Master Class: Designing and Implementing Cloud Native Applications using Microsoft Azure (DICNMA)

ID DICNMA **Preis** CHF 2'690.– (exkl. MwSt.) **Dauer** 4 Tage

Zielgruppe

- Azure Developers, die Distributed und Event-Driven Applications bauen
- Software Architects, die Microservices auf Azure entwerfen

Voraussetzungen

- Erfahrung mit C# und .NET
- Azure Development auf dem Niveau von AI-200 (früher AZ-204)
- Docker Desktop
- Eine Azure Subscription
- Ein GitHub Account

Kursinhalt

Modul 1: Event-Driven Distributed Systems entwerfen

- Modular Monolith vs. Microservices
- Sync vs. Async: Commands & Events
- Event Storming: Service-Grenzen finden
- Event Types: Domain, Integration, CloudEvents
- Reliability Patterns: Outbox, Saga, Idempotency
- Azure Messaging: den Broker wählen

Modul 2: Distributed Apps mit Aspire bauen

- Aspire AppHost: das System modellieren
- ServiceDefaults: Telemetry, Resilience, Discovery
- Aspire Integrations: Hosting & Client
- Aspire Dashboard: Traces über Services hinweg
- Polyglot AppHost: Angular & Python
- Aspire Testing: Distributed Integration Tests

Modul 3: Hosting auf Container Apps & AKS

- Aspire Deploy: ACR & Container Apps
- Key Vault & App Configuration
- Revisions: Traffic Splitting & Draining
- AKS: von Aspire generierte Kubernetes Manifests
- Application Insights: Traces & KQL

Modul 4: Reliable Messaging mit Service Bus

- Topic Subscriptions: SQL Filters
- Azure Functions: Service Bus Triggers
- Competing Consumers: KEDA Scale Rules
- Sessions: Messages in Reihenfolge verarbeiten
- Dead-Letter Queues: Poison Messages
- Idempotent Consumers: Duplicate Detection

Modul 5: Events & Streams mit Event Grid & Event Hubs

- Event Grid: Custom Topics & Subscriptions
- Event Grid: Filters, Retries, Dead-Letter
- Event Grid Namespaces: Pull Delivery
- Event Hubs: Partitions & Checkpoints
- Event Hubs: Kafka-Compatible Streaming
- SignalR Service: Push an Browser

Modul 6: Event Sourcing & CQRS mit Cosmos DB

- Transactional Outbox: atomar publizieren
- Change Feed Processor: Projections
- CQRS: Schreiben und Lesen trennen
- Read Models: Indexing, RUs, Consistency
- Managed Redis: Change-Feed Cache Invalidation
- Event Store: Aggregates & Snapshots
- Event Versioning: Schemas sicher weiterentwickeln

Modul 7: Dapr Building Blocks für Portable Services

- Dapr Sidecar: mit Aspire betreiben
- Service Invocation: mTLS & Retries
- State Stores: ETags & Concurrency
- Pub/Sub: Broker per Component tauschen
- Resiliency Policies: Retries & Breakers
- Dapr Actors: Virtual Actor Model
- Managed Dapr: Container Apps vs. AKS

Modul 8: Durable Execution, Workflows & Sagas

- Durable Execution: Replay & Determinism
- Durable Task Scheduler: Managed Backend
- Durable Functions: Orchestrations & Entities
- Durable Timers: External Events & Approvals
- Durable Task SDK: KEDA-skalierte Worker

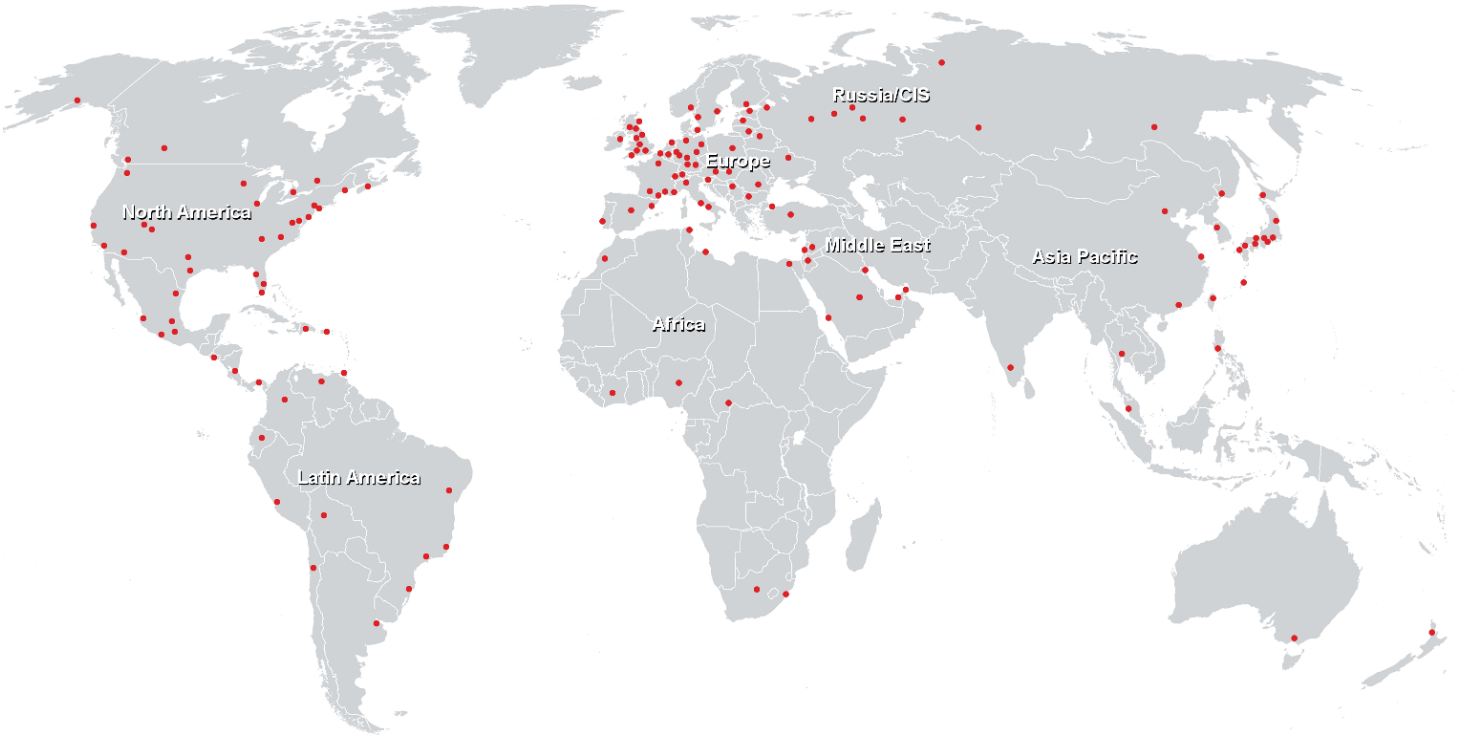
- Dapr Workflow: Portable Orchestrations
- Saga Orchestration: Compensating Activities

Modul 9: AI Agents in Event-Driven Systems

- Microsoft.Extensions.AI: Foundry Model Client
- Agent Subscribers: auf Events reagieren
- LLM Calls: Durable Activities
- Rate Limits: Priority Queues & KEDA
- Vector Search: Change Feed Embeddings
- Agent Choreography: Events vs. A2A

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Weltweite Trainingscenter





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