aws re/start

AWS Certified Cloud Practitioner Exam Preparation

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Introduction

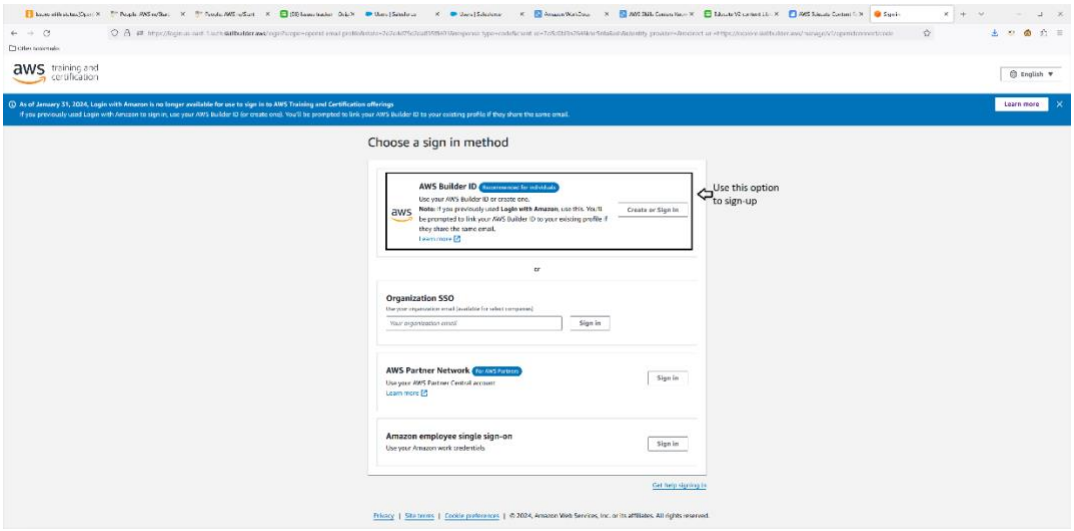
The following materials will help you to review material in the final stages of the CLF C02 preparation.

Note: Accessing some of these resources may require signing up for an AWS Skill Builder account. However, you are not required to access any content that is not available for free.

How to sign-up for Skill Builder

AWS Skill Builder is available at https://explore.skillbuilder.aws/learn.

Leverage the AWS Builder ID option to create the learner account.



Please understand that you are not obligated to use any content in AWS Skill Builder that requires payment to access.

Additional preparation material

Use the following materials to help prepare for the exam:

- "AWS Certified Cloud Practitioner" exam detail page at https://aws.amazon.com/certification/certified-cloud-practitioner/
- Further suggestions for exam preparation are explained in the AWS Training and Certification Blog, here: https://aws.amazon.com/blogs/training-and-certification/coming-soon-updates-to-aws-certified-cloud-practitioner-exam/

The following information has been curated to help AWS re/Start Learners to prepare for the latest version of the exam.

- Review exam preparation information under "Prepare for the updated exam" at https://aws.amazon.com/certification/certified-cloud-practitioner/#Exam_updates

- Review information on the current version of the exam at https://aws.amazon.com/blogs/training-and-certification/coming-soon-updates-to-aws-certified-cloud-practitioner-exam/ (Links are included at the bottom of this page to localized language versions of this content.)
- Review the Cloud Practitioner Exam Guide to gain a general understanding of the latest version of the exam at https://d1.awsstatic.com/training-and-certification/docs-cloud-practitioner/AWS-Certified-Cloud-Practitioner_Exam-Guide_C02.pdf
- Review additional resources related to the AWS Cloud Adoption Framework (CAF):
    - AWS Cloud Adoption Framework
    - eBook: https://d1.awsstatic.com/whitepapers/aws-caf-ebook.pdf (Localized language versions of the eBook can be accessed at https://docs.aws.amazon.com/whitepapers/latest/overview-aws-cloud-adoption-framework/welcome.html)
    - Additional CAF learning is available in Skill Builder at https://explore.skillbuilder.aws/learn/course/external/view/elearning/189/introduction-to-the-aws-cloud-adoption-framework-caf

Additional AWS services

Review services mentioned in the exam blueprint not covered in depth in the AWS re/Start teaching material.

Analytics

AWS Data Exchange: AWS Data Exchange is the world's most comprehensive service for third-party data sets.

AWS Data Exchange is the only data marketplace with more than 3,500 products from over 300 providers delivered —through files, APIs, or Amazon Redshift queries— directly to the data lakes, applications, analytics, and machine learning models that use it.

With AWS Data Exchange, the user can streamline all third-party data consumption, from existing subscriptions —which the user can migrate at no additional cost — to future data subscriptions, in one place.

As an AWS service, AWS Data Exchange is secure and compliant, integrated with AWS and third-party tools and services, and offers consolidated billing and subscription management.

For more information on AWS Data Exchange see the AWS Data Exchange page (AWS Data Exchange phttps://aws.amazon.com/data-exchange/why-aws-data-exchange/age).

Amazon EMR: Amazon EMR is a web service that makes it easy to process vast amounts of data efficiently using Apache Hadoop and services offered by Amazon Web Services.

For more information on Amazon EMR, see the Amazon EMR page (https://aws.amazon.com/emr/) and the Amazon EMR documentation (https://docs.aws.amazon.com/emr/index.html).

AWS Glue: AWS Glue is a scalable, serverless data integration service that makes it easy to discover, prepare, and combine data for analytics, machine learning, and application development.

For more information on AWS Glue, see the AWS Glue page (https://aws.amazon.com/glue/) and the AWS Glue documentation (https://docs.aws.amazon.com/glue/index.html).

Amazon Managed Streaming for Apache Kafka (Amazon MSK): Apache Kafka (https://kafka.apache.org/) is an open-source platform for building real-time streaming data pipelines and applications. However, Apache Kafka is difficult to architect, operate, and manage on your own. Amazon MSK is a fully managed service that makes it easy for to build and run applications that use Apache Kafka to process streaming data without needing Apache Kafka infrastructure management expertise. For more information on Amazon Managed Streaming for Apache Kafka, see the Amazon MSK (https://aws.amazon.com/msk) page and the Amazon MSK documentation (https://aws.amazon.com/msk/resources/).

Amazon OpenSearch Service: Amazon OpenSearch Service is a managed service that makes it easy to deploy, operate, and scale OpenSearch clusters in the AWS Cloud. Amazon OpenSearch Service supports OpenSearch and legacy Elasticsearch OSS (up to 7.10, the final open source version of the software).

For more information on Amazon EMR, see the Amazon OpenSearch Service page (https://aws.amazon.com/opensearch-service/) and the Amazon OpenSearch Service documentation (https://docs.aws.amazon.com/opensearch-service/).

Application Integration

Amazon EventBridge: EventBridge is a serverless service that uses events to connect application components together, making it easier to build scalable event-driven applications. Use it to route events from sources such as home-grown applications, AWS services, and third- party software to consumer applications across the organization. EventBridge provides a simple and consistent way to ingest, filter, transform, and deliver events so users can build new applications quickly.

EventBridge event buses are well suited for many-to-many routing of events between event-driven services. EventBridge Pipes (https://docs.aws.amazon.com/eventbridge/latest/userguide/eb-pipes.html) is intended for point-to-point integrations between these sources (https://docs.aws.amazon.com/eventbridge/latest/userguide/eb-pipes-event-source.html) and targets (https://docs.aws.amazon.com/eventbridge/latest/userguide/eb-pipes-event-target.html), with support for advanced transformations and enrichment (https://docs.aws.amazon.com/eventbridge/latest/userguide/pipes-enrichment.html).

For more information on Amazon EventBridge, see the Amazon EventBridge page (https://aws.amazon.com/eventbridge/) and the Amazon EventBridge documentation (https://docs.aws.amazon.com/eventbridge/latest/userguide/eb-what-is.html).

AWS Step Functions: AWS Step Functions is a visual workflow service that helps developers use AWS services to build distributed applications, automate processes, orchestrate microservices, and create data and machine learning (ML) pipelines.

AWS Step Functions is a serverless orchestration service that lets the user integrate with AWS Lambda (https://aws.amazon.com/lambda/) functions and other AWS services to build business-critical applications. Through Step Functions' graphical console, the user sees their application's workflow as a series of event-driven steps.

Step Functions is based on state machines and tasks. In Step Functions, a workflow is called a state machine, which is a series of event-driven steps. Each step in a workflow is called a state. A Task (https://docs.aws.amazon.com/step-functions/latest/dg/amazon-states-language-task-state.html) state represents a unit of work that another AWS service, such as AWS Lambda, performs. A Task state can call any AWS service or API.

For more information on AWS Step Functions, see the AWS Step Functions page (https://aws.amazon.com/step-functions/) and the AWS Step Functions documentation (https://docs.aws.amazon.com/step-functions/latest/dg/welcome.html).

Business Productivity

Amazon Connect: Amazon Connect is an omnichannel (https://docs.aws.amazon.com/connect/latest/adminguide/amazon-connect-glossary.html#omnichannel-def) cloud contact center. The user can set up a contact center (https://docs.aws.amazon.com/connect/latest/adminguide/amazon-connect-get-started.html) in a few steps, add agents who are located anywhere, and start engaging with customers.

The user can create personalized experiences for customers using omnichannel communications. For example, the user can dynamically offer chat and voice contact (https://docs.aws.amazon.com/connect/latest/adminguide/use-channel-contact-attribute.html), based on such factors as customer preference and estimated wait times. Agents, meanwhile, conveniently handle all customers from just one interface (https://docs.aws.amazon.com/connect/latest/adminguide/agent-user-guide.html). For example, they can chat with customers, and create or respond to tasks as they are routed to them.

Amazon Connect is an open platform that the user can integrate with other enterprise applications, such as Salesforce (https://docs.aws.amazon.com/connect/latest/adminguide/salesforce-integration.html). The user can use Amazon Connect with other AWS services to provide innovative new experiences for customers.

For more information on Amazon Connect, see the Amazon Connect page (https://aws.amazon.com/connect/) and the Amazon Connect documentation (https://docs.aws.amazon.com/connect/latest/adminguide/what-is-amazon-connect.html).

Amazon Simple Email Service (Amazon SES): Amazon SES is an email platform that provides an easy, cost-effective way for users to send and receive email using their own email addresses and domains.

For example, the user can send marketing emails such as special offers, transactional emails such as order confirmations, and other types of correspondence such as newsletters. When the user uses Amazon SES to receive mail, the user can develop software solutions such as email autoresponders, email unsubscribe systems, and applications that generate customer support tickets from incoming emails.

For more information about topics related to Amazon SES, see the AWS Messaging and Targeting Blog (https://aws.amazon.com/blogs/messaging-and-targeting/).

For more information on Amazon Simple Email Service, see the Amazon Simple Email Service page (https://aws.amazon.com/ses/) and the Amazon Simple Email Service documentation (https://docs.aws.amazon.com/pdfs/ses/latest/dg/ses-dg.pdf).

Compute

AWS Local Zones: AWS Local Zones are a type of infrastructure deployment that places compute, storage, database, and other select AWS services close to large population and industry centers.

For more information on AWS Local Zones, see the AWS local Zones page (https://aws.amazon.com/about-aws/global-infrastructure/localzones/) and the AWS Local Zones documentation (https://docs.aws.amazon.com/local-zones/latest/ug/what-is-aws-local-zones.html).

AWS Outposts: AWS Outposts is a family of fully managed solutions delivering AWS infrastructure and services to virtually any on-premises or edge location for a truly consistent hybrid experience. Outposts solutions allow the user to extend and run native AWS services on premises, and is available in a variety of form factors.

With AWS Outposts, the user can run some AWS services locally and connect to a broad range of services available in the local AWS Region. Run applications and workloads on premises using familiar AWS services, tools, and APIs. Outposts supports workloads and devices requiring low latency access to on-premises systems, local data processing, data residency, and application migration with local system interdependencies.

For more information on AWS Outposts, see the AWS Outposts page (https://aws.amazon.com/outposts/) and the AWS Outposts documentation (https://docs.aws.amazon.com/outposts/).

AWS Wavelength: AWS Wavelength enables developers to build applications that deliver ultra-low latencies to mobile devices and end users. Wavelength deploys standard AWS compute and storage services to the edge of communications service providers' (CSP) 5G networks. The user can extend a virtual private cloud (VPC) to one or more Wavelength Zones. The user can then use AWS resources like Amazon Elastic Compute Cloud (Amazon EC2) instances to run the applications that require ultra-low latency and a connection to AWS services in the Region.

For more information on AWS Wavelength, see the AWS Wavelength page (https://aws.amazon.com/wavelength/) and the AWS Wavelength documentation (https://docs.aws.amazon.com/wavelength/latest/developerguide/what-is-wavelength.html).

Containers

Amazon Elastic Container Registry (Amazon ECR): Amazon ECR is an AWS managed container image registry service that is secure, scalable, and reliable. Amazon ECR supports private repositories with resource-based permissions using AWS IAM. This is so that specified users or Amazon EC2 instances can access your container repositories and images. The user can use their preferred CLI to push, pull, and manage Docker images, Open Container Initiative (OCI) images, and OCI compatible artifacts.

Amazon ECR supports public container image repositories as well. For more information, see What is Amazon ECR Public (https://docs.aws.amazon.com/AmazonECR/latest/public/what-is-ecr.html) in the Amazon ECR Public User Guide.

The AWS container services team maintains a public roadmap on GitHub. It contains information about what the teams are working on and allows all AWS customers the ability to give direct feedback.

For more information on Amazon Elastic Container Registry, see the Amazon Elastic Container Registry page (https://aws.amazon.com/ecr/) and the Amazon Elastic Container Registry documentation (https://docs.aws.amazon.com/AmazonECR/latest/public/what-is-ecr.html).

Customer Engagement

AWS Activate for Startups: As an AWS Activate member, Startups get free tools, resources, content and expert support to accelerate at every stage. Benefits include: more than 40 solution templates to build and deploy the product, AWS expert curated tips for business and technical needs, and best practices training from Learn on AWS. When ready, startups can apply for up to $100,000 in AWS Activate credits. AWS Activate is a solution to a scalable, reliable, and cost-optimized startup.

For more information on AWS Activate for Startups, see the AWS Activate for Startups (https://aws.amazon.com/activate/) page.

AWS IQ: AWS IQ enables professionals to find and engage experts on AWS quickly and easily.

All experts on AWS IQ who respond to custom requests are AWS Certified, and must maintain a high success rate. There is no cost to post a request. Users pay for work as outlined in the proposal – either upfront, on a schedule, or in milestones. Users should consider using AWS IQ when they need help getting started with AWS, kick starting a new project, or completing an existing project. If users know who they like to work with, they can also directly message any expert with a public profile.

For more information on AWS IQ, see the AWS IQ (https://iq.aws.amazon.com/) page.

Databases

Amazon MemoryDB for Redis: Amazon MemoryDB for Redis is a Redis-compatible, durable, in-memory database service that delivers ultra-fast performance. It is purpose-built for modern applications with microservices architectures.

Amazon MemoryDB is compatible with Redis, a popular open source data store, enabling customers to quickly build applications using the same flexible and friendly Redis data structures, APIs, and commands that they already use today. With Amazon MemoryDB, all of the user's data is stored in memory, which enables the user to achieve microsecond read and single-digit millisecond write latency and high throughput. Amazon MemoryDB also stores data durably across multiple Availability Zones (AZs) using a distributed transactional log to enable fast failover, database recovery, and node restarts. Delivering both in-memory performance and Multi-AZ durability, Amazon MemoryDB can be used as a high-performance primary database for microservices applications eliminating the need to separately manage both a cache and durable database.

For more information on Amazon MemoryDB for Redis, see the Amazon MemoryDB for Redis page (https://aws.amazon.com/memorydb/).

Amazon Neptune: Amazon Neptune is a fast, reliable, fully managed graph database service that makes it easy to build and run applications that work with highly connected datasets. The core of Neptune is a purpose-built, high-performance graph database engine. This engine is optimized for storing billions of relationships and querying the graph with milliseconds latency. Neptune supports the popular property-graph query languages Apache TinkerPop Gremlin and Neo4j's openCypher, and the W3C's RDF query language, SPARQL. This enables the user to build queries that efficiently navigate highly connected datasets. Neptune powers graph use cases such as recommendation engines, fraud detection, knowledge graphs, drug discovery, and network security.

Neptune is highly available, with read replicas, point-in-time recovery, continuous backup to Amazon S3, and replication across Availability Zones. Neptune provides data security features, with support for encryption at rest and in transit. Neptune is fully managed, so the user no longer needs to worry about database management tasks like hardware provisioning, software patching, setup, configuration, or backups.

To learn more about using Amazon Neptune, we recommend starting with the following sections:

- Getting started with Amazon Neptune (https://docs.aws.amazon.com/neptune/latest/userguide/graph-get-started.html)
- Overview of Amazon Neptune features (https://docs.aws.amazon.com/neptune/latest/userguide/feature-overview.html)

For more information on Amazon Neptune, see the Amazon Neptune page (https://aws.amazon.com/neptune/) and the Amazon Neptune documentation (https://docs.aws.amazon.com/neptune/latest/userguide/intro.html).

Developer Tools

AWS AppConfig: AWS AppConfig (http://aws.amazon.com/systems-manager/features/appconfig/), is a capability of AWS Systems Manager, to create, manage, and quickly deploy application configurations. A *configuration* is a collection of settings that influence the behavior of an application. AWS AppConfig can be used with applications hosted on Amazon Elastic Compute Cloud (Amazon EC2) instances, AWS Lambda, containers, mobile applications, or IoT devices.

AWS AppConfig helps deploy application configuration in a managed and a monitored way just like code deployments, but without the need to deploy the code if a configuration value changes. AWS AppConfig scales with the infrastructure so configurations can be deployed to any number of Amazon Elastic Compute Cloud (EC2) instances, containers, AWS Lambda functions, mobile apps, IoT devices, or on-premises instances. AWS AppConfig enables updates to configurations by entering changes through the API or AWS Management Console. AWS AppConfig allows validation of those changes semantically and syntactically to ensure configurations are aligned to their respective applications' expectation, thus helping prevent potential outages. An application configurations can be deployed with similar best practices as code deployments, including staging rollouts, monitoring alarms, and rolling back changes should an error occur.

For more information on AWS AppConfig, see the AWS AppConfig page (https://aws.amazon.com/systems-manager/features/appconfig/) and the AWS AppConfig documentation (https://docs.aws.amazon.com/appconfig/latest/userguide/what-is-appconfig.html).

AWS CloudShell: AWS CloudShell is a browser-based shell that makes it easier to securely manage, explore, and interact with AWS resources. CloudShell is pre-authenticated with the user's console credentials. Common development and operations tools are pre-installed, so there's no need to install or configure software on the local machine. With CloudShell, users can quickly run scripts with the AWS Command Line Interface (AWS CLI), experiment with AWS service APIs using the AWS SDKs, or use a range of other tools to be more productive

For more information on AWS CloudShell, see the AWS CloudShell page (https://aws.amazon.com/cloudshell/).

AWS CodeArtifact: AWS CodeArtifact is a fully managed artifact repository service that makes it easy for organizations of any size to securely store, publish, and share software packages used in their software

development process. CodeArtifact works with commonly used package managers and build tools like Maven and Gradle (Java), npm and yarn (JavaScript), or pip and twine (Python), or NuGet (.NET).

For more information on AWS CodeArtifact, see the AWS CodeArtifact page (https://aws.amazon.com/codeartifact/).

AWS X-Ray: AWS X-Ray is a service that collects data about requests that the user's application serves, and provides tools to view, filter, and gain insights into that data to identify issues and opportunities for optimization. For any traced request to an application, users can see detailed information not only about the request and response, but also about calls that the application makes to downstream AWS resources, microservices, databases, and web APIs.

For more information on AWS X-Ray, see the AWS X-Ray page (https://aws.amazon.com/xray/) and the AWS X-Ray documentation (https://docs.aws.amazon.com/xray/latest/devguide/aws-xray.html).

End-User Computing

Amazon AppStream 2.0: AppStream 2.0 is an AWS End User Computing (EUC) service that can be configured for SaaS application streaming or delivery of virtual desktops with selective persistence. When AppStream 2.0 is used for virtual desktops, saved files and application settings remain persistent between user sessions, and a fresh virtual desktop is assigned to the user every time they log on.

For more information, see the Amazon AppStream 2.0 page (https://aws.amazon.com/appstream2/) and the Amazon Appstream documentation (https://docs.aws.amazon.com/appstream2/).

Amazon WorkSpaces: Amazon WorkSpaces is a fully managed desktop virtualization service for Windows, Linux, and Ubuntu, that allows the user to access resources from any supported device.

For more information, see the Amazon WorkSpaces page (https://aws.amazon.com/workspaces/all-inclusive/) and the Amazon WorkSpaces documentation (https://docs.aws.amazon.com/workspaces/index.html).

Amazon WorkSpaces Web: WorkSpaces Web is a low cost, fully managed, Linux-based service, designed to facilitate secure browser access to internal websites and software-as-a-service (SaaS) applications from existing web browsers, without the administrative burden of appliances, managing infrastructure, specialized client software, or virtual private network (VPN) connections.

For more information, see the Amazon WorkSpaces Web page (https://aws.amazon.com/workspaces/web/) and the Amazon WorkSpaces documentation (https://docs.aws.amazon.com/workspaces-web/).

Front-End Web and Mobile

AWS Amplify: AWS Amplify is a complete solution that lets frontend web and mobile developers easily build, ship, and host full-stack applications on AWS, with the flexibility to leverage the breadth of AWS services as use cases evolve. No cloud expertise needed.

For more information, see the Amazon Amplify page (https://aws.amazon.com/amplify/) and the AWS Amplify documentation (https://docs.aws.amazon.com/amplify/).

AWS AppSync: AWS AppSync creates serverless GraphQL and Pub/Sub APIs that simplify application development through a single endpoint to securely query, update, or publish data.

For more information, see the AWS AppSync page (https://aws.amazon.com/appsync/) and the AWS AppSync documentation (https://docs.aws.amazon.com/appsync/).

AWS Device Farm: AWS Device Farm is an application testing service that lets the user improve the quality of their web and mobile apps by testing them across an extensive range of desktop browsers and real mobile devices; without having to provision and manage any testing infrastructure. The service enables the user to run their tests concurrently on multiple desktop browsers or real devices to speed up the execution of the test suite, and generates videos and logs to help the user quickly identify issues with their app.

For more information, see the AWS Device Farm page (https://aws.amazon.com/device-farm/) and the AWS Device Farm documentation (https://docs.aws.amazon.com/devicefarm/).

Internet of Things (IoT)

AWS IoT Core: AWS IoT Core lets the user connect billions of IoT devices and route trillions of messages to AWS services without managing infrastructure.

For more information, see the AWS IoT Core page (https://aws.amazon.com/iot-core/) and the AWS IoT Core documentation (https://docs.aws.amazon.com/iot/).

AWS IoT Greengrass: AWS IoT Greengrass is an open-source edge runtime and cloud service for building, deploying, and managing device software.

For more information, see the AWS IoT Greengrass page (https://aws.amazon.com/greengrass/) and the AWS IoT Greengrass documentation (https://docs.aws.amazon.com/greengrass/).

Machine Learning

Amazon Comprehend: Amazon Comprehend is a natural-language processing (NLP) service that uses machine learning to uncover valuable insights and connections in text.

For more information, see the Amazon Comprehend page (https://aws.amazon.com/comprehend/) and the Amazon Comprehend documentation (https://docs.aws.amazon.com/comprehend/).

Amazon Kendra: Amazon Kendra is an intelligent enterprise search service that helps the user search across different content repositories with built-in connectors.

For more information, see the Amazon Kendra page (https://aws.amazon.com/kendra/) and the Amazon Kendra documentation (https://docs.aws.amazon.com/kendra/).

Amazon Lex: Amazon Lex is a fully managed artificial intelligence (AI) service with advanced natural language models to design, build, test, and deploy conversational interfaces in applications.

For more information, see the Amazon Lex page (https://aws.amazon.com/lex/) and the Amazon Lex documentation (https://docs.aws.amazon.com/lex/).

Amazon Polly: Amazon Polly uses deep learning technologies to synthesize natural-sounding human speech, so the user can convert articles to speech. With dozens of lifelike voices across a broad set of languages, use Amazon Polly to build speech-activated applications.

For more information, see the Amazon Polly page (https://aws.amazon.com/polly/) and the Amazon Polly documentation (https://docs.aws.amazon.com/polly/).

Amazon Rekognition: Amazon Rekognition offers pre-trained and customizable computer vision (CV) capabilities to extract information and insights from images and videos.

For more information, see the Amazon Rekognition page (https://aws.amazon.com/rekognition/) and the Amazon Rekognition documentation (https://docs.aws.amazon.com/rekognition/).

Amazon SageMaker: Amazon SageMaker is a fully managed machine learning service. With Amazon SageMaker, data scientists and developers can quickly build and train machine learning models, and then deploy them into a production-ready hosted environment.

For more information, see the Amazon SageMaker page (https://aws.amazon.com/sagemaker/) and the Amazon SageMaker documentation (https://docs.aws.amazon.com/sagemaker/).

Amazon Textract: Amazon Textract is a machine learning (ML) service that automatically extracts text, handwriting, and data from scanned documents. It goes beyond simple optical character recognition (OCR) to identify, understand, and extract data from forms and tables. Textract uses ML to read and process any type of document, accurately extracting text, handwriting, tables, and other data with no manual effort.

For more information, see the Amazon Textract page (https://aws.amazon.com/textract/) and the Amazon Textract documentation (https://docs.aws.amazon.com/textract/).

Amazon Transcribe: Amazon Transcribe provides transcription services for audio files and audio streams. It uses advanced machine learning technologies to recognize spoken words and transcribe them into text.

For more information, see the Amazon Transcribe page (https://aws.amazon.com/transcribe/) and the Amazon Transcribe documentation (https://docs.aws.amazon.com/transcribe/).

Amazon Translate: Amazon Translate is a neural machine translation service that delivers fast, high-quality, affordable, and customizable language translation.

For more information, see the Amazon Translate page (https://aws.amazon.com/translate/) and the Amazon Translate documentation (https://docs.aws.amazon.com/translate/).

Management and Governance

AWS Compute Optimizer: AWS Compute Optimizer recommends optimal AWS compute resources for workloads. It can help reduce costs and improve performance, by using machine learning to analyze historical utilization metrics. Compute Optimizer helps the user to choose the optimal resource configuration based on utilization data.

For more information, see the AWS Compute Optimizer page (https://aws.amazon.com/compute-optimizer/) and the AWS Compute Optimizer documentation (https://docs.aws.amazon.com/compute-optimizer/).

AWS Control Tower: AWS Control Tower is a service that enables users to enforce and manage governance rules for security, operations, and compliance at scale across all their organizations and accounts in the AWS Cloud.

For more information, see the AWS Control Tower page (https://aws.amazon.com/controltower/) and the AWS Control Tower documentation (https://docs.aws.amazon.com/controltower/).

AWS Health Dashboard: The AWS Health Dashboard is the single place to learn about the availability and operations of AWS services. The user can view the overall status of AWS services, and they can sign in to view personalized communications about their particular AWS account or organization. The account view provides deeper visibility into resource issues, upcoming changes, and important notifications.

For more information, see the AWS Health Dashboard page (https://aws.amazon.com/premiumsupport/technology/aws-health-dashboard/) and Getting Started with Your AWS Health Dashboard – Your Account Health (https://docs.aws.amazon.com/health/latest/ug/getting-started-health-dashboard.html)

AWS Launch Wizard: AWS Launch Wizard offers a guided way of sizing, configuring, and deploying AWS resources for third party applications, such as Microsoft SQL Server Always On and HANA based SAP systems, without the need to manually identify and provision individual AWS resources. To start, the user inputs their application requirements, including performance, number of nodes, and connectivity on the service console. Launch Wizard then identifies the right AWS resources, such as EC2 instances and EBS volumes, to deploy and run their application. Launch Wizard provides an estimated cost of deployment, and lets the user modify their resources to instantly view an updated cost assessment. Once the user approves the AWS resources, Launch Wizard automatically provisions and configures the selected resources to create a fully-functioning, production-ready application.

AWS Launch Wizard also creates CloudFormation templates that can serve as a baseline to accelerate subsequent deployments. Launch Wizard is available to users at no additional charge. Users only pay for the AWS resources that are provisioned for running their solution.
For more information, see the AWS Launch Wizard page (https://aws.amazon.com/launchwizard/) and the AWS Launch Wizard documentation (https://docs.aws.amazon.com/launchwizard/).

AWS Resource Groups and Tag Editor: A user can use resource groups to organize their AWS resources. AWS Resource Groups is the service that lets users manage and automate tasks on large numbers of resources at one time.

Tags are key and value pairs that act as metadata for organizing AWS resources. With most AWS resources, users have the option of adding tags when creating the resource. Examples of resources

include an Amazon Elastic Compute Cloud (Amazon EC2) instance, an Amazon Simple Storage Service (Amazon S3) bucket, or a secret in AWS Secrets Manager. However, users can also add tags to multiple, supported resources at once by using Tag Editor.

For more information, see the AWS Resource Groups documentation (https://docs.aws.amazon.com/pdfs/ARG/latest/userguide/resgrps-ug.pdf) and the Tag Editor documentation (https://docs.aws.amazon.com/pdfs/tag-editor/latest/userguide/tag-editor-userguide.pdf).

AWS Service Catalog: AWS Service Catalog enables IT administrators to create, manage, and distribute portfolios of approved products to end users, who can then access the products they need in a personalized portal. Typical products include servers, databases, websites, or applications that are deployed using AWS resources (for example, an Amazon EC2 instance or an Amazon RDS database). Users can control which users have access to specific products to enforce compliance with organizational business standards, manage product lifecycles, and help users find and launch products with confidence.

For more information, see the AWS Service Catalog page (https://aws.amazon.com/servicecatalog/) and the AWS Service Catalog documentation (https://docs.aws.amazon.com/pdfs/servicecatalog/latest/userguide/service-catalog-ug.pdf).

Migration and Transfer

AWS Application Discovery Service: The AWS Application Discovery Service helps systems integrators quickly and reliably plan application migration projects by automatically identifying applications running in on-premises data centers, their associated dependencies, and their performance profile.

For more information, see the AWS Application Discovery Service page (https://aws.amazon.com/application-discovery/) and the AWS Application Discovery Service documentation (https://docs.aws.amazon.com/pdfs/application-discovery/latest/userguide/appdiscovery-ug.pdf).

AWS Application Migration Service: AWS Application Migration Service (MGN) is a highly automated lift-and-shift (rehost) solution that simplifies, expedites, and reduces the cost of migrating applications to AWS. It allows companies to lift-and-shift a large number of physical, virtual, or cloud servers without compatibility issues, performance disruption, or long cutover windows.

For more information , see the AWS Application Migration Service page (https://aws.amazon.com/application-migration-service/) and the AWS Application Migration Service documentation (https://docs.aws.amazon.com/pdfs/mgn/latest/ug/user-guide.pdf).

AWS Migration Hub: AWS Migration Hub (Migration Hub) provides a single location to track migration tasks across multiple AWS tools and partner solutions. With Migration Hub, users can choose the AWS and partner migration tools that best fit their needs while providing visibility into the status of their migration projects. Migration Hub also provides key metrics and progress information for individual applications, regardless of which tools are used to migrate them.

For more information, see the AWS Migration Hub page (https://aws.amazon.com/migration-hub/) and the AWS Migration Hub documentation (https://docs.aws.amazon.com/pdfs/migrationhub/latest/ug/hub-api.pdf).

AWS Transfer Family: AWS Transfer Family is a secure transfer service that enables you to transfer files into and out of AWS storage services. Transfer Family is part of the AWS Cloud platform.

For more information, see the AWS Transfer Family page (https://aws.amazon.com/aws-transfer-family/) and the AWS Transfer family documentation (https://docs.aws.amazon.com/pdfs/transfer/latest/userguide/transferfamily-ug.pdf).

Security, Identity, and Compliance

AWS Audit Manager: AWS Audit Manager helps users continually audit their AWS usage to simplify how they manage risk and compliance with regulations and industry standards. Audit Manager automates evidence collection so users can more easily assess whether their policies, procedures, and activities—also known as *controls*—are operating effectively. When it's time for an audit, Audit Manager helps users manage stakeholder reviews of their controls. This means that they can build audit-ready reports with much less manual effort.

For more information, see the AWS Audit Manager page (https://aws.amazon.com/audit-manager/) and the AWS Audit Manager documentation (https://docs.aws.amazon.com/pdfs/audit-manager/latest/userguide/user-guide.pdf.pdf).

AWS Directory Service: AWS Directory Service provides multiple ways to set up and run Microsoft Active Directory with other AWS services such as Amazon EC2, Amazon RDS for SQL Server, FSx for Windows File Server, and AWS IAM Identity Center (successor to AWS Single Sign-On). AWS Directory Service for Microsoft Active Directory, also known as AWS Managed Microsoft AD, enables a user's directory-aware workloads and AWS resources to use a managed Active Directory in the AWS Cloud.

For more information, see the AWS Directory Service page (https://aws.amazon.com/directoryservice/) and the AWS Directory Service documentation (https://docs.aws.amazon.com/pdfs/directoryservice/latest/admin-guide/directoryservice-admin-guide.pdf).

AWS Firewall Manager: AWS Firewall Manager simplifies a user's AWS WAF administration and maintenance tasks across multiple accounts and resources. With AWS Firewall Manager, users set up their firewall rules just once. The service automatically applies these rules across accounts and resources, even as new resources are added.

For more information, see the AWS Firewall Manager page (https://aws.amazon.com/firewall-manager/) and the AWS Firewall Manager documentation (https://docs.aws.amazon.com/pdfs/waf/latest/developerguide/waf-dg.pdf).

AWS IAM Identity Center (AWS Single Sign-On): With AWS IAM Identity Center (successor to AWS Single Sign-On), a user can manage sign-in security for their workforce identities, also known as workforce users. IAM Identity Center provides one place where users can create or connect workforce users and centrally manage their access across all their AWS accounts and applications. Users can use multi-account permissions to assign their workforce users access to AWS accounts. Users can use application assignments to assign their users access to IAM Identity Center enabled applications, cloud applications, and customer Security Assertion Markup Language (SAML 2.0) applications.

For more information, see the AWS IAM Identity Center page (https://aws.amazon.com/iam/identity-center/) and the AWS IAM Identity Center documentation (https://docs.aws.amazon.com/pdfs/singlesignon/latest/userguide/sso-ug.pdf).

AWS Key Management Service (AWS KMS): AWS Key Management Service (AWS KMS) is an encryption and key management service scaled for the cloud. AWS KMS keys and functionality are used by other AWS services, and a user can use them to protect data in their own applications that use AWS.

For more information, see the AWS Key Management Service page (https://aws.amazon.com/kms/) and the AWS Key Management Service documentation (https://docs.aws.amazon.com/pdfs/kms/latest/developerguide/kms-dg.pdf).

AWS Network Firewall: AWS Network Firewall is a stateful, managed, network firewall and intrusion detection and prevention service for a user's virtual private cloud (VPC) that is created in Amazon Virtual Private Cloud (Amazon VPC).

With Network Firewall, a user can filter traffic at the perimeter of a VPC. This includes filtering traffic going to and coming from an internet gateway, NAT gateway, or over VPN or AWS Direct Connect.

For more information, see the AWS Network Firewall page (https://aws.amazon.com/network-firewall/) and the AWS Network Firewall documentation (https://docs.aws.amazon.com/pdfs/network-firewall/latest/developerguide/network-firewall-developer-guide.pdf).

AWS Resource Access Manager (AWS RAM): AWS Resource Access Manager (AWS RAM) helps users securely share their resources across AWS accounts, within their organization or organizational units (OUs) in AWS Organizations, and with IAM roles and IAM users for supported resource types. A user can use AWS RAM to share resources with other AWS accounts. This eliminates the need to provision and manage resources in every account. When a user shares a resource with another account, that account is granted access to the resource and any policies and permissions in that account apply to the shared resource.

For more information, see the AWS Resource Access Manager page (https://aws.amazon.com/ram/) and the AWS Resource Access Manager documentation (https://docs.aws.amazon.com/pdfs/ram/latest/APIReference/ram-api.pdf).

AWS Secrets Manager: AWS Secrets Manager helps a user to securely encrypt, store, and retrieve credentials for databases and other services. Instead of hardcoding credentials in apps, a user can make calls to Secrets Manager to retrieve credentials whenever needed. Secrets Manager helps protect access to IT resources and data by enabling users to rotate and manage access to their secrets.

For more information, see the AWS Secrets Manager page (https://aws.amazon.com/secrets-manager/) and the AWS Secrets Manager documentation (https://docs.aws.amazon.com/pdfs/secretsmanager/latest/userguide/secretsmanager-userguide.pdf).

AWS Security Hub: AWS Security Hub provides you with a comprehensive view of your security state in AWS and helps you check your environment against security industry standards and best practices.

Security Hub collects security data from across AWS accounts, services, and supported third-party partner products and helps you analyze your security trends and identify the highest priority security issues.

For more information, see the AWS Security Hub page (https://aws.amazon.com/security-hub/) and the AWS Security Hub documentation (https://docs.aws.amazon.com/pdfs/securityhub/latest/userguide/securityhub.pdf).

Storage

AWS Elastic Disaster Recovery: AWS Elastic Disaster Recovery (AWS DRS) minimizes downtime and data loss with fast, reliable recovery of on-premises and cloud-based applications using affordable storage, minimal compute, and point-in-time recovery.

A user can increase IT resilience when using AWS Elastic Disaster Recovery to replicate on-premises or cloud-based applications running on supported operating systems. Use the AWS Management Console to configure replication and launch settings, monitor data replication, and launch instances for drills or recovery.

For more information, see the AWS Elastic Disaster Recovery (https://aws.amazon.com/disaster-recovery) and the AWS Elastic Disaster Recovery documentation (https://docs.aws.amazon.com/pdfs/drs/latest/userguide/drs-service-guide.pdf).

Amazon FSx: Amazon FSx makes it easy and cost effective to launch, run, and scale feature-rich, high-performance file systems in the cloud. It supports a wide range of workloads with its reliability, security, scalability, and broad set of capabilities. Amazon FSx is built on the latest AWS compute, networking, and disk technologies to provide high performance and lower TCO. And as a fully managed service, it handles hardware provisioning, patching, and backups -- freeing users to focus on applications, end users, and their business.

For more information, see the Amazon FSx (https://aws.amazon.com/fsx/) and the Choosing an Amazon FSx File System page(https://aws.amazon.com/fsx/when-to-choose-fsx/).