Department of

Electronics and Communication Engineering

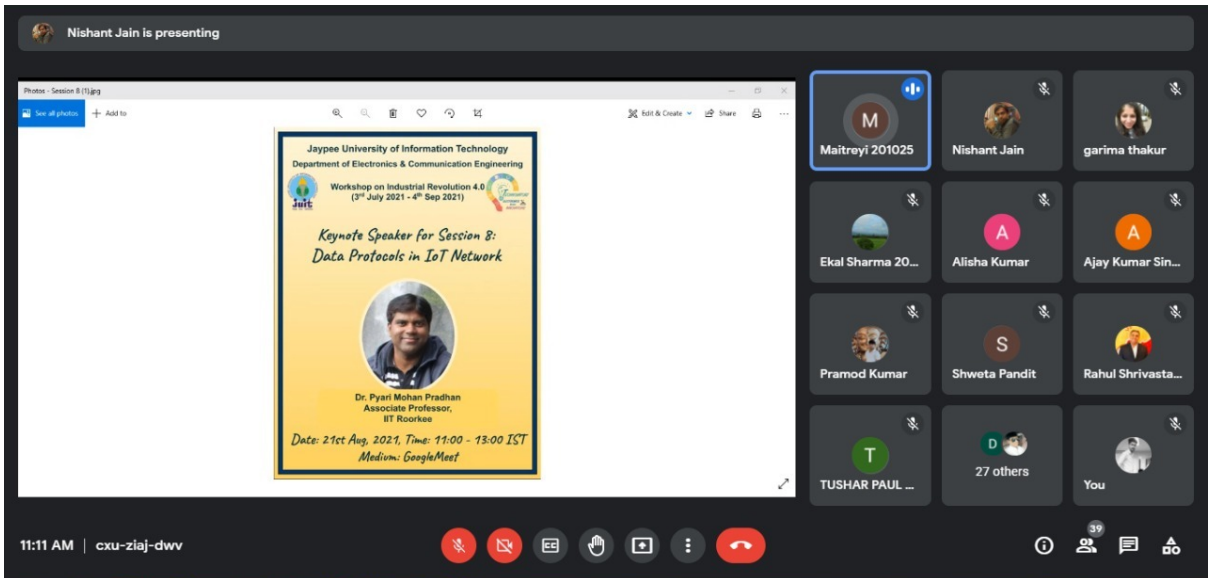
Jaypee University of Information Technology Waknaghat

WORKSHOP ON INDUSTRIAL REVOLUTION 4.0

Event Report: Session-8

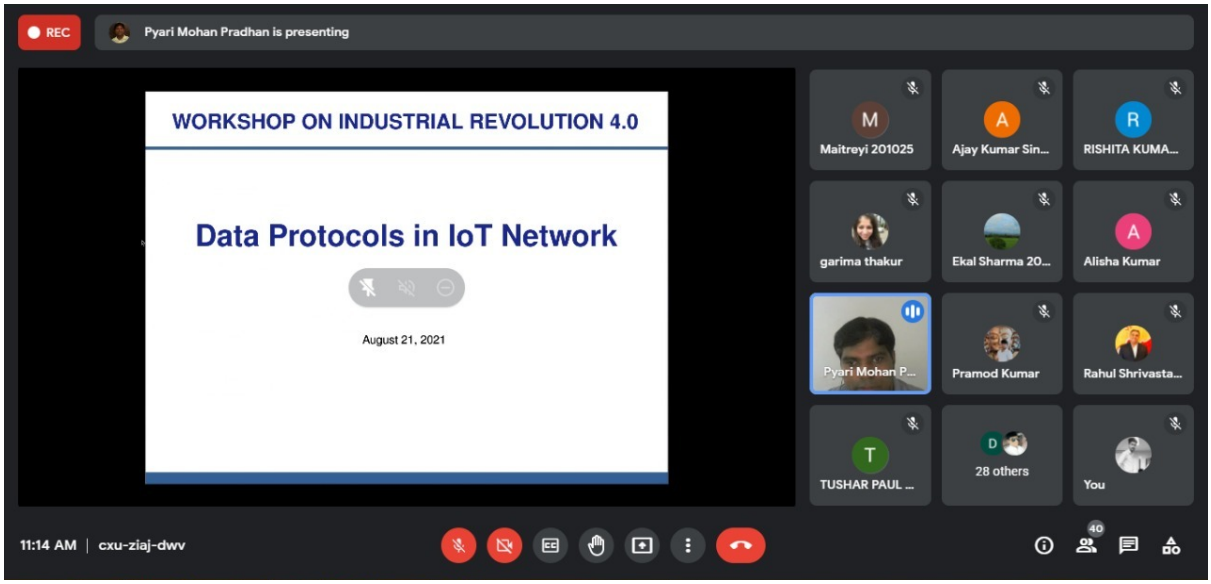
21st August, 2021

Department of Electronics and Communication Engineering of Jaypee University of Information Technology, Solan organized an amazing eighth session of **"Workshop on Industrial Revolution 4.0"** on 21st August, 2021. The topic of the session was **"Data Protocols in IoT Network"** delivered by an honourable speaker **Dr. Pyari Mohan Pradhan Associate Professor, IIT Roorkee**.

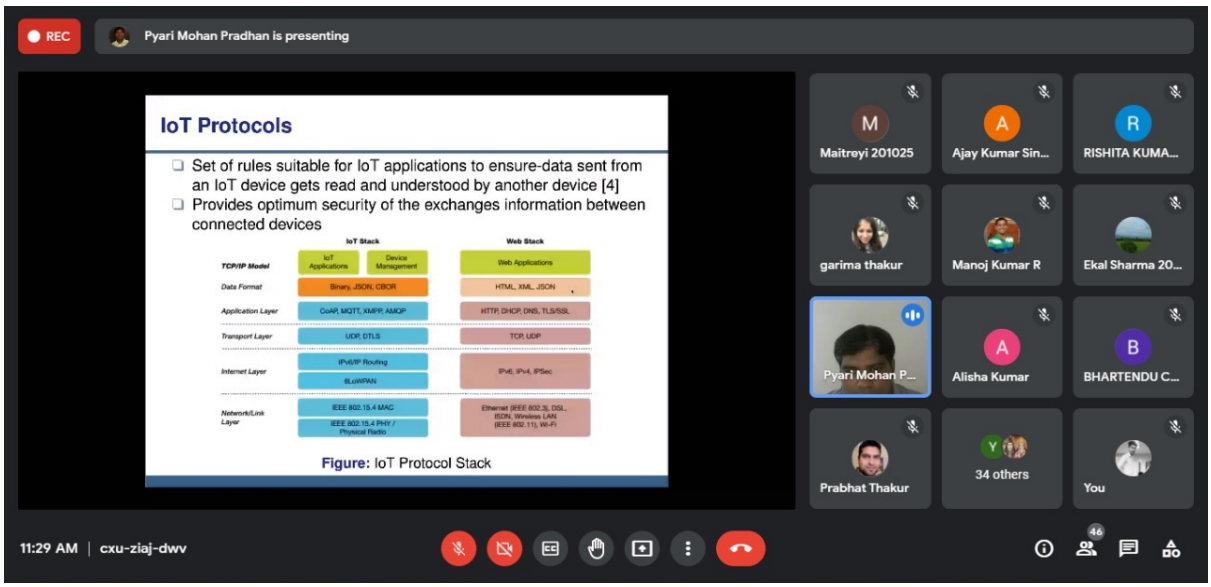


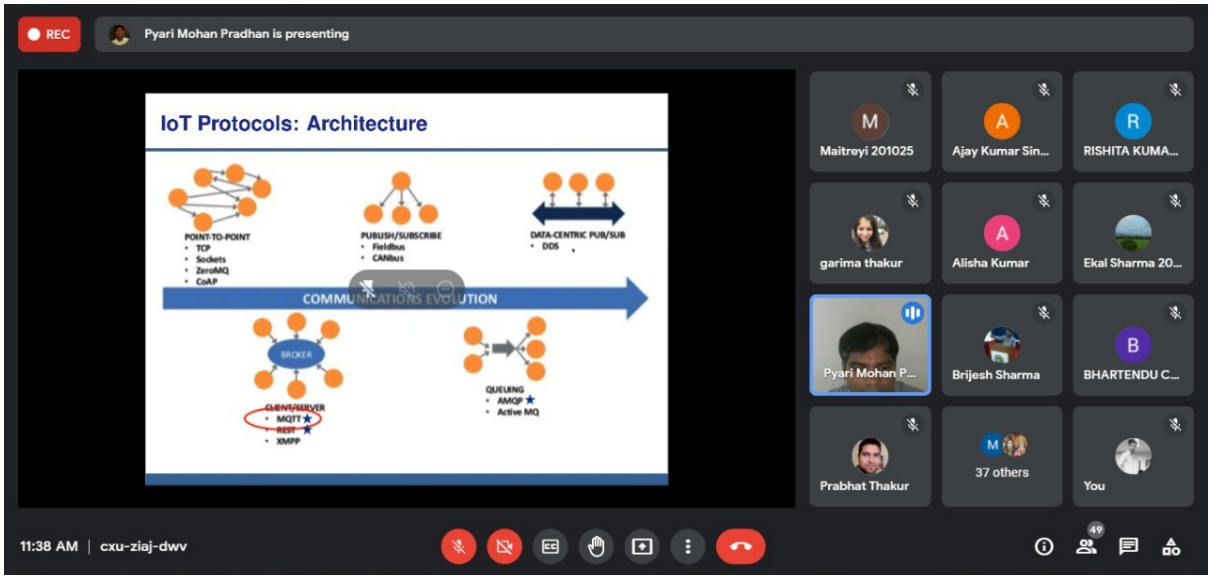
Our eminent speaker invited by Dr. Vikas Baghel, Assistant Professor, Department of Electronics and Communication Engineering served as an inspiration to several faculty

members and students of Electronics and Communication Engineering by delivering his motivation towards the domain of IOT and his immense great work in various fields including IoT, Protocols, Wireless Networks and its applications.

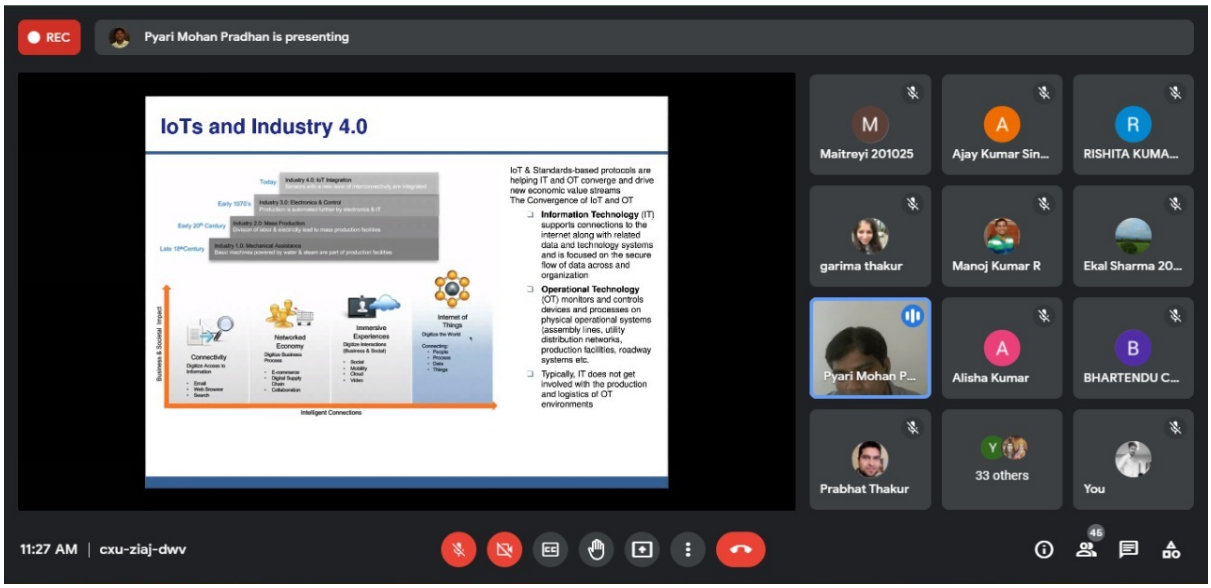


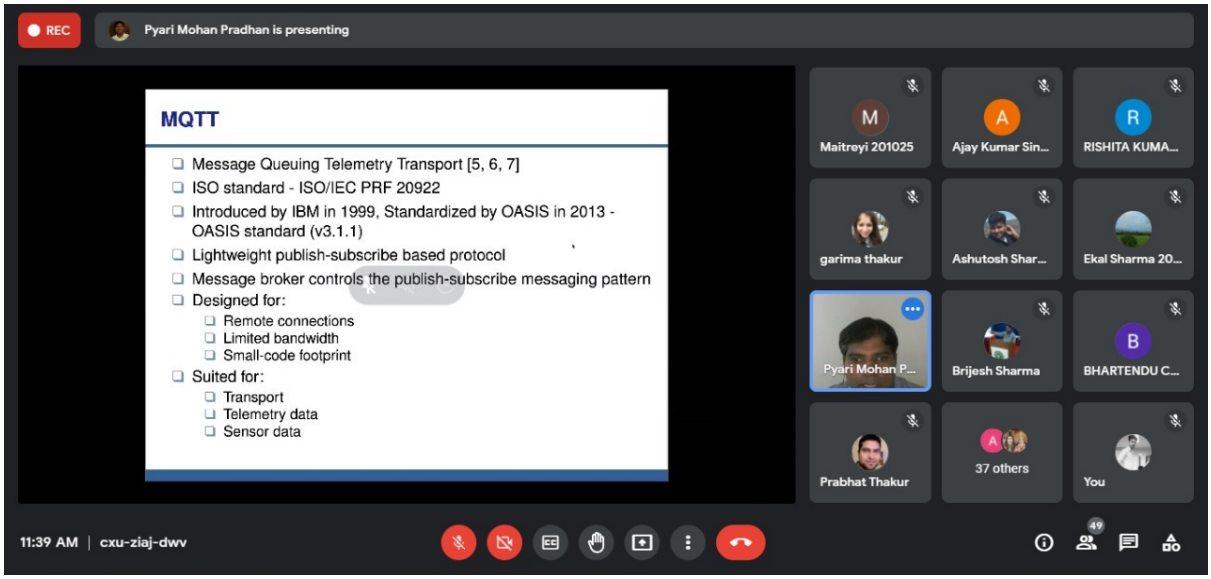
He explained that IoT data protocols are used to connect low-power IoT devices. They provide communication with hardware on the user side – without the need for any internet connection. Without IoT protocols and standards, hardware would be deemed useless. This is because IoT protocols enable hardware to exchange data. And, out of these transferred pieces of data, useful information can be extracted by the end-user.



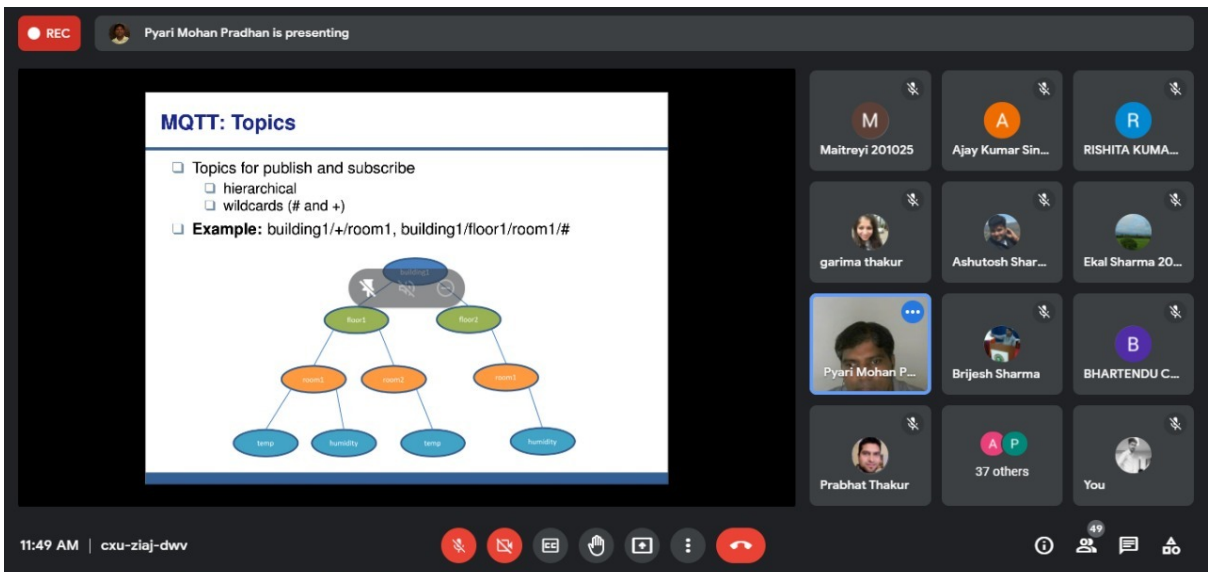


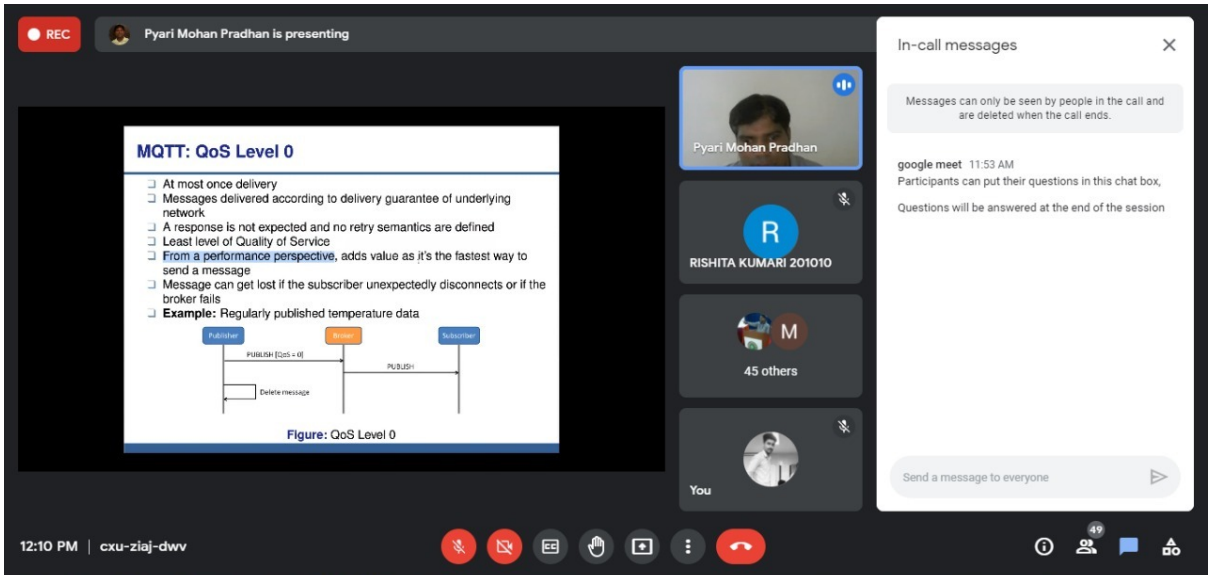
When talking about the Internet of Things, we always think about communication. Interaction between sensors, devices, gateways, servers, and user applications is the essential characteristic that makes the Internet of Things what it is. But what enable all this smart stuff to talk and interact are the **IoT protocols** which can be seen as languages that the IoT gear uses in order to communicate.

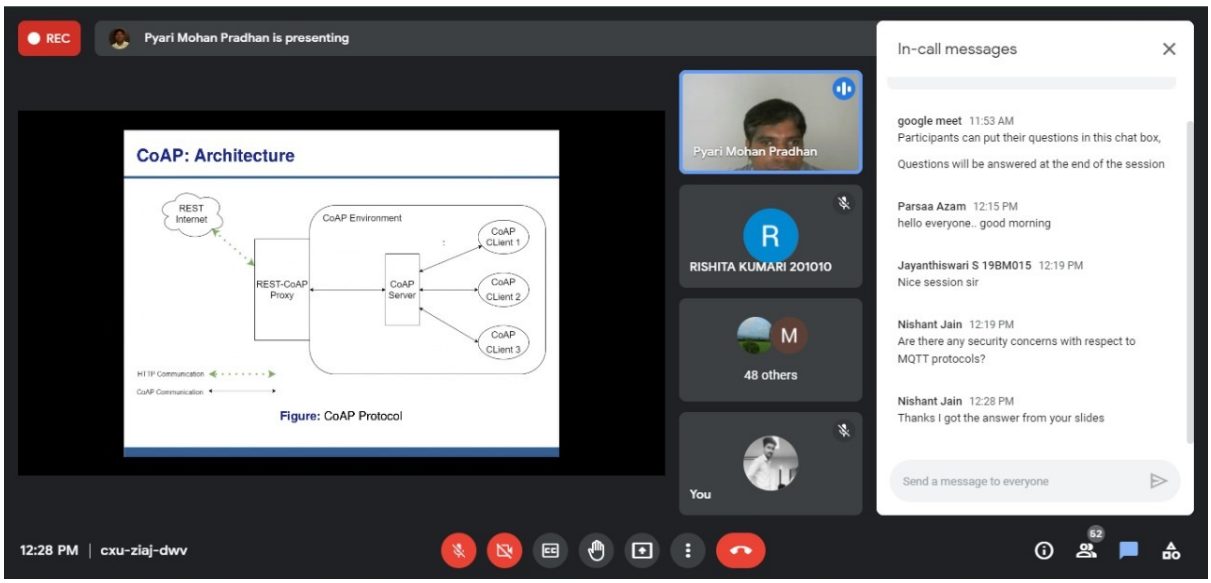


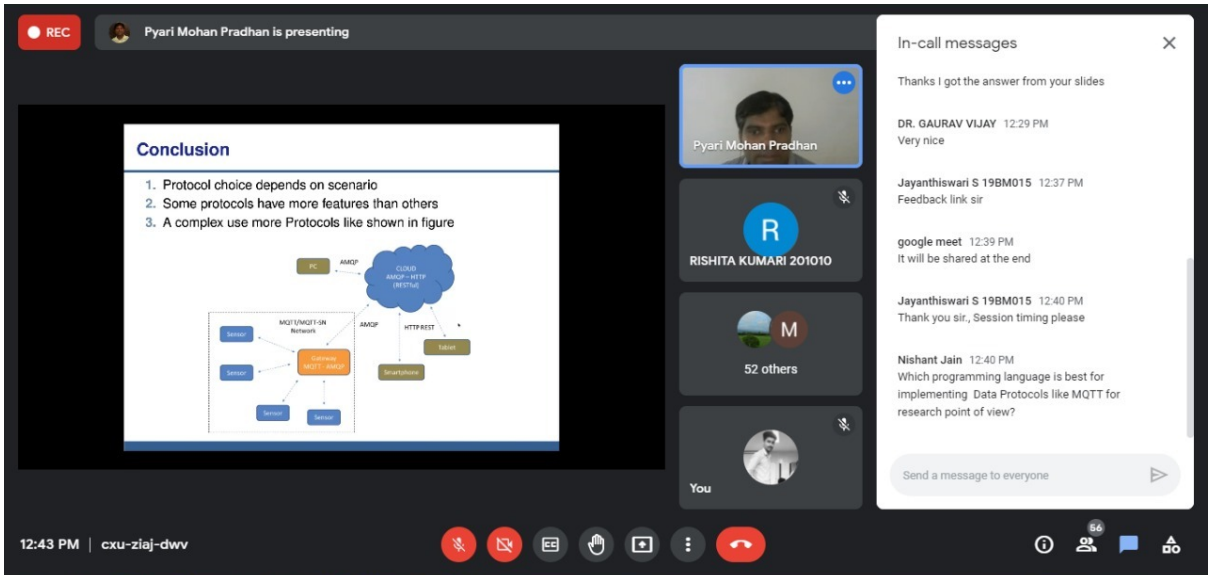


The two-hour long workshop was appreciated by the participants and helped them gain a good amount of knowledge in the domain of data protocols in IoT network.




REC
Pyari Mohan Pradhan is presenting
MQTT: QoS Level 0
At most once delivery
Messages delivered according to delivery guarantee of underlying network
A response is not expected and no retry semantics are defined
Least level of Quality of Service
From a performance perspective, adds value as it's the fastest way to send a message
Message can get lost if the subscriber unexpectedly disconnects or if the broker fails
Example: Regularly published temperature data
Publisher
Broker
Subscriber
PUBLISH [QoS = 0]
PUBLISH
Delete message
Figure: QoS Level 0
Pyari Mohan Pradhan
R
RISHITA KUMARI 201010
M
45 others
You
In-call messages
Messages can only be seen by people in the call and are deleted when the call ends.
google meet 11:53 AM
Participants can put their questions in this chat box,
Questions will be answered at the end of the session
Send a message to everyone
12:10 PM | cxu-ziaj-dwv
49


REC
Pyari Mohan Pradhan is presenting
CoAP: Architecture
REST Internet
CoAP Environment
REST-CoAP Proxy
CoAP Server
CoAP CLient 1
CoAP CLient 2
CoAP CLient 3
HTTP Communication
CoAP Communication
Figure: CoAP Protocol
Pyari Mohan Pradhan
R
RISHITA KUMARI 201010
M
48 others
You
In-call messages
google meet 11:53 AM
Participants can put their questions in this chat box,
Questions will be answered at the end of the session
Parsaa Azam 12:15 PM
hello everyone.. good morning
Jayanthiswari S 19BM015 12:19 PM
Nice session sir
Nishant Jain 12:19 PM
Are there any security concerns with respect to MQTT protocols?
Nishant Jain 12:28 PM
Thanks I got the answer from your slides
Send a message to everyone
12:28 PM | cxu-ziaj-dwv
62



At last the several queries raised by the participants were answered and developed immense interest in various fields and applications.