Hello, I am Alex, a programmer.

Thank you so much for visiting my tech blog, I am so excited to introduce this blog to you! I developed it with Node.js, and MongoDB, you can find the source code of this blog on my GitHub.

In this little space, I am going to present and share my knowledge, skills, and personal understanding of programming with all of you. Currently, there are several blogs on topics of HTML, CSS/SASS, Javascript, Typescript, Node.js, EJS, React, MongoDB, MS SQL Server, AWS Cloud Service, C#, .Net, HTTP, API, Unity3D, and Data Structure and Algorithms, and I will keep updating new blogs in the coming days. I also look forward to your comments and communication with me. Your support is always what keeps me going. If you have any questions, please do not hesitate to leave comments on the message board of this blog or email me, and I will reply to you as soon as possible. Thank you!

Alex

AWS Multi-factor Authentication(MFA) and Identity Access Management(IAM)

Today I just start my new journey on AWS, and my aim is to get a AWS Architect Associate Certificate and good AWS skills after one months’ learning and practice. Today I have got some introduction knowledge of AWS, and I created multiple AWS accounts with the instruction of Adrian. As the first days lessons are all about AWS account configuration, and security of accounts is really important, the tutor introduce two ways that enhance security of AWS account, which impressed me a lot:

The first thing is Multi-factor Authentication(MFA).

In our daily life, it is very common to use username and password to get authenticated by many authentication systems. However, it is really risky because once someone else gets your username and password, it’s easily to make breach in your account. If more different pieces of evidence could be provided and required to prove identity in the authentication process, it can be more secure. Those evidence is called factors.

Knowledge such as passwords, some specific question and answers, possession such as bank card, MFA device/app, inherent such as fingerprint voice and facial expression and even physical location, and network IP are able to be used as factors. In AWS, we use MFA app to implement the MFA process, it is really convenient to get verified code via mobile apps.

The second thing is Identity and Access Management(IAM).

We know that AWS root account has the highest level of controlling of AWS account, there is no restriction on the root account. As a result, it is very dangerous to make manipulation with the root account and the IAM comes.

IAM has full trust from the AWS Account, and it can create three different type identities, IAM user, IAM group, IAM Role, and I will talk those three identities in the coming blogs.

Five characteristics of Cloud computing

With the rapid development of cloud computing technologies in giant IT companies such as Amazon, Microsoft and Google, more and more small companies are able to share the benefits from the big cloud computing companies’ infrastructure.

In recent years cloud computing is getting popular among the public, but rare people know what the exact cloud computing is. There are five crucial characteristics of cloud computing, and without everyone of them, it could not be cloud computing.

1. Clients of cloud computing should be able to provision capabilities as needed without requiring human interaction. On cloud platform, every client with specific cloud skills should be able to use service of the platform on his demand all by himself, and in the whole process, a guild from a real platform staff is not necessary.
2. All the service is available over the network and it’s accessible through standard mechanisms. It’s not necessary to use special network or port to use cloud service, clients are able to visit cloud service everywhere with standard protocols and standard network.
3. Resource Pooling. There is a sense of location independence. Clients of cloud service may only be able to select a very large scale of region to settle their resources, but they have no control or knowledge over the exact location of the resources. Resources are pooled to serve multiple consumers using a multi-tenant model.
4. Rapid Elasticity. Cloud computing capabilities can be elastically provisioned and released to scale rapidly outward and inward with demand. To the consumer, the capabilities available for provisioning often appear to be unlimited. It’s not necessary to make a fixed capability plan in advance, as all demand is elastic in the real production environment, cloud computing must be adjustable and rapidly elastically.
5. Measured Service. Resource usage can be monitored, controlled, reported and billed. The fifth characteristic is the premise of “pay what you consume”. And that can promise the good quality of service to customers and decrease cost of customers.