Workforce Document Verification and Compliance Portal

© Objective:

To build a secure, scalable, and automated document verification system for managing workforce compliance. The system enables seamless document upload, verification, and compliance tracking — using serverless architecture powered by AWS.

Key Features:

- User Uploads: Workforce members upload documents through a frontend portal.
- **Document Validation**: Serverless backend (Lambda) checks file types and names.
- Compliance Workflow: Documents are stored and validated to meet compliance requirements.
- Notification System: (Optional extension) Notifications via SNS or email.
- Security & Monitoring: Logs, access roles, and budget monitoring.

AWS Services Used:

Service	Purpose
Amazon S3	Secure document storage
AWS Lambda	Backend logic (Python)
Amazon EC2	Local Lambda testing & Docker
Amazon CloudWatch	Logs & budget alerts
AWS IAM	Secure access roles
AWS Macie	Optional: Sensitive data classification
Docker	Local containerized Lambda simulation

Lambda Functions (Python):

- 1. **generate_presigned_url.py** Generates a secure URL for file upload to S3.
- 2. validate_uploaded_documents.py Validates document names and types.
- 3. **session manager.py** Manages temporary sessions/tokens if needed.

IAM Role JSON Policies:

- lambda_basic_execution_role.json: Grants Lambda permission to log and access S3.
- s3_full_access_role.json: (For admin) Grants full S3 access for testing and debugging.

Project Flow:

- 1. User logs in
- 2. User selects/upload document
- 3. generate presigned url.py sends URL
- 4. Upload happens directly to S3
- 5. validate uploaded documents.py is triggered (optional: S3 trigger or API call)
- 6. Document is accepted/rejected
- 7. Logs and usage tracked in CloudWatch

Estimated AWS Cost:

Resource	Usage	Monthly Estimate
S3	~1GB Storage, Low API	₹0.10 INR
Lambda	~1M Invocations	₹18 INR
CloudWatch	Basic Logs	₹2-3 INR
EC2 (t2. micro – testing only)	<30 hrs	₹140 INR
Macie	Optional, per GB scanned	Varies
Total	~ ₹160 INR / month (approx)	

Testing Scenarios:

- Upload a valid .pdf with correct naming \rightarrow Should succeed.
- Upload .exe file → Should be rejected.
- Rename file incorrectly → Should fail validation. Multiple valid uploads → Processed individually.
- S3 file visible after upload.
- Logs generated in CloudWatch.