



An e-Governance Newsletter of  
NIC RAJASTHAN



Quarterly Digital Newsletter (From JULY to SEPTEMBER 2022)

## Our Heritage



### Keoladeo National Park

[www.tourism.rajasthan.gov.in/keoladeo-ghana-national-park](http://www.tourism.rajasthan.gov.in/keoladeo-ghana-national-park)

Keoladeo Ghana National Park, also called Bharatpur National Park, is a wildlife sanctuary in eastern Rajasthan, located in South of the ancient city of Bharatpur. It was founded in the late 19th century as a hunting preserve by Suraj Mal, Maharaja of Bharatpur princely state, and became a bird sanctuary in 1956. It was declared as National Park in 1981. It was designated a UNESCO World Heritage site in 1985. It was renamed Keoladeo after the ancient temple in the park dedicated to the lord Shiva. Woodlands, swamps, and wet grasslands cover a large part of the park, which has an area of 29 square kilometers. Keoladeo Park protects more than 360 species of permanent and migratory birds. During the period from October to March, birds from throughout the world are present here. Among those wintering in the park are waterfowl from Afghanistan, Turkmenistan, China, and Siberia, including species such as gadwalls, shovelers, common teals, tufted ducks, pintails, white spoonbills, Asian open-billed storks, oriental ibises, and the rare Siberian crane. The park is also home to a range of mammals and reptiles—including pythons and other snakes, deer, sambars, blackbucks, jackals, monitor lizards, and fishing cats—as well as some 50 species of fish and 25 species of butterflies. The National Park is connected by train and bus route. Nearest Railway Station is Bharatpur, while direct Buses are available from all major cities of Rajasthan, Agra, Mathura and Delhi. Best time to visit is from October to March.

## Events / Happenings

### NIC Rajasthan State Newsletter Launched



NIC Rajasthan state quarterly newsletter, 'RAJNIC' launched by the Director General NIC, Shri Rajesh Gera, on the eve of Digital India Week Celebration at Gandhinagar, Gujarat. Dr. Ranjana Nagpal, DDG & State Coordinator, Rajasthan, Shri Jitendra Kumar Verma, SIO Rajasthan and other senior officers from NIC HQ, States and Districts were present on the occasion. The Newsletter may be access at <https://raj.nic.in>

### NIC Rajasthan at DigiFest 2022



Hon'ble Chief Minister interacting with Shaladarpan Team



Chief Secretary, Rajasthan Smt. Usha Sharma and Commissioner (IT&C), Shri Ashish Gupta interacting with SIO Rajasthan, Shri Jitendra Kumar Verma

Rajasthan DigiFest has been organized by Government of Rajasthan at Birla Auditorium, Jaipur during 19-20 August' 2022 for exhibition of IT projects and startups to the citizens. NIC showcased its projects under guidance of Shri Jitendra Kumar Verma, SIO Rajasthan, in the two days Mega IT event. Hon'ble Chief Minister of Rajasthan, Shri Ashok Gehlot, Chief Secretary Smt. Usha Sharma, Principal Secretary (IT&C) Shri Akhil Arora, Commissioner (IT&C) Shri Ashish Gupta and other senior officials visited IT exhibition and interacted with SIO and other NIC officials at various theme-based dome. NIC State Unit officials and some DIO/ADIO participated in the event.



State eGovernance Award for IFMS conferred by Hon'ble Chief Minister



Team NIC with SIO Rajasthan at DigiFest

## State Coordinator Dr. Ranjna Nagpal Reviewed NIC Rajasthan



A Review meeting was held under the chairmanship of Dr. Ranjna Nagpal, DDG and State Coordinator, Rajasthan through Video Conferencing. She interacted with State and Districts officials and reviewed progress and issues faced in the projects. Welcome address by SIO, Shri Jitendra Kumar Verma, was followed by a detailed presentation of implemented 60+ projects. During the discussion, State Coordinator appraised and provided valuable inputs with technological upgradation wherever required. New initiative of Pool of District officers for development, implementation and assignment of various state projects was point of discussion during the review. Another innovative initiative of assigning a State to every district to study the projects of both the States, so that new projects already developed in allocated State may be consider for replication in Rajasthan. State Coordinator appreciated the work of NIC in Rajasthan and stressed on sharing the projects among the states. She desired replication of Works Accounting and Pehchan Project, in the country. She directed to initiate data analytics work for important projects as huge amount the data is already available & advised all Project leaders to take cyber security issues very seriously and deployment of Software after completion of security audit. Various Project leaders and some district officials has given presentation of their projects.



## Events / Happenings

### NIC Digital Activities in Rajasthan

[View Details](#)



As per direction from State Informatics Officer, Shri Jitendra Kumar Verma, All District Informatics Officers (DIOs) had given Official demo of Presentation on "NIC Rajasthan Digital Activities" to District Collectors on the same pattern as per Presentation given by State Informatics Officer to Chief Secretary, Rajasthan. Most of the NIC district centres, made their Presentation to District Administration and District Level Officers from various departments, during Digital India Week.

### eTrans'2022 - A Zonal Workshop on eTransport Project

Ministry of Road Transport and Highways (MoRTH) and National Informatics Centre (NIC) organized eTrans'22, a two-day zonal workshop on 29th and 30th August 2022 in Udaipur, Rajasthan. Delegates attended the workshop from Transport and Police Departments who discussed and brainstormed on latest achievements and developments in eTransport project and deliberated on how to utilize new technology and business processes to catapult the project to a new level. Over 125 delegates attended the event from 12 States. Workshop started with presentation on Integrated Road Accident Database (iRAD) application, which pertains to establishment of an accurate and uniform road accident database for facilitating easy forecasting & decision making for reduction of number of road accident in India. The informative session on IRAD was followed by an open house session where innovative ideas were exchanged, and valuable feedbacks received from delegates from different states. All these will go a long way to further evolve the services of eTransport in course of time. The workshop ended with a panel discussion 'Way Forward, eTransport Applications', where views were shared by dignitaries and delegates on how to take the eTransport project forward with the help of latest technologies and re-engineering of key processes. Deliberations were also done on how the eTransport applications and processes can be standardized and made uniform across India.



### Birth Registration from Orphanages and Registration Monitoring Mobile App Launched



On 16th National Statistics Day state celebration at Jaipur, Hon'ble Minister Statistics, Rajasthan, Shri Govind Ram Meghwal and Hon'ble Minister of State Statistics, Rajasthan, Shri Ashok Chandna launched two new services developed by NIC Rajasthan. Facility of online birth registration of the orphan child from all orphanages of the state was launched. This will facilitate orphanages to timely register the orphan child for birth registration and download the digitally signed certificate from the Pehchan portal. New feature in Pehchan Mobile App is launched which will enable all Registrars and administrative users to use the Mobile App for monitoring purpose. The facility will be useful for 14,500+ Registrars and Sub Registrars, all District Registrars and all Block officers to monitor the birth, death and marriage registrations through the App. Facilities includes citizens, eMitra and private hospitals applications details with their pendency, registration status and approval of the updation requests. This will ease and speed up the registration process in the state. Pehchan Mobile App is available on Google Play store & Apple Store for citizen's services which includes apply, search & download the birth, death & marriage registrations through the Mobile App. [For Details - https://pehchan.raj.nic.in](https://pehchan.raj.nic.in)

### Inauguration of Remote Court Evidences in SMS Hospital Jaipur through Video Conferencing



Chief Justice of Rajasthan High Court, Shri S. S. Shinde, inaugurated the facility for remote court evidences at SMS Hospital Jaipur. All the District & Session Judges, Judicial Officers, Dr. Sudhir Bhandari (Principal, SMS Medical College) along with Professors and Medical Jurist from Department of Forensic Medicine were present in the event. Being the 1<sup>st</sup> remote VC point, in a hospital setup, nearly 2000 doctors of SMS Medical College & Hospital can depose their evidences in any court of the state, while catering to the patients. This facility will save time and effort of doctors and fasten the judicial proceedings in Medico-Legal cases. By using the portal integrated with the Case Information System (CIS), any court can check the availability and schedule the VC on remote VC Point at SMS hospital & concerned doctor will get a SMS containing the details of VC. Shri Sanjay Sharma, TD NIC, implemented the facility under the guidance of SIO Rajasthan, Shri Jitendra Kumar Verma.

### Draw of Coupons Under Krishak Uphar Yojana

To promote sale of grains and getting e-Payment through National Agriculture Market (E-NAM), Department of Agriculture Marketing intended to conduct Lottery under Krishak Uphar Yojana for farmers spread across several Krishi Upaj Mandis. A Farmer gets one Sale Coupon on sale of every ten thousand and gets one e-Payment coupon on receiving e-Payment of every ten thousand. These coupons are generated through e-NAM portal. On department request, NIC has designed & developed a software to conduct the lottery at Mandi(s)/Division/State level dealing with huge set of data ensuring transparency. NIC Jodhpur, under direction of SIO Rajasthan, developed the software for draw of these coupons. Lottery for coupons is conducted at three different levels viz. Mandi Level, Division Level and State level. Lottery is to be conducted every six months for Mandis and Division level while for state it is to be conducted once in a year. Jodhpur, Udaipur, Kota, Bikaner, Alwar, Ajmer has conducted the lotteries.



### CYBER SECURITY TIP

**Use a VPN to privatize your connections**

*"For a more secure and privatized network, use a virtual private network (VPN). It will encrypt your connection and protect your private information, even from your internet service provider."*

Project of the Quarter – ShalaDarpan (<https://rajshaladarpan.nic.in>)



The State and ground level officers of Education Department uses Integrated ShalaDarpan Portal to view and monitor live status of School Infrastructure/ Enrollment, Academic Performance, Working/vacancy details of Staff & implementation of various Beneficiary schemes in all Government schools. This covers all 66 thousands government schools with online information of 95+ Lac Students, 4.3+ Lac Teachers/Staff. ShalaDarpan is designed on unique concept that primarily focus on “What Govt. Needs”, identify & capture core data and after verification, process application module is designed and implemented in Agile approach to automate incremental values of Core data items along with usage of this dataset only in different applications of the department. The Integrated ShalaDarpan data helps the education department to face significant challenges such as pupil-teacher ratio, absentees, vacancies, low enrollment, inadequate infrastructure etc. In short, ShalaDarpan now become a unique, centralized tool engrained in the School Education Department’s DNA, which is driving Rajasthan towards the Digital Age. Every school has to access this system on daily basis for all activities. “Integrated ShalaDarpan” has been widely appreciated by various states as well as the Secretary MHRD, Government of India due to its ability to measure, monitor and steer decision-making effectively on the ground level. ShalaDarpan received CSI SIG e-Governance Award-2019, State e-Governance Award-2018 and SKOCH Order-of-Merit Certificate-2018.

Classification of Activities in Shaladarpan as – Student related, Staff related and School related.

Student	Staff	School (Others)
<ul style="list-style-type: none"> <li>Admission Management (SR Register, Roll No. Allotment, Stream-Subject Mapping)</li> <li>Exit Control (TC / NSO)</li> <li>OOSC Tracking and Drop Out Monitoring</li> <li>Assessment Management (Result Preparation and Green Sheet Generation)</li> <li>Automated Scholarship and Beneficiary Schemes Management</li> <li>Attendance Tracking System</li> <li>Distribution Management of Free Text Book and Work Books</li> <li>Transport Voucher Management</li> <li>Certification Services – Studying, Character, Promotion</li> <li>ShalaSamvad - an interface between Student and Teacher</li> <li>NMMS (Merit Cum Means)</li> <li>School/Staff Search</li> </ul>	<ul style="list-style-type: none"> <li>Staff Management (New Posting/ Counseling / Joining / Relieving)</li> <li>Leave &amp; Attendance Management</li> <li>Apply &amp; track for - Pay Fixation, NOC for Foreign Tour / Competitive Exams, Transfer, Deputation etc.</li> <li>Online APR/ACR</li> <li>Service Management</li> <li>Teacher Appraisal Format–TAF, Application and Dash-Board</li> <li>Posting Management System</li> <li>Deputation Management</li> <li>SAMBALAN App for School Visit</li> <li>Teacher Award - Application and generation of all level selection List</li> <li>Teacher’s Training Management</li> <li>School Level- Work In-charge</li> </ul>	<ul style="list-style-type: none"> <li>School Star Rating- Annual</li> <li>Monthly District / Block Ranking</li> <li>State Board Exam Management (ERP for 5th &amp; 8th Exams)</li> <li>Great School Award</li> <li>School Allotment for Teachers Trainee Internship</li> <li>KGBV (Hostel) Management</li> <li>Vocational Education Tracking</li> <li>System for Funds Management</li> <li>Govt. Girls Schemes Monitoring</li> <li>SMSA Schemes Monitoring File Tracking System (Web &amp; App)</li> <li>Civil Works Monitoring</li> <li>PEEO MPR and Civil MPR</li> <li>D.El.Ed. Exam Management System</li> <li>Report Grievance &amp; Track</li> </ul>

Awards/Accolades



Shri I.D. Variyani, STD, NIC Rajasthan, has been conferred **State eGovernance Award** by Hon’ble Chief Minister and **Statistics Award** by Hon’ble Ministers for Integrated Financial Management System (IFMS) of finance department, Government of Rajasthan.



Shri Laxman Singh Chaudhary, DIO, NIC Churu has been awarded Appreciation Certificate for his technical support in Khelo India Scheme on Independence Day’ 2022 by Shri Brijendra Singh Ola, Hon’ble Minister of State for Transport and Road Safety.



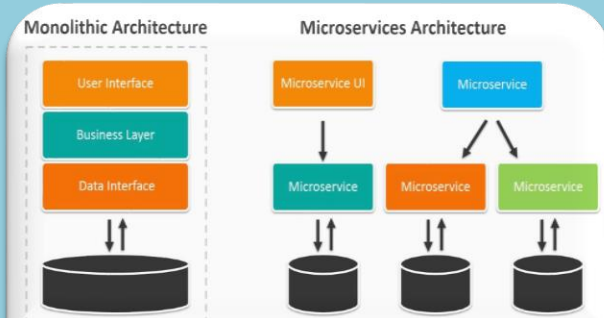
Shri Chandresh Kumar, ADIO, NIC Jaisalmer awarded for his efforts in the development of portals for District Administration Jaisalmer on Independence Day’ 2022 by Shri Shale Mohammad, Hon’ble Minister of Minority Affairs and Colonization.

## Technology Talk on Basic Concepts of MICROSERVICES

**Microservices** is an architectural style that develops an application as a collection of small independent service units. The Microservices architecture breaks the applications into smaller and independent components or services of which each service is for a unique process and communicates with other services through well-defined and lightweight mechanism to serve a business goal. The core principle of Microservices architecture is having an application with the features like agility, scalability, availability that enable the rapid, frequent and reliable delivery of large and complex applications. **Why the need to go for Microservices?** Before Microservices, Monolithic architecture was used which is a traditional architectural style and suitable for small applications. Although, it is simple and easy to develop, test and deploy small applications with horizontal scaling, but over the time, it will be growing large and complex by additional requirements and data. Drawbacks and limitations in Monolithic architecture includes - Single point of failure, Issues with Continuous delivery, Individual updation due to tight coupling of modules, Existing technology stack is fixed for a long time and the new emerging tools cannot be used easily. **The Microservices architecture** has many advanced features and benefits to overcome these drawbacks of the Monolithic architecture. It facilitates independent deployment, loose coupling, complexity handling, continuous integration with delivery of frequent changes, independent scaling, better fault management with each service may use different emerging technology, database and design tools.

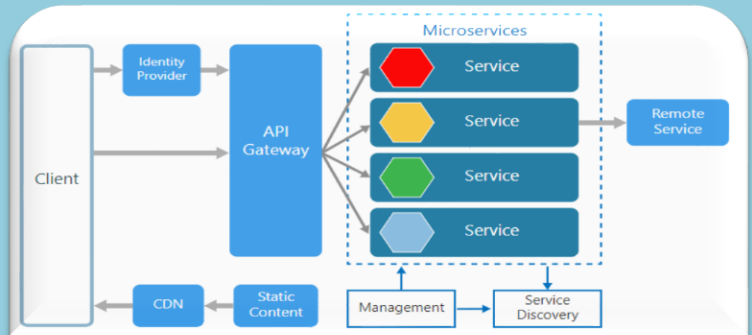


Kamal Nayan Pandiya  
DIO & Scientist D,  
Pratapgarh



**Some limitations and challenges in Microservices** applications are failure of communication between services, system complexity in integrated services and due to increasing number of Microservices, network latency, load balancing and security issues in implementation. Legacy culture, coordination between different teams, data sharing, data consistency, training, monitoring and management are other challenges. These drawbacks may overcome by using latest technology tools and frameworks like API gateway, virtualization, containerization, multiple technologies and tools, systematic testing approaches, proper logging & monitoring with management of data sharing model and services. Moreover, top management needs to be convinced for benefits of new architecture, incremental adoption, self-organized teams and utilize PaaS. **The API gateway** is the single entry-point and handles all the client requests for various Microservices. It accepts API calls from the client & other services and forward it to the appropriate service. It also authenticates user access and validates requests with security measures like access tokens, JWT etc.

The communication between two Microservices uses synchronous/asynchronous protocol, HTTP/REST, AMQP and message formats. The Microservices architecture is extremely using the cloud infrastructure and virtualization. The containers support virtualization, use lightweight images and require a container layer. The application execution is faster in containers that are smaller, faster, lighter and portable. Most of Microservices use docker for container management, to build image and run the application. The docker supports integration, testing and quality assurance. The testing automation for Microservices included - a systematic approach with unit testing, integration testing, contract testing, functional testing etc. In Microservices, **the Circuit Breaker pattern** prevents an application from performing an operation that is likely to fail, Service discovery is a way to locate the distributed Microservices and ELK stack ensures proper logging and monitoring.



**When to use Microservices?** When the application is growing large and complex, matured and suitable for migration, require scalability, require 100% availability with avoiding downtime, require different new technology and tools, then the Microservices is the better choice. Migration from the existing architecture to Microservices require Strangler pattern with the proper selection of technology and tools. Many companies like Amazon, Uber, Netflix and eBay has taken the architecture benefits of Microservices. The Amazon Web services, Microsoft Azure and Open stack provides Cloud Infrastructure for Microservices. The future emerging trends for Microservices are in the sector of IoT, AI, Blockchain. Digital transformation and Conversational UI.

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### Journey of NIC Officers



#### SHRI BADAL AGRAWAL DIO & Scientist 'D' NIC-Rajasthan (Sep-1999 to Aug-2022)

- Joined NIC on 25/09/1999 at NIC Farrukhabad District Centre, UP.
- Retired on 31/08/2022 From Jhalawar District Centre, Rajasthan.
- Academics: B.Sc., MSc (I.T).
- Established NIC-Jhalawar in New Mini Sachivalaya with IT equipment and VC Facilities.
- Technical Support to District Administration with coordination and management
- Award and Appreciation includes - CSI Nihilent Award of Appreciation under district category, Appreciation for role in e-Gyankendra Project by Hon'ble Chief Minister of Rajasthan.

#### Other major Contributions:

- Software Development of various Websites including District Website, Implementation of all the Central, State and District Level NIC Projects with major focus on Land Records, DILRMP, NDAL-ALIS, Election Management System, Census etc.
- IT Skills upgradation through Vidyakosh Courses, GudApps and Online Training.
- Coordination during VVIP Visits with establishment of IT Infrastructure.

NIC is the best government IT organization of India and I feel very proud in serving NIC during my tenure of nearly 23 Years. Along with learning new technologies and IT skills, it gave me an immense pleasure to work with my colleagues as a part of NIC family. I wish all the best to NIC.

~ Badal Agrawal

