

**Department of Computer Technology****Vision of the Department***To be a well-known centre for pursuing computer education through innovative pedagogy, value-based education and industry collaboration.***Mission of the Department***To establish learning ambience for ushering in computer engineering professionals in core and multidisciplinary area by developing Problem-solving skills through emerging technologies.***Session 2025-2026**

Vision: To harness the power of artificial intelligence and data science to solve real-world problems and enhance human potential.	Mission: To acquire skills through coursework, projects, and internships, while actively engaging in research and collaboration with peers to innovate and apply AI solutions.
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Program Educational Objectives of the program (PEO): (broad statements that describe the professional and career accomplishments)

PEO1	Preparation	P: Preparation	Pep-CL abbreviation pronounce as Pep-si-IL easy to recall
PEO2	Core Competence	E: Environment (Learning Environment)	
PEO3	Breadth	P: Professionalism	
PEO4	Professionalism	C: Core Competence	
PEO5	Learning Environment	L: Breadth (Learning in diverse areas)	

Program Outcomes (PO): (statements that describe what a student should be able to do and know by the end of a program)

Keywords of POs:

Engineering knowledge, Problem analysis, Design/development of solutions, Conduct Investigations of Complex Problems, Engineering Tool Usage, The Engineer and The World, Ethics, Individual and Collaborative Team work, Communication, Project Management and Finance, Life-Long Learning

PSO Keywords: Cutting edge technologies, Research

“I am an engineer, and I know how to apply engineering knowledge to investigate, analyse and design solutions to complex problems using tools for entire world following all ethics in a collaborative way with proper management skills throughout my life.” to contribute to the development of cutting-edge technologies and Research.

Integrity: I will adhere to the Laboratory Code of Conduct and ethics in its entirety.

Prerana Bijekar 30 October 2025

Name and Signature of Student and Date

(Signature and Date in Handwritten)



Department of Computer Technology
















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Session	2025-26 (ODD)	Course Name	BDH Lab
Semester	7	Course Code	22ADS704
Roll No	11	Name of Student	Prerana Bijekar

Practical Number	7																								
Course Outcome	CO1: Understand big data analytics and its business applications. CO2: Analyze the HADOOP and Map Reduce technologies associated with big data analytics. CO3: Apply Big Data Analytics Using Pig and Hive.																								
Aim	Installation of Apache Pig on Linux with Hadoop Integration																								
Theory (100 words)	Apache Pig is a high-level platform built on top of Hadoop for processing and analyzing large datasets using a scripting language called Pig Latin. It simplifies the development of MapReduce programs by providing easy-to-understand commands for data transformation, filtering, and aggregation. Installing Pig on a Linux system integrated with Hadoop allows users to execute Pig scripts that run as MapReduce jobs on the cluster. This integration enables efficient handling of structured and semi-structured data without writing complex Java code, making Pig a powerful tool for big data analytics.																								
Procedure and Execution (100 Words)	Steps of implementation: <ul style="list-style-type: none">• Ensure Hadoop is installed and running.• Download and extract Apache Pig.• Configure environment variables in .bashrc (set PIG_HOME and update PATH).• Verify Java and Hadoop paths in Pig configuration.• Start Pig in local or MapReduce mode using pig command.• Run sample Pig Latin scripts to test Hadoop integration.																								
	Code: <div><h3>Pig Releases</h3><p>Please make sure you're downloading from a nearby mirror site, not from www.apache.org. Older releases are available from the archives.</p><table><thead><tr><th>Name</th><th>Last modified</th><th>Size</th><th>Description</th></tr></thead><tbody><tr><td> Parent Directory</td><td></td><td>-</td><td></td></tr><tr><td> latest/</td><td>2016-06-07 22:38</td><td>-</td><td></td></tr><tr><td> pig-0.15.0/</td><td>2015-06-05 23:01</td><td>-</td><td></td></tr><tr><td> pig-0.16.0/</td><td>2016-06-07 22:38</td><td>-</td><td></td></tr><tr><td> HEADER.html</td><td>2015-01-13 00:20</td><td>317</td><td></td></tr></tbody></table><p>Apache/2.4.10 (Debian) Server at mirror.fibergrid.in Port 80</p></div>	Name	Last modified	Size	Description	 Parent Directory		-		 latest/	2016-06-07 22:38	-		 pig-0.15.0/	2015-06-05 23:01	-		 pig-0.16.0/	2016-06-07 22:38	-		 HEADER.html	2015-01-13 00:20	317	
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	<pre>hduser@hadoop:/home/subipalaniappan\$ sudo wget https://apachemirror.wuchna.com/pig/pig-0.16.0/pig-0.16.0.tar.gz [sudo] password for hduser: --2021-05-12 04:52:13-- https://apachemirror.wuchna.com/pig/pig-0.16.0/pig-0.16.0.tar.gz Resolving apachemirror.wuchna.com (apachemirror.wuchna.com)... 143.110.177.196 Connecting to apachemirror.wuchna.com (apachemirror.wuchna.com) 143.110.177.196 :443... connected. HTTP request sent, awaiting response... 200 OK Length: 177279333 (169M) [application/x-gzip] Saving to: 'pig-0.16.0.tar.gz' pig-0.16.0.tar.gz 100%[=====>] 169.07M 12.9MB/s in 15s 2021-05-12 04:52:28 (11.6 MB/s) - 'pig-0.16.0.tar.gz' saved [177279333/177279333] hduser@hadoop:/home/subipalaniappan\$ sudo mkdir -p /usr/local/pig hduser@hadoop:/home/subipalaniappan\$ ls pig-0.16.0.tar.gz hduser@hadoop:/home/subipalaniappan\$ sudo tar -zxvf pig-0.16.0.tar.gz hduser@hadoop:/home/subipalaniappan\$ ls pig-0.16.0 pig-0.16.0.tar.gz hduser@hadoop:/home/subipalaniappan\$ cd pig-0.16.0/ hduser@hadoop:/home/subipalaniappan/pig-0.16.0\$ ls CHANGES.txt RELEASE_NOTES.txt contrib legacy pig-0.16.0-core-h1.jar src LICENSE.txt bin docs lib pig-0.16.0-core-h2.jar test NOTICE.txt build.xml ivy lib-src scripts tutorial README.txt conf ivy.xml license shims hduser@hadoop:/home/subipalaniappan/pig-0.16.0\$ sudo mv * /usr/local/pig mv: target 'pig' is not a directory hduser@hadoop:/home/subipalaniappan/pig-0.16.0\$ sudo mv * /usr/local/pig hduser@hadoop:/home/subipalaniappan/pig-0.16.0\$ ls hduser@hadoop:/home/subipalaniappan/pig-0.16.0\$ cd /usr/local/pig/ hduser@hadoop:/usr/local/pig\$ ls CHANGES.txt RELEASE_NOTES.txt contrib legacy pig-0.16.0-core-h1.jar src LICENSE.txt bin docs lib pig-0.16.0-core-h2.jar test NOTICE.txt build.xml ivy lib-src scripts tutorial README.txt conf ivy.xml license shims hduser@hadoop:/usr/local/pig\$ hduser@hadoop:/usr/local/pig\$ sudo chown -R hduser:hadoop /usr/local/pig hduser@hadoop:/usr/local/pig\$ sudo vim ~/.bashrc hduser@hadoop:/usr/local/pig\$ source ~/.bashrc hduser@hadoop:/usr/local/pig\$ pig -x local WARNING: An illegal reflective access operation has occurred WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.KerberosUtil (file:/usr/local/hadoop/share/hadoop/common/lib/hadoop-auth-2.7.0.jar) to method java.security.KeyFactory.getInstance(java.lang.String) WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.security.authentication.util.KerberosUtil WARNING: Use --illegal-access=warn to enable warnings of this type WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.security.authentication.util.KerberosUtil</pre>
Output Analysis	After installation, the pig shell starts successfully, displaying the grunt> prompt. Executing Pig Latin scripts (like word count) produces output stored in HDFS. Successful job completion messages confirm that Pig is properly integrated with Hadoop and capable of running MapReduce tasks.
Github Link	https://github.com/Prerana-Bijekar/BDH
Conclusion	Installing Apache Pig on Linux with Hadoop integration provides a simplified way to process large datasets using Pig Latin scripts. This setup enhances productivity by abstracting complex MapReduce logic and enabling efficient big data analysis within the Hadoop ecosystem.



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Date

30 October 2025