

AWS Cloud for Beginners : A Brief Introduction

White Paper

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Abstract—This short paper presents a brief introduction to the Amazon Web Services (AWS) Cloud and its various categories of Services. This paper is intended for cloud beginners who have little to no knowledge about AWS cloud services.

Keywords—AWS, Networking, Security, Compute, Storage, Database

1. INTRODUCTION

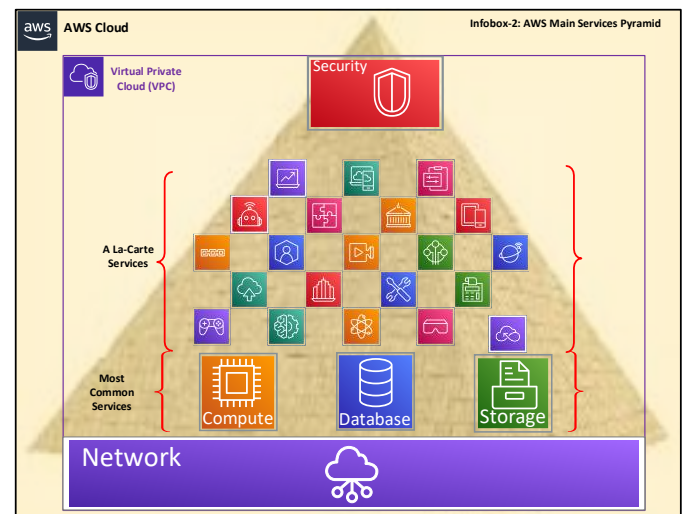
AWS is the world's most comprehensive and broadly adopted cloud platform, followed by Microsoft Azure and Google GCP. AWS manages the infrastructure all the way to the hypervisor. AWS services can be grouped into 25 main categories (as of Jan 2023) and over 200+ (main, sub/child categories) for data centers. The official AWS names and icons of these categories is shown in infobox-1 below.



From this large set of services, this paper provides the AWS services pyramid (infobox-2) and a brief pictorial introduction to the most common 5-categories of services i.e. Networking, Security, Compute, Storage, Database (infobox-3-7). The sub/child services of the same top-5 main categories is then shown in infobox 8-12. The rest of the 20 main categories are beyond the scope of this short paper as those can be learned from the AWS web portal [1].

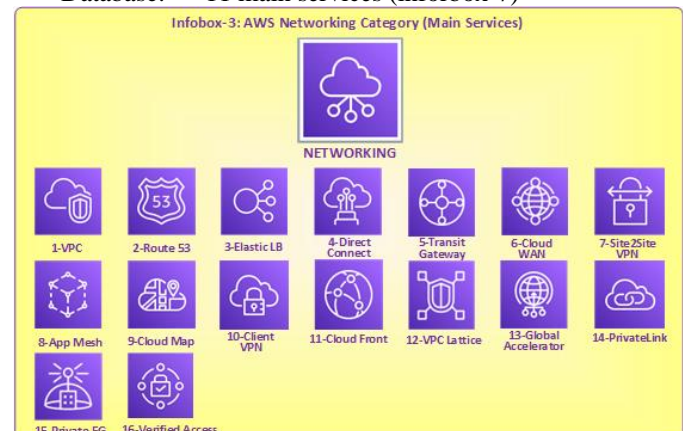
2. AWS SERVICES PYRAMID

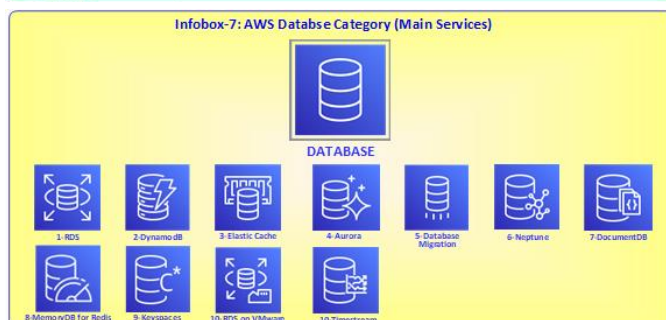
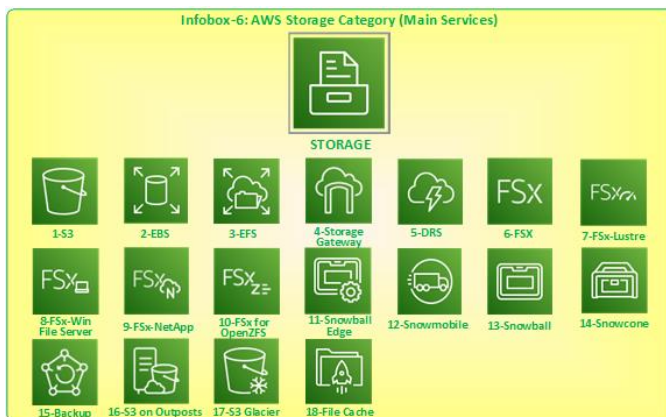
The AWS cloud main category services pyramid shows all the services in a hierarchical way of cloud building. As can be seen, the base of all of the AWS services is the “Networking” category, upon which resides “ALL” of the rest of the services. The next three most used categories i.e. Compute, Storage and Database sits on top of the Networking category and the tip of the pyramid for all the AWS services is the Security category.



From the pyramid visual (infobox-2), we can clearly see the top-5 main category services as “Networking, Security, Compute, Storage and Database”. Most enterprise companies opting to go AWS cloud will atleast use these five main category of services. The rest of the main services are optional and can be used per demand. As of Jan-2023, the main services offered in each of these top-5 main categories.

- Networking: 16 main services (infobox-3)
- Security: 26 main services (infobox-4)
- Compute: 30 main services (infobox-5)
- Storage: 18 main services (infobox-6)
- Database: 11 main services (infobox-7)





Details about the other main services within the pyramid is beyond the scope of this paper.

3. TOP-5 SUBCATEGORY/CHILD SERVICES

This section provides more details about the most commonly used subcategory/child services in the top-5 Main categories of AWS services. The next set of pictorials (infobox 8-12) show the main and the sub/child services offered within these categories along with their official names and icons. Please note that for the purposes of introduction, not all main and child services are listed in this pictorial and only the most commonly used ones have been shown.

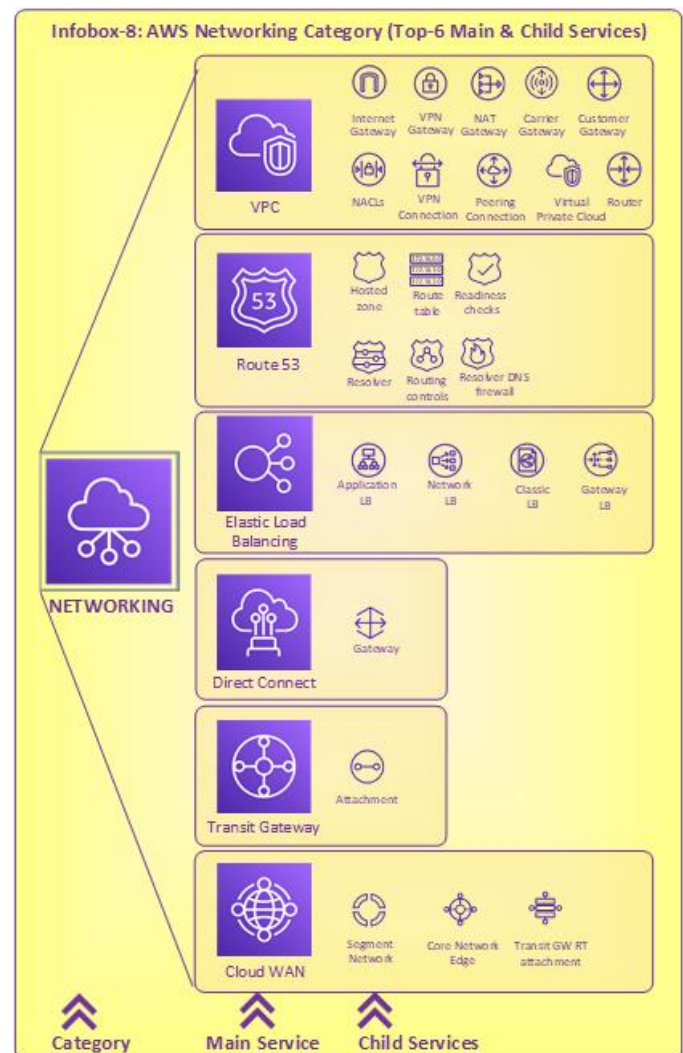
Networking: The most common services are the VPC, Route53, Elastic Load Balancing, Direct Connect, Transit Gateway and Cloud WAN.

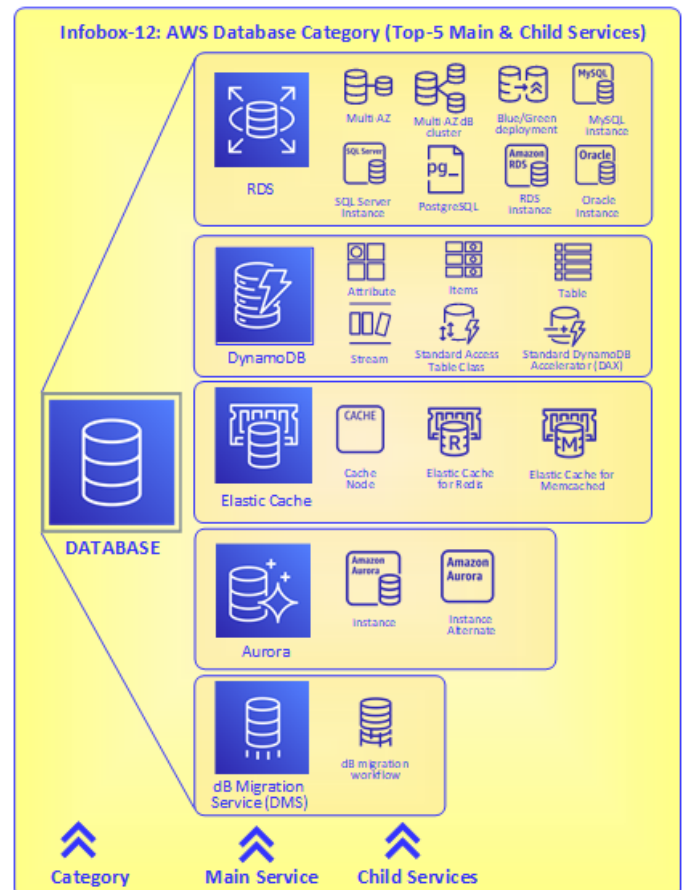
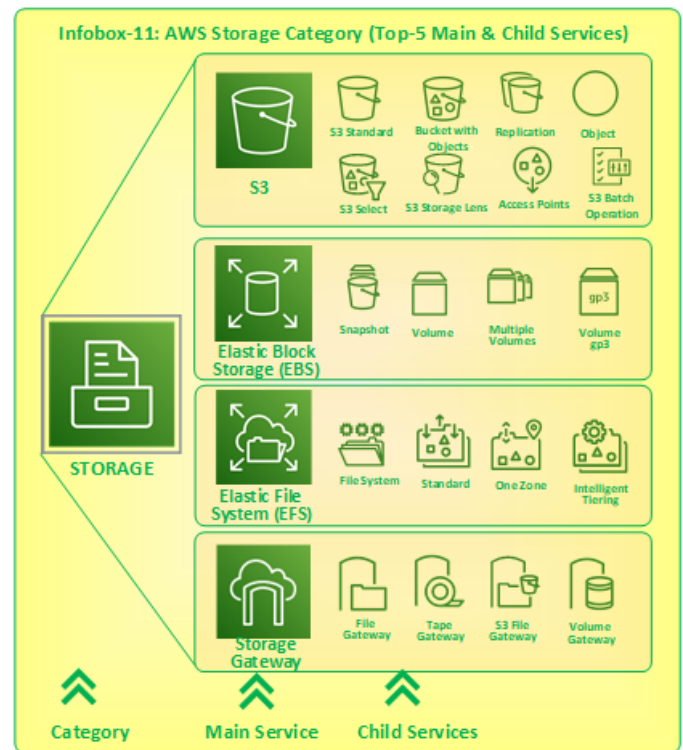
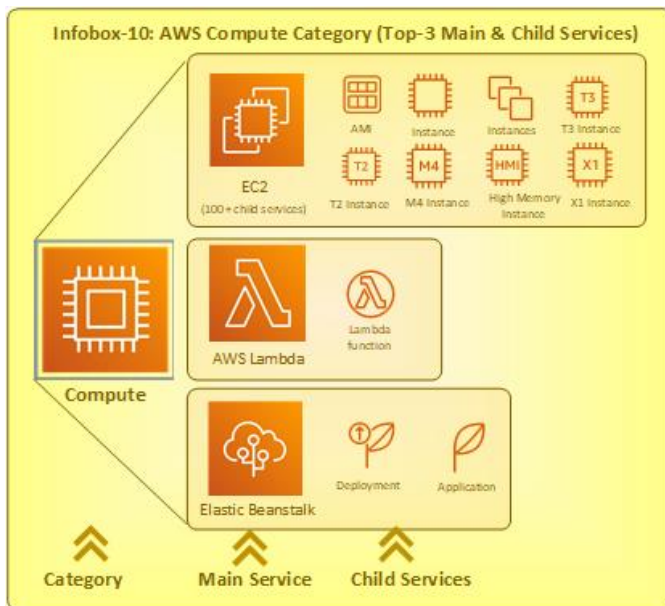
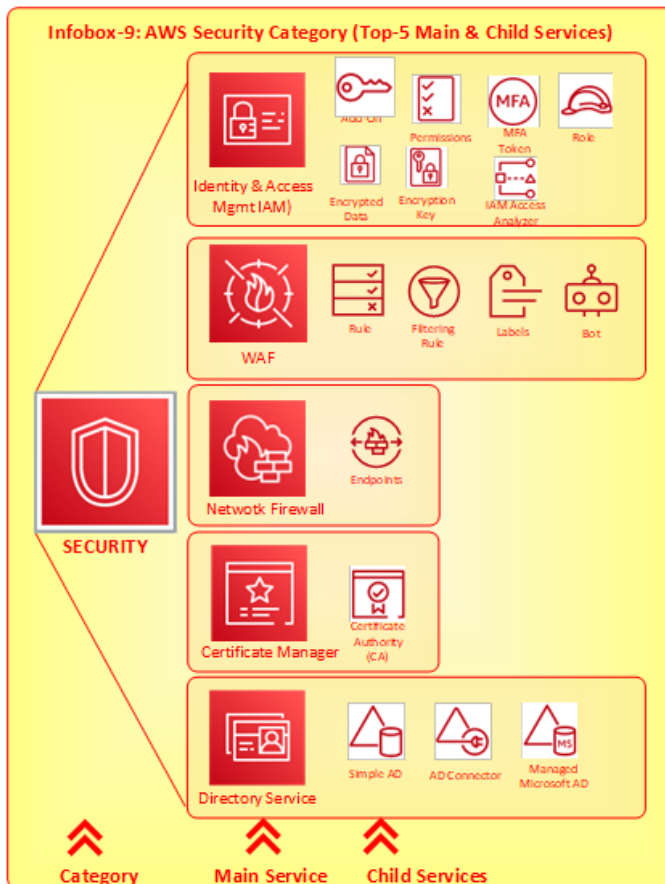
Security: The most common services are the Identity and Access Management (IAM), Web Access Firewall (WAF), Network Firewall, Certificate Manager and Directory Service.

Compute: The most common services are the EC2, Lambda and Elastic Beanstalk.

Storage: The most common services are the S3, Elastic Block Storage (EBS), Elastic File System (EFS) and Storage Gateway.

Database: The most common services are the Relational database service (RDS). DynamoDB, Elastic Cache, AWS Aurora and DB Migration Service (DMS)





Note: The Compute category main service of “EC2” has a lot of child services but we have listed a few common ones. More details about EC2 services are available on the AWS portal [1]. Infobox-10, 11 and 12 cover the details of AWS Compute, Storage and Database categories and show the relevant main services and the child services in the pictorials, however, please note that not all main and child services have been shown. Details of every service is beyond the scope of this paper. In this paper our intension is to provide introduction to the AWS service categories and their services and to get familiarized with the commonly used services.

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4. REFERENCES

[1] <https://aws.amazon.com>.