AWS re:Invent

Customer Cheat Sheet

This cheat sheet includes **all re:Invent 2022 service launches** and **top new feature, instance, and region expansion announcements**

AI/ML 2
Analytics 5
Business Apps 8
Cloud Operations 10
Compute 10
Databases 12
DevOps 12
Networking and Content Delivery 12
Security, Compliance, and Identity 14
Serverless Compute 16
Other 17

* Top new feature, instance, and region expansion announcements

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. All trademarks are the property of their owners.

AI/ML

Amazon CodeWhisperer

Build applications faster with the ML-powered coding companion

What is it?

Amazon CodeWhisperer is a machine learning (ML)–powered service that helps improve developer productivity by generating code recommendations based on their comments in natural language and code in the integrated development environment (IDE).

Benefits

Accelerate application development with automatic code recommendations based on the code and comments in your IDE.
Empower developers to responsibly use artificial intelligence (AI) to create syntactically correct and secure applications.
Generate entire functions and logical code blocks without having to search for and customize code snippets from the web.
Stay focused and never leave the IDE, with real-time customized code recommendations for all your Java, Python, and JavaScript projects.

Use Cases

Develop next-gen applications
Accelerate frontend and backend development by empowering developers with automatic code recommendations.

Use ML in your applications
Save time and effort by using CodeWhisperer to generate code to build and train your ML models.

Build applications using AWS services
Speed up the development process with code recommendations for AWS APIs across the most popular services, including Amazon EC2, AWS Lambda, and Amazon S3.

Automate unit test generation
Offload writing repetitive unit test code. Based on natural language comments, CodeWhisperer automatically recommends unit test code that matches your implementation code.

Availability

During the preview period, developers can use CodeWhisperer at no cost.

Resources

Product Detail Page

Amazon Omics

Store, transform, and analyze genomic and other multiomic data to generate health insights

What is it?

Amazon Omics helps you store, query, analyze, and generate insights from genomics and other multiomic data to improve human health.

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. All trademarks are the property of their owners.

Benefits

Securely combine the genome data of individuals with their medical history.
Use your purpose-built data stores to support large-scale analysis and collaborative research across entire populations.
Accelerate your research and innovation by using automated workflow execution and integrated tools.
Protect patient privacy with GDPR compliance, HIPAA eligibility, and built-in data access and logging.

Use Cases

Scale population sequencing
Store your data efficiently and analyze thousands of genomes at once to understand how genomic variation maps to phenotypes across a population.

Simplify clinical genomics
Build reproducible and traceable clinical genomics workflows to reduce turnaround time and increase productivity.

Accelerate clinical trials
Integrate genome analysis into your clinical trials to help stratify patient populations and better identify responders versus non-responders.

Enhance research and innovation
Use built-in access control to streamline storage and analysis of anonymized genomic data for researchers.

Availability

For availability, please see the AWS Regional Services List (updated daily).

Resources

Product Detail Page | What's New Blog Post | Breakout Session

Geospatial ML with Amazon SageMaker (preview)

Build, train, and deploy ML models using geospatial data faster

What is it?

Amazon SageMaker supports geospatial machine learning (ML) capabilities, allowing Data Scientist and ML Engineers to easily build, train, and deploy ML models using geospatial data. Access geospatial data sources, purpose-built processing operations, pre-trained ML models and built-in visualization tools to run geospatial ML faster and at scale.

Benefits

Access readily available geospatial data sources, including satellite imagery, maps, and location data.
Efficiently process or enrich large-scale geospatial datasets with purpose-built operations such as resampling, mosaicking, and reverse geocoding.
Accelerate model building by using built-in, pretrained deep neural network models such as land cover segmentation and cloud masking.
Analyze geospatial data and explore model predictions on an interactive map using 3D accelerated graphics with built-in visualization tools.

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. All trademarks are the property of their owners.

Use Cases

Assess risk and insurance claims
Measure risk, validate claims and prevent fraud, analyze damage impact from natural disasters on local economies, and track construction projects.

Inform trading strategies
Monitor financial assets globally, forecast market commodity prices, enhance your hedging or trading strategies, and mitigate the impact of price volatility.

Monitor climate change
Track deforestation and biodiversity, measure methane gas emissions, create climate resiliency plans, and improve power grid reliability.

Support sustainable urban development
Design more sustainable and livable urban environments, identify areas for land development, track traffic trends, or evaluate the feasibility of energy projects.

Maximize harvest yield and food security
View satellite images to diagnose plant health, insure and classify crops, predict harvest yield, forecast demand for agriculture produce, or detect farm boundaries.

Predict retail demand
Track high-growth city areas to improve sales or supply distribution channels, or combine location data with competitive intelligence to choose new store locations.

Availability

For availability, please see the AWS Regional Services List (updated daily).

Resources

Product Detail Page | What's New Blog Post | Breakout Session

ML governance with Amazon SageMaker

Simplify access control and enhance transparency

What is it?

Purpose-built governance tools to help you implement ML responsibly. With SageMaker Role Manager, administrators can define minimum permissions in minutes. SageMaker Model Cards creates a single source of truth for model information by centralizing and standardizing documentation throughout the lifecycle, and SageMaker Model Dashboard gives you unified monitoring across all your models by providing deviations from expected behavior, automated alerts, and troubleshooting.

Benefits

Generate customized roles allowing machine learning (ML) practitioners to start working with SageMaker faster.
Streamline model documentation and provide visibility into key assumptions, characteristics, and artifacts from conception to deployment.
Quickly audit and troubleshoot performance for all models, endpoints, and model monitoring jobs through one pane.
Track deviations from expected model behavior, and missing or inactive monitoring jobs with automated alerts.

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. All trademarks are the property of their owners.

Use Cases

Define minimum permissions in minutes with SageMaker Role Manager
You can quickly create a role with minimum permissions using the Role Manager's pre-built IAM policies for ML activities and different personas.
You can attach your managed policies to tailor the permissions to your use case.

Streamline model documentation with SageMaker Model Cards
You can autopopulate training details to accelerate the documentation process.
You can attach model evaluation results and provide visualizations.
You can export your model cards to a pdf format.

Get unified model monitoring with SageMaker Model Dashboard
You can stay informed of changes in model behavior through a single view.
You can setup and receive alerts for deviations in model behavior.
You can drill deeper into individual models to troubleshoot violations.

Availability

For availability, please see the AWS Regional Services List (updated daily).

Resources

Product Detail Page | What's New Blog Post | Breakout Session

Analytics

*AWS Glue for Ray (preview)

Pay only for the resources that you use while running code, and no need to configure or tune any resources

Resources

What's New Blog Post

*Amazon QuickSight Paginated Reports

Create, schedule, and share reports and data exports

Resources

What's New Blog Post

*Expanded API capabilities for Amazon QuickSight

New and expanded APIs let customers and developers treat QuickSight

Resources

What's New Blog Post

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. All trademarks are the property of their owners.

Amazon OpenSearch Serverless (preview)

Provides consistently fast data-ingest rates and millisecond response times

Resources

Product Detail Page | What's New Blog Post

Amazon DataZone

Unlock data across organizational boundaries with built-in governance

What is it?

Use Amazon DataZone to discover and share data at scale across organizational boundaries with governance and access controls. Amazon DataZone makes data accessible to everyone in the organization.

Benefits

Get a 360-degree view of all your trusted business data regardless of where it is stored.
Increase productivity by inviting team members to collaborate and access data project assets and analytics tools.
Analyze data with a personalized view of your projects without signing in to the AWS Management Console.
Access your data in accordance with your organization's security and compliance regulations.

Use Cases

Find data in the business data catalog
Use business terms to search, share, and access cataloged data stored on AWS, on premises, or with third-party providers.

Streamline workflow processes
Increase your efficiency by collaborating seamlessly across teams and accessing data and analytics tools in a self-service fashion.

Simplify analytics access
Get a personalized view to discover, prepare, transform, analyze, and visualize data using a web-based application.

Administer access from one place
Manage and govern data access in accordance with your organization's security regulations from a single place.

Availability

For availability, please see the AWS Regional Services List (updated daily).

Resources

Product Detail Page | Breakout Session

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. All trademarks are the property of their owners.

*Amazon Redshift integration with Apache Spark

Expand the breadth of data sources that you can use in your rich analytics and machine learning applications

Resources

Product Detail Page | What's New Blog Post

AWS Clean Rooms (preview)

Create clean rooms in minutes. Collaborate without sharing raw data.

Resources

Product Detail Page | Breakout session

*Automated data-prep for Amazon QuickSight Q

Includes artificial intelligence-enhanced automated data preparation

Resources

What's New Blog Post

*Amazon Athena for Apache Spark

Develop interactive workloads that work across diverse data formats and data lakes

Resources

Product Detail Page | What's New Blog Post

*AWS Glue Data Quality (preview)

Automatically measures, monitors, and manages data quality in your data lakes and pipelines

Resources

Product Detail Page | What's New Blog Post

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. All trademarks are the property of their owners.

Business Apps

AWS Wickr

Protect enterprise communications with end-to-end encryption

What is it?

AWS Wickr is an end-to-end encrypted collaboration service that ensures the privacy and security of your team's messaging, voice and video calling, file sharing, and more. All while giving you the administrative controls you need to manage your users.

Benefits

Secure collaboration across messaging, voice and video calling, file sharing, and screen sharing.
Use flexible administrative controls to deploy and manage communication networks at scale.
Retain information as required for compliance, legal hold, and auditing purposes.
Gain multi-device (mobile, desktop) access and the ability to function in low-bandwidth environments.

Use Cases

Secure sensitive communications
Combat threats, and enable out-of-band communications for disaster recovery and incident response.

Facilitate data governance
Protect the privacy of regulated data, including personally identifiable information and protected health information.

Enable internal and external collaboration
Safely communicate with internal stakeholders and external partners through federation.

Strengthen administrative control
Establish and maintain control over user accounts, security settings, and compliance policies.

Availability

For availability, please see the AWS Regional Services List

Resources

Product Detail Page | What's New Blog Post | Breakout session

*Step-by-step guides for Amazon Connect agent workspace (preview)

Empower agents with a unified experience, including step-by-step guides

Resources

Product Detail Page | What's New Blog Post

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. All trademarks are the property of their owners.

*Amazon Connect forecasting, capacity planning, and scheduling

Respond faster to capacity and workforce changes with ML-powered contact center capabilities

Resources

Product Detail Page | What's New Blog Post

AWS Supply Chain (preview)

Mitigate risks and lower costs with an ML-powered supply chain application

What is it?

AWS Supply Chain is a cloud-based application that unifies data, provides ML-powered actionable insights, and offers built-in contextual collaboration. AWS Supply Chain can connect to your existing enterprise resource planning (ERP) and supply chain management systems, without requiring replatforming, upfront licensing fees, or long-term commitments.

Benefits

Quickly gain visibility across your supply chain without replatforming, upfront licensing fees, or long-term commitments.
Make more informed supply chain decisions with machine learning (ML)–powered actionable insights.
Reduce errors by using contextual chat and messaging to collaborate across teams and quickly resolve issues.
Mitigate overstock and stock-out risks to improve customer experiences while lowering excess inventory costs.

Use Cases

Unify supply chain data
Quickly set up AWS Supply Chain using pretrained ML models that understand, extract, and transform disparate data into a unified data lake.

Reveal risks and derive insights
View the overall health of your supply chain network, and get ML-powered insights about potential inventory risks such as excess stock or stock outs.

Take the right action quickly
Review recommended actions that can mitigate risks, and use built-in, contextual collaboration capabilities to agree on and implement decisions faster.

Deliver on customer promises
Generate more accurate demand forecasts to reduce stock outs. Increase demand planning accuracy with ML models that continually improve over time.

Availability

For availability, please see the AWS Regional Services List (updated daily).

Resources

Product Detail Page | What's New Blog Post | Breakout Session

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. All trademarks are the property of their owners.

Cloud Operations

*Amazon CloudWatch Internet Monitor (preview)

Provides data and actionable insights for AWS, hybrid, and on-premises applications and infrastructure resources

Resources

Product Detail Page | What's New Blog Post

Compute

*Amazon EC2 C6in instances

Compute optimized instances powered by 3rd Generation Intel Xeon Scalable processors

Resources

Product Detail Page | What's New Blog Post

*Amazon EC2 C7gn (preview)

Best price performance for compute-intensive workloads in Amazon EC2

Resources

Product Detail Page | What's New Blog Post

*Amazon EC2 M6in and M6idn instances

General purpose instances powered by 3rd Generation Intel Xeon Scalable processors

Resources

Product Detail Page | What's New Blog Post

*Amazon EC2 R6in and R6idn instances

Memory-optimized instances powered by 3rd Generation Intel Xeon Scalable processors

Resources

Product Detail Page | What's New Blog Post

*Amazon EC2 Inf2 instances (preview)

High performance at the lowest cost in Amazon EC2 for the most demanding inference workloads

Resources

Product Detail Page | What's New Blog Post

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. All trademarks are the property of their owners.

*Amazon EC2 Hpc6id Instances

HPC-optimized instances powered by 3rd Generation Intel Xeon Scalable processors

Resources

Product Detail Page | What's New Blog Post

AWS SimSpace Weaver

Create large-scale spatial simulations across multiple instances in the AWS cloud

What is it?

AWS SimSpace Weaver is a managed service that lets you create expansive simulation worlds at increased levels of complexity and scale, without worrying about the underlying compute, memory, or networking—all while paying only a fraction of the cost compared to procuring high-end hardware.

Benefits

Scale spatial simulations across multiple instances to increase the size, complexity, or number of objects in your simulation.
Time-consuming challenges surrounding data management, cross-server replication, and time synchronization across instances are automatically managed for you by the service.
Integrate with popular development toolkits and simulation engines out of the box, such as Unreal Engine 5 and Unity.

Use Cases

Large-scale crowd simulation
Simulate crowds with millions of individual entities to plan large-scale events.

Recreate virtual city environments
Simulate traffic patterns to public transportation networks to future infrastructure projects and build it all at real-world scale.

Create immersive interactive experiences
Let multiple users observe and interact with virtual 3D worlds.

Availability

For availability, please see the AWS Regional Services List (updated daily).

Resources

Product Detail Page | What's New Blog Post | Breakout Session

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. All trademarks are the property of their owners.

Databases

*Amazon Aurora zero-ETL integration with Amazon Redshift (preview)

Supports zero-ETL integration with Amazon Redshift

Resources

What's New Blog Post

DevOps

Amazon CodeCatalyst (preview)

Spark a faster planning, development, and delivery lifecycle on AWS

What is it?

Build and deliver faster on AWS with Amazon CodeCatalyst, a unified software development service. CodeCatalyst is fully managed by AWS, so you can focus on development.

Benefits

Launch new projects in minutes using blueprints with virtually everything that you need—from source code to service configurations.
Quickly create personal cloud-based development environments that are fully configured for your project and work with popular IDEs.
Easily define continuous integration and delivery (CI/CD) pipelines and run them on automatically scalable, managed compute environments.
Collaborate efficiently with integrated activity feeds, real-time notifications, and shared development resources.

Availability

For availability, please see the AWS Regional Services List (updated daily).

Resources

Product Detail Page | What's New Blog Post | Breakout Session

Networking and Content Delivery

AWS Verified Access (preview)

Secure access to corporate applications without a VPN

What is it?

AWS Verified Access enables secure access to corporate applications without a VPN. AWS Verified Access built on AWS zero trust principles, continuously evaluates each user request in real-time and grants access based on policies using security signals like Identity, device security status, location, thereby improving the overall security posture of the organization.

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. All trademarks are the property of their owners.

Benefits

Improved Security Posture
AWS Verified access evaluates each user request in real-time. When a user tries to access an application, AWS Verified Access gets the user's attributes from security data providers like identity, device management, and other security systems

Seamless User Experience
AWS Verified Access enables your users to access corporate applications without the need for a VPN. Users can simply connect to their corporate application through supported browsers.

Simplify policy Implementation for Application Access
You can easily define application access policies in a single location. You can on-board new applications in minutes and rapidly make changes to polices based on business needs.

Use Cases

Secure distributed users
With AWS Verified Access, users access to corporate applications is based on AWS zero trust principles using multiple security signals like identity, location, and device security status. AWS Verified Access evaluates each request in real-time against security requirements as defined in the policy to ensure secure access to the applications.

Manage corporate application access
Using AWS Verified Access, IT administrators can define policies, and on-board new applications within minutes. IT administrators can use AWS Verified Access to build a set of fine-grained policies using security data like device security status and up-to-date security software that define a user's ability to access each application.

Accelerate time to troubleshoot
AWS Verified Access evaluates each access request and logs all request data including security signal input used to authorize or deny requests. This provides visibility to the networking team into corporate application access requests thereby enabling the team to quickly gather data and intelligence to direct a faster response.

Availability

For availability, please see the AWS Regional Services List (updated daily).

Resources

Product Detail Page | What's New Blog Post | Breakout Session

Amazon VPC Lattice (preview)

Simplify service-to-service connectivity, security, and monitoring

What is it?

Amazon VPC Lattice is an application layer service that consistently connects, monitors, and secures communications between your services, helping to improve productivity so that your developers can focus on building features that matter to your business. You can define policies for network access, traffic management, and monitoring to connect compute services in a simple and consistent way across instances, containers, and serverless.

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. All trademarks are the property of their owners.

Benefits
Simplify and automate service connectivity using Amazon VPC Lattice to discover and securely connect services with each other.
Create an improved and more consistent security posture with reliable authentication and context-specific authorization.
Scale compute and network resources for high-bandwidth workloads with millions of HTTP requests per second.
Improve productivity and deployment flexibility with support for instances, containers and serverless compute.

Use Cases
Simplify service-to-service connectivity at scale
Connect thousands of services across VPCs and accounts without increasing network complexity.

Enhance application-layer security
Improve service-to-service security and support zero trust architectures with centralized access controls, authentication, and context-specific authorization.

Implement advanced traffic management
Apply granular traffic controls, such as request-level routing and weighted targets for blue/green and canary deployments.

Gain visibility into service-to-service interactions
Monitor and troubleshoot service-to-service communication for request type, traffic volume, errors, response time, and more.

Availability
For availability, please see the AWS Regional Services List (updated daily).

Resources
Product Detail Page | What's New Blog Post | Breakout Session

Security, Compliance, and Identity

Amazon Verified Permissions (preview)
Manage fine-grained permissions and authorization within custom applications

What is it?
Amazon Verified Permissions is a scalable, fine-grained permissions management and authorization service for custom applications. The service centralizes fine-grained permissions for custom applications and helps developers authorize user actions within applications. Amazon Verified Permissions uses the Cedar policy language to define fine-grained permissions for application users.

Benefits
Accelerate application development by decoupling authorization from business logic.
Save time and resources with centralized permissions and policy lifecycle management.
Simplify compliance audits at scale using automated analysis to confirm that permissions work as intended.
Build applications that support Zero Trust architectures with dynamic, real-time authorization decisions.

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. All trademarks are the property of their owners.

Use Cases

Define a fine-grained authorization model
Create policies from templates and enforce those controls within Amazon API Gateway and AWS AppSync.

Grant fine-grained permissions within applications
Administrators can create application-wide policies, and developers can grant user permissions to access data and resources.

Audit permissions across applications
Review policy model changes and monitor authorization requests using Amazon Verified Permissions.

Centralize the policy administration system
Create and centrally store policy-based access controls, and meet your application latency requirements with millisecond processing.

Availability

For availability, please see the AWS Regional Services List (updated daily).

Resources

Product Detail Page | What's New Blog Post | Breakout Session

Amazon Security Lake (preview)

Automatically centralize your security data in a few steps

What is it?

Amazon Security Lake automatically centralizes security data from cloud, on-premises, and custom sources into a purpose-built data lake stored in your account. With Security Lake, you can get a more complete understanding of your security data across your entire organization. You can also improve the protection of your workloads, applications, and data. Security Lake has adopted the Open Cybersecurity Schema Framework (OCSF), an open standard. With OCSF support, the service can normalize and combine security data from AWS and a broad range of enterprise security data sources.

Benefits

Use your preferred analytics tools while retaining control and ownership of your security data.
Centralize data visibility from cloud and on-premises sources across your accounts and Regions.
Normalize data to an open standard to more efficiently share and use with multiple analytics tools.
Improve and manage security data for more efficient storage and query.

Use Cases

Analyze multiple years of security data quickly
Centralize years of cloud, on-premises, and custom data in your Amazon S3 buckets and use your preferred tools for security analytics.

Support on-demand analysis of petabyte-scale data
Build a data lake to support security investigations and rapid incident response scenarios.

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. All trademarks are the property of their owners.

Examine your data with custom analytics
Give your security teams broader visibility to investigate and respond to suspicious activities using your custom analytics models.

Use your preferred tools with centralized data
Streamline the process of accessing data for teams across your organization using their preferred analytics tools, without duplicating data.

Availability
For availability, please see the AWS Regional Services List (updated daily).

Resources
Product Detail Page | What's New Blog Post | Breakout Session

Serverless Compute

*AWS Lambda SnapStart
Assets like software code and integrate with DevOps processes

Resources
What's New Blog Post

AWS Application Composer (preview)
Visually design and build serverless applications quickly

What is it?
AWS Application Composer helps to streamline and accelerate the architecture, configuration, and build of serverless applications.

Benefits
Visually compose serverless applications using AWS services with little guesswork.
Rapidly generate ready to deploy infrastructure as code (IaC) that follows best practices.
Maintain a model of your architecture with simplified team sharing and building.

Use Cases
Design and build new serverless applications
Streamline the composition of serverless applications from multiple AWS services.

Manage applications through IaC
Simplify common tasks, such as generating deployment-ready configuration and IaC for each service in your architecture.

Visualize your application architecture and configuration
Quickly understand your application architecture and its components as you collaborate with your team.

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. All trademarks are the property of their owners.

Availability
For availability, please see the AWS Regional Services List (updated daily).

Resources
Product Detail Page | What's New Blog Post | Breakout Session

Other

AWS water positive by 2030
AWS returns more water than it uses in direct operations by 2030

Resources
What's New Blog Post

Just Walk Out Technology by Amazon
Elevate the retail experience with Just Walk Out technology

Resources
Blog Post

© 2022, Amazon Web Services, Inc. or its affiliates. All rights reserved. All trademarks are the property of their owners.