

ThreatModeler™: Existing and New VPC

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Overview

This setup and deployment guide provide step-by-step instructions for deploying ThreatModeler and integrating it with your AWS environment.

This guide is for users who are planning to threat model their workloads – to be deployed and workloads that are deployed already.

Prerequisites for Deploying ThreatModeler in an AWS Account

The following are prerequisites for launching ThreatModeler through CloudFormation.

- ThreatModeler Support has relevant contact details (email address) of the person in-charge of setup and deployment of ThreatModeler for future references. Please contact support via support@threatmodeler.com.
- License files
 - After you complete the process of subscription to ThreatModeler on AWS Marketplace, please reach out to our support team(<u>support@threatmodeler.com</u>) for the getting the required license files. These are the required files for logging into ThreatModeler initially after the CloudFormation stack for launching ThreatModeler is Complete. ThreatModeler Support will send these files to you via email.
- An Amazon EC2 key pair (for logging into the ThreatModeler Instance) needs to be created prior running the CloudFormation stack.
 - To do this, in the navigation pane of the Amazon EC2 console, under Network & Security, choose Key Pairs, and then click Create Key Pair.
- If this solution is being launched in an existing VPC
 - Please make sure each AZ has one public and one private subnet. ThreatModeler requires a selection of two AZ's.
 - Ex: For example, If ThreatModeler is being launched in an existing VPC in the North Virginia Region, that VPC should have a public and private subnet in us-east-1a AZ and public and private subnet in us-east-1b AZ (AZ's us-east-1a and us-east-1b are considered for example purposes).
 - NAT gateway in public subnet and the routes added to private subnet (where ThreatModeler will be launched) route table is required for content updates within the platform.
- ThreatModeler uses ALB to serve traffic. To create an HTTPS listener while ALB is being created, we require an ARN of an existing certificate in the Amazon Certificate Manager (ACM) service.
 - If a certificate ARN is provided, please use the same domain name (for creating record sets in your DNS provider) that was used during the certificate creation for domain name resolution purposes to access ThreatModeler on custom domain name.
 - If your organization doesn't use ACM for certificate management, you could use the "Import a Certificate" feature in ACM to Import SSL/TLS certificates from thirdparty issuers into AWS Certificate Manager (ACM) to easily provide ARN for ALB creation with HTTPS creation.
- If no ARN is provided, ALB is created with HTTP listener. If you are willing to install SSL certificate within the ThreatModeler (windows) server, please reach out to your SSL certificate management team.

- VPC Peering knowledge is required.
 - Since all the resources (except NAT Gateway) created during this setup are launched in private subnets for secure architecture creation (with access only to these subnets from CIDR you specify during CFN launch).
 - If ThreatModeler is being launched in a new VPC, VPC peering needs to be done between the new VPC (where ThreatModeler is launched) and Corporate VPC (where VPN is deployed for accessing private resources across your enterprise).
 - If ThreatModeler is being launched in an existing VPC, we assume VPN connectivity is established for that VPC (for logging and accessing private resources across the enterprise).
- This product requires an internet connection to deploy properly. The following ThreatModeler packages are downloaded on deployment:
 - o main.ps1 For setting up ThreatModeler configuration during run-time
 - AWSTMInitialRun.exe
 - Newtonsoft.Json.dll

Costs

You are responsible for the cost of AWS services used while running this deployment guide. The AWS CloudFormation templates for this deployment guide include configuration parameters that you can customize. Some of these settings, such as instance type, will affect the cost of deployment. For cost estimates, see the pricing pages for each AWS service you will be using. Prices are subject to change.

Deployment Options

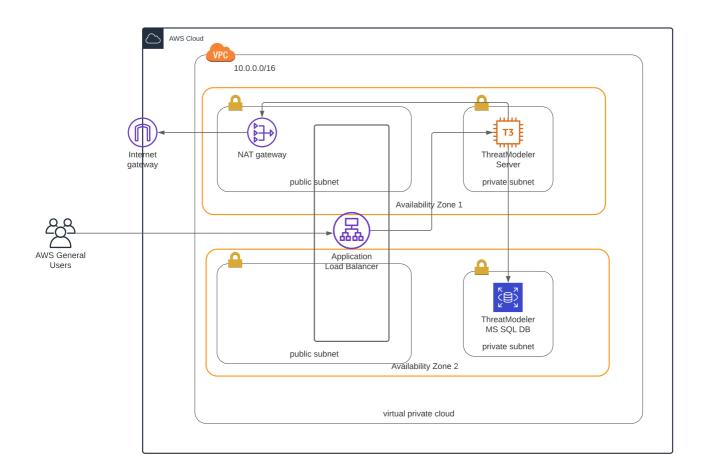
- Option 1: Deploy ThreatModeler on Microsoft Windows Server into a new VPC
- Option 2: Deploy ThreatModeler on Microsoft Windows Server into an existing VPC

ThreatModeler Server Standalone setup

Architecture

This setup and deployment guide will help you to deploy ThreatModeler software in your AWS environment.

• Note The following resources are not shown: associations, route tables, route table entries, security groups, IAM roles, and instance profiles.



CloudFormation template deploys the following resources:

- VPC (the VPC deployment is based on the AWS QuickStart found here).
 - 1. Internet Gateway
 - 2. Two public and two private subnets
 - 3. NAT Gateway in public subnet in AZ1
 - 4. Elastic IP for the NAT Gateway
 - Note: VPC will only be created for deployment Option 1 (Deploy ThreatModeler on Microsoft Windows Server into a new VPC).
- S3 bucket created temporarily to store the RDS database snapshot and then deleted later.
- RDS will either be created in the same subnet as the ThreatModeler EC2 or in a secondary private subnet based on your parameter selection during CFN launch.
 - 1. RDS instance

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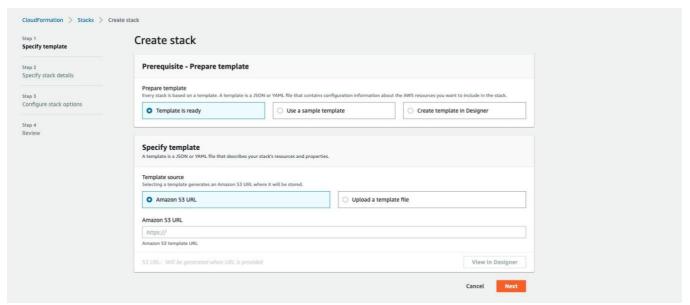
- Deployed in private subnet
- 2. RDS Option Group (SQLSERVER_BACKUP_RESTORE)
- 3. DB Security Group (Port 1433 ingress for MS SQL)
- IAM
 - 1. EC2 Role with following policies attached:
 - AmazonSSMManagedInstanceCore Managed policy for SSM Agent
 - · Read-only access to the account in which it is deployed
 - Access quick start S3 bucket resources
 - Access database snapshot bucket to delete after Restore
 - Access all accounts to assume a Read-only role
 - 2. RDS role to restore snapshot from S3
- EC2
 - 1. For Option 1 Deployment, one EC2 instance will be created in private subnet (ThreatModeler-server)
 - ThreatModeler server Deployed from the subscribed AMI
 - Instance type from CFN parameters, EBS Root volume size of 90 GB (gp2)
 - ThreatModeler server Instance Security Group (ingress ports 3389 for RDP, 443 for HTTPs respectively)
 - 2. For Option 2 Deployment, one EC2 instance will be created with a ThreatModeler-server instance launched in private subnet.
 - ThreatModeler server Deployed from the subscribed AMI
 - Instance type from CFN parameters, EBS Root volume size of 90 GB (gp2)
 - ThreatModeler server Instance Security Group (ingress ports 3389 for RDP, 443 for HTTPs respectively

- Application Load Balancer (Internet-Facing)
 - 1. Deployed in Public Subnet to send traffic to EC2 Instance in Private Subnet.
 - 2. Deployed with HTTP for default communication (if SSL ARN is not provided while launching the CloudFormation stack) or HTTPS listener secure communication (if SSL ARN is provided while launching the CloudFormation stack).

ThreatModeler Deployment

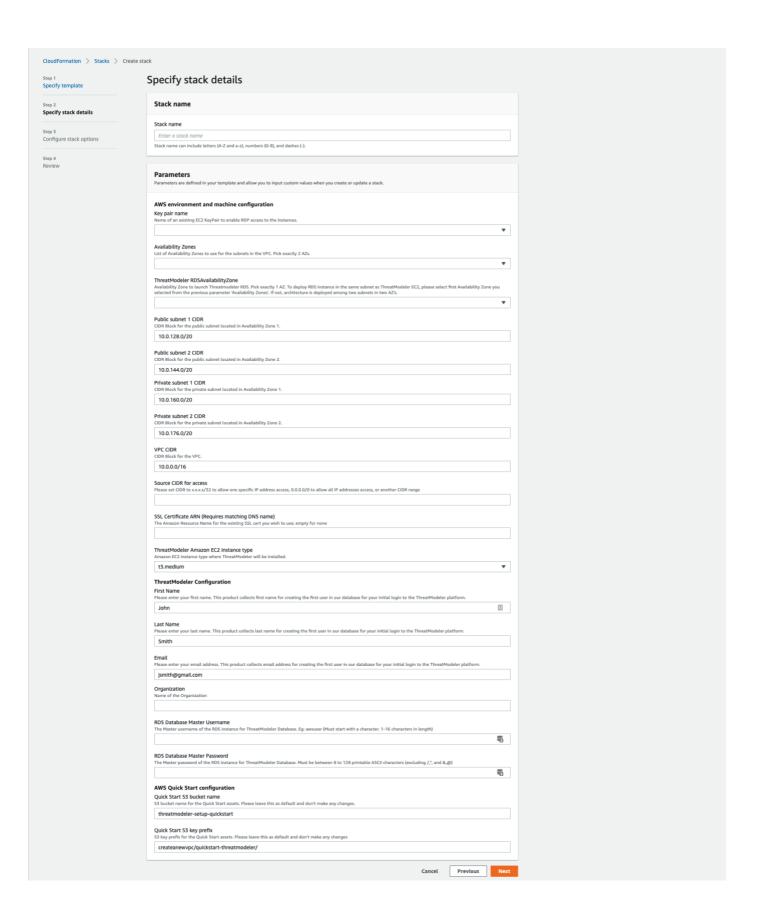
Option 1: Deploy ThreatModeler on Microsoft Windows Server into a new VPC

- 1. Login to the AWS Console of the AWS account where you want to deploy ThreatModeler. We recommend deploying this CloudFormation stack in Security/Audit account.
- 2. Select Services → CloudFormation → Stack → Create Stack → With new resources (standard).



- 3. Select Amazon S3 template URL in the Specify template window to launch the ThreatModeler Application in New VPC.
- 4. Copy and paste the S3 template link into the field under Amazon S3 URL and click Next.

 $\frac{https://s3.amazonaws.com/awsmp-fulfillment-cf-templates-prod/393cc493-d838-4cc6-bf62-8793532d6a66/bb363f3f-7cb3-4451-90f3-11a6d2b994fa.template}{}$



5. Enter a stack name and fill out the rest of the fields. The fields and their descriptions are as follows:

AWS Environment and Machine Configuration

Parameter Label	Default	Description
(Name)		
Key pair name	Requires Input	Public/private key pair, which allows you to connect securely to your instance after it launches. When you created an AWS account, this is the key pair you created in your preferred region.
Availability Zones	Requires Input	List of AZ's to use for the subnets in the VPC. Pick exactly 2 AZ's.
ThreatModeler RDSAvailabilityZone	Requires Input	Availability Zone to launch ThreatModeler RDS.
Public Subnet 1 CIDR	Requires Input	CIDR block for public subnet located in Availability Zone 1.
Public Subnet 2 CIDR	Requires Input	CIDR block for public subnet located in Availability Zone 2.
Private Subnet 1 CIDR	Requires Input	CIDR block for private subnet located in Availability Zone 1 to Allocate Private IP address to ThreatModeler Application Server.
Private Subnet 2 CIDR	Requires Input	CIDR block for private subnet located in Availability Zone 2 to Allocate Private IP address to ThreatModeler Database Server.
VPC CIDR	Requires Input	The CIDR range for the VPC that is to be created.
Source CIDR for access	Requires Input	The CIDR Address from which you will connect to the instance. This is typically, A range of addresses. It can be entered as a single IP address or CIDR range. Add more singular IP Addresses to the EC2 security group post-deployment If necessary.
SSL Certificate ARN	Optional	The Amazon Resource Name (ARN) of the existing SSL Certificate you want to use for creating HTTPS listener on ALB. If no SSL Certificate ARN is provided ALB will be created with HTTP listener.
ThreatModeler Amazon EC2 Instance Type	Requires Input	Amazon EC2 Instance type where ThreatModeler will be installed.

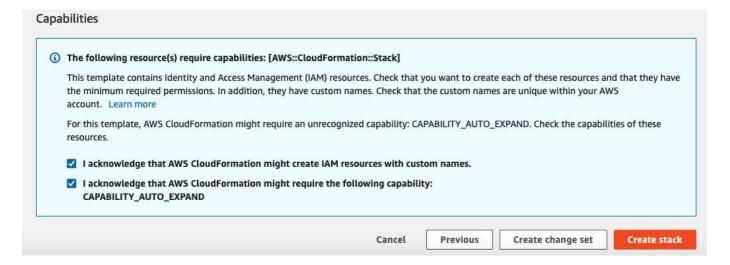
ThreatModeler Configuration

Parameter Label	Default	Description
(Name)		
First Name	Requires Input	First name of the customer used for creating the first user on ThreatModeler platform.
Last Name	Requires Input	Last name of the customer used for creating the first user on ThreatModeler platform.
Email	Requires Input	Valid email of the customer which is used as the username for accessing ThreatModeler platform.
Organization	Requires Input	Organization of the customer.
RDS Database Master	Requires Input	Master username for the ThreatModeler database. Must start with Username a character 1-16 characters in length.
RDS Database Master Password	Requires Input	Master password for the ThreatModeler database. Must be between 8-128 printable ASCII characters (excluding /,", & and @)

AWS QuickStart Configuration

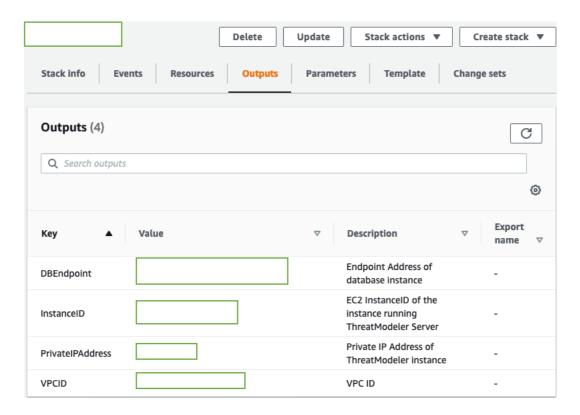
Parameter Label	Default	Description
(Name)		
Quick Start S3 bucket name	threat modeler-setup-quick start	The bucket name used to store quick start assets like scripts and executables. Please leave them as default
Quick Start S3 key prefix	createanewvpc/quickstart-threatmodeler/	The folder/prefix in the bucket used to store the quick start
		assets. Please leave them as default.

- 6. (Optional) Configure stack options.
- 7. Review the stack details and click on the checkboxes next to the following:
 - "I acknowledge that AWS CloudFormation might create IAM resources with custom names."
 - "I acknowledge that AWS CloudFormation might require the following capability: CAPABILITY AUTO EXPAND"



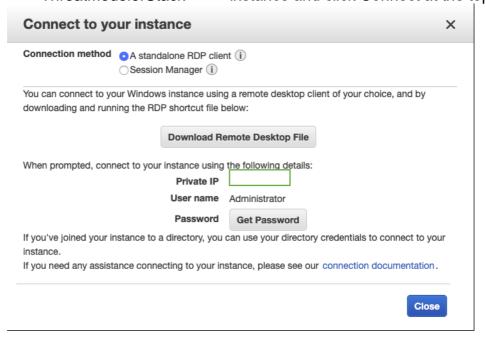
- Click on Create Stack.
- The deployment typically takes around 30-40 minutes to complete.
- Take a note of the twelve-digit AWS Account ID of this account. It will be required for Multi-account setup. This can be done through the following steps:
- Click your name located on the top right navigation pane. Select "My Account."
- Your AWS ID is the twelve-digit number located underneath the Account Settings section.

- The deployment is completed once the CloudFormation displays a "CREATE_COMPLETE" message.
- At this point, click on the stack and click on the "Outputs" tab to view the deployment endpoints and identifiers.

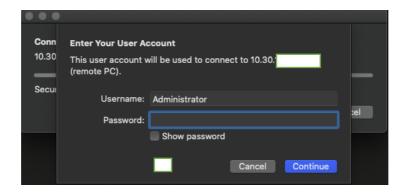


Launching ThreatModeler (When Deployed Into a New VPC)

- Assumptions:
 - VPC peering is successfully established between the new VPC (where ThreatModeler is launched) and Corporate VPC (where VPN is deployed for accessing private resources across your enterprise), so that you can RDP into ThreatModeler server.
 - After VPC peering is established, you need to be on VPN to login and access the ThreatModeler instance.
- Go to Services → EC2 → Instances. Locate the instance starting with the Stack name you specified. Please copy private IP address of "****-ThreatModelerStack-****" instance we would need this information going ahead.
- 2. While "****-ThreatModelerStack-****" instance is selected Click on "Get Password" and then click on "Choose File."
- 3. Locate the KeyPair (.pem) file that you provided while launching the CloudFormation stack and upload it. Click on Decrypt Password and copy the password to your clipboard.
- 4. Select the "****-ThreatModelerStack -****" instance and click Connect at the top.



5. Click on "Download Remote Desktop File." This will download a file that will connect to the instance using a remote desktop client installed on your local desktop. Once downloaded, launch the Remote Desktop file and enter the password that you copied in step 3 into the client.

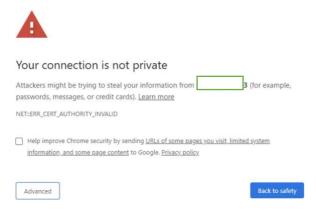


6. You should now see the Windows desktop of the instance (ThreatModeler server) to which you just connected.

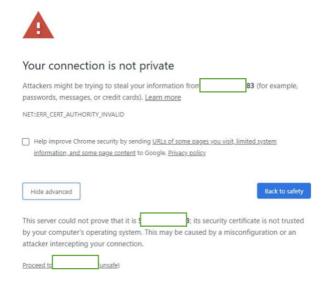


- 7. Launch Google Chrome.
- 8. In the URL address bar, enter https://private-ip-address. (Copied in step 1. If you can't find it, you can also look at the Outputs section of your CloudFormation stack.)

You will encounter a security warning. This occurs due to not having an SSL certificate installed on the system. A self-signed SSL certificate is currently installed and this causes the error.

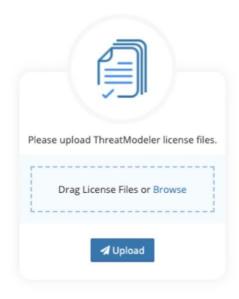


10. Click on Advanced.

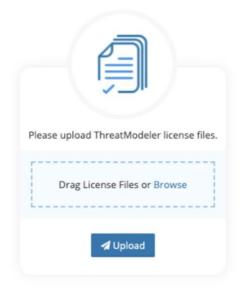


11. Click on "Proceed to ... (unsafe)"

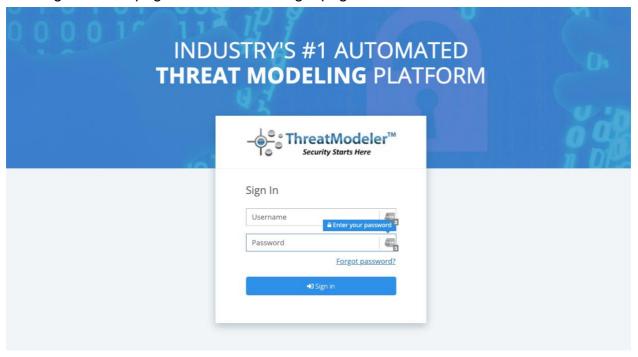
12. The first thing you see when you access ThreatModeler is a prompt to upload your License Files.



- 13. Logging into the ThreatModeler platform requires license files to be uploaded. Please open another tab and navigate to your Email inbox. Look for an email from ThreatModeler support (support@threatmodeler.com) with the license files.
- 14. For limited (10 Licenses) licensing model you should have four files to access ThreatModeler:
 - a. tm.lic file used by ThreatModeler
 - b. validation key.txt validates the above .lic file
 - c. environmentguid.txt file used by ThreatModeler
 - d. tm_lic_10.txt file used by ThreatModeler for licensing ThreatModels.
- 15. As you see the screen below, please click on upload and upload *tm.lic*, *environmentguid.txt and validation key.txt* files. (*tm_lic_10.txt file* will be uploaded after logging into the ThreatModeler platform).

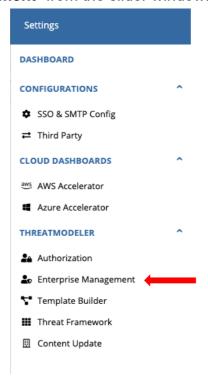


16. After successfully uploading ThreatModeler License files, you should see a success message with the page redirected to a login page as follows.

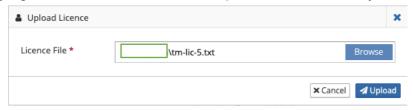


- 17. Use the same email-id provided while launching CloudFormation stack and the password as "admin@123" (without the quotes) to login to the platform.
- 18. After logging successfully into platform, please click Accept on "**License Agreement**" page and you will be navigated to the ThreatModeler landing page.
- 19. To upload $\emph{tm_lic_10.txt}$ file into the platform, click on settings icon.

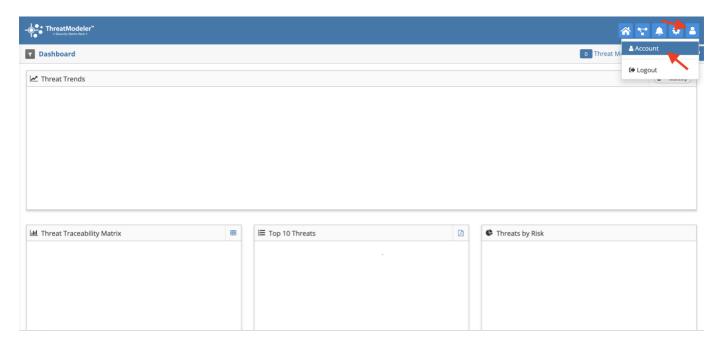
20. Select "Enterprise Management" from the slider window.



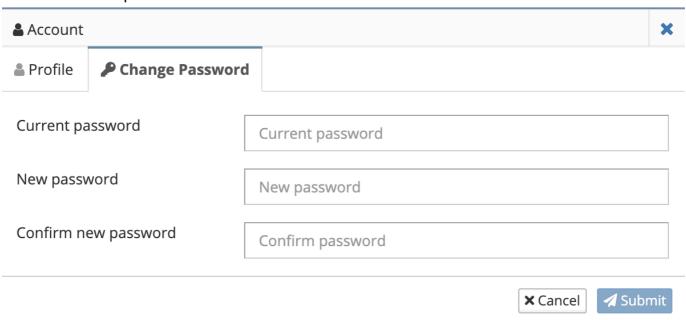
21. From the Enterprise Management screen, click the "+" symbol in the Licenses section and upload tm_lic_10.txt file. After you successfully upload the license file you should see a message saying "ThreatModeler Licenses Uploaded Successfully."



22. Before you proceed any further, please change the default password. To change the password, Click on Account.

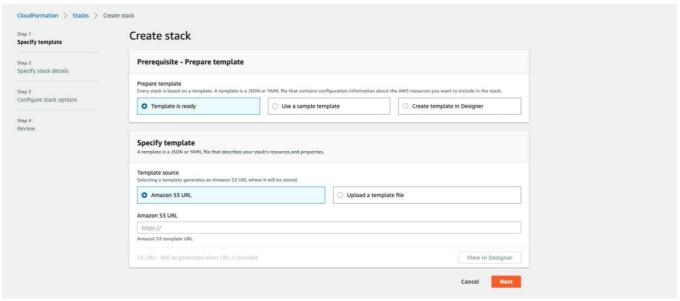


23. Click on Change Password. Enter "admin@123" (without the quotes) for current password. Enter a new password and click Submit.



Option 2: Deploy ThreatModeler on Microsoft Windows Server Into an Existing VPC

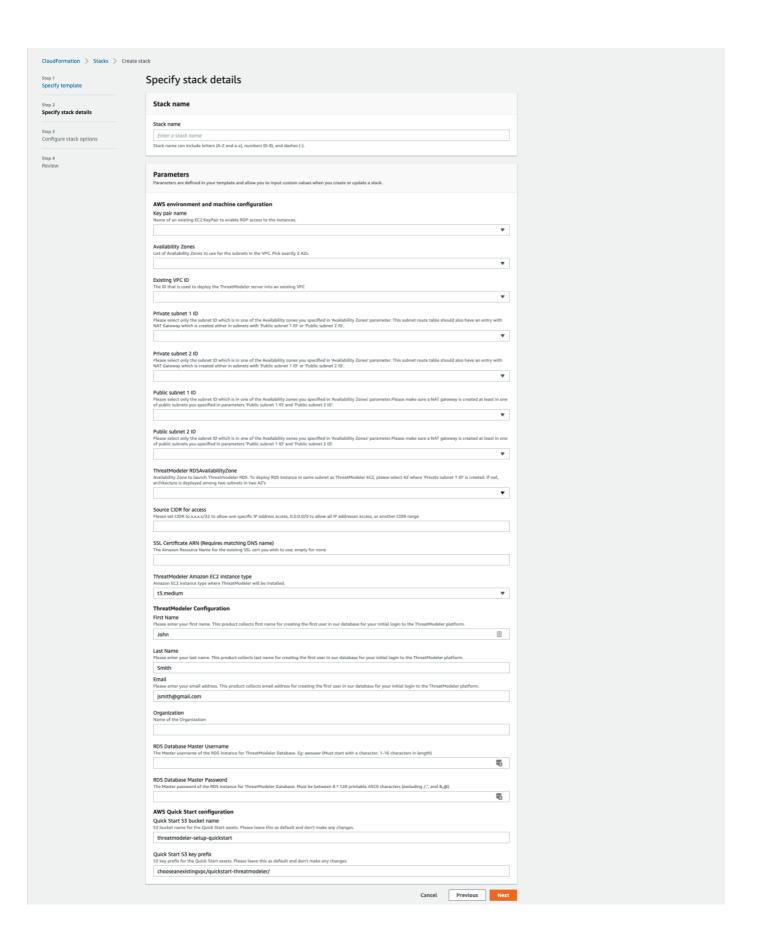
- 1. Log in to the AWS Console of the AWS account where you want to deploy ThreatModeler. We recommend deploying this CloudFormation stack in Security/Audit account.
- 2. Select Services → CloudFormation → Stacks → Create Stack → With new resources



(standard).

- 3. In the Specify template field, select Amazon S3 template URL to launch ThreatModeler Application in existing VPC.
- 4. Copy and paste the S3 template link into the field under Amazon S3 URL and click Next.

 $\frac{https://s3.amazonaws.com/awsmp-fulfillment-cf-templates-prod/393cc493-d838-4cc6-bf62-8793532d6a66/8a397edc-3e13-40b1-a4eb-19c0ad9f19de.template}$



5. Enter a stack name and fill out the rest of the fields. The fields and their descriptions are as follows:

AWS Environment and Machine Configuration

Parameter Label (Name)	Default	Description		
Key pair name	Requires Input	Public/private key pair, which allows you to connect securely to your instance after it launches. When you created an AWS account, this is the key pair you created in your preferred region.		
Availability Zones	Requires Input	List of AZ's to use for the subnets in the VPC. This is based on on the region in which the stack is deployed. Pick exactly 2 AZ's where one public subnet and one private subnet is available in each AZ.		
Existing VPC ID	Requires Input	Select one VPC ID where ThreatModeler to be created in.		
Private Subnet 1 ID	Requires Input	Existing ID of the private subnet located in first chosen AZ. Please select only the subnet ID which is in one of the Availability zones you specified in 'Availability Zones' parameter.		
Private Subnet 2 ID	Requires Input	Existing ID of private subnet located in second chosen AZ. Please select only the subnet ID which is in one of the Availability zones you specified in 'Availability Zones' parameter.		
Public Subnet 1 ID	Requires Input	Existing ID of the public subnet located in first chosen AZ. Please select only the subnet ID which is in one of the Availability zones you specified in 'Availability Zones' parameter.		
Public Subnet 2 ID	Requires Input	Existing ID of the public subnet located in second chosen AZ. Please select only the subnet ID which is in one of the Availability zones you specified in 'Availability Zones' parameter.		
ThreatModeler RDSAvailabilityZone	Requires Input	Availability Zone to launch ThreatModeler RDS.		
Source CIDR for access	Requires Input	The CIDR Address from which you will connect to the instance. This is typically, A range of addresses. It can be entered as a single IP address or CIDR range. Add more singular IP Addresses to the EC2 security group post-deployment If necessary.		
SSL Certificate ARN	Optional	The Amazon Resource Name (ARN) of the existing SSL Certificate you want to use for creating HTTPS listener on ALB. If no SSL Certificate ARN is provided ALB will be created with HTTP listener.		
ThreatModeler Amazon EC2 Instance Type	Requires Input	Amazon EC2 Instance type where ThreatModeler will be installed.		

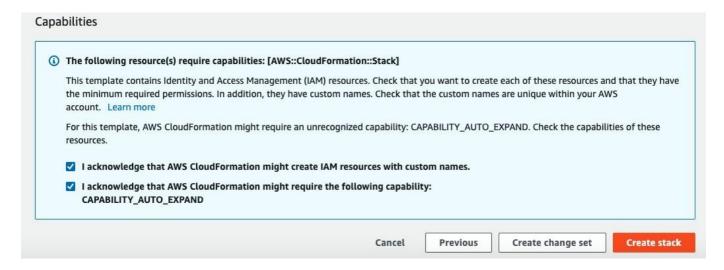
ThreatModeler Configuration

Parameter Label	Default	Description	
(Name)			
First Name	Requires Input	First name of the customer used for creating the first user on ThreatModeler platform.	
Last Name	Requires Input	Last name of the customer used for creating the first user on ThreatModeler platform.	
Email	Requires Input	Valid email of the customer which is used as the username for accessing ThreatModeler platform.	
Organization	Requires Input	Organization of the customer.	
RDS Database Master	Requires Input	Master username for the ThreatModeler database. Must star with Username a character 1-16 characters in length.	
RDS Database Master Password	Requires Input	Master password for the ThreatModeler database. Must be between 8-128 printable ASCII characters (excluding /,", & and @)	

AWS QuickStart Configuration

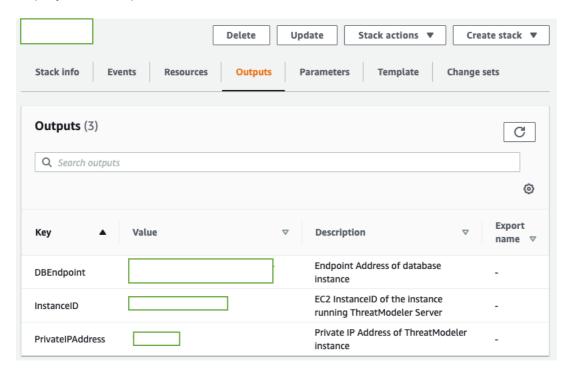
Parameter Label	Default	Description
(Name)		
Quick Start S3 bucket name	threatmodeler-setup-quickstart	The bucket name used to store quick start assets like scripts and executables. Please leave them as default
Quick Start S3 key prefix	chooseanexistingvpc/quickstart-threatmodeler/	The folder/prefix in the bucket used to store the quick start assets. Please leave them as default.

- 6. (Optional) Configure stack options.
- 7. Review the stack details and click on the checkboxes next to the following:
 - "I acknowledge that AWS CloudFormation might create IAM resources with custom names."
 - "I acknowledge that AWS CloudFormation might require the following capability: CAPABILITY_AUTO_EXPAND"



- Click on Create Stack.
- The deployment typically takes around 30-40 minutes to complete.
- Take a note of 12-digit AWS Account ID of this account. It will be required for Multi-account setup. This can be done through the following steps:

- o Click your name located on the top right navigation pane. Select "My Account."
- Your AWS ID is the twelve-digit number located underneath the Account Settings section.
- The deployment is completed once the CloudFormation displays a "CREATE_COMPLETE" message. At this point, click on the stack and click on the "Outputs" tab to view the deployment endpoints and identifiers.

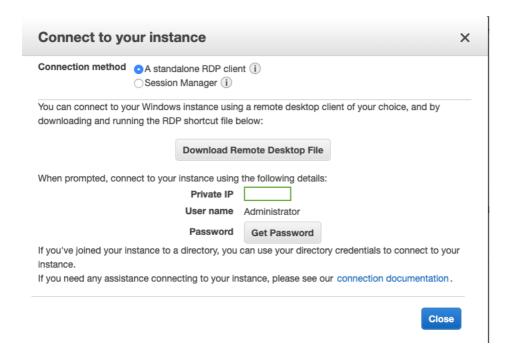


Launching ThreatModeler (When Deployed Into an Existing VPC)

- Note: Assuming VPN connectivity is established (for connecting to instances in private subnet) for the VPC where ThreatModeler instance is created. If not, please create a Bastion-Host in public subnet to access the ThreatModeler instance created in private subnet.
- If VPN connectivity is already established, you need to be on VPN to log in to ThreatModeler instance.
- 1. Go to Services → EC2 → Instances. Locate the instance starting with the Stack name you specified. Copy the private IP address of "****-ThreatModelerStack-****" instance.



- 2. While "****-ThreatModelerStack-***" instance is selected, click on "Get Password" and then click on "Choose File."
- 3. Locate the KeyPair (.pem) file that you provided while launching the CloudFormation stack and upload it.
- 4. Click on Decrypt Password and copy the password to your clipboard.
- 5. Select the "***-ThreatModelerStack-***" instance and click on Connect at the top.



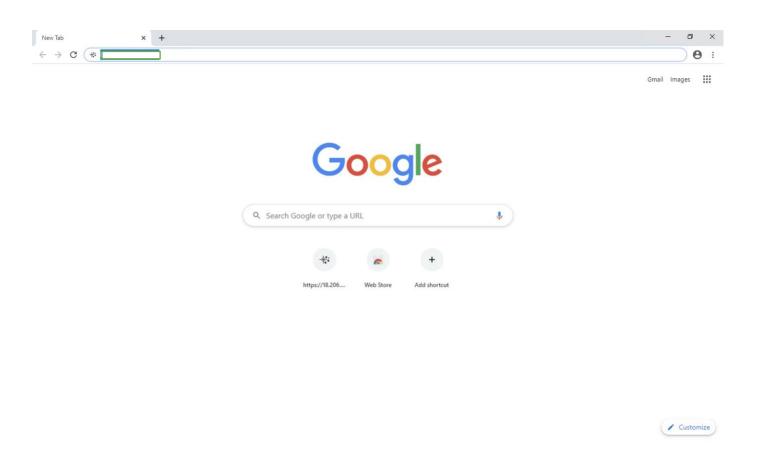
- 6. Click on "Download Remote Desktop File." This will download a file that will connect to the instance using a remote desktop client installed on your local desktop.
- 7. Launch the Remote Desktop File you downloaded in step 6 and enter the password that you copied in step 4 into the client.

• • •			
Connecting to	Enter Your User Ac	ecount	
ec2-35-153-2	This user account weec2-:	vill be used to connect to compute-1.amazonaws.com (remote PC).	azonaws.com
Securing con	Username:	Administrator	Cancel
	Password:		Caricei
		Show password	
		Cancel	

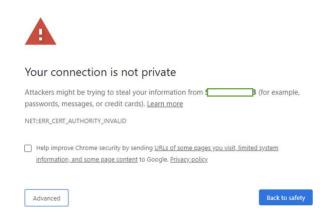
8. You should now see the Windows desktop of the instance to which you just connected.



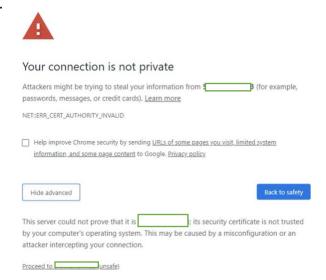
- 9. Launch Chrome.
- 10. In the URL address bar, enter https://private-ip-address. (Copied in step 1. If you can't find it, you can also look at the Outputs section of your CloudFormation stack.)



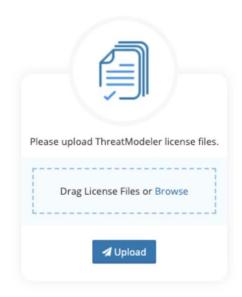
11. You will encounter a security warning. This occurs due to not having an SSL certificate installed on the system. A self-signed SSL certificate is currently installed and this causes the error.



12. Click on Advanced...

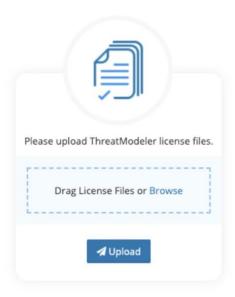


- 13. Click on "Proceed to ... (unsafe)"
- 14. The first thing you see when you access ThreatModeler is a prompt to upload your License Files.

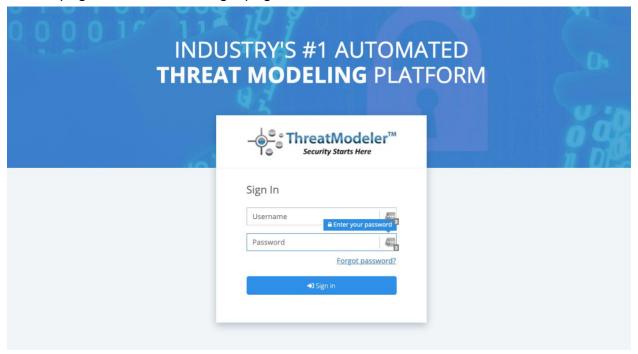


- 15. Logging into the ThreatModeler platform requires license files to be uploaded. Please open another tab and navigate to your email inbox. Look for an email from ThreatModeler support (support@threatmodeler.com) with the license files.
- 16. For limited (10 Licenses) licensing model you should have four files to access ThreatModeler:
 - a. tm.lic file used by ThreatModeler
 - b. validation key.txt validates the above .lic file
 - c. environmentguid.txt file used by ThreatModeler
 - d. tm_lic_10.txt file used by ThreatModeler for licensing ThreatModels.

17. As you see the screen below, please click on upload and upload *tm.lic*, *environmentguid.txt* and validation key.txt files. (*tm_lic_10.txt file* will be uploaded after logging into the ThreatModeler platform).

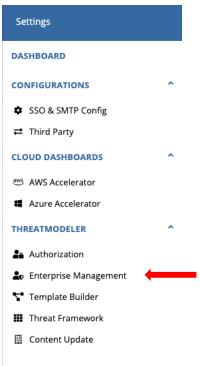


18. After successfully uploading ThreatModeler License files, you should see a success message with the page redirected to a login page as follows.



- 19. Use the same email-id provided while launching CloudFormation stack and the password as "admin@123" (without the guotes) to login to the platform.
- 20. After logging successfully into platform, please click Accept on "License Agreement" page and you will be navigated to the ThreatModeler landing page.
- 21. To upload *tm_lic_10.txt* file into the platform, click on settings icon.

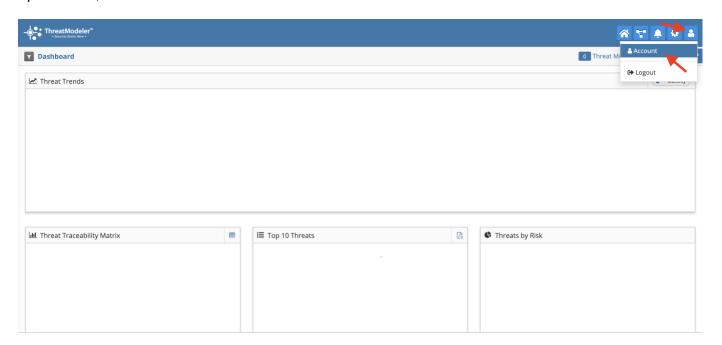
22. Select "Enterprise Management" from the slider window.



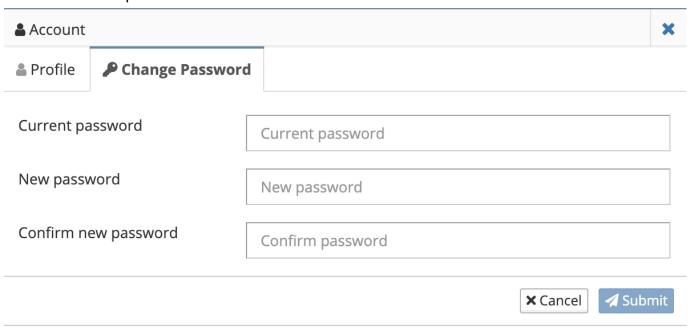
23. From the Enterprise Management screen, click the "+" symbol in the Licenses section and upload tm_lic_10.txt file. After you successfully upload the license file you should see a message saying "ThreatModeler Licenses Uploaded Successfully."



24. Before you proceed any further, please change the default password. To change the password, Click on Account.



25. Click on Change Password. Enter "admin@123" (without the quotes) for current password. Enter a new password and click Submit.



AWS Multi Account Deployment Through AWS Organization

Configure Multi-Account Setup

Note:

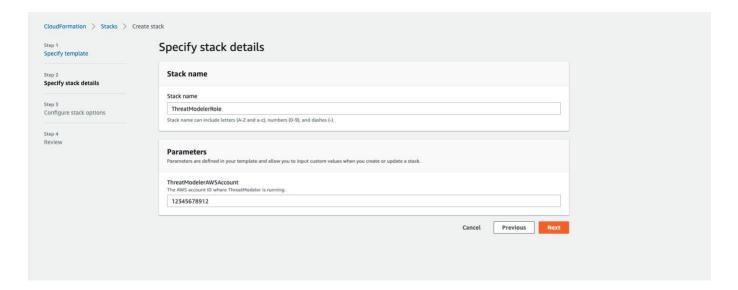
• For multi-account setup, your accounts need to be a part of an AWS Organization.

Deploy AWS Organizations Master Read-only Role

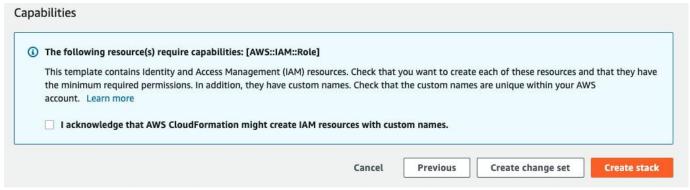
- 1. Login to the Master account in AWS Organizations.
- 2. Select Services → CloudFormation → Stacks → Create Stack → With new resources (standard).
- 3. Select Specify an Amazon S3 template URL.
- 4. Copy and paste the following S3 template link into the page and click Next.

https://threatmodeler-setup-quick start.s 3. a mazon aws.com/create a new vpc/cross-account/master-org-readonly.template

5. Enter the AWS Account ID where the ThreatModeler Application was deployed.



- 6. (Optional) Configure stack options.
- 7. Review the stack details and click on the checkboxes next to the following:
- "I acknowledge that AWS CloudFormation might create IAM resources with custom names."



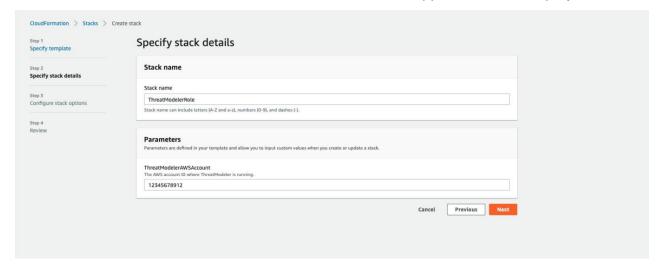
8. Click Create Stack.

Allowing Read-Only Access to Each Account for Which You Want to Build Threat Models

- 1. Login to the member AWS accounts that are part of your AWS Organization.
- 2. Select Services → CloudFormation → Stacks → Create Stack → With new resources (standard).
- 3. Select Specify an Amazon S3 template URL.
- 4. Copy and paste the following S3 template link into the page and click Next.

https://threatmodeler-setup-quick start.s 3. a mazon aws.com/create a new vpc/cross-account/read only-execution. template

5. Enter the AWS Account ID where the ThreatModeler Application was deployed.



- 6. (Optional) Configure stack options.
- 7. Review the stack details and click on the checkboxes next to the following:
 - "I acknowledge that AWS CloudFormation might create IAM resources with custom names."

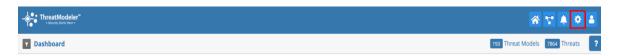


8. Click Create Stack.

ThreatModeler Configuration

Setup SSO

1. Click on the Settings icon in the Primary Navigation bar.



2. Click on SSO & SMTP Config.

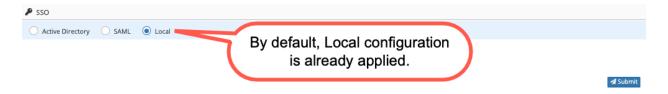


Configuration items are the most basic structural unit of a configuration management system. The login work is delegated to what types of access an individual user needs, e.g., write, read write, etc.

Federated Access and SAML-based Federation

Select the SSO method you would like to use, based on your IT infrastructure needs. There are three supported login types:

- Active directory (AD) login an enterprise level login. ThreatModeler integrates with a user's AD Group. AD login is also used to manage access to multiple devices.
- Local login the local database verifies the login information. By default, local configuration is applied.
- SAML ThreatModeler integrates with Okta, which is a SAML compliant Identity Provider for single sign on.



Note: For the following details please reach out to your internal team responsible for managing your Active Directory.

Active Directory

- **AD Connection String –** Provide URI to your Active Directory Server
 - (LDAP://domain-controller/dc=ad,dc=local).
- **AD Directory Filter By –** Allows to filter user's information in the active directory server.
 - As of now, Threat Model platform only support **sAMAccountName** as LDAP filter.

AD Group for Corporate Access – Name of the group inside the active directory server to which, if the current user belongs then that user should be added under the corporate group of the ThreatModeler platform.

User ABC belongs to Dept XYZ in Active Directory. When the user ABC tries to access
 ThreatModeler platform for the first time, If AD is set as default authentication and XYZ is set as
 AD Group for corporate access then user ABC will be created with corporate access inside
 ThreatModeler.

AD Service Account Username/ Password – Active Directory support's service account authentication. If enabled, the incoming users will be authenticated against that service account username and password.

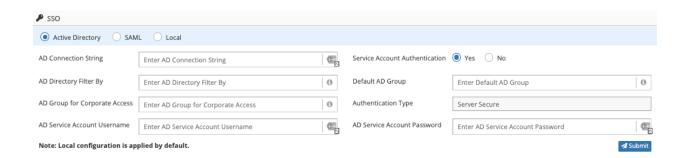
ThreatModel assumes that there exists an service account within the Active Directory server

Default AD Group – Name of the group to which all users belong. Only the users in this group will have access to ThreatModeler platform.

- User **ABC** belongs to group **JKL** in Active Directory. When the user **ABC** tries to access ThreatModeler platform for the first time, If **AD** is set as default authentication and **JKL** is set as **Default AD Group**, then user **ABC** will be able to access ThreatModeler.
- If User XYZ doesn't belong to group JKL in Active Directory, then user XYZ will be denied access to ThreatModeler platform when s/he tries to log in.
- User ABC belongs to Dept XYZ and JKL in Active Directory. When the user ABC tries to access
 ThreatModeler platform for the first time, If AD is set as default authentication; JKL is set as
 Default AD Group; and XYZ is set as AD Group for corporate access; then user ABC will be
 created with corporate access inside ThreatModeler.

Authentication Type – Type of authentication supported by your **AD** server.

• As of now, ThreatModeler platform only supports **ServerBind** and **Secure** as authentication Type.



SSO Login for SAML

Okta, a cloud user identity authentication program, is optional to use with SAML for secure login. Users input Properties to verify a user's admin. We check the user against three required properties – first name, last name and email. If any of the required info is not input, the user will be denied access and receive an Invalid login prompt.

Identity ID – Provide SAML identity provider URL.

For okta, http://www.okta.com/exkh74a746KUleirN0h7

Properties – are the attribute statements in SAML. You can add multiple attributes. To read more about attribute statements:

please refer to https://help.okta.com/en/prod/Content/Topics/Apps/attribute-statements-saml.htm

SAML Group property – refers to the name attribute of SAML Group attributes.

please refer to https://help.okta.com/en/prod/Content/Topics/Apps/attribute-statements-saml.htm

SAML Group for Corporate Access – name of the group configured in SAML to which, if the current user belongs then that user should be added under corporate group of ThreatModeler platform.

User ABC belongs to Dept XYZ in SAML. When the user ABC tries to access ThreatModeler
platform for the first time, If SAML is set as default authentication; and XYZ is set as SAML
Group for Corporate access; then user ABC will be created with corporate access inside
ThreatModeler.

Meta Data Location – Identity provider metadata file in xml format.

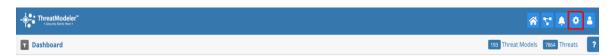
Email – SAML email property.

₽ SSO					
○ Active Directory ● SAML ○ Local					
Identity ID	Enter Identity ID	□ 3	Meta Data Location	Please select a xml file	Browse
Properties	Enter Properties	0	Email	Enter Email	0
SAML Group for Corporate Access	Enter SAML Group for Corporate Access	13	SAML Group Property	Enter SAML Group Property	0
Note: Local configuration is applied by default. ✓ Submit					

Setup SMTP

Set up how you handle communications within your system.

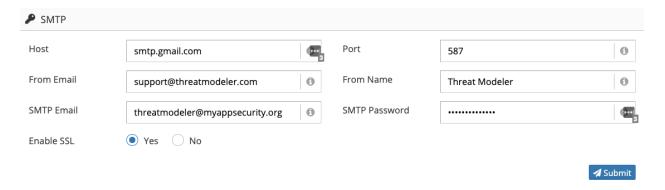
1. Click on the Settings icon in the Primary Navigation bar.



2. Click on SSO & SMTP Config.



3. Fill in the details for SMTP setup.



Host – your email provider. Yahoo and Gmail, for example, are email providers. You can also have your own email provider.

From Name - the name with which you want to send an email

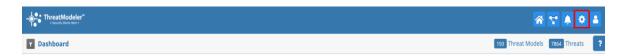
SMTP Email and Password – the login credentials you use to send emails on your Host account. Enable SSL

Port – SMTP requires a port to be opened on your system for communication.

Set Up JIRA (Optional)

The Third-Party screen allows you to manage ThreatModeler integrations with several third-party platforms, including AWS, Jira, Jenkins and more.

1. Click on the Settings icon in the Primary Navigation bar.



2. A slider panel will open where you can access the Third-Party screen.



- 3. Select the icon in the left pane and select Jira.
- 4. Fill in the four fields (Name, URL of your Jira instance, and your Jira Username and Password).
- 5. Click on Save. If the information is entered correctly and login credentials verified, ThreatModeler will integrate with Jira.
- 6. Click on the connection.

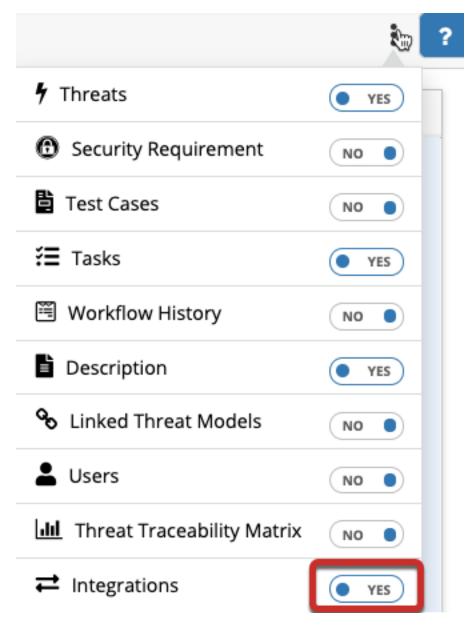


Connect Your Threat Models to Jira

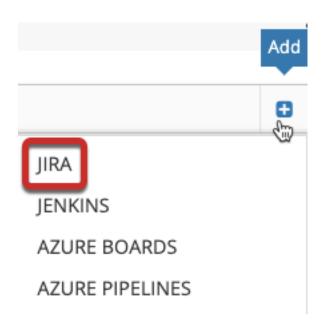
Now that you have set up a bidirectional integration with Jira as a third party, you can connect some or all of your threat models. When your threat model is connected to Jira, you can push individual threats and security requirements into Jira as tickets.

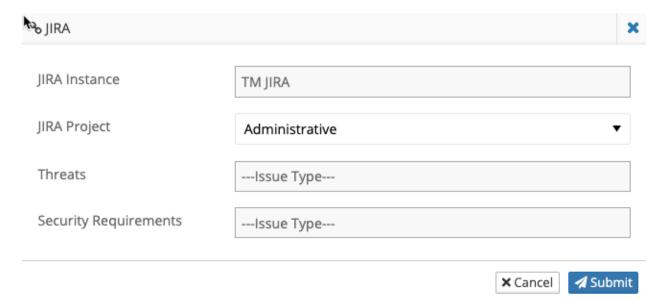
1. Select the threat model you intend to connect with Jira.

- 2. Go to Overview.
- 3. Open your threat model and click on the More icon.
- 4. Toggle the Integrations button to Yes.



- 5. In Overview, scroll down to the Integrations window.
- 6. Click the button.
- 7. Click the Jira instance.





- 8. Select the Jira project.
- 9. Input the Threats and Security Requirements to determine how Jira will track identified threats and security requirements.
- 10. Click Submit. The threat model will be integrated with the selected Jira project.
- 11. When you go to the Overview screen, you will see the button checked to indicate that the Jira bidirectional integration is active.
- 12. In the Overview screen, click on _____ to create issues for Jira. Once created, you can search by Jira ticket ID using the Issue filter.

ThreatModeler can help developers to automatically create secure initial builds by integrating with Jenkins. Creating the build with Jenkins requires that the threat model first be completed and approved. To connect with Jenkins:

1. Click on the Settings icon in the Primary Navigation bar.



2. A slider panel will open where you can access the Third-Party screen.



The Integrations window displays a list of third-party integration connections for that threat model.

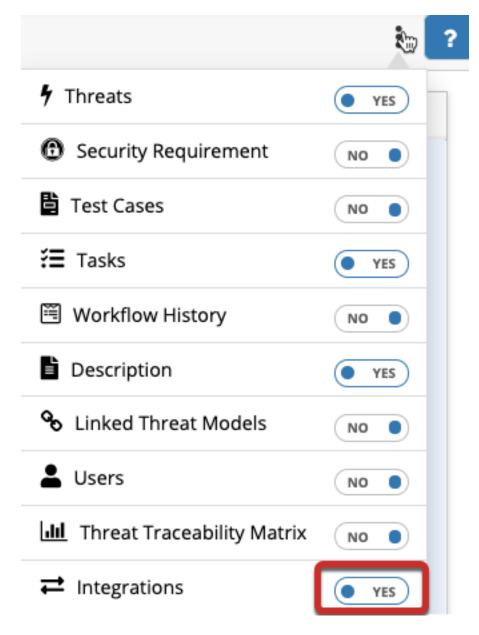
- 1. Click the icon.
- 2. Select Jenkins from the drop-down menu. The Jenkins Integrations dialog box will open.
- 3. Fill in the four fields (Name, the URL of your Jenkins instance, your Jenkins login credentials).
- 4. Click the Save icon. ThreatModeler will now be connected to Jenkins.



Connect Your Threat Models to Jenkins

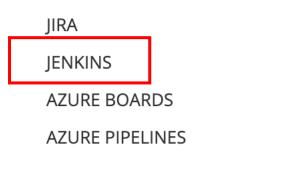
- 1. Select the threat model you intend to connect with Jira.
- 2. Go to Overview.

- 3. Open your threat model and click on the More icon
- 4. Toggle the Integrations button to Yes.



- 5. In Overview, scroll down to the Integrations window.
- 6. Click the button.

7. Click the Jenkins instance.





- 8. Select the Jenkins job with which you want to link a threat model.
- 9. Click Submit. The threat model will be integrated with the selected Jenkins job.

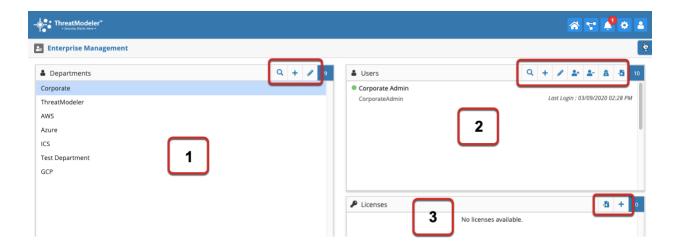
Managing the ThreatModeler Platform

Enterprise Management

The Enterprise Management screen allows users to define new departments. Once a department is created, you can associate users through the Users window on the Enterprise Management screen. The Enterprise Management screen also enables you to distribute ThreatModeler licenses amongst the various departments. For access to Enterprise Management a user needs to have at least Read Write permissions in the Administrator Group (defined in the Authorization below).

The Enterprise Management screen, accessible from the General icon in the Primary Navigation bar, has three windows:

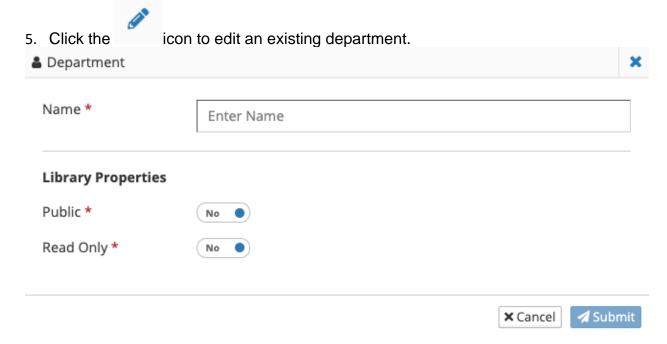
- 1. Departments
- 2. Users
- 3. Licenses



Department Window

The Department window lists all of your departments, which can be added to or edited using the icons at the top right-hand corner.

- 1. Click the icon to add a department.
- 2. Add the name of the new department.
- 3. Identify whether you want the associated Library to be Public (Yes or No). Selecting Yes would make the Threat Framework library for the Department available to view/ edit by any other department within the organization.
- 4. Whether it should be Read only (Yes or No).

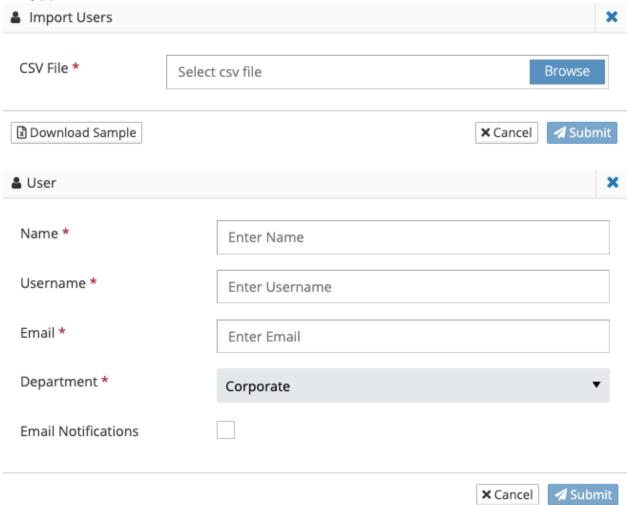


Users Window

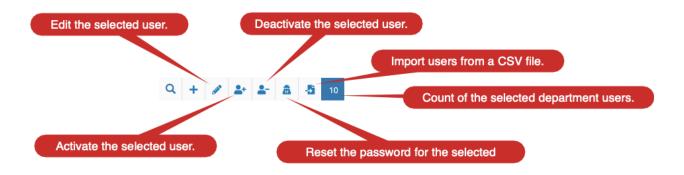
Note: Users added via SSO will be visible for you to manage under the Users Window. The following description of Users Window allows you to add and manage new users directly from the ThreatModeler platform.

The Users Window lists all the users that belong to the selected department. There are several icons at the top right-hand corner of the Users Window to manage the users for the selected department.

- 1. Click the icon to add a user to the selected department.
- 2. Enter the new user's name, username, email, and role, and check the Department name, which will automatically be populated.
- 3. To import users from a CSV file, click, browse and select your CSV file of new users then click Submit.



By default, any user provisioned through the SSO integration will be created under the Corporate Department.



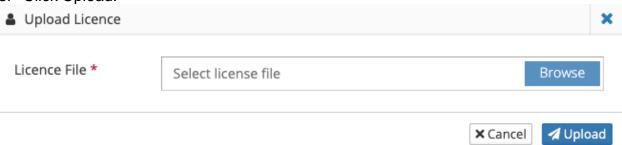
Working with Licenses

Users can add or transfer available licenses using the License window Toolbar. The Enterprise Management keeps track of the license usage per department. ThreatModeler also displays a color bar under the department name indicating the number of available licenses consumed.

Adding a License

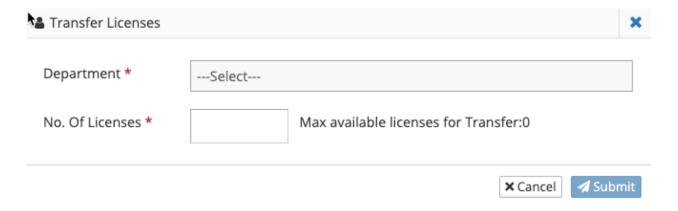


- 2. Browse your network or device and select the license file.
- 3. Click Upload.



Transferring a License

- 1. If there are Licenses available, click the department. A dialog popup box will open.
- 2. Select the Department from which to transfer the license.



- 3. Enter the number of licenses to be transferred. The counter on the top right corner shows the maximum available licenses that can be transferred from the department you have selected.
- 4. Click Submit to transfer the licenses.

Authorization

You can use permissions to control the type of access each user has from the Authorization screen.

To navigate to the Authorization screen, click on the Settings icon on the Primary Navigation bar, then choose Authorization from the drop-down menu.

User Permissions

You can define one of the following three permissions to a user. Each of these is further explained under System Defined Groups:

- 1. Read Only
- 2. Read Write
- 3. Admin

System Defined Groups

The authorization screen allows you to control which users have access to which models; and control what kind of access they have within a Department (as created in Enterprise Management). The following Platform management groups perform administrative and backend functions for the ThreatModeler platform. As such, they do not provide group members with access to threat models or threat model output. User authorization is specific to the Department to which the user is assigned.

- 1. **Common Projects for a Department** Adding users into this entity would allow them to have visibility into the threat model projects within that department. A user can be provided with any of the following three permission levels:
 - Read Only access pre-existing threat models but cannot edit or delete it. Can create a new threat model with edit/ delete permissions.
 - Read Write access and edit threat models but cannot delete it.
 - Admin can access, edit and delete ThreatModeler content.

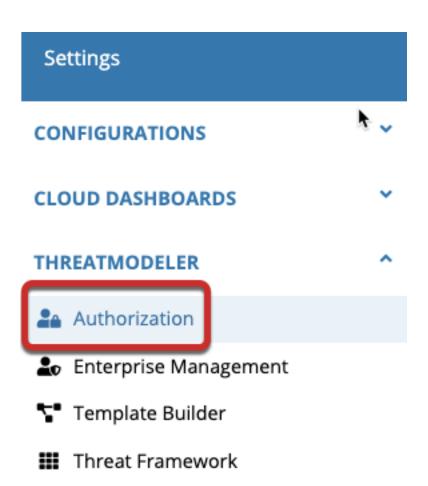
For the user to be able to use features outside of access to threat model projects, the following permissions may be required.

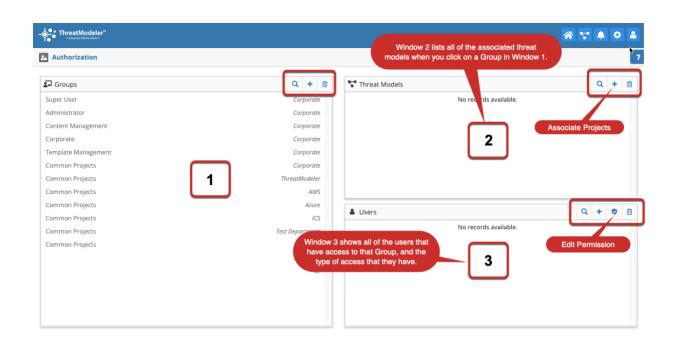
- 2. **Administrator** has access to Third-Party Integrations and Enterprise Management; also provides Authorization to the platform users.
 - Read Only access to view Enterprise Management, Authorization and Third Party. Cannot edit/ delete.
 - **Read Write** Access to view and edit Enterprise Management, Authorization and Third Party. Cannot delete.
 - Admin Access to view, edit and delete Enterprise Management, Authorization and Third Party.
- 3. **Content Management** provides access to the platform's Threat Framework.
 - Read Only access to view Threat Framework. Cannot edit/ delete pre-existing content. Cannot add new content.
 - **Read Write** Create new content in Threat Framework. Access to view and edit existing content. Cannot delete pre-existing content.
 - Admin Access to view, edit and delete content within Threat Framework.
- 4. **Template Management** provides access to the Template Builder.
 - i) Read Only access to view Template Builder and create new templates. Cannot edit/delete pre-existing templates.
 - ii) Read Write Create new Templates in Template Management. Access to view and edit existing templates in Template Management. Cannot delete pre-existing templates.
 - iii) Admin Access to view, edit and delete content within Template Management.

The **Corporate Group** is the primary group for access to threat models. The Corporate Group is divided into departments. Organizations can create as many departments as needed. Users can create departments in <u>Enterprise Management</u>. The Super User Group has access to all administrative functions and threat models. Therefore, Super Users are not associated with any particular threat model. They have access to all threat models.

Working with Authorization

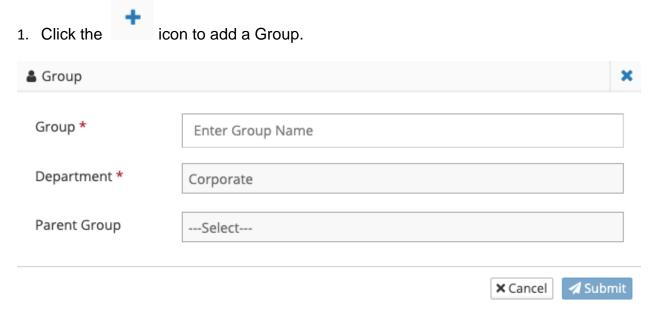
- 1. Click on the Settings icon in the Primary Navigation bar.
- 2. Click on Authorization. You will be navigated to the Authorization window.





Adding a Group – In addition to the System Defined Groups, a user with Admin/ Read Write permissions to Administrator Group can create new groups within department to isolate threat

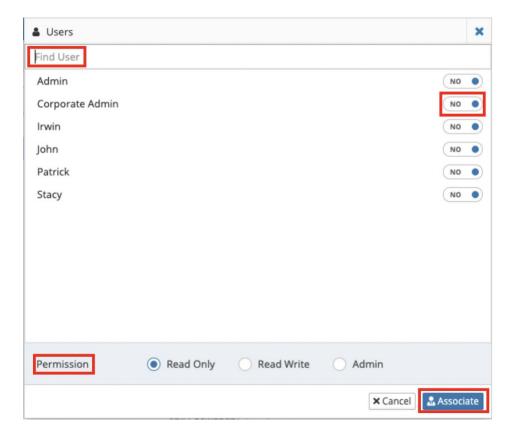
models created within Common Projects for the Department. For example, there are 2 groups (Group A and Group B) under Common Projects for Department 1. Any user provisioned with permission to Group A will not be able to view/ edit threat models created by users of Group B and vice-versa. Further, any member in the parent group (in this case Common Projects for Department 1) will be able to manage threat models created by Group A and Group B members.



- 2. Fill in the Group name (required).
- 3. Fill in the Department (required).
- 4. Select the Parent Group (when appropriate).
- 5. Click Submit.
- 6. Click the item to edit a selected Group and click the icon to delete a Group.

Associate Threat Models to a Group

- 1. Click the icon at the top right-hand corner of the Associated Threat Models Window.
- 2. Find and select the user to which you'd like to associate additional threat models. For longer lists, use the free text search field.
- 3. Set the Permission level.
- 4. Click on Associate.
- 5. Use the icon to remove the association with a threat model.



Editing User Permissions

- 1. Click the Group. icon at the top right-hand corner of the Users Window to add users to that
- 2. Click the icon in the User Window to edit the permissions for a user in the selected Group. Users with the following permissions can Read Only, Read Write and Admin.
- 3. Click the icon in the Users Window to remove a user from that Group.



Next Steps

Once your setup is complete you can get started with your threat modeling exercise. Please access the guides below to gain insight into various threat modeling scenarios and how to accomplish them with ThreatModeler:

<u>ThreatModeler Interface Guide</u>: This guide provides in-depth guidance with regards to navigating through the ThreatModeler platform

<u>Threat modeling scenarios for AWS</u>: This guide covers common scenarios with detailed steps of accomplishing the same in ThreatModeler.

<u>ThreatModeler Hostname Resolution</u>: This document helps you to set up domain name resolution to access the ThreatModeler application on a custom domain name.