- Application Auto Scaling
- Amazon Aurora
- AWS Cloud9
    - Supported Instance types: nano, micro, small, medium, large, and c4.xlarge.
- AWS CloudFormation
- Amazon CloudFront
- AWS CloudShell
- AWS CloudTrail
- Amazon CloudWatch
- AWS CodeCommit
- Amazon Comprehend
- AWS DeepRacer
- Amazon DynamoDB
- Amazon EC2 Auto Scaling
    - Supported Instance types: nano, micro, small, medium, and large.
    - Read the *Concurrently running instances limits* details documented in the EC2 service details below to be aware of further restrictions.
    - *Recommendation*: size to your actual need to avoid using up your cost budget.
- AWS Elastic Beanstalk
    - *To create an application*: choose Create Application, give it an application name, choose a platform, then choose **Configure more options**. Scroll down to the Security panel and choose **Edit**. For *Service role*, choose **LabRole**. If the environment is in the us-east-1 AWS Region, for *EC2 key pair,* choose **vockey**. For *IAM instance profile*, choose **LabInstanceProfile**. Choose **Save**, then choose **Create app**.
    - Supported Instance types: nano, micro, small, medium, and large. If you attempt to launch a larger instance type, it will be terminated.
- Amazon Elastic Block Store (EBS)
    - Maximum volume size is 100GB
    - PIOPs not supported
- Amazon Elastic Compute Cloud (EC2)
    - Supported AMIs:

        - AMI available in us-east-1 or us-west-2. For example, Quick Start AMIs, My AMIs, and Community AMIs.
        - AWS Marketplace AMIs are not supported. AMIs such as MacOS that must launch as a dedicated instance or on a dedicated host are also not supported.
        - Recommendation: To launch an instance with a guest OS of ***Microsoft Windows***, ***Amazon Linux***, or one of many other popular Linux distributions, choose "Launch Instances", then choose from the ones available in the "Quick Start" tab.
    - Supported Instance types: nano, micro, small, medium, and large.
    - On-Demand instances only
    - *Concurrently running instances limits* per supported region:
        - Maximum of 9 concurrently running EC2 instances, regardless of instance size. If you attempt to launch more, the excess instances will be terminated (and 9 will be left running).
          Note: Service such as EMR, Cloud9, Elastic Beanstalk may also launch EC2 instances. The 9 concurrent running EC2 instances limit applies across all services that create instances visible in the EC2 console.
        - Maximum of 32 vCPU used by concurrently running instances, regardless of instance size or instance count. For example, t2.micro instances use 1 vCPU each, so you could run up to 32 of them in us-west-2 (but still only 9 of them in us-east-1 because of the other limitation listed above)
          Note: The maximum 32 vCPU limit also applies across all services that create instances visible in the EC2 console.
        - **Caution**: Any attempt to have 20 or more concurrently running instances (regardless of size), will result in immediate deactivation of the AWS account and all resources in the account will be immediately deleted.
        - *Recommendation*: size to your actual need to avoid using up your cost budget.
    - EBS volumes - sizes up to 100 GB and type must be General Purpose SSD (`gp2`, `gp3` ) cold HDD (`sc1`), or standard.
    - Key pairs - If you are creating an EC2 instance in any AWS Region other than us-east-1, the vockey key pair will not be available. In such cases, you should create a new key pair and download it when creating the EC2 instance. Then use the new key pair to connect to that instance.
    - A role named **LabRole** and an instance profile named **LabInstanceProfile** have been pre-created for you. You can attach the role (via the instance profile) to an EC2 instance when you want to access an EC2 instance (terminal in the browser) using AWS Systems Manager Session Manager. The role also grants permissions

to any applications running on the instance to access many other AWS services from the instance.

    - **Tips**:
        - When your session ends, the lab environment *may* place any running instances into a 'stopped' state.
        - When you start a new session, the lab environment will start all instances that were previously stopped by you or stopped by the lab environment when the lab session ended.
        - Instances that have been stopped and started again will be assigned a new IPv4 public IP address unless you have an elastic IP address associated with the instance.
    - **Recommendations**:
        - To preserve your lab budget, stop any running EC2 instances before you are done using the account for the day (and terminate them if not longer needed).
        - Be aware of all instances you keep in the account between sessions because they will run (and cut into your budget) when you start the lab again unless you remember to turn stop them manually after starting the lab.
- Amazon Elastic Container Registry (ECR)
- Amazon Elastic File System (EFS)
- Amazon Elastic Inference
- Elastic Load Balancing (ELB)
- Amazon Elastic MapReduce (EMR)
    - Supported Instance types: nano, micro, small, medium, and large. If you attempt to launch a larger instance type, it will be terminated.
    - Read the *Concurrently running instances limits* details documented in the EC2 service details above to be aware of further restrictions.
- Amazon EventBridge
- Amazon Forecast
- AWS Glue
- AWS Glue DataBrew
- AWS Identity and Access Management (IAM)
    - Extremely limited access. You cannot create users or groups. You cannot create roles, except that you can create service-linked roles.

    - Service role creation is generally permitted. If the service needs to create a role for you, you may need to retry role creation if it fails the first time.

    - A role named **LabRole** has been pre-created for you. This role is designed to be used when you want to attach a role to a resource in an AWS service. It grants many AWS services access to other AWS services and has permissions very similar to the permissions you have as a user in the console.

        - Example use: attach the LabRole via the instance profile named **LabInstanceProfile** to an EC2 instance for terminal in the browser access to an EC2 instance guest OS using AWS Systems Manager Session Manager.
        - Another example: Attach the LabRole to a Lambda function so that the Lambda function can access S3, CloudWatch, RDS, or some other service.
        - Another example: Attach the LabRole to a SageMaker notebook instance so that the instance can access files in an S3 bucket.
- AWS Key Management Service (KMS)

- AWS Lambda

    - **Tip**: Attach the existing **LabRole** to any function that you create if that function will need permissions to interact with other AWS services.
- Amazon Lex

- Amazon Lightsail

    - Supported in multiple AWS Regions.
    - If you choose vCPU and memory specs that are too high (such as 8 vCPU and 32GB) the instance may be terminated. Smaller sizes are supported.
- Amazon Marketplace Subscriptions

    - Extremely limited read-only access.
- Amazon Polly

- Amazon Rekognition

- Amazon Relational Database Service (RDS)

    - Supported database engines: Amazon Aurora, Oracle, Microsoft SQL, MySQL, PostgreSQL and MariaDB.
    - Supported instance types: nano, micro, small, and medium (Tip: choose *Burstable classes* to find these).
    - Supported storage types: EBS volumes - size up to 100 GB and type General Purpose SSD (gp2). PIOPS storage types are not supported.
    - On-Demand DB instance class types only.
    - ***Enhanced monitoring is not supported*** (you must *uncheck* this default setting in the *Additional configuration* / *Monitoring* panel).

    - **Tip**: to preserve your lab budget, stop any running RDS instances before you are done using the account for the day (or terminate them if not longer needed). Be aware that if you do stop an RDS instance and leave it stopped for seven days, AWS will start it again automatically, which will increase the cost impact.
- AWS Resource Groups & Tag Editor
- AWS RoboMaker
    - Supported Instance types for development environments: *nano*, *micro*, *small*, *medium*, *large*, and *c4.xlarge* only.
- Amazon SageMaker
    - Supported instance types: *medium*, *large*, and *xlarge* only.
    - GPU instance types are not supported.
- AWS Secrets Manager
- AWS Security Token Service (STS)
- AWS Service Catalog
- Amazon Simple Notification Service (SNS)
- Amazon Simple Queue Service (SQS)
- Amazon Simple Storage Service (S3)
- Amazon Simple Storage Service Glacier (S3 Glacier)
    - You cannot create a vault lock
- AWS Step Functions
- AWS Systems Manager (SSM)
    - A role named **LabRole** and an instance profile named **LabInstanceProfile** have been pre-created for you. You can attach the role (via the instance profile) to an EC2 instance when you want to access an EC2 instance (terminal in the browser) using AWS Systems Manager Session Manager.
- Amazon Textract
- Amazon Translate
- AWS Trusted Advisor
- Amazon Virtual Private Cloud (Amazon VPC)
- AWS Well-Architected Tool