UNITRENDS

Deployment Guide for Unitrends Backup in Amazon Web Services

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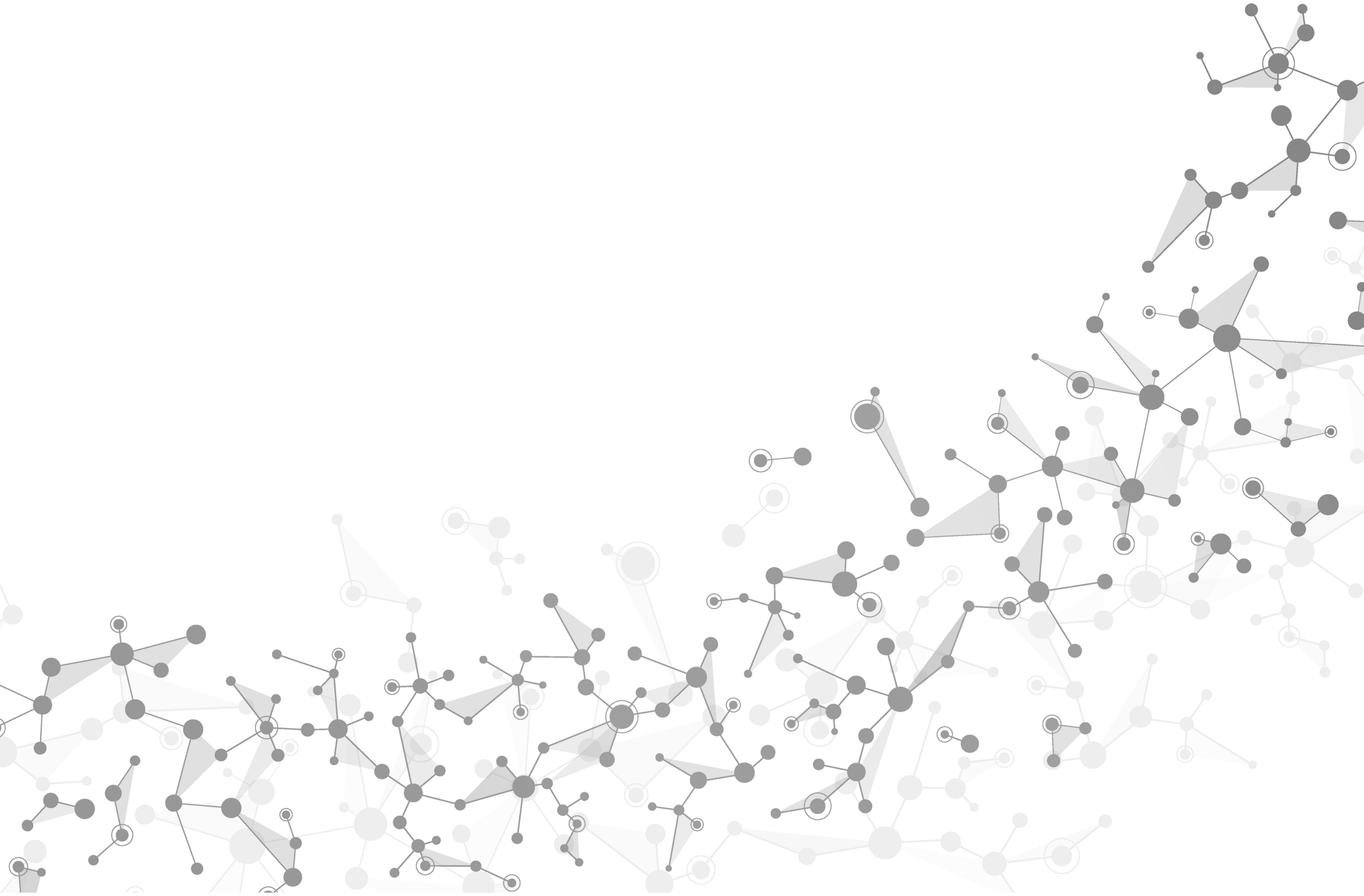

Chapter 1: Introduction

Unitrends Backup in Amazon Web Services leverages Unitrends Backup appliance technology as a deployable instance in Amazon's Elastic Compute Cloud. Our Amazon EC2-based Unitrends Backup Instance can be used as either a backup appliance or a backup copy target.

This deployment guide provides requirements, considerations, and instructions for deploying a Unitrends Backup appliance in Amazon's Elastic Compute Cloud.

For requirements and considerations for particular features and instructions on using them, see the Administrator Guide for Recovery Series, Recovery MAX, ION/ION+, and Unitrends Backup.

See the following topics for details on deploying the Unitrends Backup appliance:

- "Requirements and Considerations" on page 7
- "Deploying the Unitrends Backup Instance" on page 9

Key Terms

Term	Definition
AMI	Amazon Machine Image. The template that instances are launched from.
Appliance	The Unitrends Backup system that backs up and recovers data.
Deployment	The process of creating a Unitrends Backup Instance and configuring the appliance contained within.
Graphical User Interface	The browser-based user interface used for all normal appliance operations.
Quick Setup Wizard	The Quick Setup Wizard automatically launches the first time you access the appliance UI from a web browser. Work your way through this wizard to configure additional appliance settings, such as date and time, hostname, and email.
Root Volume	The volume that contains Unitrends Backup appliance system information.
Unitrends Backup Instance	An Amazon EC2 virtual machine that contains a Unitrends Backup appliance.

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Chapter 2: Requirements and Considerations

Before deploying your Unitrends Backup appliance, review the following requirements:

- "Network and web access requirements"
- "Minimum resource requirements" on page 7
- "Additional considerations" on page 8
- "Limitations" on page 8
- "Licensing" on page 8

Network and web access requirements

The Unitrends Backup Instance's IAM Security Group (virtual firewall) must be configured to meet the inbound and outbound rules described in "Create the IAM Security Group" on page 12. These rules are needed for:

- Connectivity between the appliance and its protected assets
- Connectivity between the appliance and the Internet
- Connectivity between the appliance and your SMTP server
- Connectivity between the appliance and its hot backup copy target (required only if you are running hot backup copies)

IMPORTANT! Never expose the appliance Web UI or SSH connections to open external ports. Doing so may void your support agreement until the appliance can be secured properly. Never deploy the Unitrends appliance on a public IP. All incoming ports to a Unitrends appliance must be firewall protected. Privately operated hot backup copy targets should be deployed in such a way as to secure the VPN connection to only trusted source external IPs.

Minimum resource requirements

To ensure successful deployment, the Unitrends Backup instance must be deployed as an Amazon EC2 instance type that meets or exceeds the following specifications:

Note: These are the minimum resources required to deploy and begin using the Unitrends Backup appliance. As you add jobs and storage, be sure to monitor the system and add resources as needed over the lifetime of the appliance.

- A minimum of two virtual processors (vCPUs).
- A minimum of 8GiB of memory.
- A root volume of exactly 100GiB.
- An EBS volume of at least 250GiB for backup data storage.

Additional considerations

- A Unitrends Backup Instance must be deployed in the same region and subnet as the Amazon EC2 assets it is protecting.
- To use the hot backup copy feature, the source Unitrends Backup Instance and target Unitrends Backup Instance must be deployed in the same region and subnet .
- After deploying your Unitrends Backup appliance, you will perform all operations, including updates, from the web UI.
- By default, the password for the web UI root user of the Unitrends appliance is *unitrends1*. You will change this password during appliance setup, as described in "Set up the appliance using the Quick Setup Wizard" on page 15.
- By default, the password for the appliance OS root user is *unitrends1*. You will change this password during appliance setup, as described in "Set up the appliance using the Quick Setup Wizard" on page 15.
- By default, appliance deduplication level is set to 1. For further information, see Managing Appliances in the Unitrends Backup and Recovery Series Administrator's Guide.
- As a matter of best practice, Unitrends recommends configuring a backup storage volume size of 1.5x the initial data set you are protecting. More storage can be added if you desire a longer data retention period.
- All additional backup storage volumes added to the Unitrends Backup Instance must be configured as EBS General Purpose SSD (GP2) volumes.

Limitations

The following limitations apply:

- The Unitrends Backup Instance must be in the same subnet as the amazon EC2 assets you wish to protect.
- If this Unitrends Backup Instance is slated for use as a backup copy target, it must be deployed in the same subnet as the appliance it will receive backups from.

The following Unitrends Backup features are not currently supported within the Amazon EC2 environment:

- Backups that are not agent-based application or file-level. (Host-level and image-level backups are not supported.)
- Bare metal recovery.
- Instant Recovery.
- Using a physical seed device to move data into or out of the Amazon EC2 environment.
- Exporting a Unitrends Backup appliance to a host outside of the Amazon EC2 environment.

Licensing

You must register and license the appliance after deploying your Unitrends Backup appliance. You can use the software for free with a 30-day trial license, but after this period, you must purchase a license.

Chapter 3: Deploying the Unitrends Backup Instance

Once you have verified that all requirements have been met, complete the following steps to deploy the Unitrends Backup Instance:

Step 1: "Create the SSM IAM role"

Step 2: "Create the IAM Security Group"

Step 3: "Create the Unitrends Backup Instance "

Step 4: "Set up the appliance using the Quick Setup Wizard" on page 15

Step 5: "(If needed) Configure the Unitrends Backup appliance to use port 587 for SMTP" on page 19

Step 6: "Register and license the appliance" on page 19

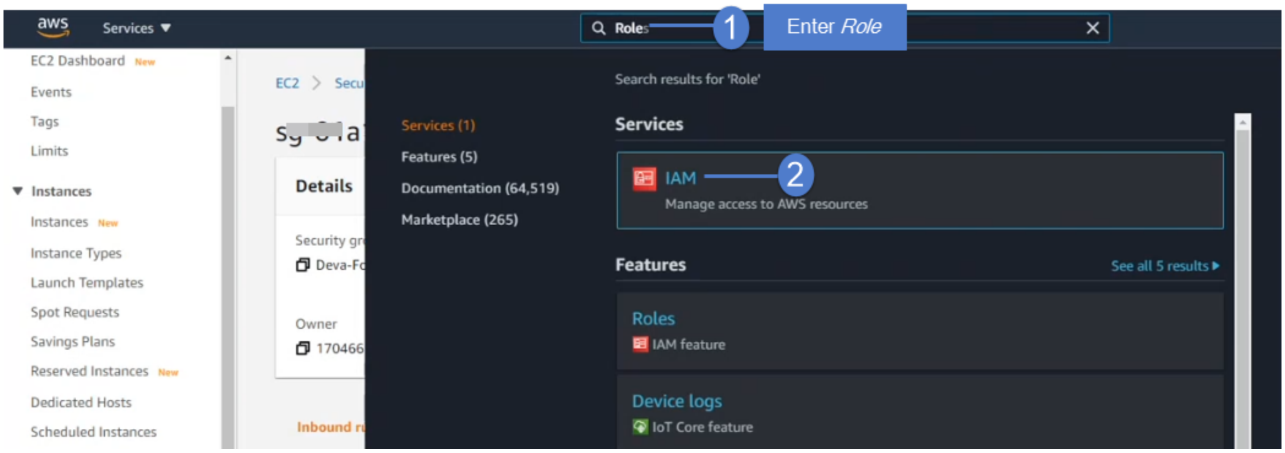
Step 1: Create the SSM IAM role

Use this procedure to create the IAM role that AWS Session Manager uses to access the appliance command line.

> **Note:** Appliance administration tasks are run from the appliance UI. In some cases, Support may need access to the command line for advanced troubleshooting. The role you create using this procedure is needed to enable command line access via AWS Session Manager.

From the AWS Management Console (**EC2 > Launch Instance**):

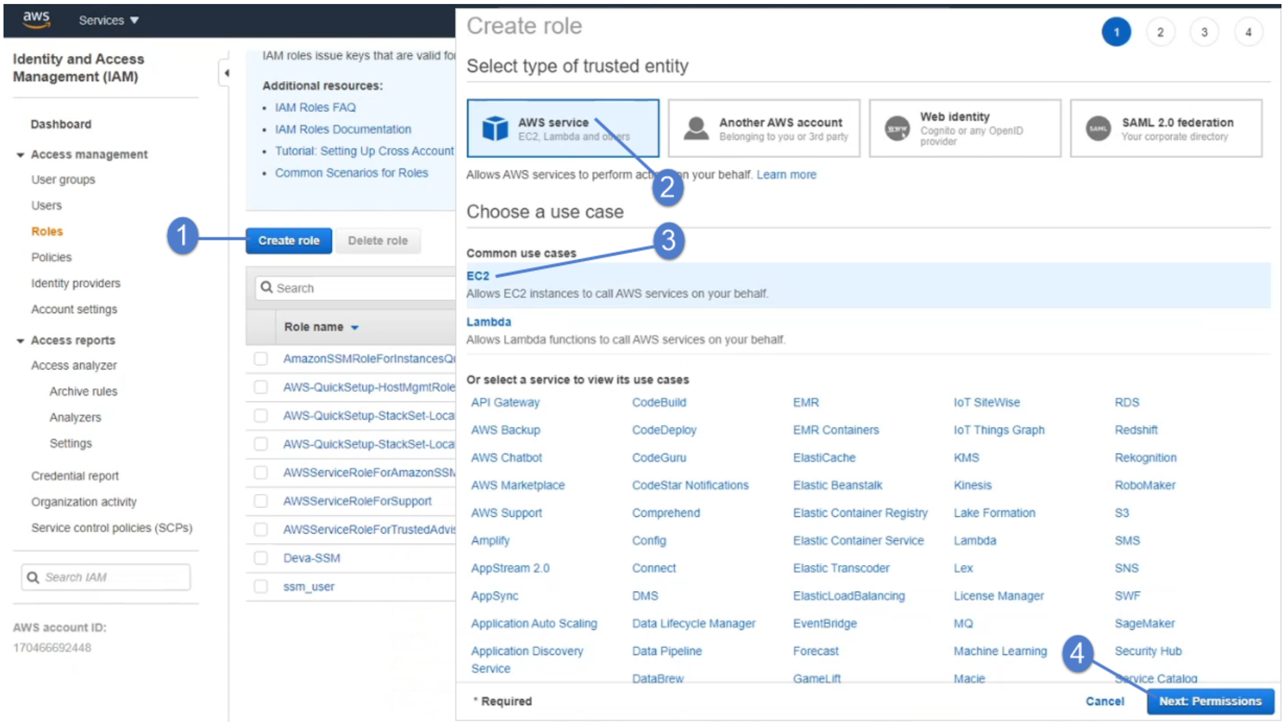
1 In the Search field, enter *Role*, then select **IAM**.



2 Click **Create Role**.

3 Select the **AWS Service** type and **EC2** use case.

4 Click **Next: Permissions**.



IAM roles issue keys that are valid fo

AmazonSSMRoleForInstancesQ
AWS-QuickSetup-HostMgmtRole
AWS-QuickSetup-StackSet-Loca
AWS-QuickSetup-StackSet-Loca
AWSServiceRoleForAmazonSSM
AWSServiceRoleForSupport
AWSServiceRoleForTrustedAdvis
Deva-SSM
ssm_user

Select type of trusted entity

Allows AWS services to perform actions on your behalf. Learn more

Choose a use case

Common use cases

EC2
Allows EC2 instances to call AWS services on your behalf.

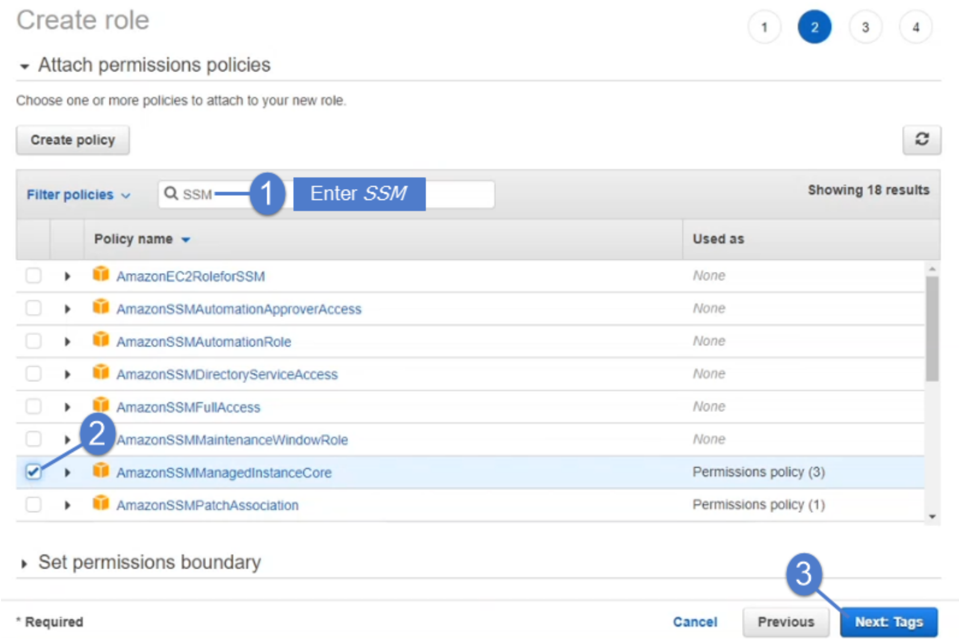
Lambda
Allows Lambda functions to call AWS services on your behalf.

Or select a service to view its use cases

* Required

5 In the Search field, enter *SSM*, then select **AmazonSSMManagedInstanceCore**.

6 Click **Next: Tags**.



▾ Attach permissions policies

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

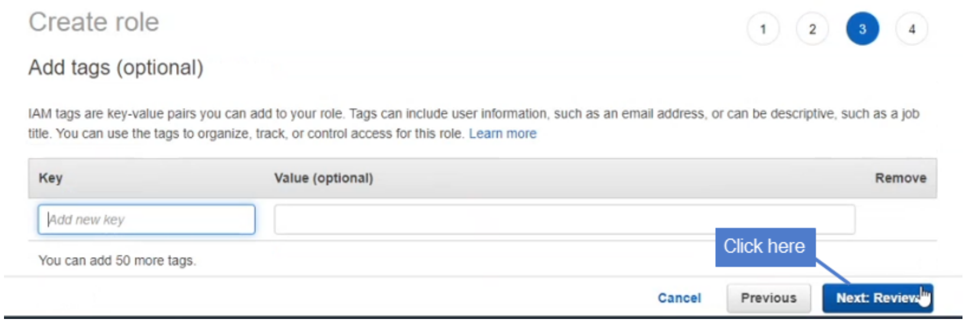
Showing 18 results

		Policy name ▾	Used as
□	▸	AmazonEC2RoleforSSM	None
□	▸	AmazonSSMAutomationApproverAccess	None
□	▸	AmazonSSMAutomationRole	None
□	▸	AmazonSSMDirectoryServiceAccess	None
□	▸	AmazonSSMFullAccess	None
□	▸	AmazonSSMMaintenanceWindowRole	None
☑	▸	AmazonSSMManagedInstanceCore	Permissions policy (3)
□	▸	AmazonSSMPatchAssociation	Permissions policy (1)

▸ Set permissions boundary

* Required

7 (Optional) Add tags. Click **Next Review**.



Create role

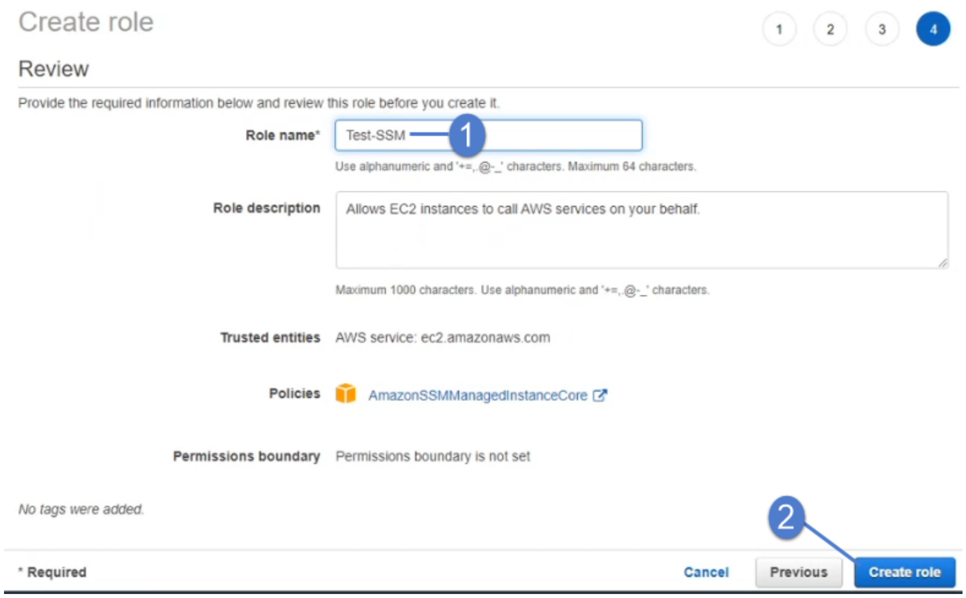
Add tags (optional)

IAM tags are key-value pairs you can add to your role. Tags can include user information, such as an email address, or can be descriptive, such as a job title. You can use the tags to organize, track, or control access for this role. Learn more

Key	Value (optional)	Remove
Add new key		

You can add 50 more tags.

8 Enter a Role Name. Click **Create Role**.



Create role

Review

Provide the required information below and review this role before you create it.

Role name* Test-SSM

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

Role description Allows EC2 instances to call AWS services on your behalf.

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

Trusted entities AWS service: ec2.amazonaws.com

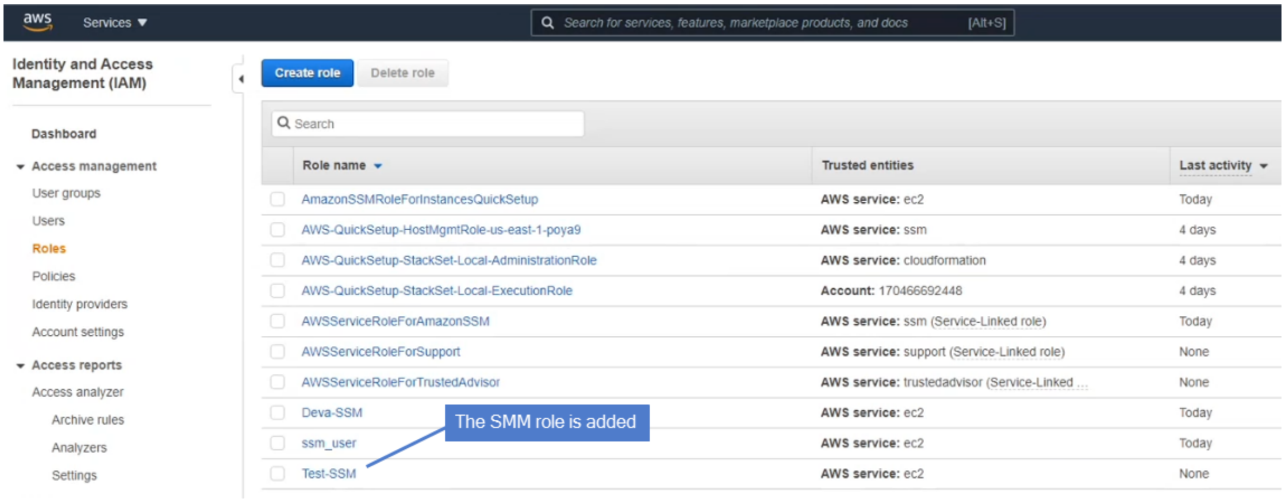
Policies AmazonSSMManagedInstanceCore

Permissions boundary Permissions boundary is not set

No tags were added.

* Required

The role is created.



	Role name	Trusted entities	Last activity
□	AmazonSSMRoleForInstancesQuickSetup	AWS service: ec2	Today
□	AWS-QuickSetup-HostMgmtRole-us-east-1-poya9	AWS service: ssm	4 days
□	AWS-QuickSetup-StackSet-Local-AdministrationRole	AWS service: cloudformation	4 days
□	AWS-QuickSetup-StackSet-Local-ExecutionRole	Account: 170466692448	4 days
□	AWSServiceRoleForAmazonSSM	AWS service: ssm (Service-Linked role)	Today
□	AWSServiceRoleForSupport	AWS service: support (Service-Linked role)	None
□	AWSServiceRoleForTrustedAdvisor	AWS service: trustedadvisor (Service-Linked ...	None
□	Deva-SSM	AWS service: ec2	Today
□	ssm_user	AWS service: ec2	Today
□	Test-SSM	AWS service: ec2	None

Step 2: Create the IAM Security Group

Configure the Unitrends Backup Instance's IAM Security Group (virtual firewall) to meet the inbound and outbound rules described below.

Inbound rules

The following inbound rules are required :

Notes:

- SSH access to the appliance command line is not permitted. For increased security, you must block inbound access to port 22 on the Unitrends Backup Instance. Do not add port 22 to the security group's inbound rules.
- Most appliance administration tasks can be done through the appliance UI. If you are working with Support and need command line access, connect by using the AWS Session Manager.

		Inbound Rules		
Type	**Protocol**	**Port range**	**Source**	**Notes**
All traffic	All	All	Do one of the following: • If you are editing an existing security group, enter the security group name. Or • If your creating a new security group, create the security group without adding the *All traffic* rule. Once the security group is created, edit the group to add the *All traffic* rule with the security group name in the Source field.	Enables communication between all instances in the security group.
Custom TCP	TCP	443	0.0.0.0/0	Configure the Source as a trusted IP address.

Outbound rules

By default, AWS allows all traffic in outbound rules. If you do not want to allow all traffic, the following outbound rules are required:

		Outbound Rules		
Type	**Protocol**	**Port range**	**Source**	**Notes**
Custom TCP	TCP	443	74.202.224.68/32	IP address of support-itivity.unitrends.com, which enables remote support. Used for opening a remote tunnel to the Unitrends support team.
Custom TCP	FTP	20 and 21	52.90.71.124/32	IP address of repo.unitrends.com, which is used by the Unitrends appliance to perform software updates.
Custom TCP	HTTP	80	34.229.183.15/32	IP address of ftp.unitrends.com, which is used by Support to install patches and updates.
Custom TCP	TCP	161 and 162	104.130.228.89/32	IP address of notifications.unitrends.com. Used for proactive monitoring through SNMP trap collection.
Custom UDP	UDP	161 and 162	104.130.228.89/32	IP address of notifications.unitrends.com. Used for proactive monitoring through SNMP trap collection.
Custom TCP	TCP	587 **Note:** Use port 587 unless your SMTP server must be configured to listen on port 25.	IP address of the SMTP server.	Used for connectivity between the Unitrends Backup Instance and your SMTP server. Additional SMTP setup is required. See "SMTP setup" for details.
Custom TCP	TCP	The port number you have configured for the secure tunnel connection to the backup copy target appliance.	Private IP address of the target Unitrends Backup appliance (the appliance that is receiving backup copies).	This outbound rule is required for hot backup copy. This rule is not needed if you are not copying backups to a second appliance.

Outbound Rules				
Type	Protocol	Port range	Source	Notes
Custom TCP	TCP	443	Private IP address of the target Unitrends Backup appliance (the appliance that is receiving backup copies).	This outbound rule is required for hot backup copy. This rule is not needed if you are not copying backups to a second appliance.

SMTP setup

Configure your SMTP server and IAM security group to use port 587 unless your SMTP server is required to listen on port 25.

- Port 587 – To use port 587, add the port your outbound rules. After you deploy the Unitrends Backup Instance, you will configure the appliance to use port 587 for SMTP (as described in "Step 5: (If needed) Configure the Unitrends Backup appliance to use port 587 for SMTP".)
- Port 25 – AWS blocks port 25 by default. If you must use this port for SMTP, send AWS a request to open port 25. For details, see this AWS article: How do I remove the restriction on port 25 from my Amazon EC2 instance or AWS Lambda function?

Step 3: Create the Unitrends Backup Instance

From the AWS Management Console (**EC2 > Launch Instance**):

1. Choose **AMI**. Select **Community AMIs**. Search for and select **Unitrends Backup**.
2. Choose an Instance type. Click **Next**.

   WARNING! To deploy successfully, you must select an instance type that meets or exceeds the minimum specifications of 2 vCPUs and 8GiB of memory.

3. Configure the Instance. Click **Next**.
   - Number of instances – Configure as desired.
   - Purchasing option – This is optional.
   - Network – You may select the default network or create a new one.
   - Subnet – This must be the same subnet as the Amazon EC2 assets you wish to protect.

     If this Unitrends Backup Instance is slated for use as a backup copy target, it must be deployed in the same subnet as the appliance it will receive backups from.
   - Auto-assign public IP – This must be enabled.
   - IAM role – Assign the SSM role you created above in Step 1:
   - Shutdown behavior – Select **Stop**.

- Enable termination protection – This is strongly recommended.
- Monitoring – This is optional.
- Tenancy – Configure as desired.
- Advanced Details – Configure as desired.

4 Add storage. Click **Next.**

- Configure the root volume as a 100GiB General Purpose SSD (GP2). This volume will be used for appliance system data. Do not select the Delete on Termination option.
- Add a new EBS volume and configure it as General Purpose SSD (GP2) of at least 250GiB. This volume will be used to store backup data.
  - Do not select the Delete on Termination option.
  - Do not Encrypt this volume.

5 (Optional) Add Tags. Click **Next.**

6 Add the security group you configured above in Step 2: Click **Review and Launch**.

7 Review the settings. If you are satisfied with the configuration of your instance, click **Launch**.

8 Click **Launch Instances**.

Step 4: Set up the appliance using the Quick Setup Wizard

After the EC2 Management Console indicates the instance is running, you can access the appliance UI from any machine on the same network by opening a Chrome or Firefox browser and entering the appliance's private IP address followed by */ui/*, or from outside of the network by entering the appliance's public IP address followed by */ui/*. In most cases, this automatically logs you in to the UI. If the login screen displays, enter the following default credentials to log in to the appliance UI for the first time:

Username: *root*

Password: *unitrends1*

The Quick Setup Wizard launches when you access the UI for the first time.

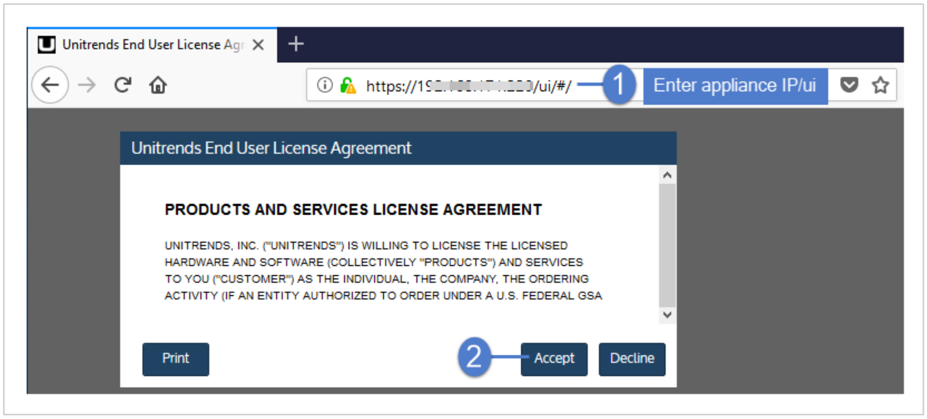
Note: The Unitrends Backup instance may require 5 to 15 minutes to boot.

To set up the appliance

Use this procedure to set up the appliance:

1 Open a browser and connect to your appliance by entering: ***https://<applianceIP>/ui***. For example: ***https://10.10.10.1/ui***.

2 Click **Accept** to accept the license agreement.



Unitrends End User License Agreement

PRODUCTS AND SERVICES LICENSE AGREEMENT

UNITRENDS, INC. ("UNITRENDS") IS WILLING TO LICENSE THE LICENSED HARDWARE AND SOFTWARE (COLLECTIVELY "PRODUCTS") AND SERVICES TO YOU ("CUSTOMER") AS THE INDIVIDUAL, THE COMPANY, THE ORDERING ACTIVITY (IF AN ENTITY AUTHORIZED TO ORDER UNDER A U.S. FEDERAL GSA

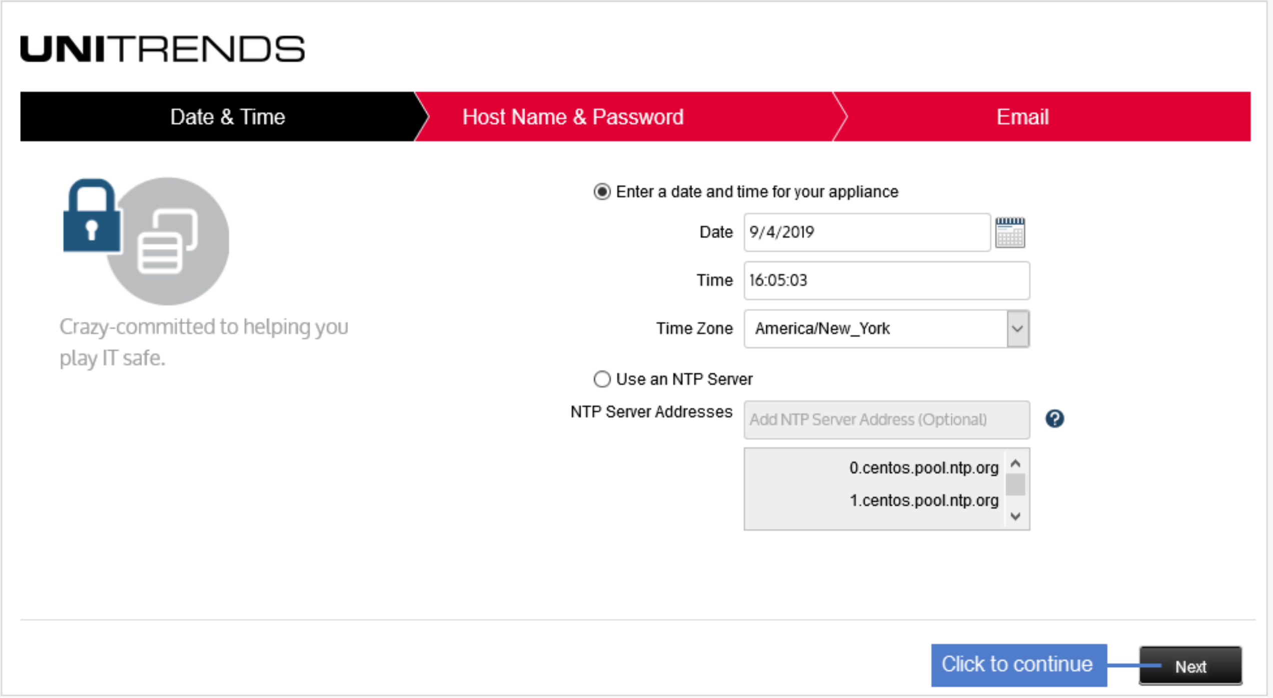
Print | Accept | Decline

3 Set the appliance date and time by doing one of the following, then click **Next**:

- Select a **Timezone**. If needed, modify the appliance **Date** and **Time**.

OR

- Check the **Use an NTP Server** box to sync to an NTP server. (Optional) Enter your preferred NTP server address.



● Enter a date and time for your appliance

Date: 9/4/2019

Time: 16:05:03

Time Zone: America/New_York

○ Use an NTP Server

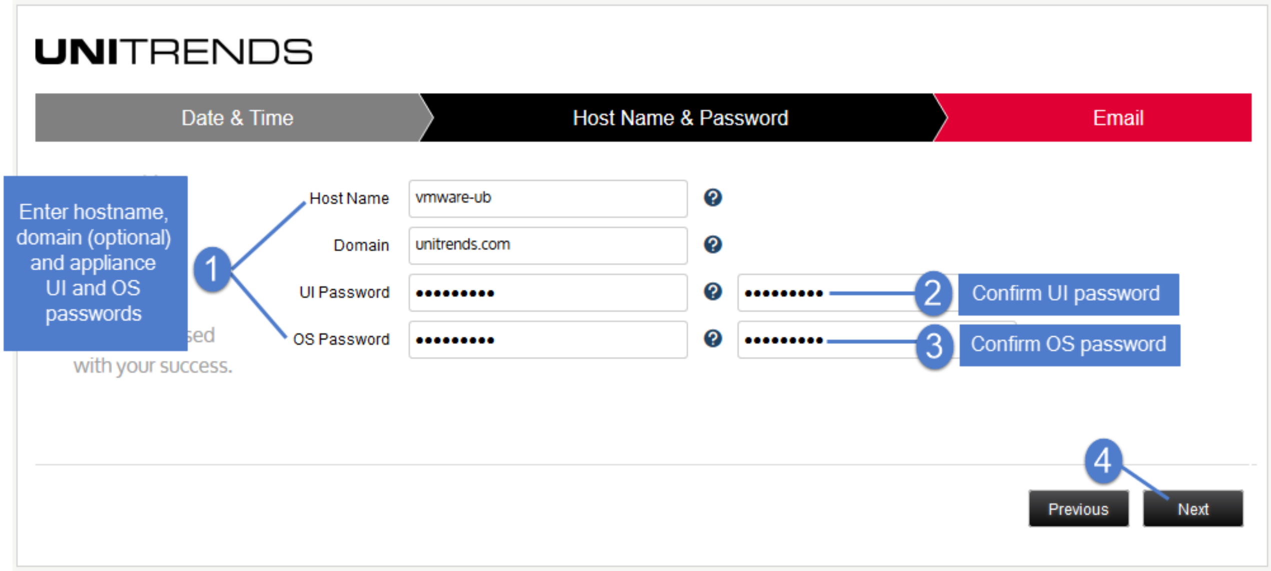
NTP Server Addresses: Add NTP Server Address (Optional)

0.centos.pool.ntp.org
1.centos.pool.ntp.org

4 Enter a **Host Name**, a **Domain**, a new **UI Password**, and a new **OS Password** for the appliance. Confirm the passwords by entering them again in the fields to the right. Click **Next.**

Notes:

- The hostname can contain only alphanumeric characters, dashes, and underscores.
- The appliance has a UI root user and an OS root user. These are separate accounts. Changing the password of one root user account does NOT change the password of the other root user account.
- Passwords cannot contain the word *Unitrend* (case insensitive).
- The OS password must contain 8 or more characters.
- All appliances are deployed with these default UI and OS credentials: user *root*, password *unitrends1*. For appliance security, you must change these passwords in the Quick Setup Wizard. For increased security, ensure that the OS password you enter is different than the UI user password.
- After you finish the deployment procedures in this guide, you can set up additional UI users for the appliance at any time. For details, see *Users and roles* in the Administrator Guide for Recovery Series, Recovery MAX, ION/ION+, and Unitrends Backup, Appliance settings topic.



Enter hostname, domain (optional) and appliance UI and OS passwords

Host Name: vmware-ub

Domain: unitrends.com

UI Password: •••••••••

OS Password: •••••••••

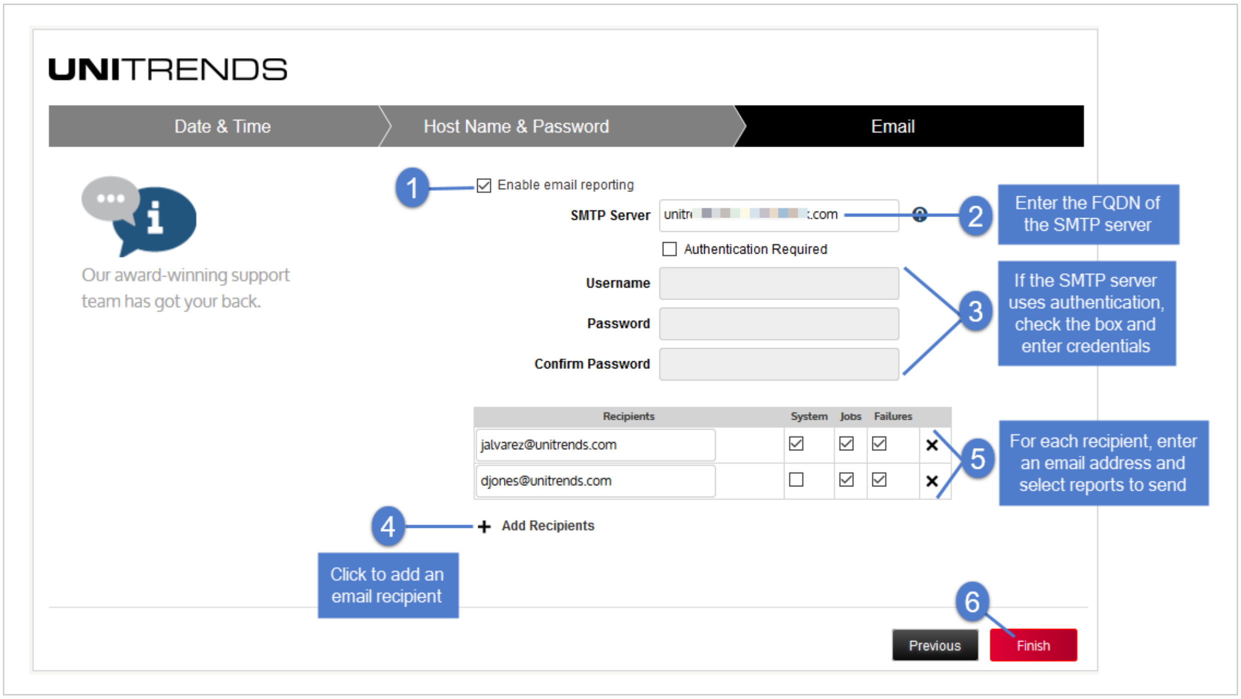
••••••••• Confirm UI password

••••••••• Confirm OS password

5 (Optional) To enable email from the appliance, check **Enable email reporting** and enter the following:

- The fully qualified domain name of the **SMTP server**.
- (If needed) If the SMTP server requires authentication, select **Authentication required** and enter a **Username** and **Password**.
- Click **+ Add Recipients** to add a an email recipient. Enter an email address in the **Recipient** field and select one or more of the **System**, **Jobs**, and **Failures** options to specify which reports the appliance will send to the recipient. Repeat as needed to add more recipients.

6 Click **Finish**.



1 ☑ Enable email reporting

SMTP Server: unitr[redacted].com

2 Enter the FQDN of the SMTP server

□ Authentication Required

Username:

Password:

Confirm Password:

3 If the SMTP server uses authentication, check the box and enter credentials

Recipients	System	Jobs	Failures	
jalvarez@unitrends.com	☑	☑	☑	✕
djones@unitrends.com	□	☑	☑	✕

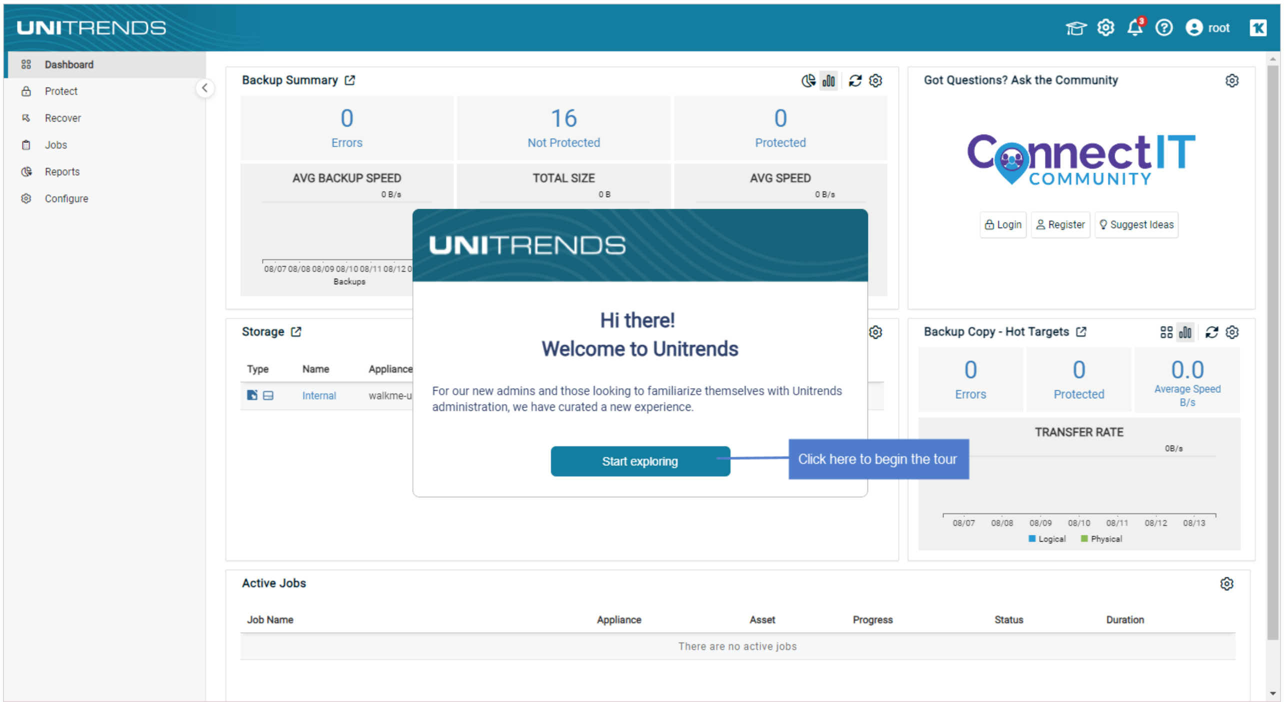
5 For each recipient, enter an email address and select reports to send

4 + Add Recipients

Click to add an email recipient

6 Previous Finish

The Welcome to Unitrends dialog displays. Click **Start exploring** to view the interactive product tour. Then proceed to the next step in this procedure.



Hi there!
Welcome to Unitrends

For our new admins and those looking to familiarize themselves with Unitrends administration, we have curated a new experience.

Start exploring

Click here to begin the tour

7 Configure appliance DNS settings:

- On the **Configure > Appliances** page, select the appliance and click the **Network** tab.
- Select the desired adapter and click **Edit**.
- Verify the IP address of the **Preferred DNS** server is correct.
- Enter the IP address of the **Alternate DNS** server (optional), and the **DNS Search** domain, then click **Save**.

8 Expand primary backup storage in the Unitrends Backup UI:

> WARNING! Once a disk has been expanded as primary backup storage, it cannot be removed.

- Log in to your Unitrends Backup virtual appliance.
- On the **Configure > Appliances** page, select your appliance.
- Click the **Storage** tab.
- Select the **Internal** storage and click **Edit**.
- In the Manage Attached Disks area:
  - To add an attached disk, select the desired disk from the list of available attached disks and click **Add**.
  - To remove an attached disk from the list, select it from the list of available attached disks and click **Remove**.
  - Clicking **Reset** reverts all disk settings to the original settings.
  - To refresh the list of available disks, click **Refresh**.
- Click **Save**.
  On the **Configure > Appliances** page, the status initially displays as *Pending*. When the disk is finished attaching, the status converts to *Active* and the storage can be used.
- If desired, repeat this procedure to add another disk.

Step 5: (If needed) Configure the Unitrends Backup appliance to use port 587 for SMTP

Run the procedure in AWS Email Notifications setup for port 587 if you are using port 587 for SMTP. Do not do this step if you are using port 25.

Step 6: Register and license the appliance

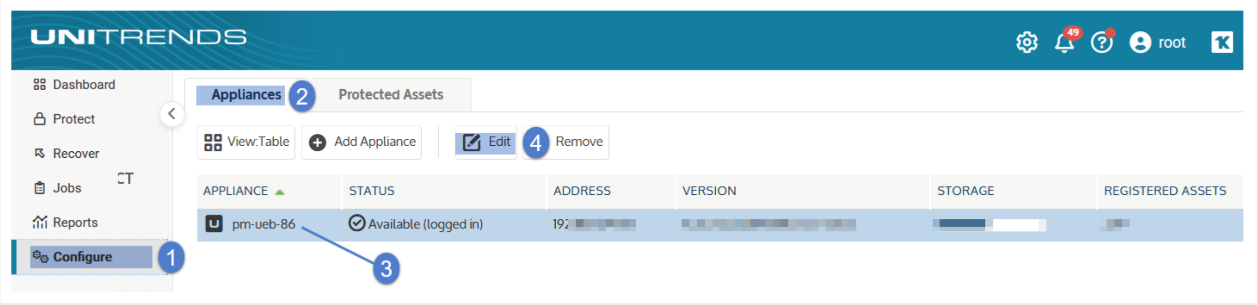
Your appliance is now configured and you can begin using it to protect your environment. For details, see the Administrator Guide for Recovery Series, Recovery MAX, ION/ION+, and Unitrends Backup.

You must register and license the appliance within 30 days of deploying Unitrends Backup.

Each appliance requires an activation code and license key. Use the procedures below to register and license the appliance:

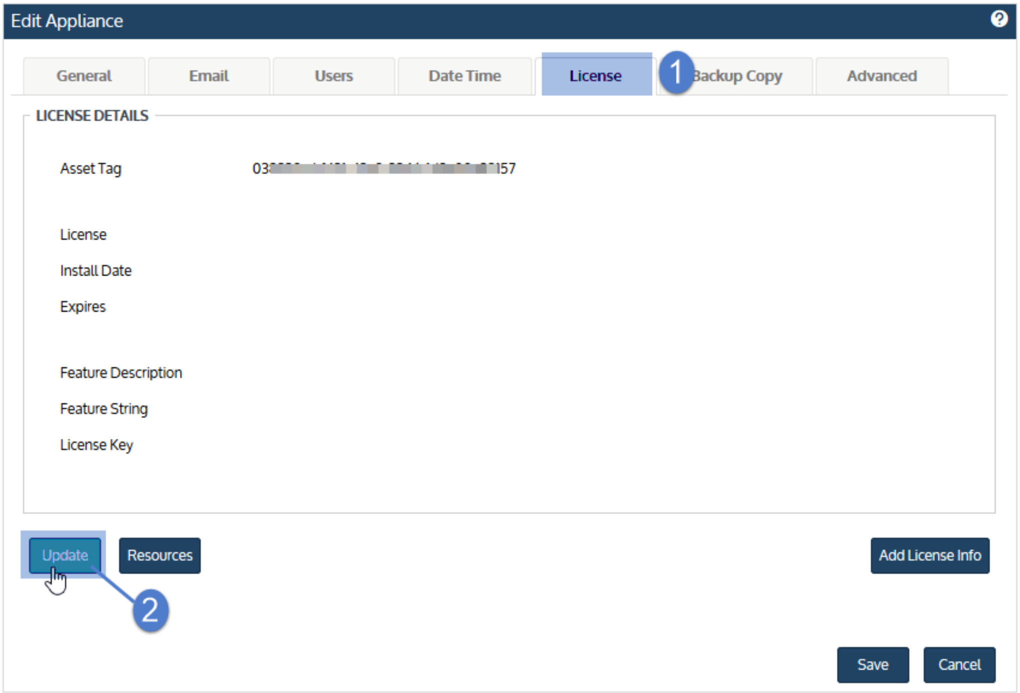
To register a Unitrends Backup appliance

1 On the **Configure** > **Appliances** page, select the appliance and click **Edit**.



APPLIANCE	STATUS	ADDRESS	VERSION	STORAGE	REGISTERED ASSETS
pm-ueb-86	Available (logged in)	192[redacted]	[redacted]	[redacted]	[redacted]

2 Select the **License** tab and click **Update**. The Registration Center displays.



Asset Tag 03[redacted]157

License

Install Date

Expires

Feature Description

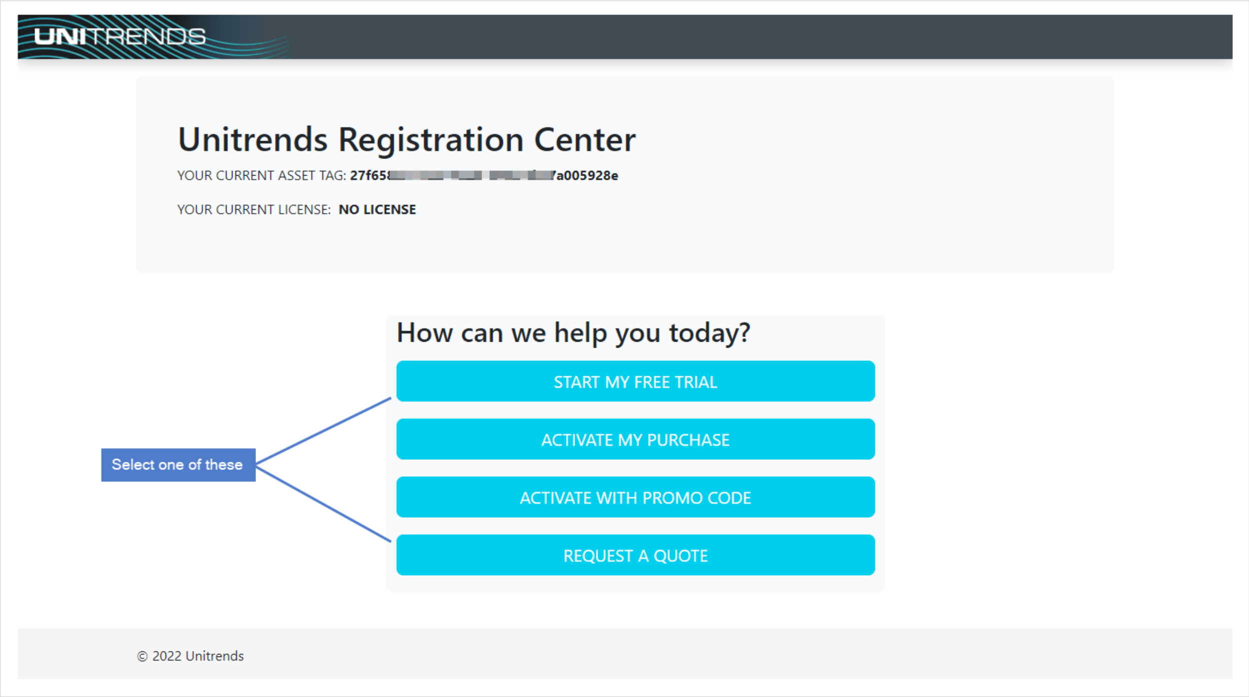
Feature String

License Key

3 Select one of the following:

Selection	Description
Start my free trial	Submit this form to start your free 30-day trial.
Activate my purchase	Enter your email address and activation code. You license key will be emailed to the address you enter here.

Selection	Description
Activate with promo code	Enter your promotional code to register your product and receive your license key.
Request a quote	Request a license quote.



Unitrends Registration Center

YOUR CURRENT ASSET TAG: 27f65[redacted]a005928e

YOUR CURRENT LICENSE: NO LICENSE

How can we help you today?

© 2022 Unitrends

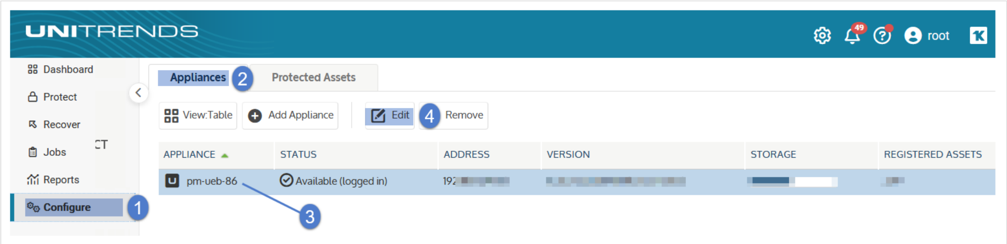
4 Complete and submit the applicable form.

Once you have purchased a license, Unitrends sends an email containing license details. Use the next procedure to apply this license information to the appliance.

To license a Unitrends Backup appliance

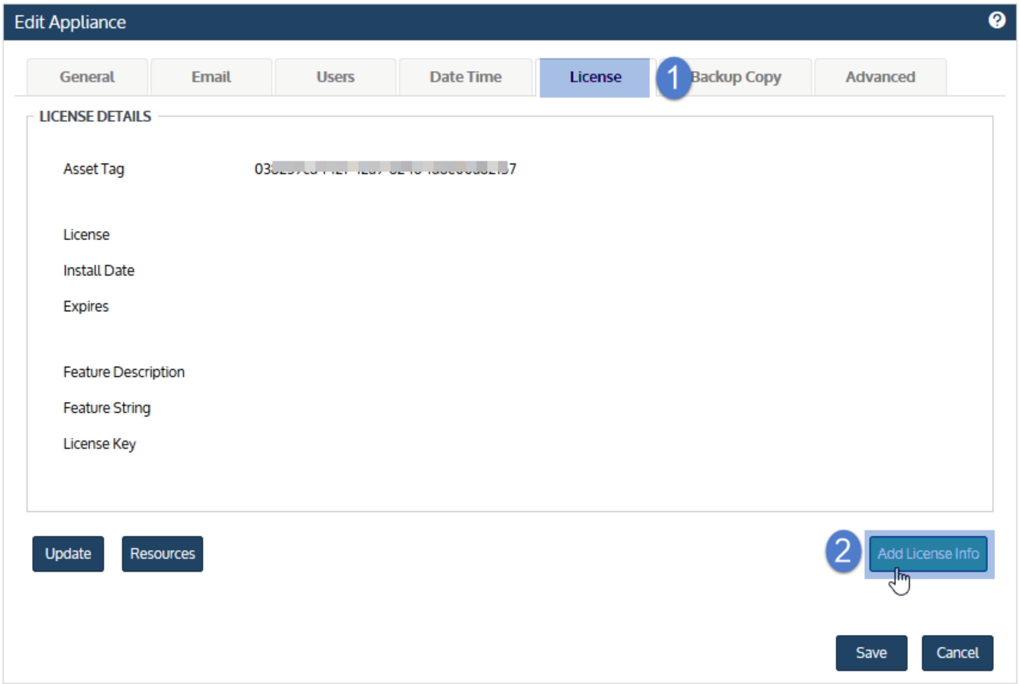
Use these steps to enter license information you have received from Unitrends.

1 On the **Configure > Appliances** page, select the appliance and click **Edit**.



APPLIANCE	STATUS	ADDRESS	VERSION	STORAGE	REGISTERED ASSETS
pm-ueb-86	Available (logged in)	192[redacted]	[redacted]		[redacted]

2 Select the **License** tab and click **Add License Info**.



Edit Appliance

General | Email | Users | Date Time | License | Backup Copy | Advanced

LICENSE DETAILS

Asset Tag 03[redacted]7

License

Install Date

Expires

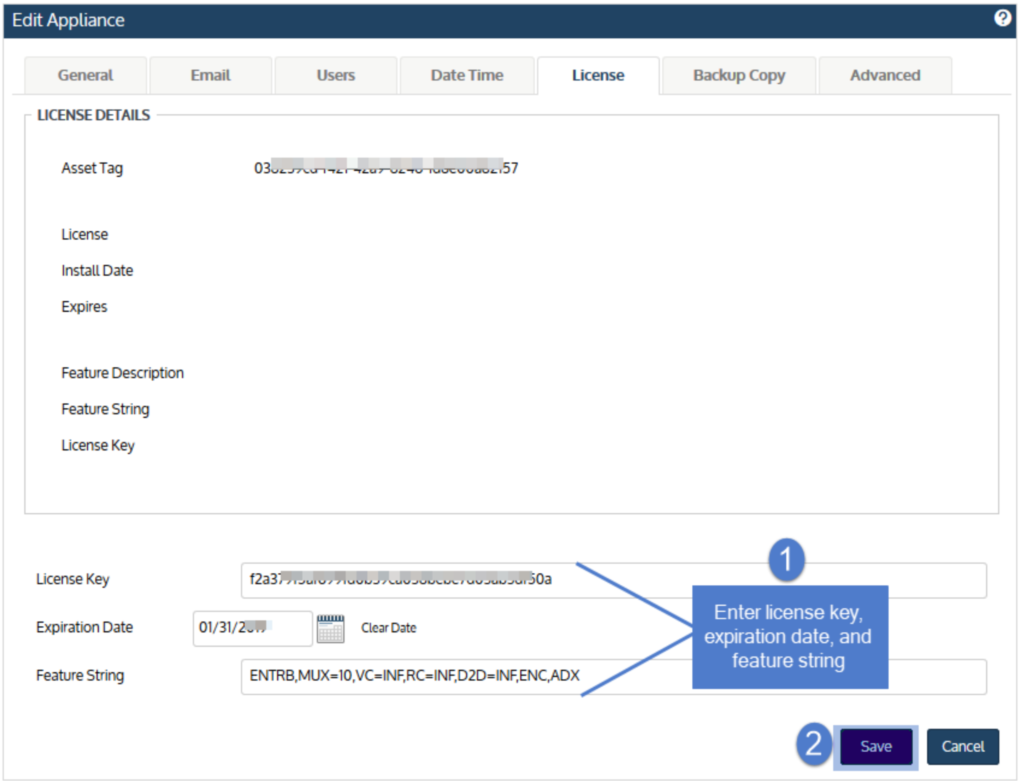
Feature Description

Feature String

License Key

3 Enter the **License Key**, **Expiration Date**, and **Feature String**.

4 Click **Save**. The license is applied.



Edit Appliance

General | Email | Users | Date Time | License | Backup Copy | Advanced

LICENSE DETAILS

Asset Tag 03[redacted]57

License

Install Date

Expires

Feature Description

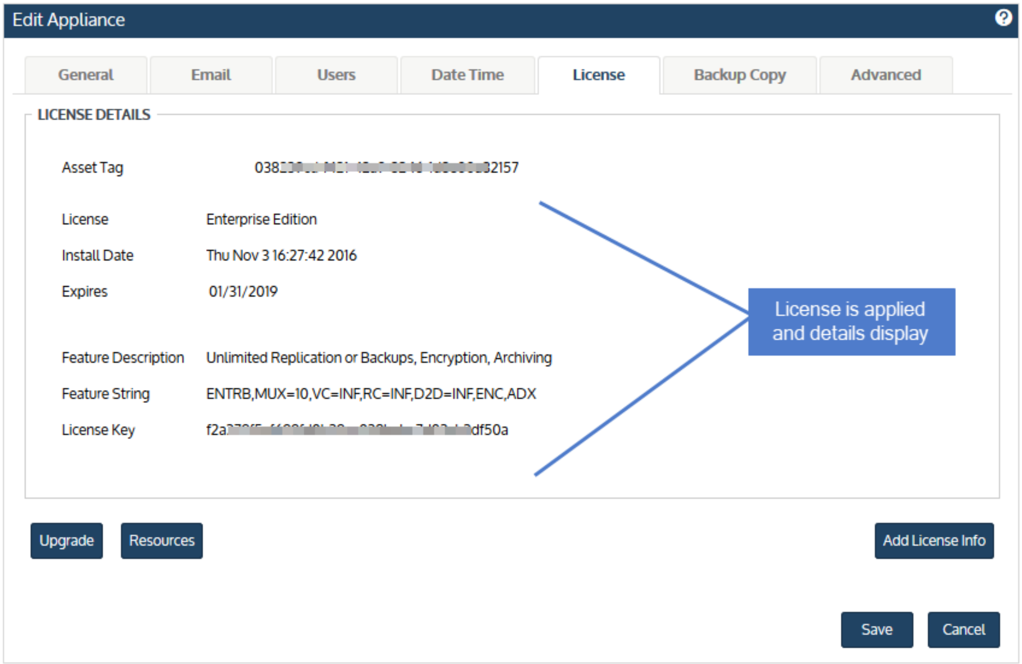
Feature String

License Key

License Key f2a37[redacted]50a

Expiration Date 01/31/2[redacted]

Feature String ENTRB,MUX=10,VC=INF,RC=INF,D2D=INF,ENC,ADX



LICENSE DETAILS

Asset Tag 038[redacted]2157

License Enterprise Edition

Install Date Thu Nov 3 16:27:42 2016

Expires 01/31/2019

Feature Description Unlimited Replication or Backups, Encryption, Archiving

Feature String ENTRB,MUX=10,VC=INF,RC=INF,D2D=INF,ENC,ADX

License Key f2a[redacted]df50a

License is applied and details display

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