Government of India

Ministry of Electronics and information Technology

National Informatics Centre, Himachal Pradesh, Shimla

Technical Presentations by NIC HP Officials: 16-Mar-2024

As part of an ongoing series of 10-minute technical talks presented by NIC officials of their choice on a regular basis, the recent technical session held on 16-Mar-2024.

At the outset, SIO Himachal Pradesh delivered a presentation to Sensitize all DIOs of Himachal Pradesh on Citizenship Amendment Act, 1955. The roles and functions of both District and State Empowered Committees have been explained in details and software flow also presented.

SIO HP, Sensitizing DIOs on Citizenship Act, 1955

The roles and functions of both District and State Empowered Committees have been explained in details and software flow also presented. A short quiz through mobile app was also held for DIOs. A short quiz through mobile app was also held for DIOs which was attended by 18 officials. 12 multiple-choice questions based on the Citizenship Amendment Act 2019 were asked in the quiz.
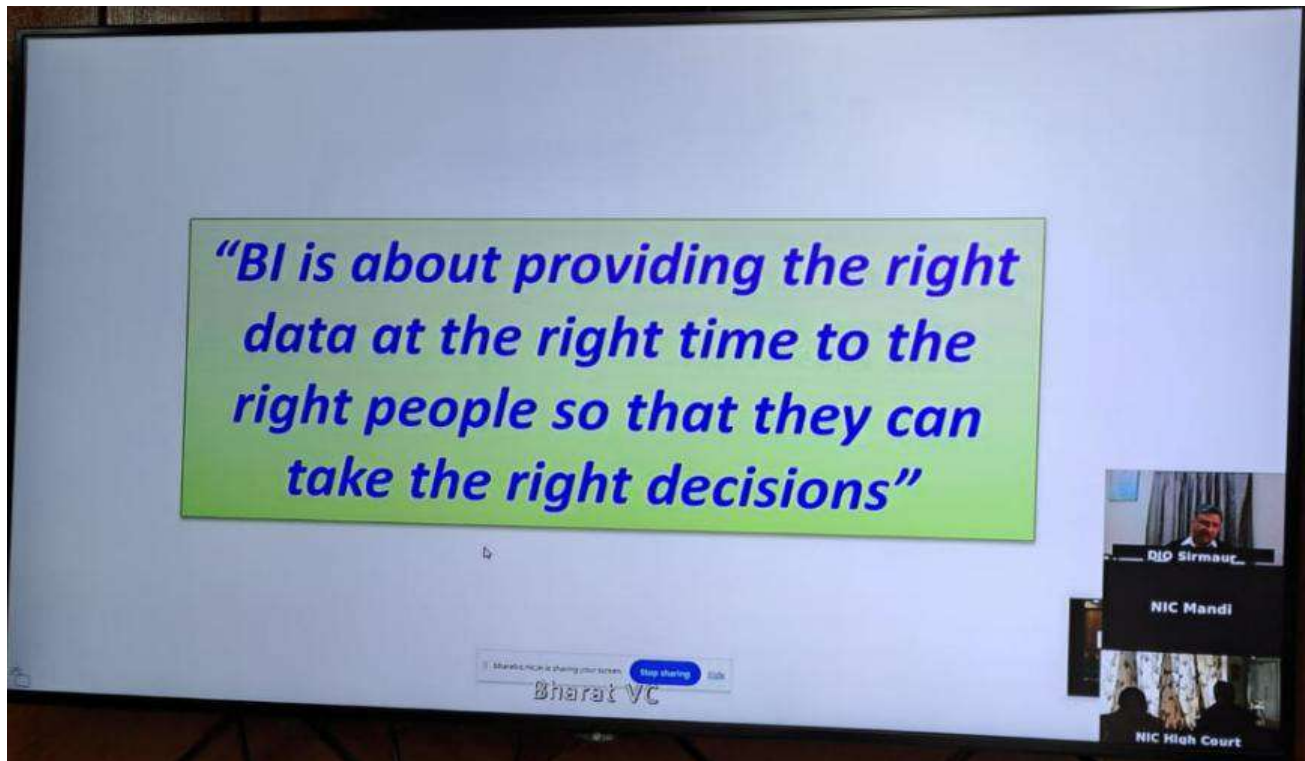
The result of the quiz on CAA 2019 was as follows:

Position	Participant Name	Designation	Place of Posting
1st	Sh. Ashish Sharma	Scientist-D	NIC HP State Centre
2nd	Sh. Ashwani Kumar	Scientist-E	NIC HP District Centre, Mandi
3rd	Sh. Swetansh Shatak	Scientific/Technical Assistant-B	NIC HP District Centre, Solan

The details of the presenters, along with their topics and ratings, were as follows:

S.No.	Name	Designation	Topic
1.	Sh. Vijay Kumar	Scientist-E	Power BI
2.	Sh. Ashwani Kumar	Scientist-E	Next Generation Firewall
3.	Sh. Sanjay Thakur	Scientist-E	Indian IT Act 2019
4.	Sh. Sandeep Kumar	Scientist-E	Spatial Databases PostGIS

Power BI

Sh. Vijay Kumar, DIO Sirmour gave a presentation-cum-demo on PowerBI, Power BI is a powerful business analytics tool developed by Microsoft. It allows users to visualize and analyze data from various sources, transforming raw data into meaningful insights. With Power BI, users can create interactive dashboards, reports, and data visualizations, enabling informed decision-making.
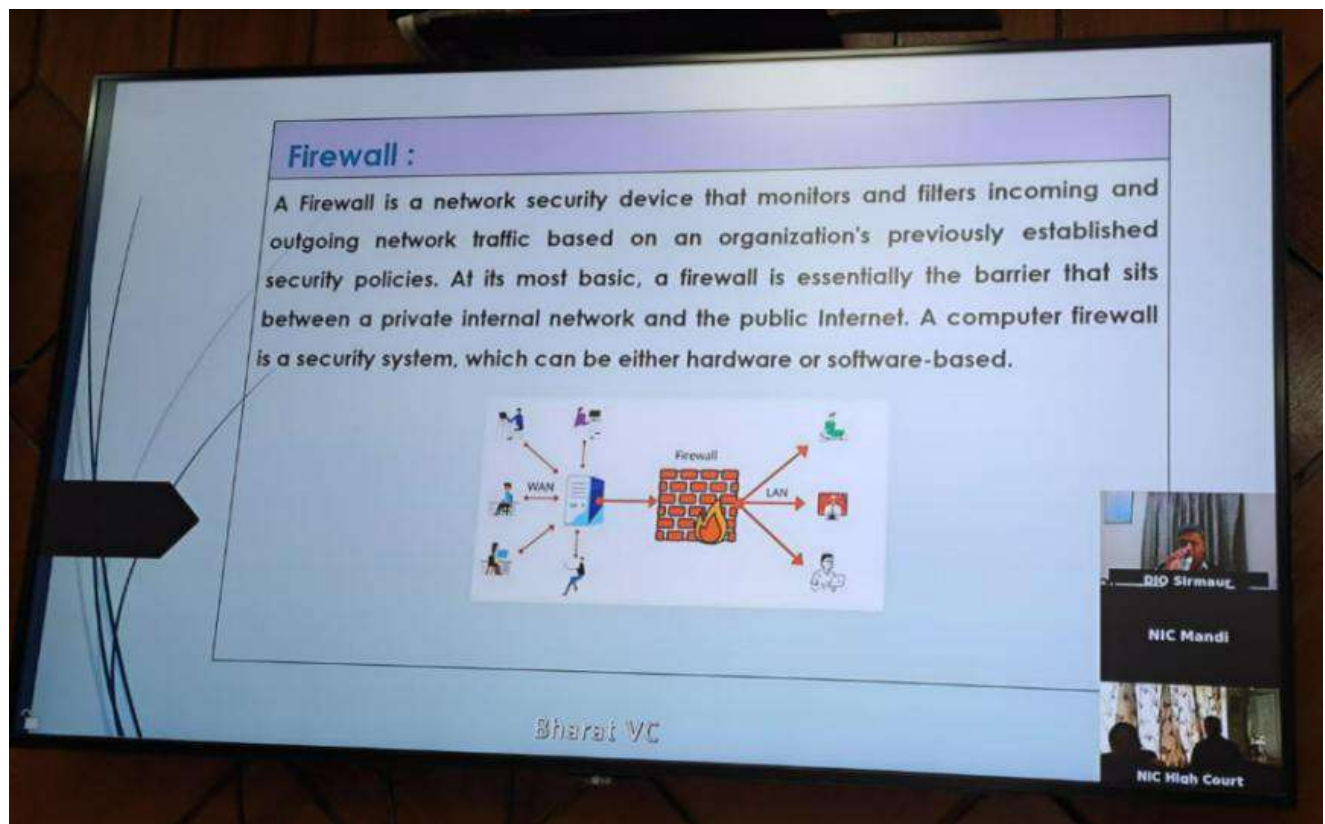

Sh. Vijay Kumar showing the demonstration of Power BI

Power BI can connect to a wide range of data sources, including databases, cloud services, and files, allowing users to consolidate data from multiple sources. Users can clean, transform, and model data within Power BI using its intuitive data preparation tools, ensuring that data is accurate and ready for analysis. Power BI offers a variety of visualization options, such as charts, graphs, maps, and tables, allowing users to create compelling and interactive visualizations to explore their data. Users can easily share their reports and dashboards with others within their organization, facilitating collaboration and enabling stakeholders to access and interact with the data. Power BI integrates with Microsoft's AI capabilities, allowing users to leverage machine learning algorithms for predictive analytics and advanced insights.

He also demonstrated the assembly election 2022 dashboard using Power BI.

Next Generation Firewall

Sh. Ashwani Kumar gave a comprehensive overview of Next generation Firewall. is a sophisticated network security device that combines traditional firewall capabilities with advanced features such as deep packet inspection, intrusion prevention, application awareness, and user-level controls. Unlike traditional firewalls that primarily focus on packet filtering based on IP addresses and ports, NGFWs provide more granular control over network traffic, allowing organizations to better protect against modern cyber threats.
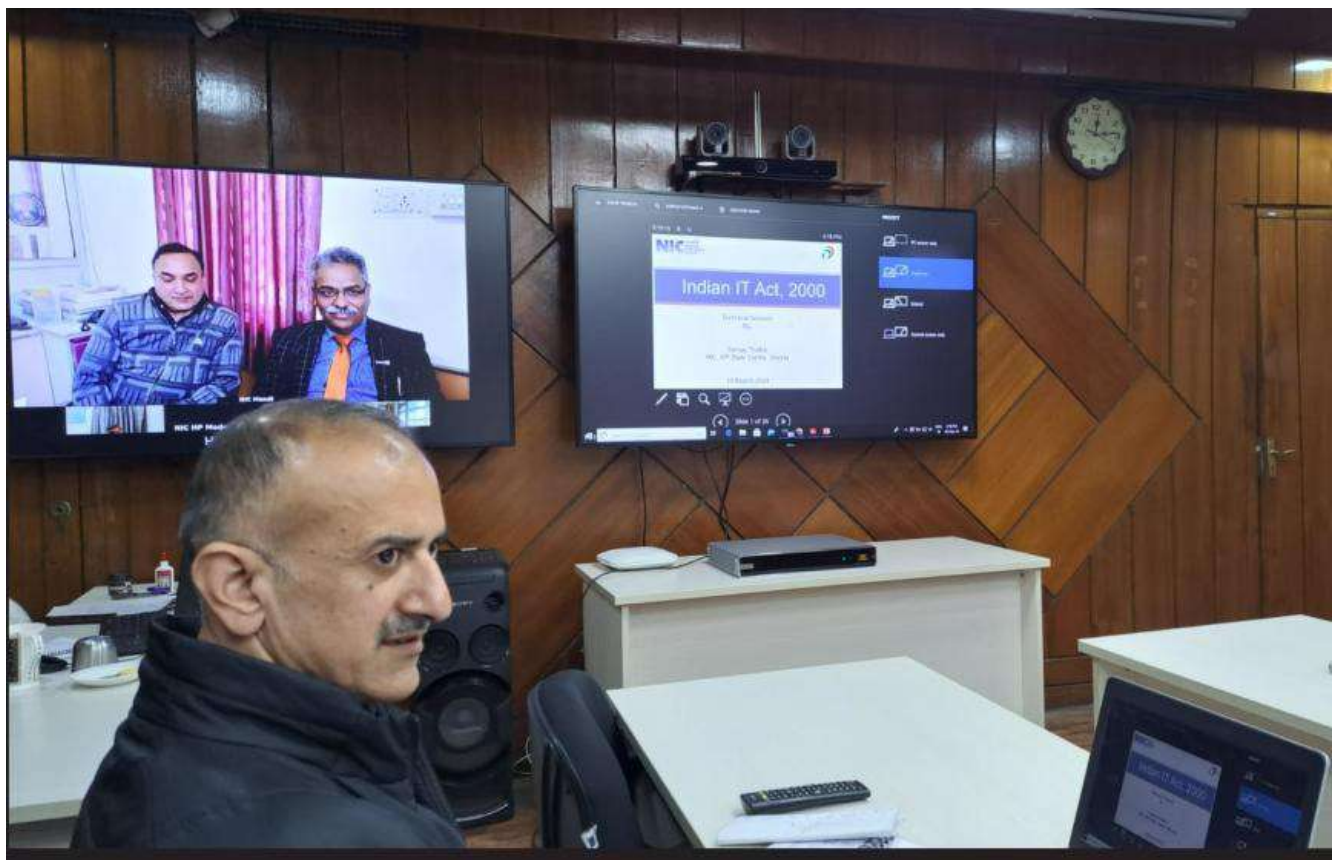

Sh. Ashwani Kumar giving the Technical Talk on Modern Generation Firewall

NGFWs analyze the content of network packets at the application layer, allowing them to identify and block malicious traffic based on specific application protocols and

signatures.NGFWs include Intrusion Prevention System IPS functionality to detect and prevent known and unknown threats by analyzing network traffic for suspicious behavior and patterns. NGFWs can identify and control applications running on the network, enabling administrators to enforce policies based on application usage and prioritize critical applications. NGFWs can integrate with identity management systems to apply security policies based on individual user identities or groups, providing more granular control over network access and activity. NGFWs leverage threat intelligence feeds and databases to enhance their ability to detect and block emerging threats in real-time.

Indian IT Act 2000

Sh. Sanjay Kumar gave a detailed presentation on IT Act, 2000, which is the primary law in India that deals with cyber crime and eCommerce. The bill was finalised by group of officials headed by then IT Minister Sh. Pramod Mahajan and passed in the budget session of 2000 and signed by President K.R. Narayanan on 9th May, 2000. The act is applicable across India and with this India became the 12th Country to enable Cyber Law. Even the persons of other nationalities can also be indicted under the law, if the crime involves a crime involves a computer or network located in India
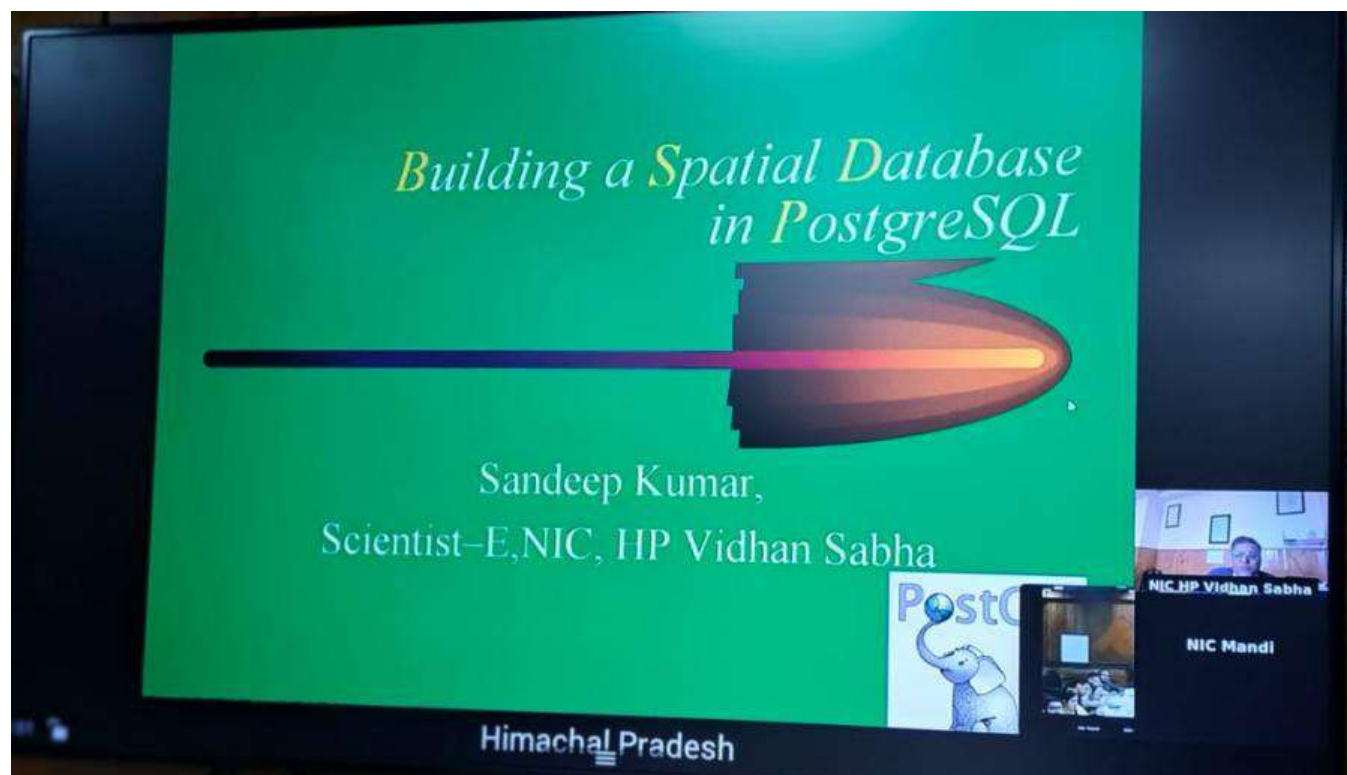

Sh. Sanjay Thakur giving presentation on Indian IT Act 2000

This act provides legal framework for electronic governance by giving recognition to Digital Signatures and Electronic Records. He explained in detail about the offences under The Information Technology Act, 2000.

Building a Spatial Database in PostgreSQL

Sh. Sandeep Kumar spoke about building a spatial database in PostgreSQL in his demonstration. PostGIS is an open-source extension for PostgreSQL that adds support for geographic objects and spatial functions. It enables PostgreSQL to effectively handle spatial data, making it a powerful tool for building spatial databases and performing spatial analysis.

Sh. Sandeep Kumar presentation on the Building a Spatial Database in PostgreSQL

PostGIS extends PostgreSQL by introducing new data types for representing geographic objects, such as points, lines, polygons, and multi-geometries. These data types allow users to store and manipulate spatial data within the database. PostGIS provides a comprehensive set of functions for performing spatial operations and analysis. These functions allow users to calculate distances between geometries, perform geometric transformations, determine spatial relationships (such as intersection, containment, and proximity), and conduct spatial queries. PostGIS supports spatial indexing, which improves the performance of spatial queries by allowing PostgreSQL to efficiently search and retrieve spatial data. Users can create spatial indexes on geometry columns to accelerate query execution for spatial operations.

PostGIS seamlessly integrates with a variety of Geographic Information System (GIS) software and tools, making it a popular choice for spatial database management and analysis within the GIS community. It supports standard GIS data formats and protocols, enabling interoperability with other GIS systems. PostGIS is maintained by an active open-source community, ensuring continuous development, bug fixes, and support. Users can benefit from community forums, documentation, tutorials, and user-contributed resources to learn and troubleshoot PostGIS-related issues.

Quiz Competition on Mobile App

A quiz competition was also organized based on the technical presentations delivered by NIC Officials. A total of 31 officials participated in the quiz competition which was held on the Hindi Bodh Mobile App developed by NIC HP. 15 multiple-choice questions based on the technical content delivered by the officers were asked in the quiz competition.

The result of the quiz competition was as follows:

Position	Participant Name	Designation	Place of Posting
1st	Sh. Sanjay Thakur	Scientist-E	NIC HP State Centre
2nd	Sh. Sandeep Kumar	Scientist-E	NIC HP Vidhan Sabha
3rd	Sh. Vinod Kumar Garg	Scientist-F	NIC HP District Centre, Hamirpur

NIC HP officials attending the technical session

In view of the upcoming Lok Sabha Elections- 2024, Smt. Vandana Sankhayan shed light on the NextGen DISE (District Information System for Election) with all District Informatics Officers (DIOs) of Himachal Pradesh through VC. She explained the implementation plan in detail that is to be followed with all the participants. She also addressed the concerns of the DIOs, guiding them through any uncertainties they would have while using the software.

Smt. Vandana Sankhayan sanitizing DIOs about the NextGen DISC Software

As agreed that the following NIC officials will present a 10 minutes technical talk on the topic of their choice during the upcoming meeting scheduled for coming working Saturday, 30-Mar-2024.

S.No.	Participant Name	Designation	Place of Posting
1.	Smt. Pooja Mann	Scientific/Technical Assistant-A	NIC HP State Centre
2.	Sh. Lalit Kapoor	Scientist-F	NIC HP State Centre
3.	Sh. Sanjay Kumar	Scientist-F	NIC HP CGO Complex
4.	Sh. Swetansh Shatak	Scientific/Technical Assistant-B	NIC Distt Centre Solan

The following officials were present in the technical talk on 16-03-2024:

NIC HP State Centre		
1	Sh. Ajay Singh Chahal	SIO-Cum-Scientist-G
2	Sh. Sanjay Kumar	Scientist-F
3	Sh. Sanjay Sharma	Scientist-F
4	Sh. Vijay Kumar Gupta	Scientist-F
5	Sh. Vimal Kumar Sharma	Scientist-F

6	Sh. Sandeep Kumar	Scientist-E
7	Sh. Daljeet Singh Rana	Scientist-E
8	Sh. Sanjay Thakur	Scientist-E
9	Sh. Ashish Sharma	Scientist-D
10	Sh. Mangal Singh	Scientist-D
11	Sh. Sarvjeet Kumar	Scientist-C
12	Smt. Vandana Sankhayan	Scientist-C
13	Sh. Mukesh Kumar	Scientist-C
14	Sh. Prithvi Raj	Scientist-C
15	Sh. Chunni Lal	Scientist-C
16	Smt. Monika	Scientist-B
17	Kum. Ankita Mishra	Scientist-B
18	Sh. Ramnarayan Yadav	Scientist-B
19	Sh. Jitender Sharma	Scientific Officer -SB
20	Smt. Pooja Mann	Scientific/Technical Assistant-A
21	Sh. Himanshu Gupta	Steno Grade-III
District Centre Hamirpur		
22	Sh. Vinod Kumar Garg	Scientist-F
District Centre Kangra		
23	Sh. Akshay Mehta	Scientist-E
District Centre Kinnaur		
24	Sh. Balwan Singh	Scientist-D
District Centre Kullu		
25	Sh. Brijender Kumar Dogra	Scientist-E
26	Sh. Sanjay Gupta	Scientist-E
District Centre Lahual & Spiti		
27	Sh. Jagdeep	Scientific/Technical Assistant-A
District Centre Mandi		
28	Sh. Akhilesh Bharati	Scientist-E
29	Sh. Ashwani Kumar	Scientist-E

District Centre Shimla

30	Sh. Pankaj Gupta	Scientist-F
31	Sh. Deepak Kumar	Scientist-C

District Centre Sirmour

32	Sh. Vijay Kumar	Scientist-E
33	Sh. Mohan Rakesh Aggarwal	Scientist-D

District Centre Solan

34	Sh. Sanjeev Kumar	Scientist-C
35	Sh. Swetansh Shatak	Scientific/Technical Assistant-B

District Centre Una

36	Sh. Sanjeev Kumar	Scientist-E
37	Sh. Bhupinder Singh	Scientist-D