

Elastic Beanstalk Assignment

Problem Statement:

You work for TechArkit Corporation. Your corporation wants to launch a new web-based application and they do not want their servers to be running all the time. It should also be managed by AWS. Implement suitable solutions.

Tasks To Be Performed:

1. Create an Elastic Beanstalk environment with the runtime as PHP.
2. Upload a simple PHP file to the environment once created

Answer

Go to IAM service and Create a Role

Select trusted entity [Info](#)

Trusted entity type

☒ **AWS service**
Allow AWS services like EC2, Lambda, or others to perform actions in this account.

☐ **AWS account**
Allow entities in other AWS accounts belonging to you or a 3rd party to perform actions in this account.

☐ **Web identity**
Allows users federated by the specified external web identity provider to assume this role to perform actions in this account.

☐ **SAML 2.0 federation**
Allow users federated with SAML 2.0 from a corporate directory to perform actions in this account.

☐ **Custom trust policy**
Create a custom trust policy to enable others to perform actions in this account.

Use case
Allow an AWS service like EC2, Lambda, or others to perform actions in this account.

Service or use case
EC2 ▼

Choose a use case for the specified service.
Use case
☒ **EC2**
Allows EC2 instances to call AWS services on your behalf.

- Select AWS Service
- EC2 (Service name)

Click **Next**

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Permissions policies (1/891) [info](#)

Choose one or more policies to attach to your new role.

Filter by Type

ec2 X All types 30 matches

| | Policy name | Type | Description |
|-------------------------------------|--|-------------|--|
| <input type="checkbox"/> | AmazonEC2ContainerRegistryFullAccess | AWS managed | Provides administrative access to Ama... |
| <input type="checkbox"/> | AmazonEC2ContainerRegistryPowerUser | AWS managed | Provides full access to Amazon EC2 Co... |
| <input type="checkbox"/> | AmazonEC2ContainerRegistryReadOnly | AWS managed | Provides read-only access to Amazon E... |
| <input type="checkbox"/> | AmazonEC2ContainerServiceAutoscaleRole | AWS managed | Policy to enable Task Autoscaling for A... |
| <input type="checkbox"/> | AmazonEC2ContainerServiceEventsRole | AWS managed | Policy to enable CloudWatch Events fo... |
| <input type="checkbox"/> | AmazonEC2ContainerServiceforEC2Role | AWS managed | Default policy for the Amazon EC2 Rol... |
| <input type="checkbox"/> | AmazonEC2ContainerServiceRole | AWS managed | Default policy for Amazon ECS service ... |
| <input checked="" type="checkbox"/> | AmazonEC2FullAccess | AWS managed | Provides full access to Amazon EC2 via... |

Select EC2 Full access

Click **Next**

Name, review, and create

Role details

Role name
Enter a meaningful name to identify this role.

Maximum 64 characters. Use alphanumeric and '+=, @, _' characters.

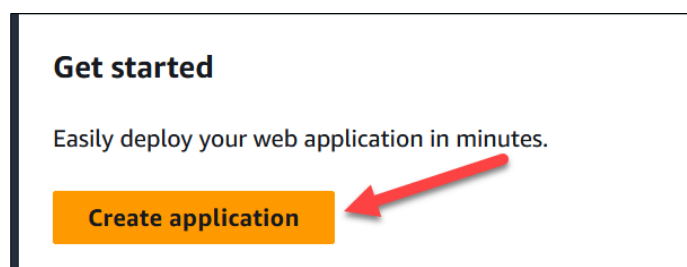
Description
Add a short explanation for this role.

Maximum 1000 characters. Use alphanumeric and '+=, @, _' characters.

Click **Create Role**



Login to AWS Web Console, Direct to Elastic Beanstalk using the search bar



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Configure environment Info

Environment tier Info

Amazon Elastic Beanstalk has two types of environment tiers to support different types of web applications.

☒ **Web server environment**
Run a website, web application, or web API that serves HTTP requests. [Learn more](#)

☐ **Worker environment**
Run a worker application that processes long-running workloads on demand or performs tasks on a schedule. [Learn more](#)

Application information Info

Application name

Maximum length of 100 characters.

► Application tags (optional)

Environment information Info

Choose the name, subdomain and description for your environment. These cannot be changed later.

Environment name

Must be from 4 to 40 characters in length. The name can contain only letters, numbers, and hyphens. It can't start or end with a hyphen. This name must be unique within a region in your account.

Domain

 .us-east-1.elasticbeanstalk.com

Environment description

- Provide your application name.
- Environment name is auto-populated based on app name
- Provide the domain name if you wanted to customize otherwise leave blank it will auto create for you.

Platform Info

Platform type

☒ **Managed platform**
Platforms published and maintained by Amazon Elastic Beanstalk. [Learn more](#)

☐ **Custom platform**
Platforms created and owned by you. This option is unavailable if you have no platforms.

Platform

Platform branch

Platform version

Select as a Managed platform since it is managed service by AWS, we no need worry about underlining infrastructure.

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Application code [Info](#)

☐ Sample application

☐ Existing version
Application versions that you have uploaded.

☒ Upload your code
Upload a source bundle from your computer or copy one from Amazon S3.

Version label
Unique name for this version of your application code.

Source code origin. Maximum size 500 MB

☒ Local file

Upload application

☒ File name: **index.zip**
File must be less than 500MB max file size

☐ Public S3 URL

Select **Upload your code**, specify the version number, Local file since we have code at the local system, Upload it.

Presets [Info](#)

Start from a preset that matches your use case or choose custom configuration to unset recommended values and use the service's default values.

Configuration presets

☒ Single instance (free tier eligible)

☐ Single instance (using spot instance)

☐ High availability

☐ High availability (using spot and on-demand instances)

☐ Custom configuration

Click **Next**

Configure service access [Info](#)

Service access
IAM roles, assumed by Elastic Beanstalk as a service role, and EC2 instance profiles allow Elastic Beanstalk to create and manage your environment. Both the IAM role and instance profile must be attached to IAM managed policies that contain the required permissions. [Learn more](#)

Service role

☐ Create and use new service role

☒ Use an existing service role

Existing service roles
Choose an existing IAM role for Elastic Beanstalk to assume as a service role. The existing IAM role must have the required IAM managed policies.

EC2 key pair
Select an EC2 key pair to securely log in to your EC2 instances. [Learn more](#)

EC2 instance profile
Choose an IAM instance profile with managed policies that allow your EC2 instances to perform required operations.

Select the existing role which we have created at the first step

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Click **Next**

Virtual Private Cloud (VPC)

VPC

Launch your environment in a custom VPC instead of the default VPC. You can create a VPC and subnets in the VPC management console.
[Learn more](#)

vpc-075375a9d0bf3861f | (172.31.0.0/16)

Create custom VPC

Instance settings

Choose a subnet in each AZ for the instances that run your application. To avoid exposing your instances to the Internet, run your instances in private subnets and load balancer in public subnets. To run your load balancer and instances in the same public subnets, assign public IP addresses to the instances.
[Learn more](#)

Public IP address

Assign a public IP address to the Amazon EC2 instances in your environment.

☐ Activated

Instance subnets

Filter instance subnets

| <input checked="" type="checkbox"/> | Availability Zone | Subnet | CIDR | Name |
|-------------------------------------|-------------------|----------------------|----------------|------|
| <input checked="" type="checkbox"/> | us-east-1f | subnet-0239e7812... | 172.31.64.0/20 | |
| <input checked="" type="checkbox"/> | us-east-1a | subnet-056e0a94d... | 172.31.0.0/20 | |
| <input checked="" type="checkbox"/> | us-east-1e | subnet-056e23258... | 172.31.48.0/20 | |
| <input checked="" type="checkbox"/> | us-east-1d | subnet-0ad7523e1... | 172.31.32.0/20 | |
| <input checked="" type="checkbox"/> | us-east-1b | subnet-0c4cd27c8... | 172.31.80.0/20 | |
| <input checked="" type="checkbox"/> | us-east-1c | subnet-0f2eae7baf... | 172.31.16.0/20 | |

Select the VPC and Subnets to deploy the application

Database

Info

Integrate an RDS SQL database with your environment.
[Learn more](#)

Database subnets

If your Elastic Beanstalk environment is attached to an Amazon RDS, choose subnets for your database instances.
[Learn more](#)

Choose database subnets (6)

Filter database subnets

| <input checked="" type="checkbox"/> | Availability Zone | Subnet | CIDR | Name |
|-------------------------------------|-------------------|----------------------|----------------|------|
| <input checked="" type="checkbox"/> | us-east-1f | subnet-0239e7812... | 172.31.64.0/20 | |
| <input checked="" type="checkbox"/> | us-east-1a | subnet-056e0a94d... | 172.31.0.0/20 | |
| <input checked="" type="checkbox"/> | us-east-1e | subnet-056e23258... | 172.31.48.0/20 | |
| <input checked="" type="checkbox"/> | us-east-1d | subnet-0ad7523e1... | 172.31.32.0/20 | |
| <input checked="" type="checkbox"/> | us-east-1b | subnet-0c4cd27c8... | 172.31.80.0/20 | |
| <input checked="" type="checkbox"/> | us-east-1c | subnet-0f2eae7baf... | 172.31.16.0/20 | |


Click **Next**

Configure instance traffic and scaling – optional

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EC2 security groups

Select security groups to control traffic.

EC2 security groups (1) 

| <input checked="" type="checkbox"/> | Group name | Group ID | Name |
|-------------------------------------|------------|----------------------|------|
| <input checked="" type="checkbox"/> | default | sg-002101bc8b3395383 | |

Select the correct EC2 Security groups.

Click **Next**

Configure updates, monitoring, and logging - optional [Info](#)

Monitoring [Info](#)

Health reporting
Enhanced health reporting provides free real-time application and operating system monitoring of the instances and other resources in your environment. The EnvironmentHealth custom metric is provided free with enhanced health reporting. Additional charges apply for each custom metric. For more information, see [Amazon CloudWatch Pricing](#).

System
☒ Basic
☐ Enhanced

Health event streaming to CloudWatch Logs
Configure Elastic Beanstalk to stream environment health events to CloudWatch Logs. You can set the retention up to a maximum of ten years and configure Elastic Beanstalk to delete the logs when you terminate your environment.

Log streaming
☐ Activated (standard CloudWatch charges apply.)

Retention
7

Lifecycle
Keep logs after terminating environment

Managed platform updates [Info](#)
Activate managed platform updates to apply platform updates automatically during a weekly maintenance window that you choose. Your application stays available during the update process.

Email notifications [Info](#)
Enter an email address to receive email notifications for important events from your environment. [Learn more](#)

Rolling updates and deployments [Info](#)

Click **Next**

Click **Submit**

✓ Elastic Beanstalk is launching your environment. This will take a few minutes.

It will take a few minutes to bring up the application environment.

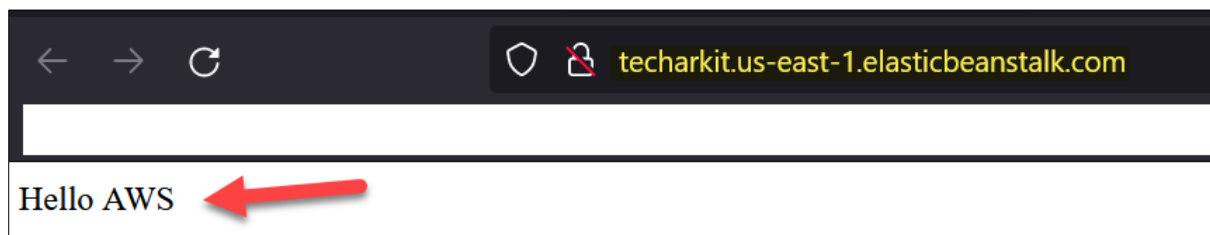
✓ Environment successfully launched.

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Environment overview

| | |
|--|--------------------------------|
| Health ✔ Green | Environment ID e-7nvsh7djp3 |
| Domain techarkit.us-east-1.elasticbeanstalk.com | Application name WebApp |

Access the application using the above URL.



The application is deployed and accessible.