#_ Becoming Cloud Solutions Architect RoadMap

|
|-- 📚 **Basic Foundations**
| |-- 🧠 **Computer Science Fundamentals**
| | |-- Data Structures & Algorithms
| | |-- Operating Systems Principles
| | |-- Software Engineering Principles
| | **Purpose:** Deepen understanding of software's backbone.
| |
| |-- 💻 **Programming Languages**
| | |-- 🐍 Python
| | |-- 🌐 JavaScript (Node.js for backend)
| | |-- 🗣️ Shell Scripting
| | |-- GoLang
| | **Purpose:** Enhance ability to script, automate, and develop applications.
| |
| |-- 🌐 **Networking**
| | |-- Network Protocols
| | |-- VPNs & Security
| | |-- Load Balancing & High Availability
| | **Purpose:** Deep dive into advanced networking concepts.
| |
| |-- 🛡️ **Cybersecurity**
| |-- 🔐 Encryption
| |-- 🚷 Access Control
| **Purpose:** Protecting data and resources in the cloud.
|
|-- ☁️ **Cloud Computing Fundamentals**
| |-- 🏢 **Cloud Models**
| | |-- 🚀 IaaS
| | |-- 📦 PaaS
| | |-- 🖥️ SaaS
| | **Purpose:** Selecting the right model for different applications.

By: Waleed Mousa

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|   |-- 📊 Cloud Design Principles
|   |   |-- Cost Optimization
|   |   |-- Performance Efficiency
|   |   |-- Operational Excellence
|   |   |-- Reliability
|   |   |-- Security
|   |   Purpose: To design and manage effective cloud infrastructures.
|   |
|   |-- 🛠️ Virtualization
|   |   |-- 📦 VMWare
|   |   |-- 📄 Hyper-V
|   |   Purpose: Creating and managing virtual resources.
|   |
|   |-- ☁️ Cloud Storage Solutions
|       |-- 📂 Amazon S3
|       |-- 💾 Azure Blob Storage
|       Purpose: Storing and managing data in the cloud.
|
|-- 📡 Cloud Providers
|   |-- 🟦 AWS
|   |   |-- 📂 EC2, RDS, S3
|   |   |-- 🚀 AWS VPC
|   |   |-- 🧰 Lambda
|   |   |-- 📊 CloudWatch
|   |   |-- 🛡️ AWS Security & IAM
|   |   Purpose: Mastering Amazon Web Services.
|   |
|   |-- 🟩 Azure
|   |   |-- ⚙️ Azure Virtual Machines
|   |   |-- 🧩 Azure Functions
|   |   |-- 📈 Azure Monitor
|   |   Purpose: Mastering Microsoft's cloud platform.
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| |-- ☁️ Google Cloud
| | |-- 📱 Compute Engine
| | |-- ☁️ App Engine
| | |-- 📉 Stackdriver
| | Purpose: Gaining proficiency in Google's cloud services.
|
|-- 🛠️ Cloud Tools and Automation
| |-- 🧩 DevOps & CI/CD
| | |-- 🎢 Jenkins, Travis CI
| | |-- 🚀 CloudFormation, Azure ARM
| | Purpose: Implementing continuous integration and deployment.
| |
| |-- 🗜️ Containers
| | |-- 🐳 Docker
| | |-- 🎡 Kubernetes
| | Purpose: Managing containerized applications.
| |
| |-- 🤖 Automation Tools
| | |-- 🎪 Terraform
| | |-- 🎭 Puppet
| | Purpose: Automating cloud provisioning and management.
| |
| |-- 🧪 Monitoring & Logging
| |-- 📈 Prometheus
| |-- 📊 Grafana
| | |-- AWS CloudWatch, Azure Monitor
| | |-- Log Analytics tools (ELK Stack)
| **Purpose:** Ensuring performance and reliability through monitoring.
| |
| |-- 🔑 Identity and Access Management
| | **Purpose:** Ensuring proper security measures are in place for resources.
| |

|-- 📝 **Cloud Governance & Compliance**
| |-- 📜 Policies & Regulations
| |-- 🧐 Risk Management
| **Purpose:** Ensuring legal compliance and managing risks.
| |
|-- 🌟 **Advanced Topics**
| |-- 📈 **Big Data on Cloud**
| | |-- AWS Redshift, Azure Data Lake
| | **Purpose:** Manage and analyze vast amounts of data.
| |
| |-- 🌍 **Global Cloud Deployments**
| | |-- Content Delivery Networks (CDN)
| | |-- Multi-region deployments
| | **Purpose:** Deliver content globally with low latency.
| |
|-- 📜 **Certifications**
| |-- ☑️ AWS Certified Solutions Architect – Associate Certification
| |-- ☑️ Microsoft Certified: Azure Solutions Architect Expert - Certifications
| |-- ☑️ Professional Cloud Architect Certification | Learn
| | **Purpose:** Recognized validation of cloud expertise.
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|-- 📖 **Recommended Resources**
| |-- 📚 **Books**
| | |-- Cloud Computing: Concepts, Technology & Architecture (The Pearson Service Technology Series from Thomas Erl)
| | |-- AWS Certified Solutions Architect Study Guide: Associate SAA-C01 Exam
| | |-- The Cloud at Your Service by Rosenberg, Jothy, Mateos, Arthur - Amazon.ae
| | |-- Architecting the Cloud: Design Decisions for Cloud Computing Service Models (SaaS, PaaS, and IaaS)

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| |-- 💻 **Online Courses**
| | |-- [AWS Training and Certification](https://aws.amazon.com/training/)
| | |-- [Microsoft Learn: Azure](Azure documentation | Microsoft Learn)
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| |-- 👩‍💻 Community & Networking
| |-- 🏢 Conferences
| |-- 🎉 Meetups
| |-- 🌐 Online Forums
| Purpose: Building connections and staying updated with industry trends.