SECURE BY DESIGN

CASE STUDY | ASSESSMENT 3
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CURANEXUS: SECURE-BY-DESIGN WEB APPLICATION

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1. REQUEST PHASE (Input Security)

- MFA (NIST 800-63B)
- Parameteraized SQL
- Field validation
- Wildcard escaping
- CSRF protection

2. RETRIEVE PHASE (Database Security)

- AES-256-GCM encyption
- Least-privelige service accounts
- TLS 1.3 in transit
- SHA-256integrity checks

3. REVIEW PHASE (Access Control

- RBAC (3 roles)
- JWT RSA-2028
- 20-min session timeout
- JML lifecycle

4. KEY SECURITY METRICS

DREAD Score: 7.0/10
Risk: Insider Exflitration
Mitigations:

- Immutable audit logs
- SIEM real-time alerts
- 12-month retention
- AWS 3 encrypted backups

STANDARDS: ISO 27001, NIST 800-63B, OWASP ASVS
ARCHITECTURE: Django + PostesSQL+ AWS KMS

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