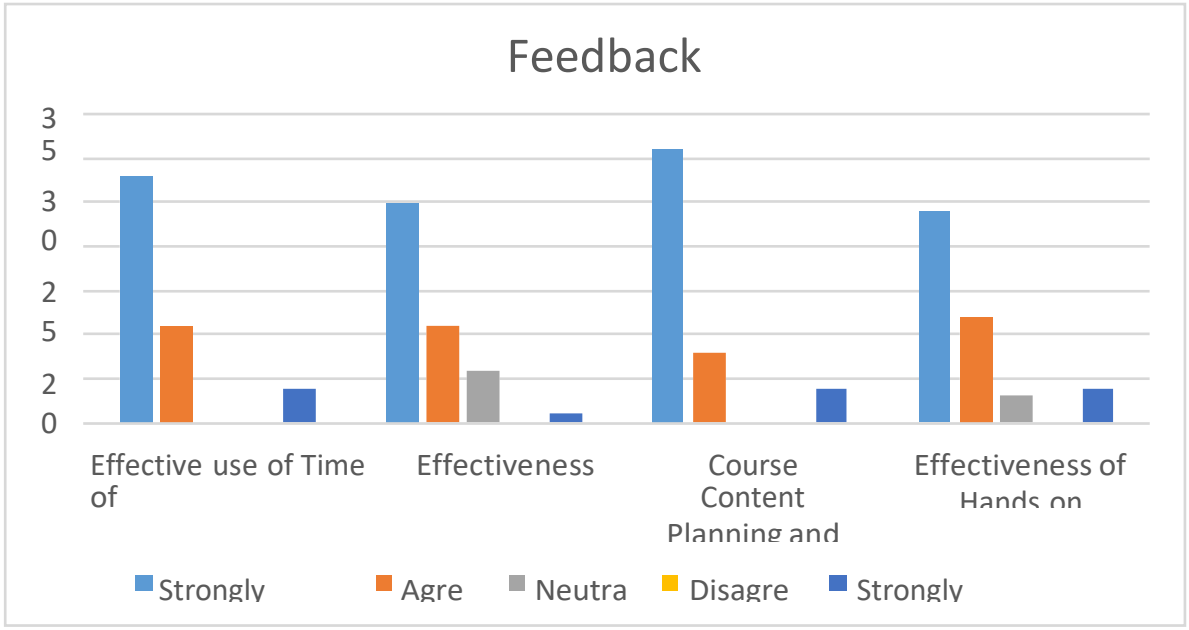
25	Ms. Khushi Yadav	Shivam ITI Pvt. Ltd.
26	Er. Sandeep Kumar Bothra	S. S. Jain Subodh P. G. (Autonomous) College, Jaipur
27	Ms. Neha Sharma	Poornima University
28	Mr. Suyog Pandurang Mahajan	Maharashtra Institute Of Technology, Aurangabad
29	Dr. Sunita Gupta	SKIT, Jaipur
30	Mr. Honey Gocher	Amity University Rajasthan

- **FEEDBACK ANALYSIS: * Add Feedback / Attainment Calculations**

	Effective use ofTime	**Effectiveness of Theoretical Session**	**Course Content Plan-ning and Organization**	**Effectiveness of Hands on Sessions**
Strongly Agree	28	25	31	24
Agree	11	11	8	12
Neutral	0	6	0	3
Disagree	0	0	0	0
Strongly Disagree	4	1	4	4



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- **SWOT ANALYSIS:**
  - It promotes student-centered learning and collaboration
  - Lessons and Contents are more accessible
  - It can more efficient
  - It relies on preparation and trust
  - There is significant work on the front end
  - This is more about proper planning and includes any iteration required for the purpose of highly building highly scalable software.

- **BUDGET & ACTUALS:** N/A

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