

INFOSOFT IT SOLUTIONS

Training | Projects | Placements

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AWS KINESIS

Introduction to AWS Kinesis

- Overview of AWS Kinesis
- Use cases and benefits
- Key components (Streams, Firehose, Analytics, Video Streams)

Kinesis Data Streams

- Setting up Data Streams
- Data producers and consumers
- Data retention and shard management
- Scaling and partitioning data

Kinesis Data Firehose

- Overview and architecture
- Configuring delivery streams
- Data transformation and compression
- Integration with AWS services (S3, Redshift, Elasticsearch)

Kinesis Data Analytics

- Introduction to real-time analytics
- SQL for Kinesis Data Analytics
- Creating and managing applications
- Analyzing streaming data in real-time

Kinesis Video Streams

- Introduction to video streams
- Setting up and managing video streams
- Integrating with AWS AI/ML services
- Use cases (surveillance, machine learning)

Security and Monitoring

- Access control and encryption
- Monitoring Kinesis with CloudWatch
- Logging and auditing

Deep Dive into Kinesis Architecture

- In-depth understanding of data streams architecture
- Shard management and scaling strategies
- Partition key design for optimal performance

Advanced Data Streams Configuration

- Custom data producers and consumers
- Enhanced fan-out and HTTP/2
- Using the Kinesis Client Library (KCL)

Optimizing Kinesis Data Firehose

- Custom transformations with AWS Lambda
- Error handling and data backup strategies
- Integrating with third-party services and analytics platforms

Advanced Kinesis Data Analytics

- Complex stream processing with Apache Flink
- Windowing functions and event time processing
- Building custom applications with the Kinesis Data Analytics SDK
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Kinesis Video Streams Advanced Topics

- Advanced configurations and streaming protocols
- Integrating with Amazon Rekognition and SageMaker
- Handling large-scale video processing

Security and Compliance

- Advanced encryption mechanisms (server-side and client-side)
- Fine-grained access control with IAM policies
- Best practices for compliance and data privacy

Performance Tuning and Optimization

- Throughput management and scaling best practices
- Latency optimization techniques
- Cost management and budgeting