

Industrial Skills Framework (IndSF) CLOUD TECHNOLOGY



IN-DEMAND JOBS FOR CLOUD

Specific Roles

Cloud Developer

Cloud Architect

Cloud DevOps
Engineer

Cloud Analyst

Cloud Administrator

Other Roles

Security Engineer

Security Penetration
Tester

Security Operation
Analyst

Incident Responder

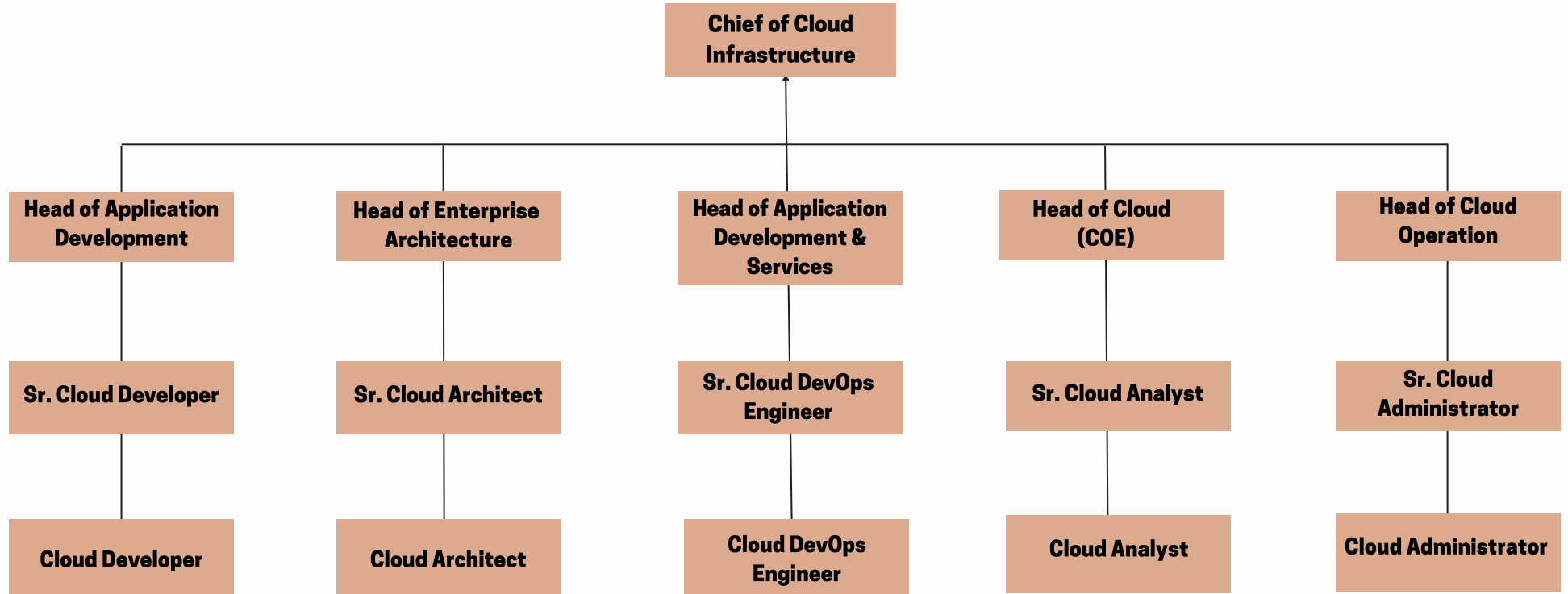
} Information available in
IndSF Cybersecurity



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CAREER PATHWAYS - CLOUD TECHNOLOGY



CLOUD DEVELOPER

CAREER PATHWAYS



Skills Framework for the Information Age (SFIA)

- Level 7 - Set strategy, inspire, mobilise
- Level 6 - Initiate/influence
- Level 5 - Ensure/advise
- Level 4 - Enable
- Level 3 - Apply
- Level 2 - Assist
- Level 1 - Follow

COMMON CERTIFICATIONS

- Google Cloud Certified Professional Cloud Developer
- Microsoft Azure DevOps Solutions
- AliCloud Developer
- Container Certifications
- AWS Certified DevOps Engineer - Professional
- AWS Certified Developer - Associate
- Certified ScrumMaster

JOB DESCRIPTION

A cloud developer develops and maintains cloud based applications by:

- Performing complex and detailed analysis of software components and systems, and implementing technical assessments
- Testing and assist the transition and deployment of software components for projects
- Performing multiple cloud components to develop a cloud solution which is cost effective, secure, resilient, high performance and scalable
- Rewriting and refactoring the application code to make it work best on the cloud environment
- Documenting the design process, revision, source of control, configuration and providing technical support to users
- Completing the integration of new applications into the cloud environment
- Conducting code reviews, refactor, modernise and testing in a mapping environment including security checks
- Taking a quality-first approach to software development by producing unit tests and automate functional testing as much as possible
- Collaborating with other engineers and product owners to identify software solutions to complex problems in industry
- Designing and developing any application that is primarily hosted on cloud services such that they are scalable

COMPETENCIES

- Proficient in at least one programming language ie., Powershell, Python, Bash, Ruby, Perl, etc.
- Proficient in cloud infrastructure basics
- Knowledge of technologies such as hypervisor, microservices and container
- In-depth knowledge of the services and concepts of the cloud architecture
- Experience of working in an Agile/Scrum environment
- Knowledge of development processes and methodologies
- Familiar with DevOps tooling landscape
- Proficient in managing and monitoring the performance of cloud applications
- Strong project implementation background, able to handle multiple projects simultaneously

COMMON TOOLS

- Cloud Technologies eg MS Azure, AWS, Google Cloud
- Kubernetes
- Docker
- GitHub
- Ansible
- Linux
- XCode
- json
- Jenkins
- Bitbucket
- Terraform
- YAML
- AWS Cloud9
- Visual Studio Code
- Android Studio

ESSENTIAL SKILLS

- Programming eg: C, C++, Java, Python, Scala
- Applications support and enhancement
- Software development
- DevOps
- Microservices
- System Integration
- Cloud Computing
- Test Planning
- Object Oriented Programming
- Containers

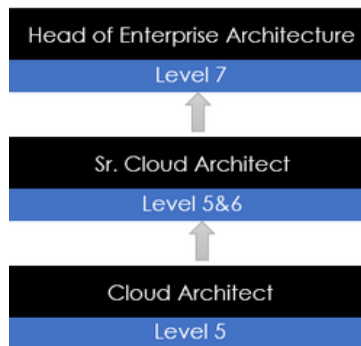


SOFT SKILLS

- Problem solving
- Time management
- Accuracy and attention to detail
- Communication & teamwork
- Self-development (keep up to date with fast-changing trends)
- Critical thinking
- Design thinking
- Business analysis
- Attentive listening skill
- Continuous learning (Understands the latest trends and their role in a commercial environment)

CLOUD ARCHITECT

CAREER PATHWAYS



Skills Framework for the Information Age (SFIA)

- Level 7 - Set strategy, inspire, mobilise
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- Level 4 - Enable
- Level 3 - Apply
- Level 2 - Assist
- Level 1 - Follow

COMMON CERTIFICATIONS

- AWS Certified Solutions Architect – Professional
- Google Certified Professional Cloud Architect
- Microsoft Certified: Azure Solutions Architect Expert
- TOGAF Certification
- ITIL Certification

JOB DESCRIPTION

A Cloud Architect is responsible for the overall development and design of a robust, secure, scalable, and cloud based platform by:

- Understanding cloud design principles, and architectural best practices and industry standards
- Designing and implementing solutions based on architectural best practices
- Implementing cost efficient, fault tolerant, and scalable distributed systems
- Delivering and supporting cloud architecture solutions, based on defined standards for Cloud COE
- Mapping cloud adoption plans, application design, and cloud management and monitoring
- Delivering multiple cloud architecture patterns and implementations to drive customer outcomes
- Designing reference architecture and provide inputs to the DevOps team for implementation of codified stacks that meet the needs of the applications
- Conducting migration to bring tools and other elements into the cloud
- Working with virtualisation technologies to achieve effective server management for the business

COMPETENCIES

- Proficient in at least one computer scripting language
- Proficiency in architecture design & implementations on public clouds
- Experienced on DevOps, hybrid cloud integration with on-premises infrastructure
- Deep knowledge on database and middleware platform layers
- Ability to analyse, develop and recommend long-term strategic solutions
- Hands-on experience of technology infrastructure, network, compute, storage, and virtualisation
- Experience with cloud computing technologies and workload transition challenges
- Understanding of Security/Risk/Compliance and Regulatory policies applicable to various/specific industries.
- Ability to drive multiple vendors to support a complex enterprise infrastructure environment
- Strong project implementation background, able to handle multiple projects simultaneously

COMMON TOOLS

- Cloud Technologies eg MS Azure, AWS, Google Cloud
- Kubernetes
- Docker
- json
- PowerShell
- GitHub
- Ansible
- Linux
- Terraform
- Architecture diagraming
- AWS CloudFormation

ESSENTIAL SKILLS

- Cloud Computing
- Cloud Networking
- Architecture design
- Solution Architecture
- Security Architecture
- Data Design and Strategy
- System Integration
- Software Development
- DevOps
- On-Premises Hardware Technology Stack
- Compliance and risk management
- Application Technology Stack

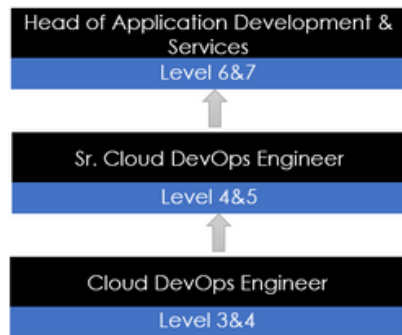


SOFT SKILLS

- Problem Solving
- Time Management
- Organization & Planning
- Critical Thinking
- Understand the latest trends & their role in a commercial environment
- Communication & Teamwork
- Business Analysis
- Business writing & technical writing skills
- Stakeholder Management
- Attentive listening skill
- Continuous Learning (Understands the latest trends and their role in a commercial environment)
- Self-development

CLOUD DEVOPS ENGINEER

CAREER PATHWAYS



Skills Framework for the Information Age (SFIA)

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- Level 4 - Enable
- Level 3 - Apply
- Level 2 - Assist
- Level 1 - Follow

COMMON CERTIFICATIONS

- AWS Certified DevOps Engineer
- Microsoft Azure DevOps Solutions
- Docker Certified Associate Certification
- Kubernetes Administrator Certification
- Google Cloud Platform: Professional Cloud DevOps Engineer
- Infrastructure Automation With Terraform Certification
- Agile Certification

JOB DESCRIPTION

- Designing cloud infrastructure that is secure and scalable
- Defining and setting development, test, release, update, and support processes for DevOps operation
- Troubleshooting techniques and fixing the code bug
- Monitoring the processes during the entire lifecycle to deliver Cloud solutions
- Leading automation of security controls, governance processes, and compliance validation
- Identifying and deploying cybersecurity measures by continuously performing vulnerability assessment and risk management
- Selecting and deploying appropriate CI/CD tools
- Collaborating with software engineers to define infrastructure and deployment requirements
- Ensuring configuration and compliance of cloud alignment with management tools
- Performing infrastructure cost analysis and optimization

COMPETENCIES

- Experience of working in an Agile/Scrum environment
- Deep understanding of cloud computing technologies
- Knowledge of cloud architecture industry standards and best practices
- Proficient in at least one computer scripting language
- Deep knowledge of automation services in cloud computing
- Experience in integrating various DevOps tools together to provide end to end application lifecycle management
- Strong practical Linux and Windows based systems in a Cloud or Virtualized environment
- Deep understanding of Service Oriented Architectures and Representational State Transfer (SOA and REST)
- Experience with various DevSecOps tools including Qualys, Fortify, or OWASP
- Ability to test, evaluate, and maintain multi-tiered production environments on and off premise

COMMON TOOLS

- Kubernetes
- Docker
- GitHub
- Ansible
- Cloud Technologies eg MS Azure, AWS, Google Cloud
- DevSecOps Tools
- Yam
- json
- Jenkins
- Bitbucket
- Linux
- Puppet

ESSENTIAL SKILLS

- Programming eg: C, C++, Java, Python, Scala
- Applications support and enhancement
- Cloud Computing
- Software Development
- DevOps
- Security Architecture
- Microservices
- Configuration Management
- IT Operation
- System Integration
- Agile
- Cloud Networking
- Solution Architecture
- Scaling
- Serverless
- Automation

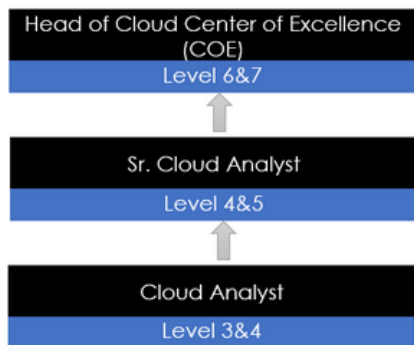


SOFT SKILLS

- Problem solving
- Time management
- Communication & teamwork
- Continuous learning (Understands the latest trends and their role in a commercial environment)
- Self-development (keep up to date with fast-changing trends)
- Organization & planning
- Critical thinking
- Accuracy and attention to detail
- Good reporting skills
- Attentive listening skill

CLOUD ANALYST

CAREER PATHWAYS



Skills Framework for the Information Age (SFIA)

- Level 7 - Set strategy, inspire, mobilise
- Level 6 - Initiate/influence
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- Level 3 - Apply
- Level 2 - Assist
- Level 1 - Follow

COMMON CERTIFICATIONS

- AWS Certified SysOps Administrator
- AWS Certified Solutions Architect – Associate
- AWS Certified Security- Specialty
- Google Cloud Certified Associate Cloud Engineer
- AWS Certified Solutions Architect Associate
- Security Governance Certifications
- Compliance Certifications

JOB DESCRIPTION

A Cloud Analyst assists in the design and management of an organisation's cloud systems by:

- Monitoring and investigating operational status of cloud systems
- Understanding of Security/Risk/Compliance and Regulatory policies
- Analysing security incidents related to cloud network
- Managing scalable architecture to support applications and infrastructure on IaaS and PaaS platforms
- Evaluating the best cloud solutions for the organisation
- Incorporating security management and privacy requirements into cloud hardware, software, and applications
- Designing controls and processes that utilize available audit tools
- Maintaining up-to-date and extensive knowledge of cloud products and technology

COMPETENCIES

- Proficient in at least one programming language
- Proven technical methods in solving cloud issues involving IT environments
- Proficient in cloud infrastructure basics
- In-depth knowledge in setting up and configuring the cloud environment
- Proficient in managing and monitoring the performance of cloud applications
- Ability to analyse, develop and recommend long-term strategic solutions to ensure capacity meets current and future requirements.
- Work with internal and external partners, carriers, facility operators and our hardware vendors to design and develop connectivity strategy
- Strong project implementation background, able to handle multiple projects simultaneously
- Ability to assess best security practices and standards
- Identify risks, vulnerabilities and remediate immediately to reduce exposure
- Ability to work with regulatory bodies of respective industries where applicable

COMMON TOOLS

- Cloud Technologies eg MS Azure, AWS, Google Cloud
- json
- bash
- GitHub
- Linux

ESSENTIAL SKILLS

- Analytics
- Applications Support and Enhancement
- System Integration
- Cloud Computing
- Cloud Networking
- Software Development
- DevOps
- Scaling
- Security Design
- System Administration

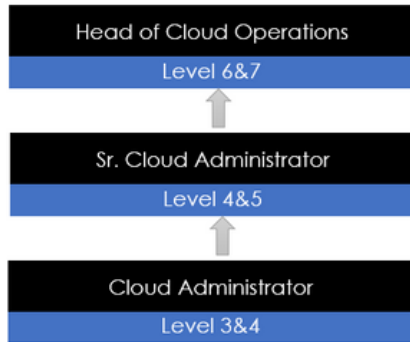


SOFT SKILLS

- Problem solving
- Accuracy and attention to detail
- Communication & teamwork
- Continuous learning (Understands the latest trends and their role in a commercial environment)
- Self-development (keep up to date with fast-changing trends)
- Time management
- Organization & planning
- Self-development
- Good reporting skills
- Business Analysis & User Research

CLOUD ADMINISTRATOR

CAREER PATHWAYS



Skills Framework for the Information Age (SFIA)

- Level 7 - Set strategy, inspire, mobilise
- Level 6 - Initiate/influence
- Level 5 - Ensure/advise
- Level 4 - Enable
- Level 3 - Apply
- Level 2 - Assist
- Level 1 - Follow

COMMON CERTIFICATIONS

- Microsoft Certified Solutions Expert (MCSE): Cloud Platform and Infrastructure
- Red Hat Certified System Administrator in Red Hat OpenStack
- ITIL
- AWS Certified Solutions Architect Associate
- AWS Certified SysOps Administrator - Associate
- Service Management Certification

JOB DESCRIPTION

A Cloud Administrator is a technology professional who handles cloud computing services for the organization by:

- Coordinating with the IT department to develop and support cloud, windows or Unix infrastructure
- Providing technical assistance on windows, cloud-based systems, and resolving operational matters
- Implementing new technologies, and integrating systems into the cloud environment
- Troubleshooting techniques and fixing the code bug
- Monitoring and analysing the capabilities and performance of the systems
- Creating and updating processes for improvement and minimising the wastage
- Providing feedback to the Cloud Engineering/Architect teams on the Operational shortcomings

COMPETENCIES

- Familiarity with one or more IaaS platforms like AWS, Google Compute Engine, Azure, Soft Layer, OpenStack, etc.
- Familiar with software development life cycle
- Deep understanding of Cloud deployment models (private, public, hybrid).
- Familiar with Multi-Cloud Integration and Management Design
- Security vs. Performance vs. Cost trade of management skills.
- Ability to configure and manage databases such as MySQL, Mongo
- Working knowledge of various tools, open-source technologies, and cloud services
- In-depth knowledge in setting up and configuring the cloud environment
- Proficient in managing and monitoring the performance of cloud applications
- Ability to configure VMs and Web Applications
- Expertise to include the best security practices and standards
- Identify risks, vulnerabilities and remediate immediately to reduce exposure.

COMMON TOOLS

- Cloud Technologies eg MS Azure, AWS, Google Cloud
- bash
- Linux
- Active Directory
- PING,
- OneLogin
- AWS System Manager
- Terraform
- AWS CloudFormation

ESSENTIAL SKILLS

- Applications Support and Enhancement
- System Integration
- Security Architecture
- System Administration
- Configuration Management
- IT Operation
- Cloud Computing
- Cloud Networking
- Solution Architecture
- Security Design
- Hardware Technology



SOFT SKILLS

- Problem solving
- Accuracy and attention to detail
- Time management
- Critical thinking
- Communication & teamwork
- Good reporting skills
- Intuitive thinking
- Technical writing skills
- Stakeholder management
- Attentive listening skill
- Continuous Learning (Understands the latest trends and their role in a commercial environment)
- Self-development (keep up to date with fast-changing trends)

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