AWS Architectures

Amazon Web Services is a subsidiary of Amazon that provides on-demand cloud computing platforms to individuals, companies and governments, on a paid subscription basis. The technology allows subscribers to have at their disposal a virtual cluster of computers, available all the time, through the Internet.

- Image Moderation Chatbot - a serverless chatbot on AWS that monitors chat channels and removes images suggestive or explicit image — The below architecture shows you how to build a serverless chatbot on AWS that monitors your chat channels and removes images containing suggestive or explicit content.
- Web Application Hosting provides the reliable, scalable, secure, and high-performance infrastructure — High available and scalable web hosting can be complex and expensive. Dense peak periods and wild swing in traffic patterns result in low utilization of expensive hardware. Amazon Web Services provides the reliable, scalable, secure, and high-performance infrastructure required for web applications while enabling an elastic, scale-out and scale-down infrastructure to match IT costs in real time as customer traffic fluctuates.
- Live streaming / Static Content & Media Service based on AWS — AWS provides a suite of services specifically tailored to deliver high-performance media serving. Each service features pay as you go pricing on an elastic infrastructure - meaning that you can scale up and down according to your demand curve while paying for only the resources you use. BEcause this infrastructure is programmable, it can react quickly.
- Batch processing composed of job manager, job store and worker based on AWS — Batch processing on AWS allows for the on-demand provisioning of a multi-part job processing architecture that can be used for instantaneous or delayed deployment of a heterogeneous, scalable "grid" of worker nodes that can quickly crunch through large batch oriented applications in place today that can leverage this style of on-demand processing, including claims processing, large scale transformation, media transcoding and multi-part data processing work.
- Fault Tolerance & High Availability based on multi Availability zones in AWS — Most of the higher-level services, such as Amazon Simple Storage Service(S3), Amazon SimpleDB, Amazon Simple Queue Service (SQS), and Amazon Elastic Load Balancing (ELB), have been built with fault tolerance and high availability in mind. Service that provide basic infrastructure, such as Amazon Elastic Compute Cloud (EC2) and Amazon Elastic Block Store (EBS), provide specific features, such as availability zones, elastic IP address, and snapshots, that a fault-tolerant and high available system
- Large scale computing based on huge data sets in AWS — These scenarios involve huge data sets collected from scientific equipment, measurement device, or other compute jobs. After collection, these data sets need to be analyzed by large-scale compute jobs to generate result data sets. Ideally, results will be available as soon as the data is collected. Often, these results are then made available to a larger audience.
- Advertisement serving in AWS — Internet advertising services need to serve targeted advertising and must do so under limited time. These are just two of multiple technical challenges they face.
- Disaster recovery solution in AWS for local applications — Disaster recovery is about preparing for an recovering from any event that has a negative impact on your IT systems. A typical approach involves duplicating infrastructure to ensure the availability of spare capacity in the event of a disaster.
- File synchronization service architecture in AWS — Given the straightforward, stateless client-server architecture in which web services are viewed as resources and can be identified by their URLs, development teams are free to create file sharing and syncing applications for their departments, for enterprises, or for consumers directly.
- Media sharing service architecture in AWS — Media sharing is one of the hottest markets on the Internet. Customers have a staggering appetite for placing photos and videos on social networking sites, and for sharing their media in custom online photo albums.
- Synchronous online gaming architecutre in AWS - Highly Available, Scalable & Elastic to support Millions of Players — The below architecture is intended for online mobile & games. These workloads are a natural fit for running on Amazon Web Services, due to unexpected traffic patterns & high demaning request rates.
- Financial services grid computing in AWS — Financial services grid computing on the cloud provides dynamic scalability and elasticity for operation when compute jobs are required, and utilizing services for aggregation that simplify the development of grid software.
- Web front-end architecture in AWS for e-commerce website — Maintaining an e-commerce website with a large product catalog and global customer base can be challenging. The catalog should be searchable, and individual product pages should contain a rich information set that includes, for example, images, a PDF manual, and customer reviews.
- Checkout service architecture in AWS for e-commerce website — Managing the checkout process involves many steps, which have to be coordinated. Some steps such as credit card transactions, are subject to specific regulatory requirements. Other parts of the process involve manual labor, such as picking, packing, and shipping items from a warehouse.
- Product Marketing & Recommendation Architecture in AWS for e-commerce website — Product Marketing & Recommendation is one of features that online service websites has to create more user engagement, so online company can try something new together with users.
- Time series processing architecture in AWS — When data arrives as a succession of regular measurements, it is known as time series information. Processing of time series information poses systems scaling challenges that the elasticity of AWS services is uniquely positioned to address.
- AWS Cost Calculator for estimating your required monthly budget — Whenever you design your software architecture based on AWS, you may need to know how must cost it will consume while serving your service - following service will help you to get your estimated cost.
- Secure and Scalable LAMP Service Architecture in AWS — LAMP means Linux + Apache + MySQL + PHP that is commonly used to develop web service for Start-ups that does not require paying license fee, because all of technologies are from open source.
- Content Distribution for VOD streaming services in AWS — Below architectural diagram shows how to distribute video content to CDN (Amazon CloudFront) in AWS.
- Large scale messenger service architecture in AWS - Slack case study — Below slack architecture shows how to compose large scale messenger service based in AWS.
- Enterprise Data Lake Architecture in AWS

- AWS VPC Setup Steps — Not like architectural diagram, setting up a VPC environment is not that simple, because it requires to click lots of menus in AWS Console after creating that VPC. Based on my experience, that is not easy to remember, because it's rarely happening process and its complex clicking labors. So I think easy video guide is good enough.
- Importing a wild card domain SSL certificate into AWS Certificate Manager — AWS Certificate Manager requests three items to register your SSL certificate - you will need to copy & paste your STAR.cert to "Certificate body", your_private.key to "Certificate private key", and STAR.ca-bundle to "Certificate chain"
- Check incomplete multipart uploads if AWS S3 storage size is abnormally big huge compared to the origin storage — You should check incomplete multipart uploads if your Metrics in the S3 Management Console shows larger size than you actually use.
- What cause a 502 bad gateway error in AWS environment? — A 502 bad gateway message indicates that one server got an invalid response from another. In essence, you've connected with some kind of interim device (like an edge server) that should fetch all of the bits you need to load the page. Something about that process went wrong, and the message indicates the problem.
- "502 Bad Gateway" Error easy to happen at the combination of nginx and node.js in AWS Elastic Beanstalk — Elastic Beanstalk is a Platform as a Service (PaaS) offered by AWS that simplifies the deployment and management of applications. It supports various programming languages, frameworks, and services. Nginx, on the other hand, is a popular web server and reverse proxy server known for its performance, scalability, and configuration flexibility.
- Amazon ECS services in a VPC — Using Amazon ECS containers in a VPC, you can break up large applications into smaller pieces that can be launched and scaled separately in a safe environment. But making sure that all of these parts, inside and outside of a VPC, can talk to each other can be hard. There are different ways to make conversation easier, and each has its own pros and cons.