

PIERRE-FRANCOIS HOUSSOU

Cloud Engineer



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EXECUTIVE SUMMARY

I am a **7+ years IT professional** who has worked in industries such as global NGOs and government.

Highly motivated and fast learning **Cloud enthusiast** with a **customer centric** approach who loves to take initiatives and seek out new **challenges** and skills. I am currently looking for opportunities as a Cloud Engineer, Cloud Administrator or Cloud Solutions Architect.

I am certified **AWS Solutions Architect Associate** and I spend most of my free time learning cloud engineering and doing labs. More on my cloud related projects at blogs.houessou.com.

TECHNICAL SKILLS

Amazon Web Services (AWS)

Identity and access management, EC2, S3, ECS, RDS, DNS using Route 53, VPCs, ELB, Autoscaling, CloudFront, CloudWatch, CloudTrail, Certificate Manager, Security Groups, NACLs, VPC Endpoints

In depth knowledge of serverless services such as Lambda, API Gateway, DynamoDB, Cognito, SNS, SES, EventBridge

High level understanding of SWF, Kinesis, X-Ray, PinPoint

Infrastructure as Code (Iac) deployments with CloudFormation and the Serverless Application Model Framework

CI/CD pipelines with CodePipeline through CodeCommit, CodeBuild and CodeDeploy

Microsoft Azure

Identity and access management, Microsoft 365 workloads, Intune, Azure blob storage, Cosmos, Azure Functions, Azure CDN

Google Cloud Platform

Identity and access management, Cloud Storage, Cloud CDN, Cloud functions, Firestore, Compute Engine

Python Programming, Scripting and Automation

Regular expressions, functions, loops, lists, document parsing, tests and more

AWS SDK (boto3) for backend code that integrates with AWS services

CI/CD

Knowledge of Git, GitHub repositories, GitHub Actions for continuous deployment, Docker, AWS CodePipeline

Linux

Managing users, configuring services, Apache-PHP-MYSQL setup, server configuration, Virtual host setup, network troubleshooting, using SSH to connect to remote hosts and general troubleshooting

Platforms : Windows, Linux, MacOS

CORE COMPETENCIES

- Defining a solution using architectural design principles based on customer requirements
- Architecting and deploying secure and robust applications using AWS
- Ability to provide implementation guidance and best practices to the organization throughout the life cycle of a project.
- Hands-on skills using compute, networking, storage, databases and AWS serverless services
- Defining and identifying technical requirements for AWS-based applications
- Defining and identifying which AWS services meet a given technical requirement
- Knowledge of recommended best practices for building secure and reliable applications on the AWS platform
- Knowledge of network technologies as they relate to the cloud
- Knowledge of security features and tools that AWS provides
- Windows server and M365 workloads administration skills

VOLUNTEER EXPERIENCE

Build and deploy serverless web applications on AWS - <https://blogs.houessou.com/sample-todo-app-aws>

Frontend service built with JavaScript/HTML and hosted on **S3** behind a **CloudFront** distribution; https and **AWS WAF** enabled to add a security layer.

Backend services 100% relying on AWS serverless offering – **API Gateway**, **Lambda**, **DynamoDB**, **SNS**, **EventBridge**.

Authentication and authorization for the application enabled through API Gateway and **Cognito**.

Application deployed using the microservices patter with AWS Serverless Application Model **SAM** Framework along with **CloudFormation**.

Automated deployments with **GitHub** repository and GitHub actions. Each service is pushed by an individual **CI/CD** pipeline to maintain optimal decoupling.

Monitoring enabled using **CloudWatch** Metrics – created alarms on CloudFront (errors and requests time metrics), Lambda (errors, requests time and invocation metrics).

WordPress websites hosting on AWS

Core infrastructure components deployed using **CloudFormation** stacks – 1 **VPC**, 3 public subnets for the Application Load Balancer **ALB**, 3 private subnets for the EC2 instances (Apache servers), 3 private subnets for the **RDS** (MySQL) instances. EC2 instances are targets for one **autoscaling Group** which scales out/in based on CloudWatch metrics for the ALB (health checks) and a predefined load of the overall EC2 fleet.

RDS instances deployed with one primary and 3 read replicas across multiple availability zones. **AWS Secrets Manager** to store database credentials.

Monitoring enabled using **CloudWatch** Metrics – created alarms on RDS (CPU utilization, Read/Write latency and Memory), ALB (Active connection count and http 3xx/4xx/5xx errors count).

Event triggered application to run ETL jobs for data analytics

Backend service deployed using the SAM Framework:

One Lambda function running Extract, Transform and Load job on data from different sources (information about Covid-19 cases worldwide and in the US).

Exported data stored in DynamoDB.

Dynamo Streams NEW_IMAGE triggers another Lambda function which publishes a message to **SNS** – notification of new data sent to data scientists.

Processed data is queried using Athena which has been enabled as a dataset for AWS **QuickSight** for real-time data analytics.

Improving application performance with ElastiCache for Redis

Deployed a Redis cluster for data caching to improve the performance of a web application relying on RDS PostgreSQL.

WORK EXPERIENCE

Systems Administrator | US Embassy Benin | October 2017 - Present

- System administration, maintenance and support – *Active Directory, Exchange, M365, SharePoint, GPO, PowerShell*
- Network device health monitoring – *VMware hosts & VMs, Storage, CPU, RAM, PowerShell scripts for device health check*
- Applications management – *Microsoft SQL databases management, Enterprise Apps, Google Suite, CRM*
- Mobile device management – *Microsoft Intune and VMware AirWatch*
- Users support – *Technical trainings to users, IT Service management with ServiceNow*

IT Operations Assistant | UN World Food Programme Benin | August 2014 - September 2017

- IT Operations Management – *Supported IT Operations to maintain 99.9% systems availability*
- IT Project Management – *Conducted IT projects in line with company's vision to support Zero Hunger in Benin*

CERTIFICATIONS

AWS Certified Solutions Architect Associate

Microsoft 365 Enterprise Administrator Expert

MCSE Productivity, Cloud Platform and Server Infrastructure

Cisco Certified Specialist: Security Identity Management Implementation

Cisco Certified Network Associate Security

CompTIA Security+ certified professional

EDUCATION

Master's Degree in Networks and Telecommunications, University of Management Science and Technology – ESGIS

Assessed by World Education Services WES – ECA #4109960IMM

Modules included: System and Network Administration, System and Network Security, IT System and Services Management & QoS

Those courses aim for a high level of training in methods of conception, design and management: Systems and Networks

Architecture, System Security, Optimization and QoS, Systems or Software tools specific to all sectors of activity, thus meeting the needs of fast-growing companies

LANGUAGES

English: Advance - Professional working proficiency

French: Fluent - Mother tongue

AWARDS AND HONOURS

Meritorious Honor Award | 2019

For notable achievements in the workplace, exceptional contributions in operations, and special efforts in successfully supporting significant system migrations

REFERENCES

Can be provided upon request.