

**Paper Title “Containerization: Cloud Computing based Inspiration Technology for Adoption through Docker and Kubernetes”**  
**Presented in IEEE Conference (ICESC-2021)**

A paper title “Containerization: Cloud Computing based Inspiration Technology for Adoption through Docker and Kubernetes” was prepared and presented by Shri Sanjay Hardikar, Sr.TD, Shri Pradeep Ahirwar, SSA & Shri Sameer Rajan, SSA, NIC, Madhya Pradesh in IEEE Conference on “Electronics and Sustainable Communication Systems (ICESC-2021)”, organized at Coimbatore, India, during 04-06 August 2021 in Virtual mode due to Covid-19 Pandemic. The objective was effective maintenance of sustainable environment and communication technologies, to meet the quality-of-service, required for emerging smart ICT applications. The Conference brought together the state-of-the-art research works to propose novel architectures, models, and algorithms for solving the emerging challenges in almost all the areas of sustainable Electronics and communication technologies. The conference was attended by various dignitaries from the vast field of emerging technologies and innovative solution. The paper, presented on 4<sup>th</sup> August 2021, would be available on IEEE Xplore soon.

The poster is for the 2<sup>nd</sup> International Conference on Electronics and Sustainable Communication Systems (ICESC 2021), organized by HIT, Coimbatore, India. It features logos for IEEE, ICESC, and NIC (National Informatics Centre). The session is Session-I || Parallel Session-I, held on 4<sup>th</sup> August 2021 from 11.30 AM to 11.50 AM. The paper title is "Containerization: Cloud Computing based Inspiration Technology for Adoption through Docker and Kubernetes". The authors are Sanjay Hardikar (Scientist-F), Pradeep Ahirwar (Scientist-C), and Sameer Rajan (Scientist-C), all from the National Informatics Centre, Ministry of Electronics & IT, Govt Of India, Madhya Pradesh State Centre, Bhopal, MP.

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National Informatics Centre

**2<sup>nd</sup> International Conference on  
Electronics and Sustainable Communication Systems  
ICESC 2021, Organized By HIT, Coimbatore, India**

**Session-I || Parallel Session-I  
4<sup>th</sup> August 2021|| 11.30 AM TO 11.50 AM**

**TITLE**  
**Containerization: Cloud Computing based Inspiration Technology for Adoption  
through Docker and Kubernetes**

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Virtualization technology is the fundamental technology for cloud environment. The limitations and problems associated with VMs and popularity of the Microservices give birth to utilize the leading- edge Container technology. Various Containerization tools are available to address the challenges towards the evolution in cloud environment. Docker is the leading Container runtime and Kubernetes is the Container orchestration tool, which are popular among the DevOps (Development and Operation) teams for adopting CI/ CD (Continuous Integration and Continuous Deployment) in Software Development Life Cycle (SDLC). A lot of companies and government organizations are utilizing the benefits of Containerization by implementing a DevOps mindset to their workflow. So, the applications are not dependent on computing environment. Such technologies are evolving day by day to ease the resource allocation and usage. This evolution is unstoppable and refinement is happening for transformation of the infrastructure allocation and utilization. Today, it is mandatory to adopt these technologies of inspiration to serve and use the ICT resources in effective and efficient manner by reducing the human intervention, for moving towards the Software Defined Infrastructure.

In the presented paper, various aspects of Containerization are explored and highlighted. The Container runtime environment- Docker and Container orchestration tool- Kubernetes are focused and deployed for exploring the possibilities of Containerization adoption, which automate the Container deployment, scaling and load balancing.

We are very thankful to Shri Amar Kumar Sinha, DDG & State Informatics Officer, NIC MP his encouragement and continuous support in paper publication. We are also thankful to team members of IDC, Web & Cloud Services Division, NIC, MP and Cloud Technology Division, NIC(HQ) for their cooperation in establishing the Containerization Platforms.

**Pradeep Ahirwar, SSA**  
Dated – 09-08-2021



## Certificate Of Presentation

This certifies that

**Sanjay Hardikar**

has successfully presented a paper at the **2<sup>nd</sup> International Conference on Electronics and Sustainable Communication Systems (ICESC 2021)** organised by Hindusthan Institute of Technology, Coimbatore, India during 4-6, August 2021.

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Authors: **Sanjay Hardikar; Pradeep Ahirwar; Sameer Rajan**

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Session Chair

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Dr. B. Paulehamy  
Conference Chair

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Dr. C. Natarajan  
Principal



## Certificate Of Presentation



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**Pradeep Ahirwar**

has successfully presented a paper at the **2<sup>nd</sup> International Conference on Electronics and Sustainable Communication Systems (ICESC 2021)** organised by Hindusthan Institute of Technology, Coimbatore, India during 4-6, August 2021.

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## Certificate Of Presentation



This certifies that

**Sameer Rajan**

has successfully presented a paper at the **2<sup>nd</sup> International Conference on  
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