

## About Akal University

Three centuries ago, the tenth Master, Guru Gobind Singh Ji stayed at Talwandi Sabo, finalized the compilation of Guru Granth Sahib Ji and prophesied that this place will manifest as Guru Ki Kashi- a great Centre of teaching and learning from where will emerge great scholars of Sikhism. About two centuries thereafter, establishment of Gurumat Vidyalaya by Sant Atar Singh Ji Maharaj was the first step in this direction. About a century thereafter, establishment of Akal University, Talwandi Sabo under the leadership of H.E Baba Iqbal Singh Ji Baru Sahib Wale was culmination of what the tenth Guru prophesied about three centuries ago.

The University offers Undergraduate and Postgraduate Honors courses and Ph.D programmes in Mathematics, Physics, Chemistry, Botany, Zoology, Psychology, Economics, Commerce, English, Punjabi and Computer Science Engineering. The University also offers BCA, B.Tech. (CSE), MBA, and four year Integrated B.Sc.- B.Ed./B.A.-B.Ed program. The university has got State of the Art Infrastructure and qualified, experienced and dedicated faculty to transform young minds to good citizens and professionals to match the requirements of corporate and global market.

## Department of CSE

The department has been established to produce globally competent graduates having creative skills and ethical values keeping pace with ever-changing technological advancements in Computer Science and Engineering. Currently the Department of Computer Science offers B.Tech. (CSE-Data Science and AI/ML), B.C.A. (Data Analytics and AI/ML) and Ph.D (Computer Science) The Department provides exposure to emerging technologies as well as futuristic technologies like High Performance Computing, Machine Learning, Data Analytics, Information and Cyber Security and Software Development. To provide full hands-on exposure to most recent and advanced software, the department laboratories are fully equipped with high speed computing facilities.

## Organizing Committee

### Chief Patron:

**Baba (Dr.) Davinder Singh Ji,**  
Chancellor,  
Akal University, Talwandi Sabo

### Patron:

**Prof (Dr.) Gurmail Singh,**  
Vice Chancellor,  
Akal University, Talwandi Sabo

### Advisory Committee:

**Major General (Dr) G.S. Lamba,**  
Dean Academic Affairs, AU

**Prof. (Dr.) Sukhjeet Singh Dhindsa**  
Director IQAC, AU

**Prof. Pardeep Singh Cheema**  
Professor, Department of CSE, AU

**Prof. (Dr.) BirBikram Singh**  
Dean Student Welfare, AU

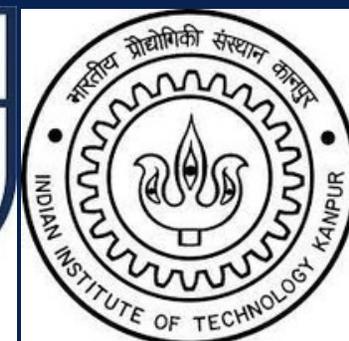
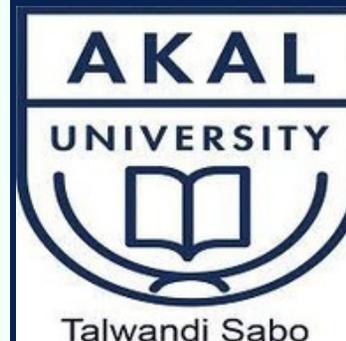
### Convener:

**Dr. Upinder Kaur,**  
Head, Dept. of CSE, AU

### Coordinators:

**Dr. Navroop Kaur, Dept. of CSE, AU**  
**Dr. Pravin Kumar, Dept. of CSE, AU**  
**Ms. Parneet Kaur, Dept. of CSE, AU**  
**Mr. Harpal Singh, Dept. of CSE, AU**  
**Mr. Ramakant Kumar, Dept. of CSE, AU**  
**Mr. Madasar Jalal, Dept. of CSE, AU**  
**Ms. Manjeet Kaur, Dept. of CSE, AU**

SDP on Introduction to  
NoSQL Architecture with  
MongoDB  
(in collaboration with  
EICT Academy IIT Kanpur)



**17 to 21 April, 2023**  
**Timing: 6:00-8:00 PM**

Organized By  
**Department of**  
**Computer Science & Engineering**  
**AKAL UNIVERSITY**

[www.auts.ac.in](http://www.auts.ac.in)

## About SDP

The SDP course on NoSQL architecture delves into the fundamental concepts of NoSQL databases, specifically MongoDB, through real-world case studies and examples. The course provides insights into how to apply NoSQL principles in your business and covers various topics, such as project lifecycles, building a data model, and using MongoDB to draw business insights.



## Expected Outcome

- Gain a solid understanding of how to solve analytical problems in real-world scenarios using MongoDB as a NoSQL database.
- Proficiency in using MongoDB tools and utilities for data management, administration, and monitoring.
- Learn to work with different types of data, including unstructured and semi-structured data, and understand how to leverage MongoDB to handle these data types.
- Practical experience working on real-world MongoDB projects, with opportunities to build a portfolio of projects to showcase your skills to potential employers.

## Registration Process And Payment Details

### Eligibility:

This SDP takes care of the growing needs of research and Academia: Under-Graduate Students/Researchers/ Post Graduates/Ph.D. Scholars /etc.

### REGISTRATION DEADLINE: 16 April, 2023

After successful registration & payment received, the participants will receive a confirmation via email

### CERTIFICATION

Participants who complete the programmed satisfactorily will be awarded a certificate of participation.

### How to Apply:

Interested participants can register online by filling up the registration form online

### Registration Fees:

For Research Scholars/Post-Graduates/ Ph. D Scholars/ Students: 499/-

The Participants can pay their fee through online mode

## Registration and Payment Link

Use the link for registration and payment:

<https://ifacet.iitk.ac.in/courses/introduction-to-nosql-architecture-with-mongodb/>

After Fee payment fill google form

<https://forms.gle/eKdc7m3TXN6HcHms6>

## Contact Us

Email: [hod\\_cs@auts.ac.in](mailto:hod_cs@auts.ac.in)

Contact: 8837832853, 8194801454

**AKAL UNIVERSITY**

Raman Road, Talwandi Sabo,  
Bathinda (Punjab)  
India-151302



## Contents

### Introduction to MongoDB

- Installation & configuring mongo DB
- Configuration Files
- Mongo DB Tools, Collections & Documentation

### CRUD and Mongo DB Shell

- Introduction to CRUD
- Introduction to Mongo DB API
- Creating Database, collection & Database

### Data Modeling & Scheme Design

- Mongo DB Database References
- Mongo DB Tree structures
- Mongo DB Analysis Queries
- Mongo DB Atomic Operations
- Mongo DB Map Reduce
- Mongo DB Regular Expression
- Mongo DB Capped collections etc.

### Querying and Manipulating Data

- Database and Collections
- Querying Collections
- Working with Operators
- Referencing a Database
- Insert Data into Collections
- Update, Delete, Remove operations on Data
- Capped Collections etc.