

## TX Prevent Installing Prevent using CloudFormation

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This document will guide you through an installation of TX Prevent into your AWS environment by using CloudFormation.

# Architecture

The TX Prevent deployment architecture leverages several Amazon Web Services (AWS) components to provide a highly available and secure product.

Runtime sensors will deploy onto EC2 instances alongside the applications or services you want to watch. These sensors communicate with the ThreatX Prevent control plane services.



Figure 1. TX Prevent Context Diagram

## High Availability

- For each control plane service, instances are created in multiple availability zones
- The instances are deployed in Auto Scaling Groups (ASG) where they are continuously monitored to ensure the desired number of healthy instances

# Security

- · All control plane services are deployed into private subnets and are never publicly exposed
- All traffic to Control plane services is encrypted using TLS with Amazon provisioned certificates

### **D** ThreatX Control Plane Services

Runtime Analyzer	A data aggregator, analysis engine, and event router. Connects to ThreatX and emits vulnerability metadata.
Scan Template Service	Ingests passively detected vulnerability data and generates highly targeted scan templates. Executes individual scans are executed and returns the results after determining efficacy.
OTEL Collector	This service collects logs and metrics from the sensors and other control plane services and send them back to ThreatX for enhanced product support.

### AWS Components and Services

Application Load Balancer (ALB)	Fronts the TX Prevent control plane services. Each control plane service has multiple instances in at least <i>two</i> availability zones for high availability with the ALB distributing traffic between them.
Auto Scaling Group (ASG)	Maintains the desired number of healthy service EC2 instances. If an instance becomes unhealthy or is unexpectedly terminated the ASG will create another instance.
Parameter Store	Configuration properties for sensors and control plane services.
Secrets Manager	Sensitive configuration properties.
Route53	DNS records for the control plane services.
Certificate Manager (ACM)	Provisioning certificates for the control plane services.

# Prerequisites

### Recommended Reading

Performing this deployment process requires familiarity with the following AWS services:

- Amazon VPC
- AWS CloudFormation
- AWS Route53

Additionally, for deployments requiring VPC connectivity between the TX Prevent VPC and another VPC containing monitored application/service:

- AWS VPC Peering
- AWS Transit Gateway

# 🔶 Preflight Checklist

The following items must be completed before the deployment can begin.

- □ I Valid ThreatX Tenant ID (customer name)
- □ I Valid ThreatX API Key (See ThreatX Sensor API Key)
- AWS user or role with either the AdministratorAccess policy or our custom deployment IAM policy
- □ I EC2 key pair for SSH access to the EC2 instances. (See EC2 Key Pair)
- Docker installed on the EC2 instances where the sensors will be deployed
- D MAWS Route53 Hosted Zone for DNS records and certificates of control plane services

 $\Box \bigcirc \boxtimes$ \*VPC\* with at least:

- 2 private subnets
- 1 public subnet
- 1 internet gateway
- 1 NAT gateway



Figure 2. TX Prevent Standard VPC Topology

## DD Creating an EC2 Key Pair

The EC2 Key pair will be used to SSH into the ThreatX Control Plane EC2 instances. To create one for the install follow the steps below:\*

- 1. Open the AWS EC2 Console.
- 2. Select Main Menu (left) > Network & Security > Key Pairs
- <sup>3.</sup> On the 🕼 Key pairs page, click [ Create key pair ]
- 4. On the 🗊 Create Key Pair page:
  - a. Enter a name (e.g., <threatx-prevent>)
  - b. Select RSA
  - c. Select .pem format
  - d. Add any Tags that you want
  - e. Click on [Create key pair].

The private key will then be downloaded to your system.



Put this key in a safe place. It can be used to SSH into any of TX Prevent EC2's.

### Runtime Sensor System Requirements

Resources	It is recommended to have <b>at least 2 cores</b> and <b>300MB of memory</b> available on the EC2 instance that they will be running on.
Network Connectivity	If Sensors are deployed into a <i>different VPC than that of the control plane</i> , VPC peering or Transit Gateway connectivity will need to be setup between the VPCs.
Scanning Requirements	You may need to adjust security groups to allow ingress traffic from the Scan Template Service to the target endpoints.

# 寮 Control Plane Deployment

Cloudformation template URL

```
$ https://threatx-prevent-cf-template.s3.amazonaws.com/threatx-
prevent.yaml[*Download the TX Prevent CloudFormation template* -
__https://threatx-prevent-cf-template.s3.amazonaws.com/threatx-
prevent.yaml__]
```

## **\$** CloudFormation Template Parameters

Кеу	Туре	Default	Description
АріКеу	String		The API key for TX Prevent
TenantId	String		The Tenant ID for TX Prevent
LogLevel	String	info	The logging level to use for all services
VPC	AWS::EC2: :VPC::Id		A virtual private cloud (VPC) to install into. See VPC Setup
Subnets	List <aws:: EC2::Subn et::Id&gt;</aws:: 		At least two private subnets in different Availability Zones in the selected VPC
HostedZoneId	String		The ID of the Hosted Zone in Route53 to add DNS record to. Must align with the specified Hosted Zone Name.
KeyName	AWS::EC2: :KeyPair::K eyName		Name of an existing EC2 key pair to allow SSH access to the control plane's EC2 instances
GatewayHostname	String	threatx-grpc2kafka- production-v1.xplat- production.threatx.io	The Gateway hostname for TX Prevent
HostedZoneName	String		The Hosed Zone Name in Route53 for the control plane service DNS records. Must align with the specified Hosted Zone Id.
LatestAmiId	String	/aws/service/ami- amazon-linux- latest/al2023-ami- kernel-6.1-x86_64	The latest AMI ID for the TX Prevent services

Table 1. TX Prevent Configuration Parameters

#### Table 2. Analyzer Configuration Parameters

Кеу	Туре	Default	Description
AnalyzerTags	String		The tag values for the Runtime Analyzer
EnvironmentName	String		The environment name for the Runtime Analyzer

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Кеу	Туре	Default	Description
AaeCachingEnabled	boolean	false	Enable caching for the Runtime Analyzer
SendCompressed	boolean	false	Enable compression for the Runtime Analyzer
AnalyzerImageTag	String	1.2.0	The tag for the Runtime Analyzer docker image
AcceptCompressed	boolean	false	Accept compressed data for the Runtime Analyzer
AnalyzerDesiredInstances	Number	2	Number of desired Runtime Analyzer instances
QueueSampleEnabled	boolean	false	Enable queue sampling for the Runtime Analyzer
EnableStdOutMetrics	boolean	false	Enable stdout metrics for the Runtime Analyzer
EnableCatalogMonitor	boolean	false	Enable catalog monitoring for the Runtime Analyzer
AnalyzerInstanceType	String	t3.small	The EC2 instance type for the Runtime Analyzer instances

#### Table 3. STS Configuration Parameters

Кеу	Туре	Default	Description
StsImageTag	String	1.1.0	The tag for the Scan Template Service docker image
StsDesiredInstances	Number	2	Number of desired Scan Template Service instances
StsInstanceType	String	t3.small	The EC2 instance type for the Scan Template Service instances

#### Table 4. OTEL Configuration Parameters

Кеу	Туре	Default	Description
OtelImageTag	String	1.1.0	The tag for the OTEL Collector docker image
OtelInstanceType	String	t3.small	The EC2 instance type for the OTEL Collector instances
OtelGatewayUrl	String	otlp-grpc- production.xplat-aml- prod.threatx.io	The Gateway URL for the OTEL Collector

## Step-by-Step Console Deployment Instructions

Follow these steps Ito deploy the CloudFormation stack by using the AWS Console to create the TX Prevent services in your AWS environment.

### 100 Add the TX Prevent CloudFormation Template

- 1. Sign in to your AWS account via the AWS Console. Select the desired region for the deployment.
- 2. Open the CloudFormation console
- 3. Select [Create stack] and [With new resources (standard)]
- 4. Select [Choose an existing template] and then add the URL for the TX Prevent template to the Amazon S3 URL field: threatx-prevent-cf-template.s3.amazonaws.com/threatx-prevent.yaml

itep 1 Create stack	Create stack		
tep 2 ipecify stack details	Prerequisite - Prepare template You can also create a template by scanning your existing resources in the laC	generator.	
ep 3 onfigure stack options	Prepare template Every stack is based on a template. A template is a JSON or YAML file that co	ntains configuration information about the AWS resources you want to includ	le in the stack.
ep 4 eview and create	• Choose an existing template Upload or choose an existing template.	O Use a sample template Choose from our sample template library.	O Build from Application Composer Create a template using a visual builder.
	Specify template Info A template is a JSON or VAML file that describes your stack's resources and pr	operties.	
	Specify template Info A template is a JSON or YAML file that describes your stack's resources and pr Template source Selecting a template generates an Amazon S3 URL where it will be stored.	operties.	
	Specify template Info A template is a JSON or VAML file that describes your stack's resources and print Template source Selecting a template generates an Amazon S3 URL where it will be stored. Amazon S3 URL Provide an Amazon S3 URL to your template.	operties. O Upload a template file Upload your template directly to the console.	Sync from Git - <i>new</i> Sync a template from your Git repository.
	Specify template Info A template is a JSON or VAML. file that describes your stack's resources and private is a USON or VAML. file that describes your stack's resources and private Selecting a template generates an Amazon S3 URL, where it will be stored. Amazon S3 URL Provide an Amazon S3 URL to your template. Amazon S3 URL	operties. O Upload a template file Upload your template directly to the console.	Sync from Git - <i>new</i> Sync a template from your Git repository.
	Specify template Info A template is a JSON or VAML file that describes your stack's resources and private it is a JSON or VAML file that describes your stack's resource and private it is a template generates an Amazon S3 URL where it will be stored. Amazon S3 URL Provide an Amazon S3 URL to your template. Amazon S3 URL https://threatx-prevent-cf-template.s3.amazonaws.com/threatx	operties.  Upload a template file Upload your template directly to the console.  preventyaml	Sync from Git - <i>new</i> Sync a template from your Git repository.
	Specify template Info         A template is a JSON or VAML. file that describes your stack's resources and provide a source         Selecting a template generates an Amazon S3 URL, where it will be stored.            • Amazon S3 URL         Provide an Amazon S3 URL to your template.          Amazon S3 URL         https://threatx-prevent-cf-template.s3.amazonaws.com/threatx         Amazon S3 template URL	operties.  Upload a template file Upload your template directly to the console.  prevent.yaml	Sync from Git - <i>new</i> Sync a template from your Git repository.

Figure 3. TX Prevent Standard VPC Setup

### 200 Configure the Stack Details

- 𝔊 On the 𝔄 Specify stack details Page
- 1. In the Stack Name field, enter: ThreatXPrevent
  - a. NOTE: If you choose to enter a different stack name then it must be 14 characters or less in length. This stack name is used as part of AWS resource tags and some of those have length limitations.
- 2. Provide values for the following parameters. Descriptions of all parameters can be found here: Template Parameters.
  - a. TenantId
  - b. ApiKey
  - c. VPC
  - d. Subnets
  - e. HostedZoneId
  - f. HostedZoneName
  - g. KeyName
  - h. AnalyzerTags

- 3. For all other parameters leave the default settings and adjust them only if instructed by ThreatX.
- 4. Select [Next]

### 300 Configure the Stack Options

- 1. (optional) Specify tags for the resources in your stack and set any advanced options you want.
- In the Capabilities section select I acknowledge that AWS CloudFormation might create IAM resources with custom names
- 3. Select [Next]

### 400 Review and Create the Stack

- 1. Review and confirm all of the template settings.
- 2. Under Capabilities, review and select the check boxes to acknowledge.
- 3. Select [ Create Stack ]



The TX Prevent deployment is ready when the stack status is **CREATE\_COMPLETE**. Stack creation should take **5 to 10 minutes**.



You can watch creation events under the **Event** tab. To view all the created resources, choose the **Outputs** tab.

## AWS CLI Deployment Instructions

Below is an example AWS CLI command to perform the installation. Replace any values shown in <> with your specific values

Installing with the CLI

```
$ aws cloudformation create-stack \
--template-url https://threatx-prevent-cf-
template.s3.amazonaws.com/threatx-prevent.yaml \
--stack-name ThreatXPrevent \
--region <your-region> \
--capabilities CAPABILITY_IAM \
--capabilities CAPABILITY_NAMED_IAM \
--parameters \
ParameterKey=TenantId, ParameterValue=<your-tenant-id> \
ParameterKey=ApiKey, ParameterValue=<your-api-key> \
ParameterKey=Subnets, ParameterValue=<your-subnet-id-1>, <your-subnet-id-2> \
```

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ParameterKey=HostedZoneId,ParameterValue=<your-hosted-zone-id> \
ParameterKey=HostedZoneName,ParameterValue=<your-hosted-zone-name> \
ParameterKey=KeyName,ParameterValue=<your-ec2-key-pair-name> \
ParameterKey=AnalyzerTags,ParameterValue=<your-tag-value>

# 🐦 Runtime Sensor Deployment

The run-tx-sensor.sh script can be used to configure and launch ThreatX Runtime Sensor containers on an EC2 instance where an application to be monitored is running.

#### 🍲 Download run-tx-sensor.sh

There are two types of sensor monitoring modes that can be setup:

- · Container Monitoring Mode : The sensor monitors traffic on a specific application container
- · Host Monitoring Mode : The sensor monitors traffic on the entire host

#### Features of the script

- In Container Monitoring Mode:
  - The sensor will be bound to a specified Docker application container's network stack.
  - The sensor container will be named based upon the specified application container it will be monitoring: threatx-sensor-<app-container-name>
  - Try to set the sensor to the correct network interface for the specified container. If the application
    container has multiple network interfaces then it will output those interface names to allow you to
    select the appropriate one.
- In Host networking Mode:
  - The sensor will be bound to the EC2 instance's host network.
  - The sensor container will be named based upon the specified application instance it will be monitoring: threatx-sensor-<app-instance-name>
  - Set the sensor to the instance's default route network interface.
- If a currently running sensor is detected it will gracefully shut it down before starting a new one.
- · Check and enforce OS and other system requirements.
- · Will output useful information that can be passed on to the ThreatX support team

### Usage

### **Container Monitoring Mode**

In this mode the sensor will monitor traffic on a specific application container. The application docker container name is specified via the app-name argument.

```
run-tx-sensor.sh \
    --tenant-id <tx-customer-id> \1
    --domain <dns-domain-of-tx-prevent-deployment> \2
    --app-name <app-container-name>3
```

- Your ThreatX customer ID
- (2) The DNS domain name used for the installation of your ThreatX Prevent control plane
- (3) The docker container name of the application you want to monitor

### Host Monitoring Mode

In this mode the sensor will monitor traffic on the EC2 instance's network. The --host-mode or -H command line switch is used to enable this mode and a name for the ec2 instance is specified via the app-name argument.

```
run-tx-sensor.sh \
   --tenant-id <tx-tenant-id> \①
   --domain <dns-domain-of-tx-prevent-deployment> \②
   --app-name <app-or-instance-name> \③
   --host-mode
```

Your ThreatX customer ID

- ② The DNS domain name used for the installation of your ThreatX Prevent control plane
- (3) The docker container name of the instance you want to monitor

#### Command Line Arguments

```
Usage: run-tx-sensor.sh [OPTIONS]
Options:
 -n, --tenant-id string
                                 The ThreatX tenant ID (required)
 -d, --domain string
                                  The domain name used for the ThreatX
Prevent installation (required)
 -a, --app-name string
                                  The application name (container name)
or an instance identifier (required)
 -s, --stack-name string
                                 The stack name used for the ThreatX
Prevent installation if the default name of ThreatXPrevent was not used
(default: ThreatXPrevent)
 -i, --image-repo string
                                 Docker image repository (default:
public.ecr.aws/threatx/raap/threatx-runtime-sensor)
 -t, --image-tag string
                                  Docker image tag (default: 1.2.0)
 -N, --network-interface string The network interface to use
                                 Sensor log level : trace, debug,
 -l, --sensor-log-level string
info, warn, error (default: info)
 -p, --trace-path string
                                  Trace path (default: /sys)
 -H, --host-mode
                                  Enable listening on the host network
(default: disabled)
 -I, --internal
                                  Enable for internal image access
(default: disabled)
 -h, --help
                                  Display this help message
```

# CloudFormation IAM Permissions

There are two options for obtaining the permissions needed to create the TX Prevent stack:

- 1. Using an existing user or role with the AdministratorAccess policy
- Creating a new custom IAM policy with the minimum required permissions according to least privilege which will be assigned to the existing user or role you want to use for installation (continue reading next section)

## **P** Configure AWS with the Minimum Permissions Required for Stack Creation

Now we will create a custom policy with the minimum permissions required to create the TX Prevent stack.

### 📢 Create a Custom Policy

- <sup>1.</sup> On the 🗐 AWS Services page, Select [ IAM ].
- 2. From 🗊 IAM Dashboard, select 🟈 Main Menu (left) > Policies
- 3. On the 🗊 Policies page, Select [ Create policy ]
- <sup>4.</sup> On the 🗐 Specify Permissions page, under the JSON tab:
- 5. Copy the JSON below into the Policy editor.
- 6. I Replace all placeholder instances with your actual values:
  - a. <account-id> with your AWS Account ID
  - b. <hosted-zone-id> with your AWS Route53 Hosted Zone ID

#### tx-prevent-cf-iam-policy.json

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "LaunchTemplates",
            "Action": "ec2:CreateLaunchTemplate",
             "Effect": "Allow",
             "Resource": "arn:aws:ec2:*:<account-id>:launch-template/*"
        },
        {
            "Effect": "Allow",
            "Action": [
                 "ssm:DescribeParameters"
            ],
            "Resource": "*"
        },
        {
             "Effect": "Allow",
```

```
"Action": [
                "ssm:*"
            ],
            "Resource": "arn:aws:ssm:*:<account-
id>:parameter/ThreatXPrevent*"
        },
        {
            "Sid": "EC2",
            "Effect": "Allow",
            "Action": [
                "ec2:AuthorizeSecurityGroupIngress",
                "ec2:AuthorizeSecurityGroupEgress"
            1,
            "Resource": "arn:aws:ec2:*:<account-id>:security-group/*",
            "Condition": {
                "StringLike": {
                    "aws:ResourceTag/aws:cloudformation:stack-name":
"ThreatXPrevent*"
                }
            }
        },
        {
            "Sid": "EC2v3",
            "Effect": "Allow",
            "Action": [
                "ec2:TerminateInstances",
                "ec2:DeleteSecurityGroup"
                "ec2:RevokeSecurityGroupEgress",
                "ec2:RunInstances",
                "ec2:DescribeInstances",
                "ec2:DescribeVpcs",
                "ec2:DescribeSubnets",
                "ec2:DescribeKeyPairs",
                "ec2:CreateSecurityGroup",
                "ec2:CreateTags"
                "ec2:DescribeSecurityGroups",
                "ec2:CreateLaunchTemplate",
                "ec2:DescribeLaunchTemplates",
                "ec2:DescribeLaunchTemplateVersions",
                "ec2:DeleteLaunchTemplate",
                "ec2:CreateLaunchTemplateVersion",
                "ec2:DeleteLaunchTemplateVersions",
                "ec2:ModifyLaunchTemplate",
                "elasticloadbalancing:DescribeLoadBalancers",
```

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```
"elasticloadbalancing:DescribeLoadBalancerAttributes",
                "elasticloadbalancing:DescribeListeners",
                "elasticloadbalancing:DescribeListenerCertificates",
                "elasticloadbalancing:DescribeSSLPolicies",
                "elasticloadbalancing:DescribeRules",
                "elasticloadbalancing:DescribeTargetGroups",
                "elasticloadbalancing:DescribeTargetGroupAttributes",
                "elasticloadbalancing:DescribeTargetHealth",
                "elasticloadbalancing:DescribeTags",
                "elasticloadbalancing:DescribeTrustStores"
            ],
            "Resource": "*"
        },
        {
            "Sid": "ElasticLoadbalancing",
            "Effect": "Allow",
            "Action": [
                "elasticloadbalancing:CreateLoadBalancer",
                "elasticloadbalancing:DeleteLoadBalancer",
                "elasticloadbalancing:DescribeLoadBalancers",
                "elasticloadbalancing:RemoveTags",
                "elasticloadbalancing:DescribeTags",
                "elasticloadbalancing:AddTags",
                "elasticloadbalancing:DescribeRules",
                "elasticloadbalancing:DescribeListeners"
            1.
            "Resource": "*"
        },
        {
            "Sid": "TargetGroup",
            "Effect": "Allow",
            "Action": [
                "elasticloadbalancing:CreateTargetGroup",
                "elasticloadbalancing:DeleteTargetGroup",
                "elasticloadbalancing:ModifyTargetGroup",
                "elasticloadbalancing:ModifyTargetGroupAttributes"
            ],
            "Resource": "arn:aws:elasticloadbalancing:*:<account-
id>:targetgroup/ThreatXPrevent*"
        },
        {
            "Sid": "ElasticLoadbalancingV2",
            "Effect": "Allow",
            "Action": [
```

```
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```

```
"elasticloadbalancing:SetLoadBalancerPoliciesOfListener",
"elasticloadbalancing:RegisterInstancesWithLoadBalancer",
                "elasticloadbalancing:ModifyLoadBalancerAttributes",
                "elasticloadbalancing:ConfigureHealthCheck",
                "elasticloadbalancing:SetWebAcl",
                "elasticloadbalancing:ModifyListener",
                "elasticloadbalancing:AddListenerCertificates",
                "elasticloadbalancing:RemoveListenerCertificates",
                "elasticloadbalancing:ModifyRule"
                "elasticloadbalancing:CreateListener"
            1,
            "Resource": "arn:aws:elasticloadbalancing:*:<account-
id>:loadbalancer/app/ThreatXPrevent*"
        },
        {
            "Effect": "Allow",
            "Action": [
                "elasticloadbalancing:CreateRule",
                "elasticloadbalancing:DeleteRule"
                "elasticloadbalancing:DeleteListener"
            1.
            "Resource": [
                "arn:aws:elasticloadbalancing:*:<account-
id>:listener/app/ThreatXPrevent*",
                "arn:aws:elasticloadbalancing:*:<account-id>:listener-
rule/app/ThreatXPrevent*"
            1
        },
        {
            "Effect": "Allow",
            "Action": [
                "elasticloadbalancing:RegisterTargets",
                "elasticloadbalancing:DeregisterTargets"
            1,
            "Resource":
"arn:aws:elasticloadbalancing:*:*:targetgroup/*/*"
        },
        {
            "Sid": "IAM",
            "Effect": "Allow",
            "Action": [
                "iam:CreateInstanceProfile",
```

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```
"iam:DeleteInstanceProfile",
                "iam:GetInstanceProfile",
                "iam:GetRole",
                "iam:RemoveRoleFromInstanceProfile",
                "iam:CreateRole"
                "iam:DeleteRole"
                "iam:AddRoleToInstanceProfile",
                "iam:PassRole"
                "iam:DeleteRolePolicy",
                "iam:GetRolePolicy",
                "iam:GetPolicy"
                "iam:CreatePolicy",
                "iam:DeletePolicy",
                "iam:ListPolicyVersions",
                "iam:TagRole",
                "iam:DetachRolePolicy",
                "iam:AttachRolePolicy"
            ],
            "Resource": [
                "arn:aws:iam::<account-id>:role/ThreatXPrevent*",
                "arn:aws:iam::<account-id>:policy/ThreatXPrevent*",
                "arn:aws:iam::<account-id>:instance-
profile/ThreatXPrevent*"
            1
        },
        {
            "Sid": "IAMv2",
            "Effect": "Allow",
            "Action": "iam:PutRolePolicy",
            "Resource": [
                "arn:aws:iam::<account-id>:role/ThreatXPrevent*",
                "arn:aws:iam::<account-id>:policy/ThreatXPrevent*"
            1
        },
        {
            "Sid": "ACM",
            "Effect": "Allow",
            "Action": "acm:*",
            "Resource": "arn:aws:acm:*:<account-id>:certificate/*"
        },
        {
            "Effect": "Allow",
            "Action": [
                "secretsmanager:GetResourcePolicy",
```

```
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                "secretsmanager:GetSecretValue",
                "secretsmanager:DescribeSecret",
                "secretsmanager:ListSecretVersionIds",
                "secretsmanager:CreateSecret",
                "secretsmanager:PutSecretValue",
                "secretsmanager:TagResource",
                "secretsmanager:DeleteSecret"
            ],
            "Resource": "arn:aws:secretsmanager:*:<account-
id>:secret:/ThreatXPrevent*"
        },
        {
            "Effect": "Allow",
            "Action": "secretsmanager:ListSecrets",
            "Resource": "*"
        },
        {
            "Effect": "Allow",
            "Action": [
                "route53:ChangeResourceRecordSets",
                "route53:GetHostedZone"
            ],
            "Resource": "arn:aws:route53:::hostedzone/<hosted-zone-id>_"
        },
        {
            "Effect": "Allow",
            "Action": "route53:GetChange",
            "Resource": "arn:aws:route53:::change/*"
        },
        {
            "Effect": "Allow",
            "Action": [
                "autoscaling:CreateAutoScalingGroup",
                "autoscaling:UpdateAutoScalingGroup",
                "autoscaling:DescribeAutoScalingGroups",
                "autoscaling:PutScalingPolicy",
                "autoscaling:DescribePolicies",
                "autoscaling:DeletePolicy",
                "autoscaling:DeleteAutoScalingGroup",
```

```
"autoscaling:DescribeScalingActivities"
```

"Resource": "\*"

1.

}

- 1. When you are complete, click [Next]
- 2. Give the policy a name (e.g., threatx-prevent-install)
- 3. Add a 🕅 Tag:

}

- Key: product
- Value: threatx-prevent
- 4. Click [Create Policy].

🎭 Creating A New Role For The Installation

From the IAM Console ...

- 1. In the main menu to the left, select Access Management > Roles
- 2. Click the [Create Role] button.

From the Create Role page...

- 1. Verify that the AWS service button is selected.
- 2. From the list, select CloudFormation and click [Next].
- 3. In the Filter Policies field, locate and select the checkbox of the policy you created. Click [Next].
- 4. For Role Name, enter threatx-prevent-install.
- 5. Add a XX Tag:
  - Key: product
  - Value: threatx-prevent
- 6. Click [Create Role]

### Use The New Role To Create The Stack

From the Configure Stack Options Page ...

- 1. Locate the Permissions section
- 2. In the IAM Role Name field, select the newly created role: threatx-prevent-install