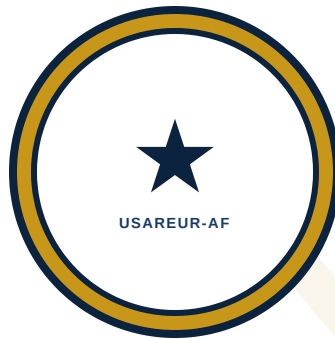


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COURSE SYLLABUS

SL 50



COURSE SYLLABUS — SL 50: ADVANCED PLATFORM ENGINEER

Maven Smart System (MSS) — USAREUR-AF

HEADQUARTERS
UNITED STATES ARMY EUROPE AND AFRICA
(USAREUR-AF)
Wiesbaden, Germany

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26 MARCH 2026

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COURSE SYLLABUS — SL 50: ADVANCED PLATFORM ENGINEER

MAVEN SMART SYSTEM (MSS) — USAREUR-AF

Field	Detail
Level	SL 50 — Advanced Platform Engineer Specialist Track
Duration	3 days (24 hours)
Prerequisites	SL 40 (Go evaluation on file — REQUIRED); demonstrated operational experience managing MSS infrastructure
Audience	Experienced platform engineers leading infrastructure at fleet scale on MSS
Format	Instructor-led seminar + lab + practical exercise
Location	MSS Training Environment (Multi-cluster access required; fleet management tooling)

BLUF: SL 50 extends SL 40 from single-cluster operations to fleet management — multi-cluster lifecycle management, platform reliability engineering (SLOs/SLIs/error budgets), RMF/ATO compliance automation, and developer experience engineering. SL 50 is for platform engineers who design the systems that manage systems, not just operate individual clusters.

LEARNING OBJECTIVES

#	Objective
1	Design a fleet topology for MSS spanning hub and edge clusters across multiple regions and classification levels
2	Implement a fleet-wide upgrade strategy with wave-based rollout, canary validation, and automated rollback
3	Define SLOs and SLIs for MSS platform services with error budgets and budget-based decision policies

#	Objective
4	Execute a blameless post-incident review following the detect-triage-mitigate-resolve-review-improve framework
5	Build an automated compliance pipeline that generates RMF evidence from live system data — scan results, configuration baselines, access logs
6	Implement STIG automation using policy-as-code with pass/fail/exception reporting
7	Design a golden path for MSS application onboarding that takes a new project from template to deployed application in <90 minutes
8	Configure federated observability across multiple clusters with cross-cluster correlation and SLO-based alerting

PRE-COURSE CHECKLIST

Complete **5+ duty days before Day 1**:

- Read TM-500, Chapter 2 (Multi-Cluster Fleet Management) — fleet topology and upgrade strategy
- Read TM-500, Chapter 3 (Platform Reliability Engineering) — SLO framework and error budgets
- Review your SL 4O operational experience: identify incidents, scaling challenges, or compliance gaps that fleet-level tooling would have addressed

DAILY SCHEDULE

Day 1 — Fleet Management and Reliability Engineering

Time	Block	Method	Content
0800–0900	1	Seminar	From cluster ops to fleet management: the scale shift; fleet topology models; Cluster API
0900–1100	2	Lab	Fleet provisioning: define cluster templates; provision a multi-cluster fleet declaratively
1100–1115	—	Break	

Time	Block	Method	Content
1115–1200	3	Lab	Fleet-wide upgrades: implement wave-based rollout with canary validation
1200–1300	—	Lunch	
1300–1500	4	Seminar + Lab	SRE fundamentals: SLOs, SLIs, error budgets; define SLOs for MSS platform services
1500–1515	—	Break	
1515–1700	5	Lab	Incident management: tabletop exercise — walk through a platform incident using the detect-through-improve framework

Day 2 — Compliance Automation and Developer Experience

Time	Block	Method	Content
0800–0830	—	Review	Day 1 questions; SLO checkpoint — confirm all trainees have defined SLOs with error budgets
0830–1030	6	Seminar + Lab	RMF/ATO automation: continuous compliance monitoring; automated evidence generation; evidence API
1030–1045	—	Break	
1045–1200	7	Lab	STIG automation: implement policy-as-code STIG checks; build compliance dashboard with pass/fail/exception
1200–1300	—	Lunch	
1300–1500	8	Seminar + Lab	Developer experience engineering: golden paths, self-service portals, DORA metrics
1500–1515	—	Break	
1515–1700	9	Lab	Build a golden path: create an application onboarding template with pre-configured CI/CD, monitoring, and security

Day 3 — Observability, Cross-Domain, and Capstone

Time	Block	Method	Content
0800–0900	10	Seminar	Fleet-scale observability: federated metrics, centralized logging, distributed tracing, alert philosophy at scale
0900–1100	11	Lab	Federated monitoring: configure cross-cluster metric federation and SLO-based alerting
1100–1115	—	Break	
1115–1200	12	Seminar	Cross-domain infrastructure: multi-classification cluster management, data diode integration, cross-domain replication
1200–1300	—	Lunch	
1300–1500	13	Exercise	EX_500 Capstone: Design and implement a fleet management solution: topology, upgrade strategy, SLOs, compliance pipeline, and observability
1500–1515	—	Break	
1515–1630	14	Presentation	Capstone presentations and peer review
1630–1700	15	Evaluation	Post-test (EXAM_TM500_POST); course evaluation