**🖥️ Compute**

| **Service** | **Purpose** |
| --- | --- |
| **EC2** | Virtual servers in the cloud |
| **Lambda** | Run code without servers (event-driven) |
| **Elastic Beanstalk** | Auto-deploy and scale web apps |
| **ECS** | Run Docker containers |
| **EKS** | Run Kubernetes clusters |
| **Lightsail** | Simplified hosting (small websites, apps) |
| **Batch** | Run batch jobs efficiently |
| **Outposts** | Run AWS services on-premises |
| **Fargate** | Serverless containers |
| **Compute Optimizer** | Suggests right instance types for cost/performance |

**☁️ Storage**

| **Service** | **Purpose** |
| --- | --- |
| **S3** | Object storage |
| **EBS** | Block storage for EC2 |
| **EFS** | Shared file storage |
| **FSx** | File system for Windows/Lustre |
| **Glacier** | Archive (cold) storage |
| **Storage Gateway** | Connect on-prem to cloud storage |
| **Backup** | Centralized backup for AWS services |
| **Snowball** | Data transfer appliance |
| **DataSync** | Move large datasets quickly |
| **Object Lambda** | Run code while retrieving S3 objects |

**🗃️ Database**

| **Service** | **Purpose** |
| --- | --- |
| **RDS** | Relational DB (MySQL, PostgreSQL, etc.) |
| **Aurora** | High-performance managed DB |
| **DynamoDB** | NoSQL key-value store |
| **ElastiCache** | In-memory cache (Redis/Memcached) |
| **Redshift** | Data warehouse for analytics |
| **DocumentDB** | MongoDB-compatible database |
| **Neptune** | Graph database |
| **Timestream** | Time-series data store |
| **Keyspaces** | Cassandra-compatible DB |
| **Qldb** | Ledger DB for immutable records |

**🌐 Networking & CDN**

| **Service** | **Purpose** |
| --- | --- |
| **VPC** | Private network within AWS |
| **Route 53** | DNS and domain management |
| **API Gateway** | Manage and expose APIs |
| **CloudFront** | Global content delivery (CDN) |
| **Direct Connect** | Dedicated network link to AWS |
| **Global Accelerator** | Improves app availability/performance |
| **Elastic Load Balancer (ELB)** | Distribute traffic |
| **Transit Gateway** | Connect multiple VPCs |
| **PrivateLink** | Secure access to AWS services |
| **NAT Gateway** | Internet access for private subnets |

**🛠️ Management & Monitoring**

| **Service** | **Purpose** |
| --- | --- |
| **CloudWatch** | Logs, metrics, monitoring |
| **CloudTrail** | Track user activity & API calls |
| **Config** | Audit and compliance tracking |
| **Systems Manager** | Manage resources at scale |
| **Trusted Advisor** | Best practices & optimization tips |
| **Control Tower** | Set up multi-account environment |
| **OpsWorks** | Config management using Chef/Puppet |
| **Service Catalog** | Manage approved resources/templates |
| **License Manager** | Track software licenses |
| **Budgets & Cost Explorer** | Cost tracking and forecasting |

**🔐 Security & Identity**

| **Service** | **Purpose** |
| --- | --- |
| **IAM** | Manage users and permissions |
| **Cognito** | User sign-up/login for apps |
| **KMS** | Key Management and encryption |
| **Secrets Manager** | Manage sensitive credentials |
| **Shield** | DDoS protection |
| **WAF** | Web application firewall |
| **GuardDuty** | Threat detection |
| **Inspector** | Vulnerability scanning |
| **Macie** | Discover & protect sensitive data |
| **Organizations** | Manage multiple AWS accounts |

**🧠 AI/ML**

| **Service** | **Purpose** |
| --- | --- |
| **SageMaker** | Build, train, deploy ML models |
| **Rekognition** | Image and video analysis |
| **Polly** | Text to speech |
| **Lex** | Chatbots (voice/text) |
| **Comprehend** | NLP for text analysis |
| **Translate** | Language translation |
| **Transcribe** | Speech to text |
| **Textract** | Extract text from documents |
| **Forecast** | Time series forecasting |
| **Personalize** | Recommendation engine |

**🔄 Integration & Messaging**

| **Service** | **Purpose** |
| --- | --- |
| **SQS** | Message queuing |
| **SNS** | Push notification & pub/sub |
| **EventBridge** | Event-driven architecture |
| **MQ** | Managed message broker (RabbitMQ/ActiveMQ) |
| **Step Functions** | Workflow orchestration |
| **AppSync** | GraphQL API management |
| **Simple Workflow (SWF)** | Legacy workflows |

**🧰 Developer & DevOps Tools**

| **Service** | **Purpose** |
| --- | --- |
| **CodeCommit** | Git-based source control |
| **CodeBuild** | Build and test code |
| **CodeDeploy** | Automate deployment |
| **CodePipeline** | Full CI/CD pipeline |
| **Cloud9** | Web-based IDE |
| **X-Ray** | App performance tracing |
| **Elastic Beanstalk** | Deploy apps automatically |