

GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA
DEPARTMENT OF INFORMATION TECHNOLOGY

Report on

The TEQIP-III Workshop on DevOps: Software Architecture
[DSA-2021]

(conducted on 25th, 27th to 29th January, 2021)

The Department of IT, Guru Nanak Dev Engineering College, Ludhiana organized a four-day workshop on “DevOps: Software Architecture” (DSA-2021) on 25th, 27th to 29th January, 2021. Dr. Kamaljit Kaur (Assistant Prof., IT) and Er. Parminder Kaur Wadhwa (Assistant Prof., IT) were the Coordinator and Co-Coordinator of the workshop respectively.

On 25th January, 2021 (first day), the faculty members of IT department gathered in HPC lab at 10:00 am. The online google meet was started. Dr. Kamaljit Kaur introduced the expert of the workshop, Mr. Vipin Gupta. He is BE, Red Hat Certified Security Specialist (RHCSS), Red Hat Certified Engineer (RHCE), Certified Ethical Hacker (CEH), Cisco Certified (CCNA), Microsoft Certified (MCSE, MCSA). He is running his own companies in Punjab entitled as U-Net Solutions and U-Net Labs Pvt. Ltd. and is specialized in DevOps. Dr. Kiran Jyoti (HOD, IT) welcomed the expert and all the participants. The 20 faculty members and 25 students (UG) from the various departments of Guru Nanak Dev Engineering College participated in the workshop.

On day 1 i.e. 25th January, 2021, the introduction to DevOps and the tools required to implement it were discussed. DevOps was compared with agile and waterfall software development models. The Version Control System (VCS) was introduced. The demonstration of how to setup GIT server, how to create and initialize repositories was given. The ways to handle local and remote repositories were also shown.

On day 2 i.e. 27th January, 2021, the concept of virtualization and hypervisors were discussed. The concept of dockers was discussed. Then the expert demonstrated how to install docker, pull images, create and manage containers. The launching of apache and nginx web servers was discussed. Mr. Vipin also explained how to link container port with host port

K. Jyoti
29/1/2021

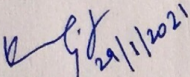
P. Wadhwa
29/1/21

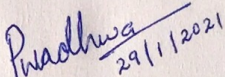
in dynamic and fixed mode. He also demonstrated how to use of ephemeral and persistent storage.

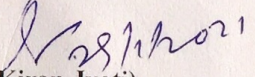
On day 3 i.e. 28th January, 2021, how to work with database containers was covered. The dockerfile and dockerfile directives were discussed. The expert demonstrated how to create different dockerfiles, custom docker images, tagging of images and how to upload docker images to docker hub. The installation of docker-compose and how to deploy wordpress application using docker-compose was also covered.

On the day 4 (last day) i.e. 29th January, 2021, the installation of docker on Ubuntu was demonstrated, Jenkins was discussed in detail and its integration with other technologies was demonstrated.

The students and the faculty members gained the insight and had hands-on practice of the latest technique "DevOps" through this workshop.


(Dr. Kamaljit Kaur)
Coordinator, DSA-2021


(Er. Parminder Kaur Wadhwa)
Co-Coordinator, DSA-2021


(Dr. Kiran Jyoti)
HOD, IT

Photos - DSA2021.png

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WORKSHOP

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TEQIP-II

On
DevOps

Software Architecture- DSA-2021

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Department of Information Technology
Guru Nanak Dev Engineering College, Ludhiana-141006, Punjab, India
Website: <http://www.gndec.ac.in>



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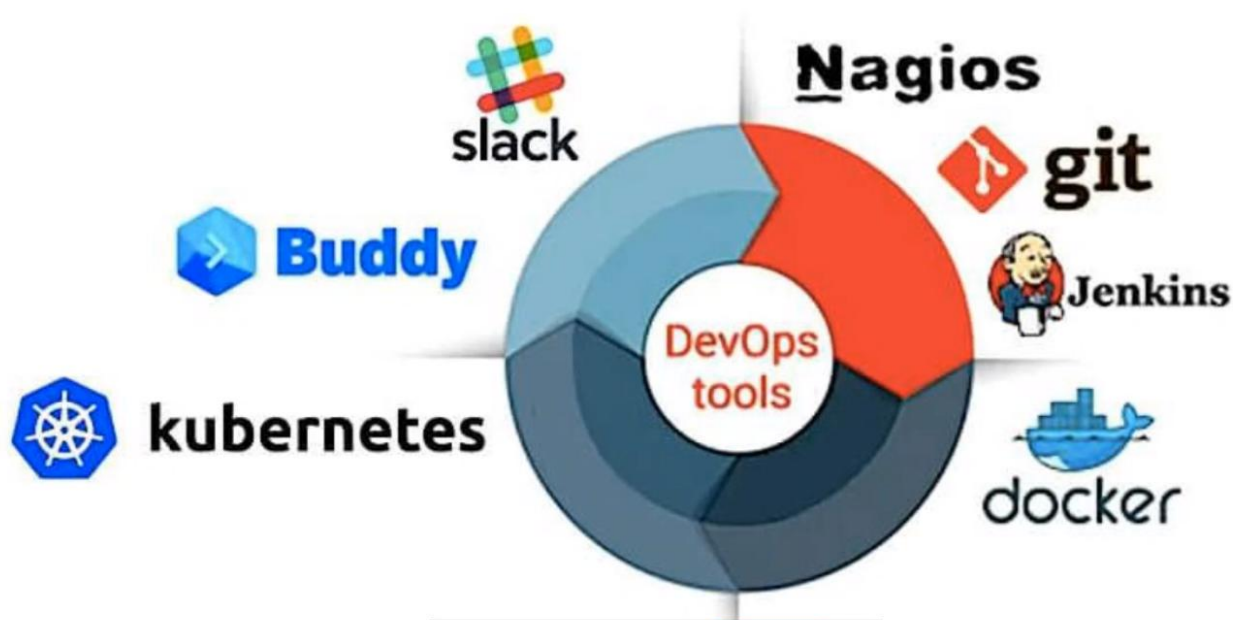
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Best DevOps Tools



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is presenting



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Abhishek Kumar



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Faculty Participants of the Workshop DevOps: Software Architecture (DSA-2021)

Sr. No.	Name of the Faculty	Designation	Department	Organisation/Institute
1	Kiran Jyoti	HoD IT	Information Technology	Guru Nanak Dev Engineering College, Ludhiana
2	Akshay Girdhar	Professor	Information Technology	Guru Nanak Dev Engineering College, Ludhiana
3	K. S. Mann	Professor	Information Technology	Guru Nanak Dev Engineering College, Ludhiana
4	Manpreet Singh	Assistant Professor	Information Technology	Guru Nanak Dev Engineering College, Ludhiana
5	Pankaj Bhambri	Assistant Professor	Information Technology	Guru Nanak Dev Engineering College, Ludhiana
6	Kamaljit Kaur	Assistant Professor	Information Technology	Guru Nanak Dev Engineering College, Ludhiana
7	Parminder Kaur Wadhwa	Assistant Professor	Information Technology	Guru Nanak Dev Engineering College, Ludhiana
8	Harjot Kaur Gill	Assistant Professor	Information Technology	Guru Nanak Dev Engineering College, Ludhiana
9	Harpreet kaur	Assistant professor	Information Technology	Guru Nanak Dev Engineering College, Ludhiana
10	Hanit Karwal	Assistant Professor	Information Technology	Guru Nanak Dev Engineering College, Ludhiana

11	Jagdeep Singh	Assistant Professor-CP	Information Technology	Guru Nanak Dev Engineering College, Ludhiana
12	Amandeep Singh Bhathal	Lab Superintendent	Information Technology	Guru Nanak Dev Engineering College, Ludhiana
13	Amandeep Kaur Sohal	Assistant Professor	Computer Science and Engineering	Guru Nanak Dev Engineering College, Ludhiana
14	Manjot Kaur Gill	Assistant Professor	Computer Science & Engineering	Guru Nanak Dev Engineering College, Ludhiana
15	Diana Nagpal	Assistant professor	Computer Science & Engineering	Guru nanak dev engineering college, ludhiana
16	Priti Aggarwal	Assistant Professor	Computer Science & Engineering	GNDEC, Ludhiana
17	Jaswant Singh	Assistant Professor	Computer Science and Engineering	Guru Nanak Dev Engineering College, Ludhiana
18	Kuljit Kaur	Assistant Professor	Computer Science and Engineering	Guru Nanak Dev Engineering College
19	Rupinderjit Singh	Associate Professor	Electrical Engineering Department	GNDEC, Ludhiana
20	Arshdeep Kaur	Assistant Professor	Electrical Engineering Department	GNDEC,Ludhiana

Students Participants in the Workshop DevOps: Software Architecture (DSA-2021)

Sr. No.	Name	University Roll Number	Department/Branch in which pursuing Bachelors	Organization
1	Shivay Bhandari	1905398	Information Technology	Guru Nanak Dev Engineering College
2	Yatin Bindra	1905416	Information Technology	Guru Nanak Dev Engineering College
3	Ekampreet	1905327	Information Technology	Guru Nanak Dev Engineering College
4	Abhishek Kumar	2021005	Information Technology	Guru Nanak Dev Engineering College
5	Tanisha Gupta	1805461	Information Technology	Guru Nanak Dev Engineering College
6	Saurav Kumar	1805449	Information Technology	Guru Nanak Dev Engineering College
7	Suryansh Chopra	1805565	Information Technology	Guru Nanak Dev Engineering College
8	Arshpreet Singh	1805494	Information Technology	Guru Nanak Dev Engineering College
9	Kanishka malhotra	1805305	Information Technology	Guru Nanak Dev Engineering College
10	Shubham chaudhary	1905399	Information Technology	Guru Nanak Dev Engineering College

11	Prabhjot Kaur	1905376	Information Technology	Guru Nanak Dev Engineering College
12	Lokesh dhingra	1905359	Information Technology	Guru Nanak Dev Engineering College
13	Sehajbir Singh	2021105	Information Technology	Guru Nanak Dev Engineering College
14	Mayank Mishra	1905234	Information Technology	Guru Nanak Dev Engineering College
15	Vimlesh Kumar	1905061	Computer Sc & Engg	Guru Nanak Dev Engineering College
16	Rita	1805441	Computer Sc & Engg	Guru Nanak Dev Engineering College
17	Priyanka Jhamb	1905379	Computer Sc & Engg	Guru Nanak Dev Engineering College
18	Vrishti gupta	1905064	Computer Sc & Engg	Guru Nanak Dev Engineering College
19	Navnit kumar	1905023	Computer Sc & Engg	Guru Nanak Dev Engineering College
20	Palak Thapar	1805975	Computer Sc & Engg	Guru Nanak Dev Engineering College
21	Vikalp Kaushik	1805243	Computer Sc & Engg	Guru Nanak Dev Engineering College
22	Mahin	1805969	Computer Sc & Engg	Guru Nanak Dev Engineering College
23	Sanchit	1805220	Computer Sc & Engg	Guru Nanak Dev Engineering College

24	Nitisha Kumari	20104798	Electronics & Comm Engg	Guru Nanak Dev Engineering College
25	Kumar Abhinav	2004825	Electronics & Comm Engg	Guru Nanak Dev Engineering College

GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA

IT Department

Attendance of Faculty Participants of IT Department

The Workshop on DevOPS Software Architecture

DSA-2021

Sr. No.	Name of Faculty	Designation	25-01-2021	27-01-2021	28-01-2021	29-01-2021
1.	Dr. Kiran Jyoti	Assistant professor and (HoD)	<i>[Signature]</i> 25/1/21	<i>[Signature]</i> 27/1/21	<i>[Signature]</i> 28/1/21	<i>[Signature]</i> 29/1/21
2.	Dr. Akshay Girdhar	Professor	<i>[Signature]</i> 25/1/21	<i>[Signature]</i> 27/1/21	<i>[Signature]</i> 28/1/21	<i>[Signature]</i> 29/1/21
3.	Dr. Kulwinder Singh Mann	Professor	<i>[Signature]</i> 25/1/21	<i>[Signature]</i> 27/1/21	<i>[Signature]</i> 28/1/21	<i>[Signature]</i> 29/1/21
4.	Dr. Manpreet Singh	Assistant professor	<i>[Signature]</i> 25/1/21	<i>[Signature]</i> 27/1/21	<i>[Signature]</i> 28/1/21	<i>[Signature]</i> 29/1/21
5.	Er. Pankaj Bhambri	Assistant professor	<i>[Signature]</i> 25/1/21	<i>[Signature]</i> 27/1/21	<i>[Signature]</i> 28/1/21	<i>[Signature]</i> 29/1/21
6.	Dr. Kamaljit Kaur	Assistant professor	<i>[Signature]</i> 25/1/21	<i>[Signature]</i> 27/1/21	<i>[Signature]</i> 28/1/21	<i>[Signature]</i> 29/1/21
7.	Er. Parminder Kaur Wadhwa	Assistant professor	<i>[Signature]</i> 25/1/21	<i>[Signature]</i> 27/1/21	<i>[Signature]</i> 28/1/21	<i>[Signature]</i> 29/1/21
8.	Er. Harjot Kaur	Assistant professor	<i>[Signature]</i> 25/1/21	<i>[Signature]</i> 27/1/21	X	<i>[Signature]</i> 29/1/21
9.	Er. Harpreet Kaur	Assistant professor	<i>[Signature]</i> 25/1/21	<i>[Signature]</i> 27/1/21	<i>[Signature]</i> 28/1/21	<i>[Signature]</i> 29/1/21
10.	Er. Hanit Karwal	Assistant professor	<i>[Signature]</i> 25/1/21	<i>[Signature]</i> 27/1/21	<i>[Signature]</i> 28/1/21	<i>[Signature]</i> 29/1/21
11.	Er. Jagdeep Singh	Assistant professor	<i>[Signature]</i> 25/1/21	<i>[Signature]</i> 27/1/21	<i>[Signature]</i> 28/1/21	<i>[Signature]</i> 29/1/21
12.	Mr. Amandeep Singh Bhathal	Lab. Superintendent	<i>[Signature]</i> 25/1/21	<i>[Signature]</i> 27/1/21	<i>[Signature]</i> 28/1/21	<i>[Signature]</i> 29/1/21

[Signature]
(Dr. Kamaljit Kaur)
Coordinator, DSA-2021

[Signature]
(Er. Parminder Kaur Wadhwa)
Co-coordinator, DSA-2021

ABOUT GNDEC

Guru Nanak Dev Engineering College, Ludhiana (An Autonomous College under UGC Act), established in 1956, oldest and premier institute of Punjab, is providing education in the field of engineering by comprehending the need for upliftment of rural youth in highly competitive, technologically-elevated society, in particular, and understanding the thirst for knowledge of students and quenching it in general. The College has been declared an Autonomous College by UGC, New Delhi in 2012. This college has the privilege of starting Ph.D. degree under Quality Improvement Programme (QIP) by AICTE, New Delhi. Apart from offering various Accredited graduate level B.Tech. courses vis-a-vis Civil Engineering, Computer Science & Engineering, Electrical Engineering, Electronics & Communication Engineering, Mechanical Engineering, Production Engineering, Information Technology; the institute imparts eleven Postgraduate M.Tech. courses both on regular and part time basis. An excellent platform is provided to the researchers leading to Ph.D. program.

DEPARTMENT OF INFO. TECH.

Department of Information Technology was established in 2001. Since its inception, the department has contributed in a big way to the society by providing technical manpower for various fields in India and abroad. Graduates and post graduates from the department are settled in very good positions all over the Globe. At present, the department is proud to get best merit students in the region. The faculty of the department continues to provide new frontiers of technical knowledge to the students by imparting quality education and research. The UG course is NBA accredited and is keeping pace with the latest developments in engineering education.

OBJECTIVE OF THE WORKSHOP

This workshop is being conducted for the training of the faculty and students through financial assistance from TEQIP-III. The objective of this workshop is to aware the users about the contemporary capabilities of DevOps in the diverse range of applications. DevOps is an increasingly common approach to agile software development that developers and operations teams use to build, test, deploy and monitor applications with speed, quality and control. DevOps is the combination of cultural philosophies, practices, and tools that increases an organization's ability to deliver applications and services at high velocity: evolving and improving products at a faster pace than organizations using traditional software development and infrastructure management processes.

CONTENTS

- Basics of DevOps
- GIT
- GITHUB
- Dockers
- Jenkins

WORKSHOP

Sponsored by

TEQIP-III

On

**DevOps: Software Architecture
(DSA- 2021)**

(25th, 27th to 29th January, 2021)



Organized by

**Department of Information Technology
Guru Nanak Dev Engineering College,
Ludhiana – 141006, Punjab, India
Website: <http://www.gndec.ac.in>**

CHIEF PATRON

Dr. Sehijpal Singh
Principal, GNDEC, Ludhiana

PATRON

Dr. Kiran Jyoti
HOD, Department of IT
GNDEC, Ludhiana

Coordinator

Dr. Kamaljit Kaur, Assistant Prof. (IT)

E-mail: kamaldhillon@gndec.ac.in;

Mobile: +91 9888829422

Co-Coordinator

Er. Parminder Kaur Wadhwa, Assistant Prof.
(IT)

E-mail: parminder_engg@gndec.ac.in;

Mobile: +91 9814611273

RESOURCE PERSON

Resource person is from industry.

Link for Registration (Faculty)

The **faculty members** from IT/CSE/MCA/BCA/ECE/EE/ME/PE of GNDEC, Ludhiana can join this workshop by prior online registration through the following link:-

<https://forms.gle/4nMetHmRPP3odZme9>

Link for Registration (Students)

The **PG students** of GNDEC, Ludhiana can join this workshop by prior online registration through the following link:-

<https://forms.gle/xZd2shBfv141dNWY5>

The **UG students** of GNDEC, Ludhiana can join this workshop by prior online registration through the following link:-

<https://forms.gle/Jp6rm12X1ZhRVqQY7>

GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA

Department of Information Technology

Dated: 07.01.20

No. 11/29/20

Principal,
Guru Nanak Dev Engineering College,
Ludhiana

RJO
You are requested to provide
the amount to be incurred on
this activity.

(Through: Coordinator, TEQIP-III)

Sir,

Subject: Regarding Workshop on DevOps

Approximately Rs 25000/- is required
to conduct this activity

As per the needs of industry: Board of Studies, Dept. of Info. Tech., GNDEC has introduced a new subject titled "DevOps: Software Architecture". This course will be taught as compulsory subject in the 6th Sem. (during Jan-June 2021) to all students of B.Tech. (IT) programme in theory as well as practical modes.

Based on the curriculum of this subject, it is proposed to organize a 12 hours of workshop during 25th, 27th-29th Jan. 2021 in the pattern of 03 hours per day on all 04 mentioned dates. Er. Vipin Gupta, Director U.Net Solutions will deliver various expert talks and hands-on sessions (via online mode only) for the complete coverage of theory and practical contents of this new subject. All Faculty Members of IT Dept. and interested faculty of the CSE Dept. will join this workshop. 8th Semester students of B.Tech.(IT) will also be encouraged to join this workshop. Dr. Kamaljit Kaur and Er. Parminder Kaur Wadhwa will be the coordinator and co-coordinator respectively for this workshop.

You are requested to allow us to organize this workshop with the financial aid of TEQIP-

III.

Allowed.

Sd/-

12.1.2021

Head of Department,

Dept. of Information Technology

CC: Office Copy

Coordinator, TEQIP-III is requested to share the complete terms and conditions for organizing this workshop

Dr. Kamaljit Kaur + Er. Parminder Kaur Wadhwa

21/1/2021