

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



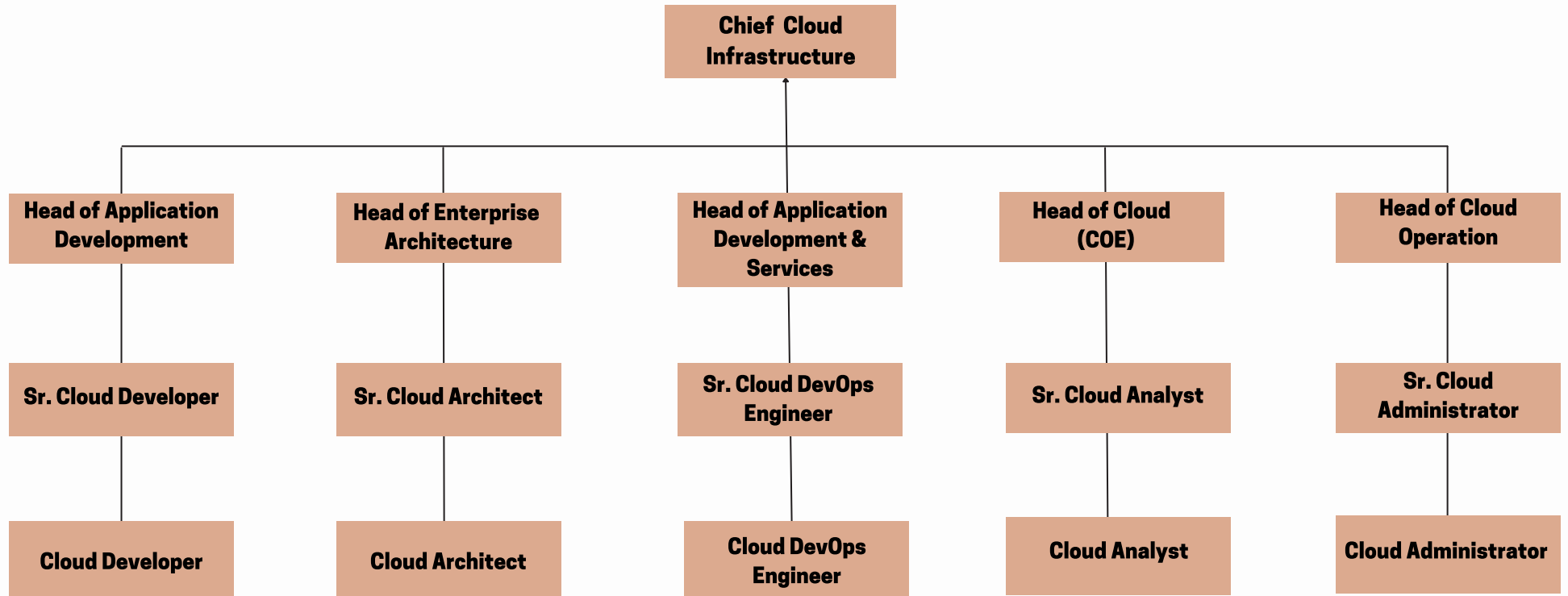
Information available in
IndSF Cybersecurity



Scan here to download the full IndSF document

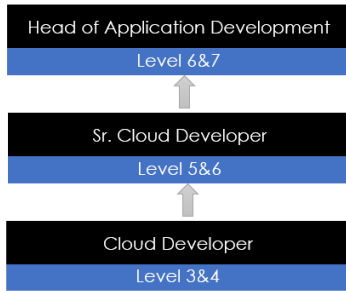


CAREER PATHWAYS - CLOUD TECHNOLOGY



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 assisting 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 in 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, refactoring, modernising and testing in a mapping environment including security checks
- Taking a quality first approach to software development by producing unit tests and automating 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

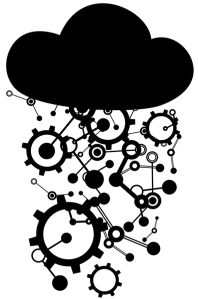
- Proficient in at least one programming language; i.e., Powershell, Python, Bash, Ruby, Perl, etc.
- Proficient in cloud infrastructure basics
- Knowledge of technologies such as hypervisor, microservices and container
- In-depth knowledge of the services and concepts around cloud architecture
- Experience 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 and 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

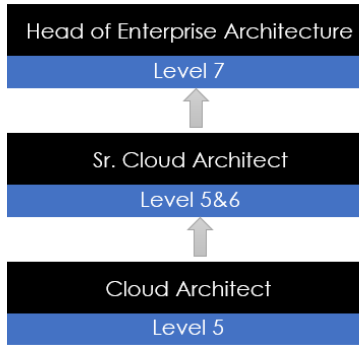


SOFT SKILLS

- Problem solving
- Time management
- Accuracy and attention to detail
- Communication & teamwork
- Self-development (keep up 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 5 - Ensure/advise
- 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 providing 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

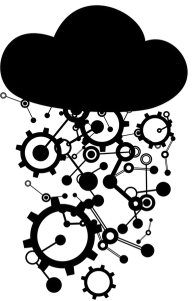
- Proficient in at least one computer scripting language
- Proficiency in architecture design & implementations on public clouds
- Experience in DevOps, hybrid cloud integration with on-premises infrastructure
- Deep knowledge on database and middleware platform layers
- Ability to analyse, develop and recommend long-term strategic solutions
- Hands-on experience of technology infrastructure, network, compute, storage, and virtualisation
- Experience in 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 and able to handle multiple projects simultaneously

COMMON TOOLS

- Cloud Technologies ; e.g., 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

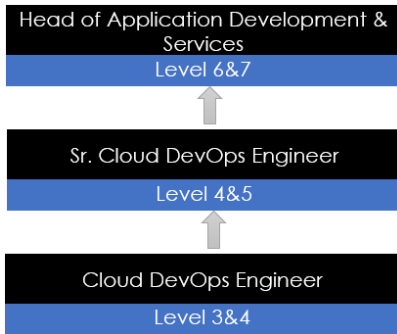


SOFT SKILLS

- Problem Solving
- Time Management
- Organisation & Planning
- Critical Thinking
- Communication & Teamwork
- Business Analysis
- Business and 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



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- 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

A Cloud DevOps engineer introduces processes, tools, and methodologies to balance needs throughout cloud-based platform by:

- 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 optimisation

COMPETENCIES

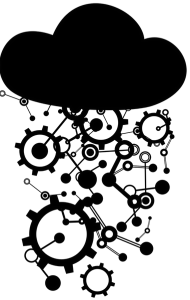
- Experience of working in an agile/scrum environment
- Deep understanding of cloud computing technologies
- Knowledge of cloud architecture industry standards and best practices
- Proficient in at least one computer scripting language
- Deep knowledge of automation services in cloud computing
- Experience in integrating various DevOps tools together to provide end-to-end application life-cycle management
- Strong practical Linux and Windows based systems in a cloud or virtualised environment
- Deep understanding of Service Oriented Architectures and Representational State Transfer (SOA and REST)
- Experience in 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; e.g., MS Azure, AWS, Google Cloud
- DevSecOps Tools
- Yam
- json
- Jenkins
- Bitbucket
- Linux
- Puppet

ESSENTIAL SKILLS

- Programming; e.g., 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

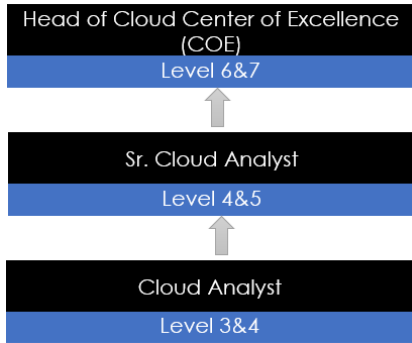


SOFT SKILLS

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

CLOUD ANALYST

CAREER PATHWAYS



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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 the operational status of cloud systems
- Understanding the 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 utilise available audit tools
- Maintaining up-to-date and extensive knowledge of cloud products and technology

COMPETENCIES

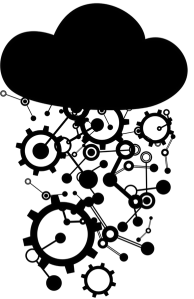
- Proficient in at least one programming language
- Proven technical methods in solving cloud issues involving IT environments
- Proficient in cloud infrastructure basics
- In-depth knowledge in setting up and configuring the cloud environment
- Proficient in managing and monitoring the performance of 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 and 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 ; e.g., 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

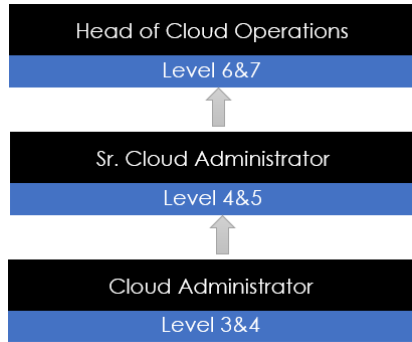


SOFT SKILLS

- Problem solving
- Accuracy and attention to detail
- Communication and teamwork
- Continuous learning (understands the latest trends and their role in a commercial environment)
- Self-development (keep up with fast-changing trends)
- Time management
- Organisation & 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
- RedHat 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 organisation 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 systems
- Creating and updating processes for improvement and minimising wastage
- Providing feedback to the Cloud Engineering/Architect teams on the operational shortcomings

COMPETENCIES

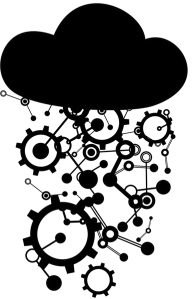
- Familiarity with one or more IaaS platforms like AWS, Google Compute Engine, Azure, Soft Layer, OpenStack, etc.
- Familiar with software development life cycle
- Deep understanding of cloud deployment models (private, public, hybrid).
- Familiar with Multi-Cloud Integration and Management Design
- 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 cloud environment
- Proficient in managing and monitoring the performance of cloud applications
- Ability to configure VMs and Web Applications
- Expert in best security practices and standards
- Identify risks, vulnerabilities and remediate immediately to reduce exposure.

COMMON TOOLS

- Cloud Technologies; e.g., MS Azure,
- AWS, Google Cloud
- PING,
- OneLogin
- bash
- AWS System Manager
- Linux
- Terraform
- Active Directory
- 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 and 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 with fast-changing trends)

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