AZ-204 Study Plan: June 25 - July 15, 2025

Intensive 3-Week Preparation Schedule

Overview

- **Start Date**: Wednesday, June 25, 2025
- **Exam Target**: Tuesday, July 15, 2025
- **Duration**: 21 days
- **Study Hours**: 3-4 hours daily (63-84 total hours)
- **Strategy**: High-intensity, hands-on focused preparation

Week 1: Foundation & Core Services (June 25 - July 1)

Day 1 - Wednesday, June 25: Setup & Azure Fundamentals

Morning (2 hours): Environment Setup

- Set up Azure free account/subscription
- Install Visual Studio Code + Azure extensions
- Install Azure CLI and PowerShell modules
- Set up development environment

Evening (2 hours): Azure Basics Review

- Azure portal navigation
- Resource groups and ARM templates
- Azure regions and availability zones
- **Lab**: Create resource group and basic App Service

Study Resources:

- Microsoft Learn: "Azure Fundamentals"
- Azure CLI quick reference guide

Day 2 - Thursday, June 26: Azure App Service Deep Dive

Morning (2 hours): App Service Fundamentals

- App Service plans and pricing tiers
- Web Apps vs API Apps vs Function Apps

- Deployment slots and staging
- Configuration settings and connection strings

Evening (2 hours): Hands-On Practice

- **Lab**: Deploy web app from GitHub
- **Lab**: Configure deployment slots and swap
- **Lab**: Set up custom domain and SSL
- Practice auto-scaling configuration

Key Code to Practice:

```csharp
// App Service deployment with ARM template
// Auto-scaling rules configuration
// Deployment slot management
```

Day 3 - Friday, June 27: Azure Functions Mastery

Morning (2 hours): Serverless Computing

- Function triggers and bindings
- Durable Functions patterns
- Function runtime versions
- Consumption vs Premium vs Dedicated plans

Evening (2 hours): Function Development

- **Lab**: HTTP-triggered function with input/output bindings
- **Lab**: Timer-triggered function for scheduled tasks
- **Lab**: Blob-triggered function for file processing
- **Lab**: Create Durable Function workflow

Focus Areas:

- All trigger types (HTTP, Timer, Blob, Queue, Event Grid)
- Function.json configuration
- Dependency injection in functions

Day 4 - Saturday, June 28: Containers & Kubernetes

Morning (2 hours): Container Services

- Azure Container Instances (ACI)
- Azure Container Registry (ACR)
- Docker fundamentals review
- Container groups and networking

Evening (2 hours): Azure Kubernetes Service

- **Lab**: Create AKS cluster
- **Lab**: Deploy multi-container application
- Pod scaling and node management
- Ingress controllers and services

Weekend Focus: Extra practice time available for complex concepts

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Day 5 - Sunday, June 29: Storage Services Foundation

Morning (2 hours): Blob Storage

- Storage account types and tiers
- Blob types (Block, Append, Page)
- Access tiers and lifecycle management
- SAS tokens and access control

Evening (2 hours): Advanced Storage

- **Lab**: Programmatic blob operations
- **Lab**: Configure blob lifecycle policies
- Azure Files and Table Storage
- Storage security best practices

Code Practice:

```csharp
// Blob upload/download operations
// SAS token generation
// Blob metadata and properties
```

Day 6 - Monday, June 30: Cosmos DB Deep Dive

Morning (2 hours): Cosmos DB Fundamentals

- Multi-model database concepts
- Partition key selection strategies
- Consistency levels comparison
- Request units and scaling

Evening (2 hours): Development Practice

- **Lab**: Create Cosmos DB with SQL API
- **Lab**: CRUD operations with .NET SDK
- **Lab**: Change feed implementation
- Query optimization techniques

Critical Concepts:

- Partition key design patterns
- Cross-partition vs single-partition queries
- Change feed for real-time processing

Day 7 - Tuesday, July 1: Week 1 Review & Assessment

Morning (2 hours): Hands-On Integration

- **Lab**: Build end-to-end app (App Service + Cosmos DB + Functions)
- Integrate services practiced so far
- Troubleshoot common issues

Evening (2 hours): Practice Test #1

- Take first practice exam (focus on Week 1 topics)
- Review incorrect answers thoroughly
- Identify weak areas for Week 2 focus

Week 1 Checklist:

- [ ] Can deploy and configure App Service
- [ ] Can create and manage Azure Functions
- [ ] Understand container deployment options
- [ ] Can work with Blob Storage programmatically
- [ ] Can perform Cosmos DB operations

Week 2: Security & Integration (July 2 - July 8)

Day 8 - Wednesday, July 2: Azure Active Directory & Authentication

Morning (2 hours): Azure AD Fundamentals

- Authentication vs Authorization
- App registrations and service principals
- OAuth 2.0 and OpenID Connect flows
- Managed identities (system vs user-assigned)

Evening (2 hours): Implementation Practice

- **Lab**: Register app in Azure AD
- **Lab**: Implement OAuth authentication in web app
- **Lab**: Use managed identity to access resources
- Configure RBAC permissions

Security Focus:

- Principle of least privilege
- Token lifecycle management
- Multi-factor authentication setup

Day 9 - Thursday, July 3: Azure Key Vault & Secrets Management

Morning (2 hours): Key Vault Services

- Secrets, keys, and certificates
- Access policies vs RBAC model
- Soft delete and backup/restore
- HSM vs software-protected keys

Evening (2 hours): Development Integration

- **Lab**: Store/retrieve secrets programmatically
- **Lab**: Certificate management workflow
- **Lab**: Key rotation implementation
- Integration with App Service and Functions

Code Mastery:

```csharp
// Key Vault client operations
// Managed identity authentication
// Secret rotation patterns
```

Day 10 - Friday, July 4: Microsoft Graph API

Morning (2 hours): Graph API Fundamentals

- Graph API architecture and endpoints
- Permission types (Application vs Delegated)
- Authentication flows for Graph API
- Common Graph scenarios

Evening (2 hours): Practical Implementation

- **Lab**: Authenticate with Graph API
- **Lab**: Query users and groups
- **Lab**: Access calendar and email data
- Handle pagination and throttling

Important: July 4th is Independence Day (US) - adjust schedule if needed

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Day 11 - Saturday, July 5: Service Bus & Messaging

Morning (2 hours): Enterprise Messaging

- Queues vs Topics/Subscriptions
- Message sessions and ordering
- Dead letter queues
- Duplicate detection

Evening (2 hours): Messaging Patterns

- **Lab**: Send/receive queue messages
- **Lab**: Publish/subscribe with topics
- **Lab**: Implement message sessions
- Error handling and retry policies

Messaging Scenarios:

- Point-to-point communication

- Publish-subscribe patterns
- Request-response workflows

Day 12 - Sunday, July 6: Event Grid & Event-Driven Architecture

Morning (2 hours): Event Grid Concepts

- Publishers and subscribers
- Event schemas and filtering
- Custom topics and system topics
- Delivery guarantees

Evening (2 hours): Event Processing

- **Lab**: Create custom event grid topic
- **Lab**: Handle blob storage events
- **Lab**: Implement webhook endpoints
- Event filtering and routing

Integration Practice:

- Combine Event Grid with Functions
- Storage events to trigger processing
- Custom application events

Day 13 - Monday, July 7: API Management

Morning (2 hours): API Gateway Concepts

- API Management policies
- Developer portal configuration
- API versioning and revisions
- Authentication and security

Evening (2 hours): API Management Setup

- **Lab**: Import and configure APIs
- **Lab**: Apply transformation policies
- **Lab**: Set up rate limiting
- Configure caching and monitoring

Policy Examples:

- Authentication policies
- Rate limiting and throttling
- Request/response transformation

Day 14 - Tuesday, July 8: Week 2 Review & Integration

Morning (2 hours): Complex Integration Lab

- **Lab**: Secure microservices architecture
- Combine Azure AD, Key Vault, Service Bus, API Management
- End-to-end security implementation

Evening (2 hours): Practice Test #2

- Focus on security and integration topics
- Review authentication flows
- Practice troubleshooting scenarios

Week 2 Checklist:

- [ ] Can implement Azure AD authentication
- [ ] Can manage secrets with Key Vault
- [ ] Can work with Microsoft Graph API
- [ ] Understand messaging patterns with Service Bus
- [ ] Can implement event-driven architectures
- [ ] Can configure API Management

Week 3: Monitoring, Optimization & Final Prep (July 9 - July 15)

Day 15 - Wednesday, July 9: Application Insights & Monitoring

Morning (2 hours): APM Fundamentals

- Application Insights telemetry
- Custom metrics and events
- Dependency tracking
- Availability testing

Evening (2 hours): Monitoring Implementation

- **Lab**: Instrument application with App Insights
- **Lab**: Create custom telemetry

- **Lab**: Set up availability tests
- **Lab**: Configure alerts and notifications

Telemetry Types:

- Requests, dependencies, exceptions
- Custom events and metrics
- Performance counters

Day 16 - Thursday, July 10: Azure Monitor & Log Analytics

Morning (2 hours): Centralized Monitoring

- Azure Monitor architecture
- Log Analytics workspaces
- Kusto Query Language (KQL) basics
- Action groups and alert rules

Evening (2 hours): Query and Analysis

- **Lab**: Write KQL queries for log analysis
- **Lab**: Create custom dashboards
- **Lab**: Set up automated responses
- Performance optimization techniques

KQL Practice:

```kusto
requests
| where timestamp > ago(1h)
| summarize count() by bin(timestamp, 5m)
| render timechart
```

Day 17 - Friday, July 11: Caching & Performance Optimization

Morning (2 hours): Caching Strategies

- Azure Cache for Redis
- CDN implementation
- Application-level caching
- Cache-aside patterns

Evening (2 hours): Performance Labs

- **Lab**: Implement Redis caching
- **Lab**: Configure Azure CDN
- **Lab**: Optimize database queries
- Load testing and performance tuning

Optimization Areas:

- Database query optimization
- Caching strategies
- CDN configuration
- Auto-scaling policies

Day 18 - Saturday, July 12: Integration Testing & Troubleshooting

Morning (3 hours): End-to-End Scenarios

- **Lab**: Complete e-commerce solution
- **Lab**: Document processing pipeline
- **Lab**: IoT data processing system
- Integration testing approaches

Evening (2 hours): Troubleshooting Practice

- Common error scenarios
- Debugging techniques
- Performance bottleneck identification
- Security issue resolution

Complex Scenarios:

- Multi-service applications
- Cross-region deployments
- High-availability configurations

Day 19 - Sunday, July 13: Practice Tests & Review

Morning (2 hours): Practice Test #3

- Full-length practice exam
- Simulate exam conditions

- Time management practice

Evening (2 hours): Weak Area Focus

- Review missed questions
- Deep dive into problem areas
- Additional hands-on practice
- Code snippet memorization

Final Review Topics:

- Service comparison matrices
- Common configuration patterns
- Security best practices
- Cost optimization strategies

Day 20 - Monday, July 14: Final Preparation

Morning (2 hours): Quick Review Session

- Review key concepts summary
- Practice common code patterns
- Memorize important CLI commands
- Review exam tips and strategies

Evening (1 hour): Light Review

- **Avoid heavy studying**
- Review flash cards
- Relax and prepare mentally
- Ensure good sleep schedule

Pre-Exam Checklist:

- [ ] Know exam logistics (time, location, requirements)
- [ ] Have valid ID ready
- [ ] Review key formulas and concepts
- [ ] Get adequate rest

Day 21 - Tuesday, July 15: EXAM DAY

Morning: Exam Preparation

- Light breakfast
- Arrive early at test center
- Stay calm and confident
- Apply time management strategies

Exam Strategy:

1. Read questions carefully
2. Eliminate wrong answers
3. Flag uncertain questions
4. Manage time effectively
5. Review flagged questions

Daily Study Schedule Template

Weekdays (Monday-Friday)

- **6:00-8:00 AM**: Theory and concepts (2 hours)
- **7:00-9:00 PM**: Hands-on labs and practice (2 hours)
- **Total**: 4 hours daily

Weekends (Saturday-Sunday)

- **9:00 AM-12:00 PM**: Extended hands-on practice (3 hours)
- **2:00-3:00 PM**: Review and practice tests (1 hour)
- **Total**: 4 hours daily

Resource Priority List

Essential Resources (Use These First)

1. **Microsoft Learn**: Official AZ-204 learning path
2. **Azure Documentation**: Service-specific guides
3. **Azure Portal**: Hands-on practice environment
4. **Practice Tests**: MeasureUp, Whizlabs, or Measure Your Learning

Supplementary Resources

1. **Pluralsight**: AZ-204 course series
2. **A Cloud Guru**: Azure developer courses
3. **YouTube**: Azure tutorials and demos

4. **GitHub**: Azure SDK samples and quickstarts

Weekly Milestones

Week 1 Milestone

- Comfortable with core Azure services
- Can deploy and configure basic applications
- Understands storage and compute fundamentals

Week 2 Milestone

- Implemented security best practices
- Can integrate multiple Azure services
- Understands messaging and event patterns

Week 3 Milestone

- Can monitor and optimize applications
- Confident with troubleshooting scenarios
- Ready for exam with 80%+ practice test scores

Emergency Plan (If Behind Schedule)

Priority Focus Areas (if time runs short)

1. **Azure Functions** (highest exam weight)
2. **Azure App Service** (frequently tested)
3. **Azure AD & Security** (critical concepts)
4. **Cosmos DB** (complex but important)
5. **Application Insights** (monitoring essentials)

Speed-Up Strategies

- Focus on hands-on labs over theory
- Use practice tests to identify gaps
- Join study groups for peer learning
- Use lunch breaks for quick reviews

Success Tips for 3-Week Timeline

1. **Stay Consistent**: 4 hours daily minimum
2. **Hands-On Focus**: 70% practical, 30% theory

3. **Practice Tests**: Take one every 3-4 days
4. **Active Learning**: Build real applications
5. **Time Management**: Strict schedule adherence
6. **Health**: Maintain sleep and exercise
7. **Support**: Join AZ-204 study communities

Remember: This is an intensive schedule requiring dedication and consistency. The key to success in 3 weeks is maximizing hands-on practice while maintaining a steady pace. Good luck with your certification journey!