



Case Study

AWS Cloud Infrastructure Deployment for Vision IAS: Real-Time WebRTC and HLS Streaming Using AWS Elemental MediaLive

At a Glance

Vision IAS, a leading EdTech platform, partnered with AWS to build a secure, low-latency and scalable cloud-native architecture for delivering online learning content. By combining Amazon CloudFront, Lambda@Edge, Cognito and WAF, the platform now ensures authenticated, high-performance streaming while protecting backend systems from modern web threats.

Outcomes

- Secure access control with JWT-based authentication.
- Low-latency, seamless user experience across India.
- Protection against DDoS, SQL injection, XSS and bot attacks.
- Resilient, autoscaling infrastructure to handle traffic spikes.
- Centralized monitoring and governance for compliance.

The Client

Vision IAS is an EdTech platform that helps thousands of aspirants preparing for competitive examinations across India. With a rapidly expanding digital presence, Vision IAS needed to

ensure secure access to study material and mock tests while providing students with continuous, low-latency experiences during peak demand periods.

The Challenge

As its student base expanded, Vision IAS faced multiple hurdles:

- Ensuring only authenticated students could access protected study material.
- Preventing unauthorized direct access to backend systems.
- Delivering low-latency content consistently during peak exam seasons.
- Defending against sophisticated threats such as DDoS attacks, SQL injection, cross-site scripting (XSS) and bot traffic.
- Maintaining high availability, scalability and compliance while minimizing operational overhead

The Solution

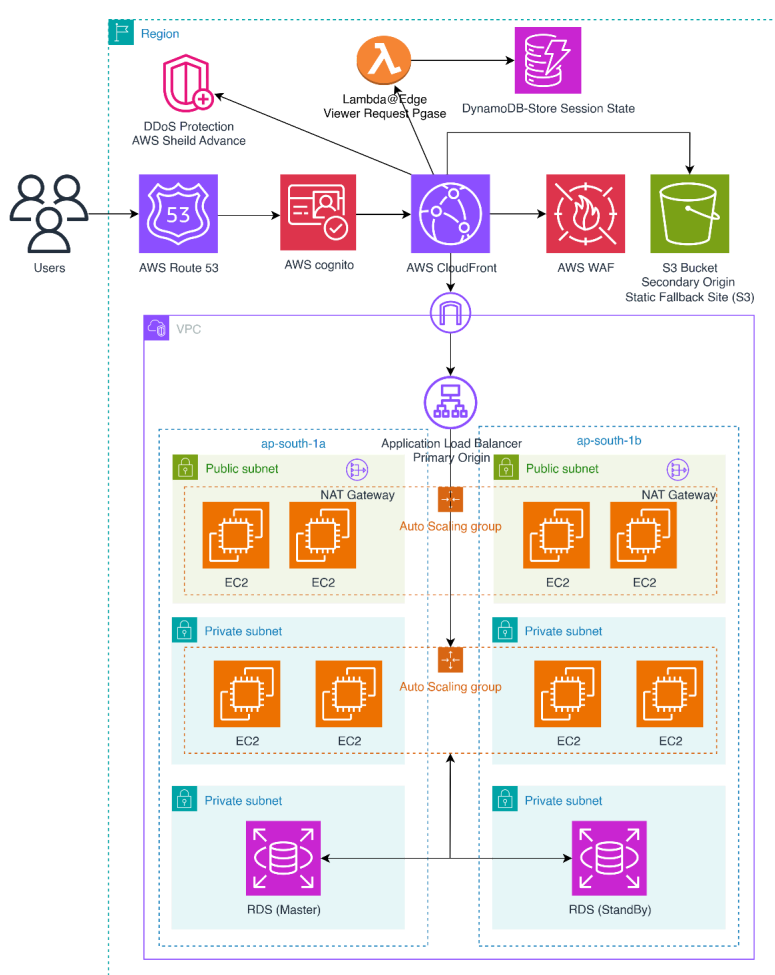
To meet these challenges, Vision IAS adopted a secure and scalable AWS-powered architecture.

Amazon Cognito was deployed to manage user authentication and JWT-session. **AWS Lambda@Edge** functions with **Amazon CloudFront** were integrated to validate JWT tokens at the edge which ensure that only authenticated requests reached the application. CloudFront served as the CDN (content delivery network) to improve performance with edge caching and providing built-in DDoS protection.

Application Load Balancer (ALB) was configured to route authenticated traffic to backend EC2 instances running the core application. To enhance security, **AWS WAF** was deployed with both managed and custom rules, including geo-blocking and bot control.

Finally, centralized monitoring and governance were achieved using **Amazon CloudWatch** for performance metrics and **AWS CloudTrail** for auditing and compliance.

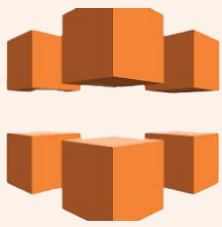
Architectural Diagram



Results and Benefits

- **Secure Access Control:** JWT validation at the edge ensures only authorized students access protected content.
- **Improved Performance:** CloudFront edge caching reduces latency and improves user experience nationwide.
- **Resilient Infrastructure:** Autoscaling of CloudFront, Lambda@Edge and EC2 manages peak exam traffic seamlessly.
- **Advanced Threat Protection:** WAF with managed and custom rules protects against DDoS, XSS, SQL injection and bots.
- **Compliance and Governance:** CloudWatch and CloudTrail provide visibility, monitoring, and audit trails.
- **Cost Efficiency:** Pay-as-you-go pricing optimizes infrastructure spend while maintaining enterprise-grade reliability.

AWS Services Used



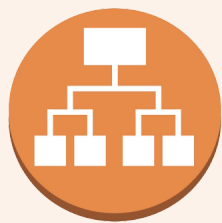
**Amazon
CloudFront**



**AWS
Lambda@Edge**



**Amazon
Cognito**



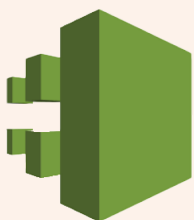
**Application
Load Balancer (ALB)**



AWS WAF



**Amazon
CloudWatch**



**AWS
CloudTrail**

Conclusion

Vision IAS implemented Lambda@Edge, Cognito, ALB and Amazon CloudFront to ensure its digital learning platform's content delivery is safe, scalable and robust. The technique provides thousands of students with a smooth, low-latency experience while safeguarding backend infrastructure. This solution illustrates how AWS services may be utilized to create a scalable, secure learning platform suited for the future.

About Us



Years of Exp

15+



Data Center

10+



Awards

100+

AceCloud is a leading provider of end-to-end cloud computing solutions to global organizations across industries at scale. It offers a full spectrum of cloud services, including Public Cloud, Application Hosting, AWS Services, Managed Security Services, and Hosted Virtual Desktop Solutions.

AceCloud is a brand of Real Time Data Services (RTDS) group of companies – a leading provider of information technology capabilities specializing in Cloud Computing and Cloud Telephony. RTDS Group has an employee base of 600+ across India, the US, and the UK, supporting over 20,000+ customers and IT infrastructure in 10+ data centers spanning the globe. It offers industry-leading technological solutions that help customers streamline their operations and enhance efficiency.

As an advanced consulting and certified AWS Well-Architected Partner, AceCloud recently achieved the prestigious AWS Storage Competency and is also recognized as an Amazon RDS Service Delivery Partner. These achievements underscore its deep expertise in AWS technologies and commitment to delivering high-quality cloud solutions.



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