By Qwasar

Web4Jobs by Qwasar DevOps/Cloud Program
Full Time

Course Packet

Introduction

Web4Jobs by Qwasar Silicon Valley offers a competency-based certification program in the DevOps/Cloud field. The Web4Jobs by Qwasar DevOps/Cloud Engineer program will teach students the scope of skills necessary to become a DevOps/Cloud Engineer. Cloud engineering or DevOp (short for development operations) is about building and maintaining server or cloud-based infrastructure for user access to software through deployment. It involves system maintenance, monitoring and fixing things that break, and building systems that scale, such as ensuring more servers are available when more users are using an app or equally unnecessary servers aren't being paid for when there are only a few users.

This program focuses on architecture, infrastructure, monitoring, automation, and network programming, as well as strong fundamentals in data structures and algorithms. Learners will cover fundamental computer programming concepts including arrays, strings, algorithms, pointers, hash data structures, and software architecture, before moving on to shell, SQL and noSQL/Redis databases, client server relationships and sockets, virtual machines, Python, Puppet, Ansible, Chef, CICD, Terraform, Jenkins, and network programming. Learners are also expected to complete 30-40 technical interview role plays to prepare for real job interviews, and undergo resume and cover letter reviews similar to peer code reviews. Overall, our DevOps/Cloud Engineering program is designed to train learners to Silicon Valley standards as a DevOps engineer or cloud engineer with an emphasis on structured problem solving, critical thinking, and extensive preparation for meeting employer demands for entry-level jobs.
Students will learn...

- Cloud infrastructure, scripting and monitoring systems
- Terraform, Puppet, Chef, Ansible, Jenkins, AWS/GCP/Azure
- C Programming, Shell
- Docker, Kubernetes, virtual machines
- Network programming
- Public IaaS cloud infrastructure
- LibASM and Redis database
- Javascript
- Advanced SQL database knowledge,
- Structured problem solving and debugging,
- Data structures and algorithms
- SQL, SQLite, and databases
- Cloud-hosting and app deployment
- Extensive use of industry-standard tools such as Git, IDEs, and terminal commands.

What to Expect

Remote training program
Students will gain experience building and developing software. By the time students complete the program they will earn an industry-standard certification in DevOps/Cloud from Web4Jobs by Qwasar.

No tests, only projects.
Each focus of this program will involve completing projects in teams as well individually to ensure students are learning and applying their knowledge.

Build apps and sites with groups and on your own
This program focuses on architecture, infrastructure, monitoring, automation, and network programming, as well as strong fundamentals in data structures and algorithms. Work in groups and complete individual portfolio projects.

Showcase projects to recruiters
Students will showcase approximately 5 to 20 projects representing thousands of lines of code for employers and interviews.

40-hour-per-week time commitment
Students will need to devote 40 hours a week minimum in order to fully learn the content necessary to pass the course and become a data scientist.

Interview training
As part of this program, students will complete technical interviews to prepare for job applications. Students will be guided on how to navigate challenging technical interviews including whiteboard coding.

Write ~60K lines of code across 20 projects
On average, students will write about 60,000 lines of code as they complete exercises, software projects, and coding challenges throughout the program. This high-quantity coding means students develop confidence in their code and applied software architecture design and implementation experience.

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Course meeting schedule

Level	Season	Project Name	Description
LEVEL 1 – NOOB (3 MONTHS)	Preseason	Bootcamp Python	Scripting, variables, functions, arrays, classes, strings, sorting, data structures, basic algorithms, and scraping data
	Preseason	My DS Babel	Translate data structures from SQL to CSV and CSV to SQL
	Preseason	My Select Query	Return an array of strings from a CSV file with two arguments
	Preseason	My NBA Game Analysis	Creating a function that receive an array of plays and returns a summary of plays that happened in a given NBA game, then print the function in a readable manner
	Arc 01	Bootcamp C	The coding environment, using the terminal functions, loop statements, types, variables, pointers and strings, arrays and pointers, memory allocation/structures, basic and more complex algorithms, a nested loop with if statements, advanced shell, pipe, multiple commands, 2D arrays and strings
	Arc 01	PrintF	Unlimited arguments, conversion between types and bases
LEVEL 2 - APPRENTICE 3 MONTHS	Season 2 DevOps	Domain Name	Domain names, like Facebook.com, are the basics of the internet. Learners will learn how to buy and register a domain name using cloud technologies.
	Season 2 DevOps	Start my web server	A website is another fundamental element of the internet. Learners must create their own website focusing on hosting, backend configuration, and servers.
	Season 2 DevOps	Configure my web address	Manage and configure the domain name system, to be able to start a web site present on the internet. By completing this project learners will understand the basics of networks and linux systems.
	Season 2 DevOps	Secure Shell	SSH is a basic layer of the internet to enable any DevOps to work remotely in cloud systems. This will introduce first cybersecurity consideration and cryptographic asynchronous algorithms with public/private key systems
	Season 2 DevOps	Start my web server	A website is another fundamental element of the internet. Learners must create their own website focusing on hosting, backend configuration, and servers.
	Season 2 DevOps	Sending my first email	Mail servers require a significant understanding of systems and networks. Building a mail server means understanding the full layer of service, from network to system.
	Season 2 Data Science	Receiving my first email	Receiving email means you have to understand global email infrastructure, new domain name service and storage capabilities
	Season 2 Data Science	Configure IMAP	Sending and receiving email is nice, but being able to read it through standard protocol is much better! This require interaction between two different services, one to send/receive and the other one to read emails, all the while maintaining user security and password interaction

LEVEL 3 – CONFIRMED (3 MONTHS)	Season 3 DevOps	Docker	Virtualisation is everywhere and containers are a standard in any cloud environment. Learners create their first Docker file and begin using containerization.
	Season 3 DevOps	Operation Easy Website	Deploy a fully managed (handle by cloud provider) website built in NodeJS
	Season 3 DevOps	Tangled in the Web	Deploy a "not managed" app built in NodeJS on an EC2 instance
	Season 3 DevOps	ELK and Moose	implement a system that gathers/collects logs for a searchable database of logs for apps you're hosting
	Season 3 DevOps	The Chef and the Server	Create system to automatize installation and configuration for large scale organization and application
	Season 3 DevOps	Databases: Part 1	Redis is another database system for super high performance system broadly used in the industry
	Season 3 DevOps	Databases: The Sequel	PostgreSQL is one of the most uses open source relation database in the world.
	Season 3 DevOps	Databases: The Finale	MongoDB is another type of database call "No SQL" that are used to store large chunk of data
	Season 3 DevOps	My_GitLab	Any DevOPS must be able to settle and configure a Gitlab (the open version of Github) to enable developers to manage their code versioning
	Season 3 DevOps	Green Eggs and Ham	The student will learn how to automatize the deployment of application using continuous integration
	Season 3 DevOps	You Shall Not Pass	The ultimate service offered by a devops is to support developers by providing a complete tooling from code to production with versioning.