INFOSOFT IT SOLUTIONS

Training | Projects | Placements

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IBM CLOUD PAK FOR APPILICATIONS TRAINING

- **Introduction to Cloud Native Development**:
  - Understanding the principles of cloud-native development.
  - Introduction to microservices architecture.
  - Containerization and orchestration concepts (e.g., Docker, Kubernetes).
- **Overview of IBM Cloud Pak for Applications**:
  - Understanding the features and components of IBM Cloud Pak for Applications.
  - Exploring the value proposition of IBM Cloud Pak for Applications in modern application development.
- **Installation and Configuration**:
  - Installing and configuring IBM Cloud Pak for Applications.
  - Setting up development environments.
- **Application Modernization**:
  - Strategies for modernizing existing applications for cloud-native environments.
  - Refactoring monolithic applications into microservices.
  - Implementing cloud-native design patterns.

- **Containerization and Orchestration**:
    - Deep dive into containerization technologies like Docker.
    - Introduction to Kubernetes and its role in container orchestration.
    - Hands-on experience with deploying and managing applications using Kubernetes.

- **DevOps Practices**:
    - Introduction to DevOps principles and practices.
    - Implementing CI/CD pipelines for cloud-native applications.
    - Automated testing, deployment, and monitoring.

- **Integration and APIs**:
    - Overview of API management and integration capabilities in IBM Cloud Pak for Applications.
    - Designing, developing, and managing APIs.
    - Integration with external systems and services.

- **Security and Governance**:
    - Understanding security challenges in cloud-native environments.
    - Implementing security best practices in application development and deployment.
    - Governance and compliance considerations.

- **Monitoring and Management**:
    - Monitoring application performance and health in a cloud-native environment.
    - Implementing logging, tracing, and metrics collection.
    - Troubleshooting common issues.

- **Advanced Microservices Architecture**:
    - Advanced concepts and principles of microservices architecture.
    - Service mesh architecture and implementation (e.g., Istio).
    - Microservices communication patterns (e.g., synchronous vs. asynchronous communication).
- **Advanced Containerization and Orchestration**:
    - Advanced Docker concepts (e.g., multi-stage builds, Docker networking).
    - Kubernetes advanced features (e.g., StatefulSets, DaemonSets).
    - Advanced deployment strategies (e.g., canary deployments, blue-green deployments).
- **Cloud-Native Data Management**:
    - Introduction to cloud-native databases (e.g., CockroachDB, TiDB).
    - Data consistency and durability in distributed systems.
    - Implementing data caching and replication strategies.
- **Advanced DevOps Practices**:
    - Infrastructure as Code (IaC) with tools like Terraform.
    - GitOps principles and practices.
    - Advanced CI/CD pipeline configurations and optimizations.
- **Advanced Integration and APIs**:
    - Event-driven architecture and messaging systems (e.g., Kafka, RabbitMQ).
    - Implementing asynchronous communication using messaging queues.
    - Advanced API security and authorization mechanisms.

- **Advanced Security and Governance**:
    - Zero-trust security model for cloud-native applications.
    - Implementing security policies and controls using Kubernetes RBAC.
    - Compliance automation and auditing.

- **Advanced Monitoring and Observability**:
    - Distributed tracing for microservices architectures (e.g., Jaeger, Zipkin).
    - Log aggregation and analysis with tools like ELK stack (Elasticsearch, Logstash, Kibana).
    - Advanced metrics collection and analysis for performance optimization.

- **Advanced Application Lifecycle Management**:
    - Canary analysis and automated canary deployments.
    - Progressive delivery techniques (e.g., feature flags, A/B testing).
    - Continuous testing strategies for cloud-native applications.

- **Hybrid and Multi-Cloud Deployments**:
    - Strategies for deploying applications across multiple cloud providers.
    - Implementing hybrid cloud architectures with IBM Cloud Pak for Applications.
    - Challenges and best practices for managing multi-cloud environments.

- **Advanced Case Studies and Workshops**:
    - In-depth case studies of complex cloud-native application deployments.
    - Hands-on workshops covering advanced topics and scenarios.
    - Group projects to apply advanced concepts in real-world scenarios.