The cloud is gaining more and more importance. Almost every IT decision maker and IT professionals have to deal with cloud technology. What do the job descriptions around the cloud look like?

From idea to deployment: Career and prospects of the Cloud Developer?

Empowering technical competence.

To the end of 2017, according to the International Data Corporation (IDC), almost two-thirds of companies in Germany used the cloud. This has impacts on the labor market. The number of cloud jobs has almost doubled in one year, according to the meta job search engine Joblift. Because the number of specialists is well below the level needed, TÜV Rheinland supports companies in the targeted qualification of internal IT specialists: With the first manufacturer-independent cloud competence model. Peter Holländer and Mandy Tiedemann of TÜV Rheinland Academy present a three-part series on the most important job functions in cloud computing. Today is Section 2: the Cloud Developer.

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"The cloud developer is familiar with manufacturer-specific topics for Microsoft, Oracle and AWS." Mandy Tiedemann, TÜV Rheinland

According to Joblift, in the last 24 months, 16,540 jobs were announced that focus on cloud experts, both by cloud providers, as well as companies that outsource applications in the cloud. The majority of the jobs focus on cloud architects (4,090 calls for bids), cloud developers (3,157 notices) and cloud consultants (3,047 jobs). Most of the positions (64%) were announced by large corporations, 30% came from mid-sized firms up to 500 employees and 6% from small companies with a maximum of ten employees. The growth rates show that the topic is gaining significance in both small and mid-sized organizations: While the jobs at large cooperations have grown on average 3% each month, the rate of mid-sized is 7% and small firms is actually 8%. The fact is however: Cloud jobs remain unfilled up to 25% longer on average than other positions, according to Joblift.

NO DIGITAL TRANSFORMATION WITHOUT THE CLOUD.
To offer companies and IT specialists a practically-oriented qualification about the data cloud, TÜV Rheinland has developed a manufacturer-independent cloud competence model that offers a comprehensive advanced training in a manageable time period. This gives technical specialists and managers the opportunity to build and improve their know-how in cloud technology and infrastructure. The model covers the three most important key qualifications that are currently sought after: The cloud administrator the cloud developer and the cloud architect.

The cloud developers, are the pacesetters of the digital transformation. Cloud developers are responsible for designing the cloud in the company, this means that their object is to design software solutions in private, hybrid and public cloud infrastructures and take care of their implementation. Cloud developers contribute in this way to designing more effective business processes by using modern cloud solutions and employing new technologies optimally. Ideally they cover the entire project cycle: from requirement input to programming up to data migration and integration. Depending on professional experience, project responsibility growing up to managing the team is possible.

The cloud developer is familiar with manufacturer-specific topics for Microsoft, Oracle and AWS. He or she is at home in the architecture of the cloud provider and knows how to use the benefits of these cloud services effectively for the needs of the company. Code libraries, SDKs, software development suites and IDE toolkits are the tool box the developer uses to develop efficient code and be able to create highly available and high performing cloud solutions.

As part of the competence model from TÜV Rheinland Academy, cloud developers acquire relevant decision criteria and knowledge about the technological requirements for using cloud solutions. After completion, they know what

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to pay attention to during planning and operation in a cloud environment and have answers to questions like...

- How does the topology look for the application that we want to deliver, including all processing, memory and network resources?
- What are potential error points and how can they be avoided?
- What security concerns might exist around the applica tion? What is the situation regarding data encryption and access rights?
- Are the components of the application scalable?
- What are the most important indicators that we should monitor and analyze using the dashboard?

After qualification including through the application of hands-on scenarios, the cloud developers are able to select cloud components and also manage them: From the hardware via the services to the self-service portal. Beyond that, they have understanding of current virtualization technologies to be able to optimally use resources and implement efficient cloud solutions.

The expert status of the cloud developer also encompasses the intensive analysis of change processes and the delivery of executable solutions in shorter time frames. Experienced cloud developers understand how the infrastructure must look for the development, testing and production environments to be able to fashion software projects from the idea to deployment stage successfully.

Moreover, they are capable of realistically estimating the risks during operation of cloud solutions and plan and implement suitable preventive measures to be able to reduce or prevent the potential harm to the organization as must as possible. They are able to perform code reviews and tests in an image environment and are also able to revise a change in the event of problems and to restore the most recent possible configuration.

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Furthermore, Cloud developers are familiar with the topic of service level agreements (SLA) as the basis for the operation of cloud solutions and know which performance indicators are appropriate to evaluate services provided and how feasible payment models between the cloud operator and the customer should look.

The qualification for cloud developer includes theory and application examples, lasts between 1 and 10 days depending on the previous knowledge and desired depth, and is performed in three parts, where the modules build upon each other. The prerequisite for certification to cloud developer according to TÜV Rheinland are good fundamental knowledge of IT infrastructures, server, visualization, network and storage technologies as well as basic cloud knowledge. The prerequisites for the expert status of cloud developer are practical knowledge in at least one advanced programming language (C#, Java, PHP, Ruby, Python, etc.), advanced beginner knowledge regarding the administration of Linux or Windows systems at the command line level, practical AWS experience, both with the AWS Management Console as well as the AWS command line interface as well as the qualifications of the courses System Operations on AWS and Developing on AWS.

Currently a cloud developer earns between 3,200 to 7,000 EUR monthly depending on qualifications, location, company size and level of personal responsibility – and therefore is lower than that of a cloud architect.

Mandy Tiedemann,
TÜV Rheinland Academy

ABOUT TÜV RHEINLAND ACADEMY

A world without technical specialists is unthinkable. And the economy is changing very dynamically. Traditional jobs give way, and new ones are emerging. The need for technical know-how and well-trained specialists is higher than ever and will continue to increase worldwide. The TÜV Rheinland Academy is the leading competence partner for excellent technical qualification. With innovative learning solutions based on technical know-how and decades of experience. For the success of people and companies.

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