



Prisma Cloud Overview

Prisma Cloud is a comprehensive cloud-native security platform with the industry's broadest security and compliance coverage. It protects cloud-native applications, data, networks, computing, storage, users, and higher-level PaaS services across cloud platforms. Prisma Cloud enables Cloud Security Posture Management (CSPM) and Cloud Workload Protection Platform (CWPP) for comprehensive visibility and threat detection across your organization's hybrid, multi-cloud infrastructure. It dynamically discovers resources as they are deployed and correlates cloud-service-provided data to enable security and compliance insights into your cloud applications and workloads.

In this activity, you will:

- Review out-of-the-box policies, queries, compliance standards, and remediations
- View a Network Alert for suspicious activity.
- Analyze the Network Visualization to trace resources that may have been impacted.
- View the traffic that is reaching your cloud workloads.
- Examine Vulnerabilities that have been detected on your cloud Workload to understand the risk posture.
- View Alert on risky AWS IAM Permissions.
- Analyze the current resource configuration settings.
- Analyze the change history for the IAM configuration settings (show how the resource got to its current state).
- View how Prisma Cloud remediation commands can be leveraged to remediate security findings.

Note: This is a standalone activity and is not dependent on other activities.





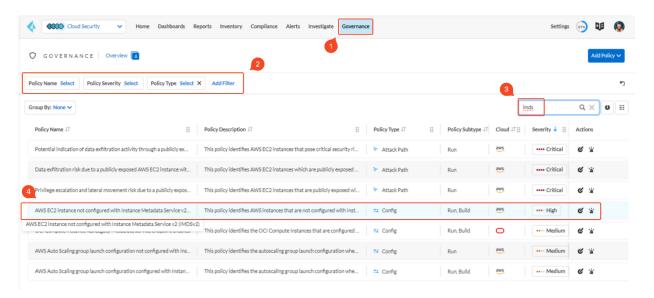
------ Task 1: Looking into Prisma Cloud Governance & Policy

In Prisma Cloud, a policy is a set of one or more constraints or conditions that must be adhered to. Prisma Cloud provides predefined policies for configurations and access controls that adhere to established security best practices such as Otoritas Jasa Keuangan (OJK) 38 POJK.03 206, PCI, GDPR, ISO 27001:2013, NIST, and a larger set of policies that enable you to validate security best practices with an impact beyond regulatory compliance. These Prisma Cloud default policies cannot be modified.

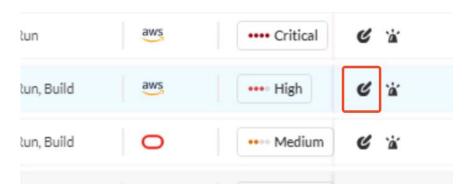
In addition to these predefined policies, you can create custom policies to monitor for violations and enforce your organizational standards. You can use the Default policies as templates to create custom policies. After you set up the policies, any new or existing resources that violate these policies are automatically detected.

Prisma Cloud includes out-of-the-box (OOTB) policies that are part of the Prisma Cloud Recommended Policies Pack.

Step 1. In Prisma Cloud Enterprise Edition, click on Governance.



Step 2. Make sure the filters are cleared, type in "imds" into the search bar, and click on the Edit icon for the policy "AWS EC2 instance not configured with Instance Metadata Service v2 (IMDSv2)".

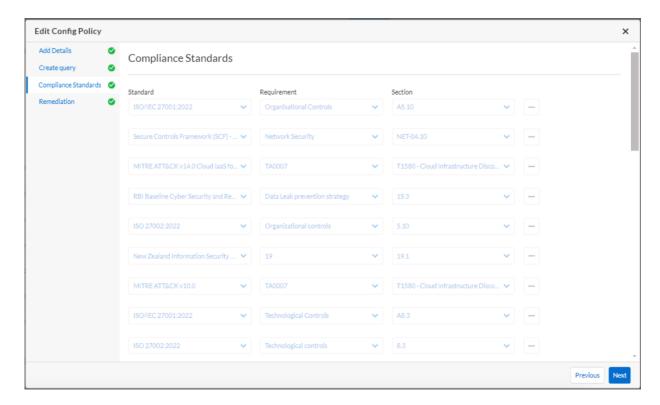


Step 3. On the popped-out window, run through the policy description, then click Next.

Step 4. On the query section, notice that the query has been configured as this is an OOTB policy. Then, click Next.







Step 5. In the remediation section, the recommendation for Remediation has been provided as a manual procedure to remediate if there is a policy violation. CLI command has also been configured, where a CLI command will be provided to remediate the misconfiguration if there is a violation. Click "X" to close the window.

Prisma Cloud Compliance Overview

The Compliance Overview is a dashboard that provides a snapshot of your overall compliance posture across various compliance standards.

Use the Compliance Dashboard as a tool for risk oversight across all the supported cloud platforms and gauge the effectiveness of the security processes and controls you have implemented to keep your enterprise secure. You can also create compliance reports and run them immediately, or schedule them regularly to measure your compliance over time.

The Compliance Dashboard supports you whether you've spent a lot of time designing and establishing internal regulations and devising the right policies, or you use the built-in regulatory compliance standards available on Prisma Cloud.

You can also find the list of compliance standards that Prisma Cloud supports here

In this activity, you will:

- Review Compliance Overview in Prisma Cloud Enterprise Edition
- Schedule and generate compliance reports for internal consumption

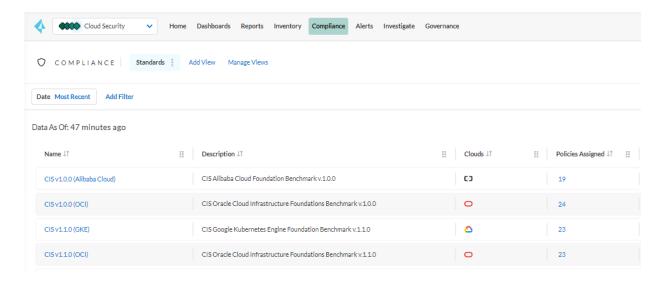
Note: This is a standalone activity and is not dependent on other activities.



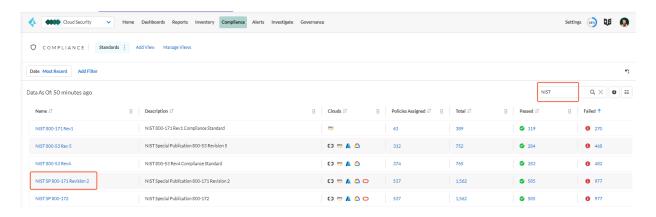


Step 1. Go to Prisma Cloud Enterprise > Cloud Security > Compliance

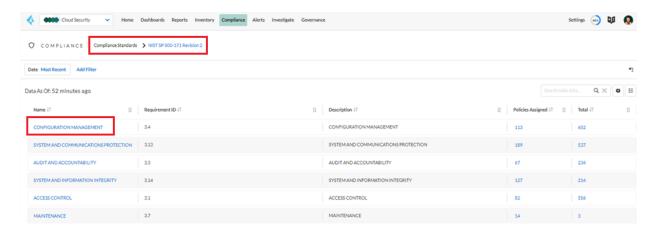
Step 2. Here you can see a list of compliance standards supported by Prisma Cloud out of the box:



Step 3. Type "NIST" in the search bar in the top right corner to filter the compliance standards. Click on "NIST SP 800-171 Revision 2".



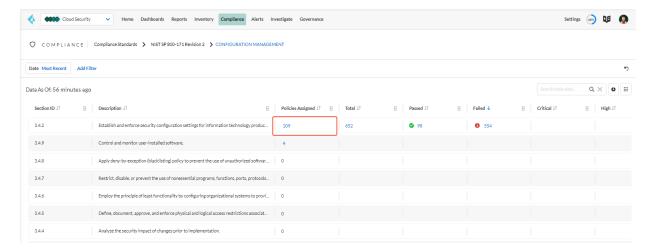
Step 4. On the next page, you can see how the compliance standard is being structured. This is based on the actual compliance requirement, and Prisma Cloud maps the policies according to each section of the compliance requirement. **Click** on **"CONFIGURATION MANAGEMENT"**.



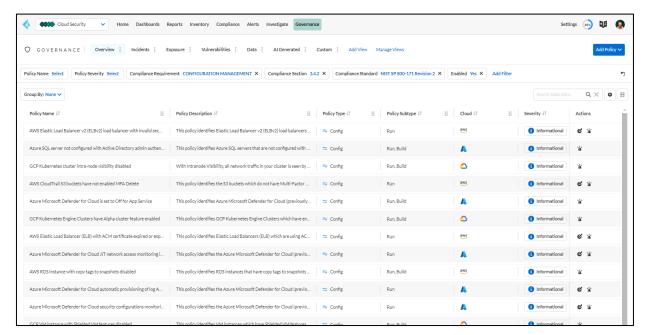




Step 5. On the next page, you can also see how policies are mapped to each sub-section of the compliance standard. **Click** on the numbers under **Policies Assigned**, the same row as section **3.4.2**.



Step 6. On the next page, you will be able to see all the policies that are mapped to this particular sub-section. This allows you to understand how all the policies are built into the compliance requirement and how Prisma Cloud can assist organizations with their compliance with certain standards or regulatory requirements.



Download Compliance Report

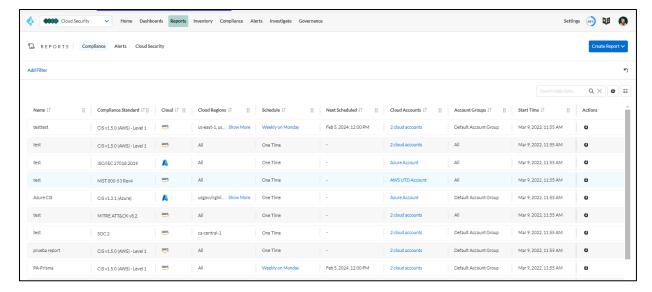
Note: The lab uses a read-only user, which doesn't have access to generate a compliance report. Therefore, we'll only run through the steps to download a compliance report.

Step 1. Go to Prisma Cloud Enterprise > Cloud Security > Reports

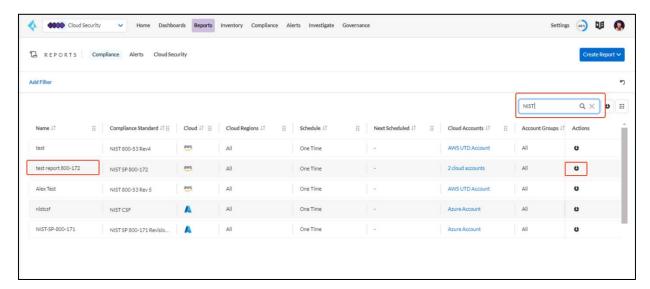
Step 2. On this page, you will see all the different reports created by existing users or yourself, either for one-time usage or a regular schedule.







Step 3. On the search bar, type **"NIST"**. Click on the **Download** icon in the Action column to download the report.



Note: As you're accessing Prisma Cloud via a full-screen remote desktop, you might not be able to view the downloaded document. For a NIST sample report, refer to a sample document <u>here</u>.

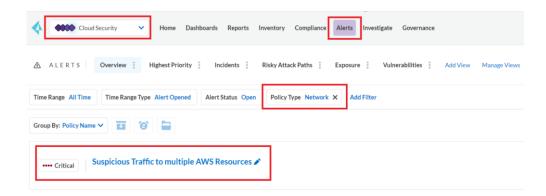
Note: You can schedule a compliance report to be sent to specific teams in regular basis (weekly, daily, etc).



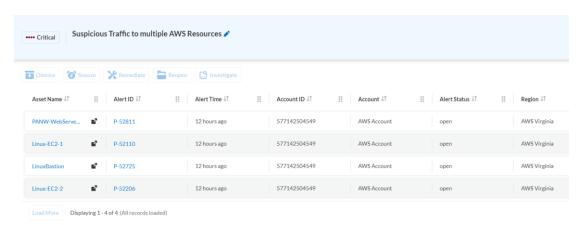


------ Task 2: Examine a Network Alert ----

- Step 1. In the Prisma Cloud Enterprise Edition console, click the Alerts tab and then Overview.
- **Step 2.** Select the **Reset Filters** icon on the top right corner of the screen to reset all filters and set the **Time Range** to **All Time**.
- **Step 3.** Click on the **Add Filter** icon and select the following options and look for the alert **Suspicious Traffic to Multiple AWS Resources**:
 - a) Alert Status = Open
 - b) Policy Type = **Network**
 - c) Cloud Account = AWS UTD Account



Step 4. Here you can see a list of resources causing this alert to fire.

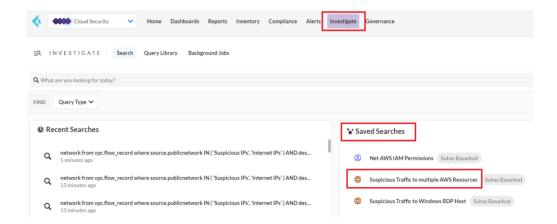




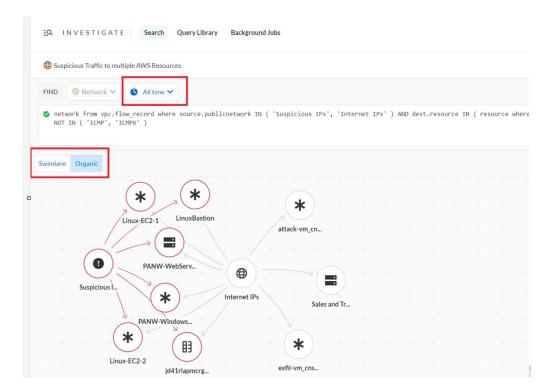


----- Task 3: Examine the Traffic from Suspicious IPs ----

Step 1. Head over to the **Investigate** window. For your convenience, we have already created a query to list out the resources for the previous alert. To use that, within the **Saved Searches**, select **Suspicious Traffic to multiple AWS Resources**



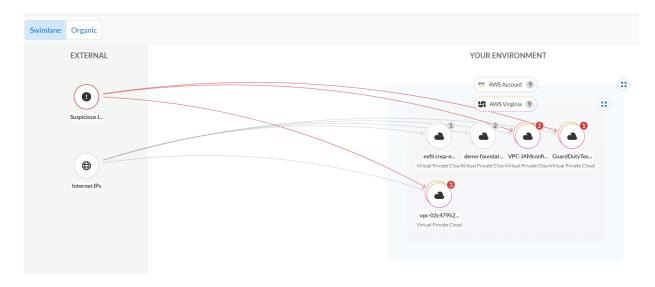
Step 2. Make sure to set the time window to **All Time.** Your graph may look a little different as the cloud environment is very dynamic. This shows all the resources that are taking traffic from Suspicious IPs, which are flagged by Prisma Cloud.



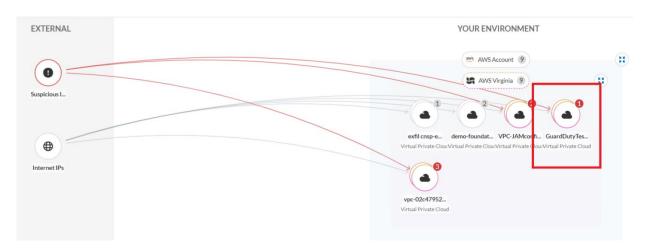




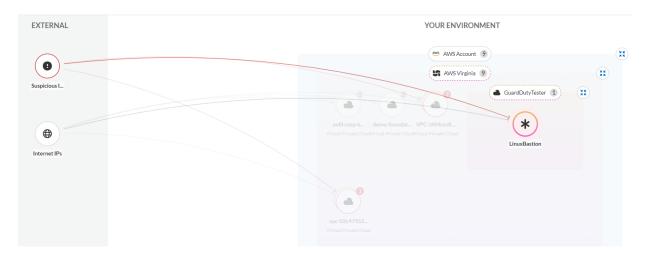
Step 3. Toggle between **Swimlane** and **Organic** for different visualizations of the traffic.



Step 4. For the rest of the flow, we will stick with **Swimlane** visualization. Clicking on the **GuardDuty Tester** VPC will expand it and reveal **LinuxBastion** host



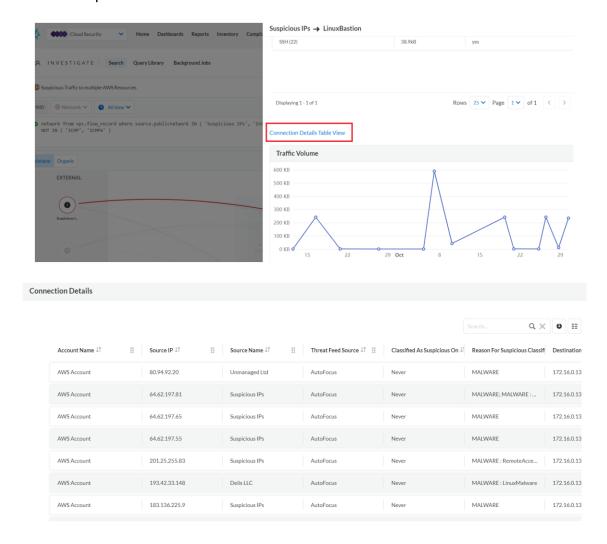
Step 5. Hover your mouse and click on the line connecting Suspicious IP and Linux Bastion





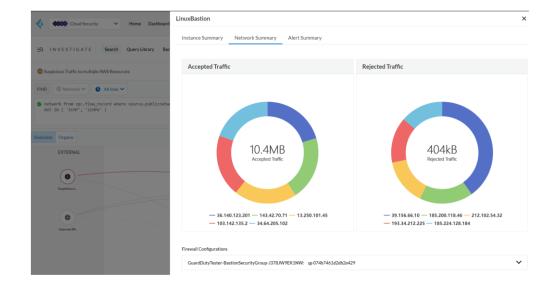


Step 6. This will open a sidecar. Click on the **Connection Details Table view** to see the breakdown of the traffic flow between **suspicious IPs** and the **LinuxBastion** host



Step 7. Close the Connection Details window and the Suspicious IPs > LinuxBastion window.

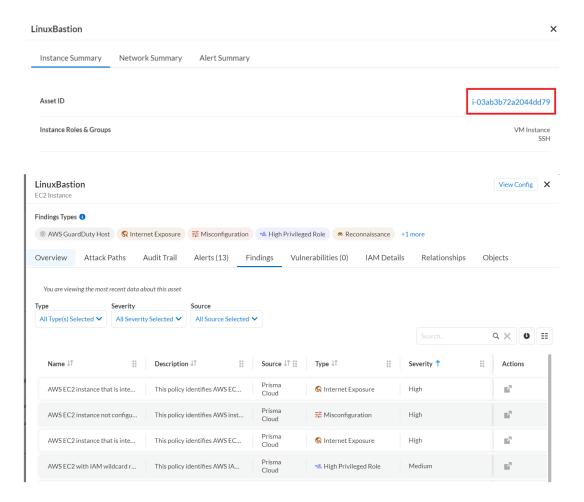
Step 8. Click on the **LinuxBastion** host and this will open another window that provides the network summary of that VM.







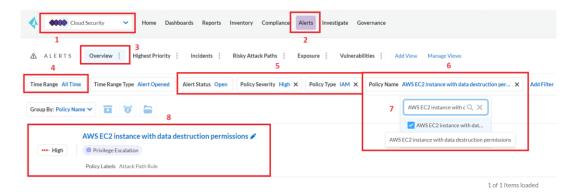
Step 9. Click on the **LinuxBastion** VM, and under the **Instance Summary**, click the value corresponding to **Asset ID** to investigate further the VM. Go to the **Findings** tab at the top of the page to get details.



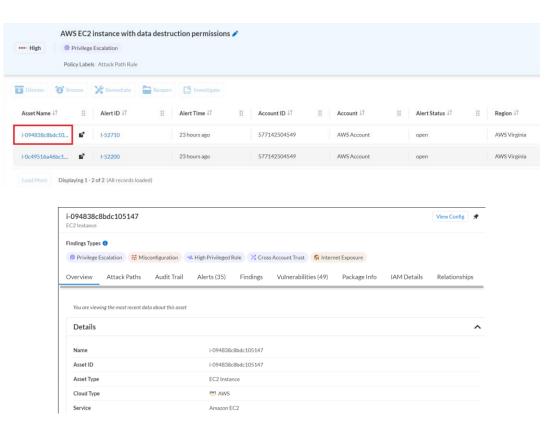




- Step 1. Navigate to Prisma Cloud Enterprise Edition console > Cloud Security > Alerts > Overview.
- **Step 2.** Select the **Reset Filters** icon on the top right corner of the screen to reset all filters. Use **Add Filter** option to add the specified filters below
- **Step 3.** In the filter options, select the following:
 - a) Time Range = All Time
 - b) Alert Status = Open
 - c) Policy Severity = **High**
 - d) Policy Type = IAM
 - e) Policy Name = AWS EC2 instance with data destruction permissions
- Step 4. Navigate to Prisma Cloud Enterprise Edition console > Cloud Security > Alerts > Overview.



Step 5. Click on the **AWS EC2 instance with data destruction permissions** and Click on the value under the **Asset Name** column to view more information about the resource.

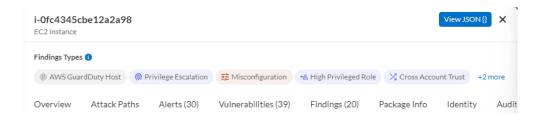




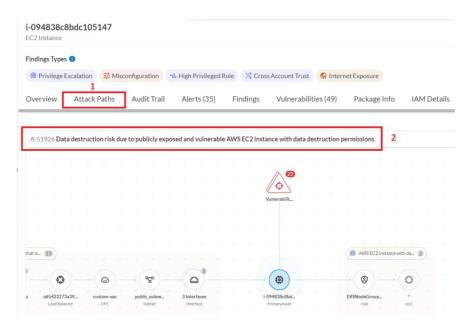


Step 6. In the Resource sidecar, click on the below options to explore further.

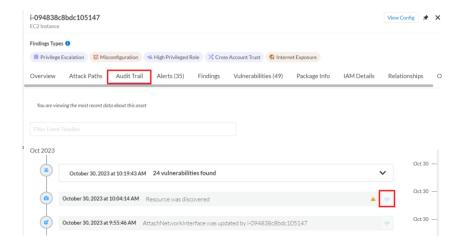
a) Clicking on View JSON will bring up the configuration of the selected resource.



- b) Clicking on **Overview** will provide an overview of the resource. After reviewing, close the pop-up or click **Done**.
- c) Clicking on Attack Paths will bring up the attack path graph and highlight where the selected resource fits in the path. Further clicking on the various items within the graph will show relevant information and configuration of the selected item



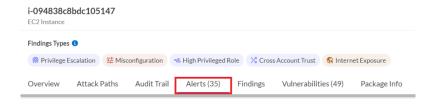
d) Clicking on the **Audit Trail** will open up the Audit trail for this resource where you will be able to see the timeline of the configuration changes made on the resource from the time it was discovered by Prisma Cloud. This is continuously monitored by Prisma Cloud and any changes to the configuration are recorded. Click on the </> to view the resource configuration



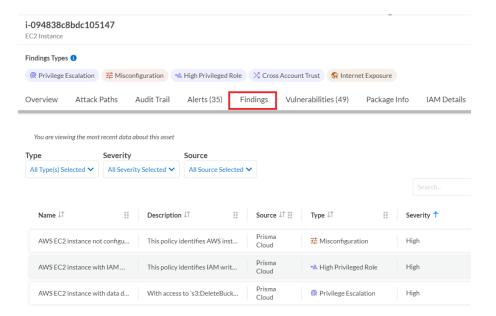




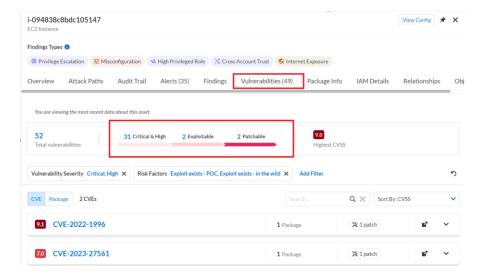
e) Clicking on Alerts will show the various alerts that are open for this specific resource.



f) Clicking on **Findings** will show the various findings about the selected resource and the severity of those findings.



g) Clicking on the **Vulnerabilities** will show the various vulnerabilities that were detected for this resource. Further clicking on options such as **Critical & High**, **Exploitable** and **Patchable** will filter the results.



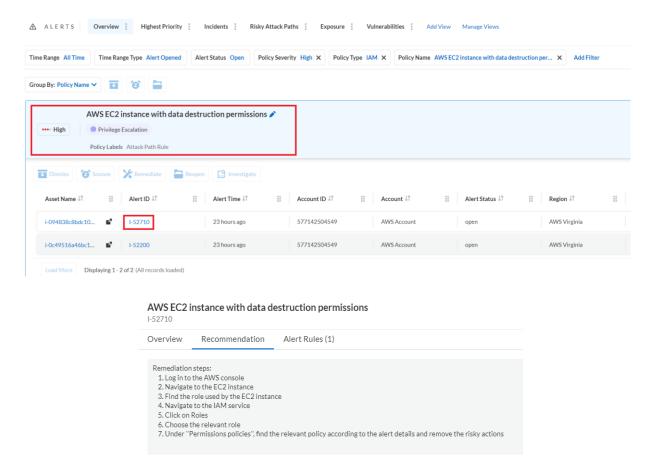




h) Feel free to explore the rest of the options and once done, close the window.



Step 7. Click on the **AWS EC2 instance with data destruction permissions** and click the corresponding value for the **Alert ID** to see the **Overview** and remediation **Recommendation**.



Step 8. Once done reviewing, close the window.



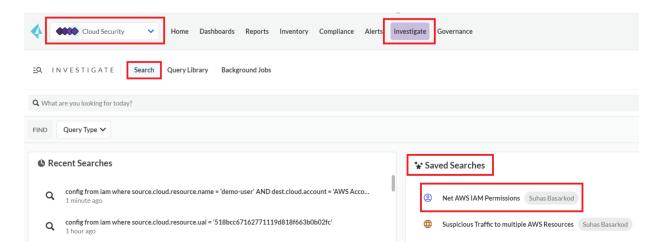




----- Task 5: Investigate Over Permissive IAM Permissions ------

Step 1. In this task, we will find out, with a simple **RQL query**, the net effective permissions of an IAM user to demonstrate the effectiveness of IAM RQL queries in Prisma Cloud.

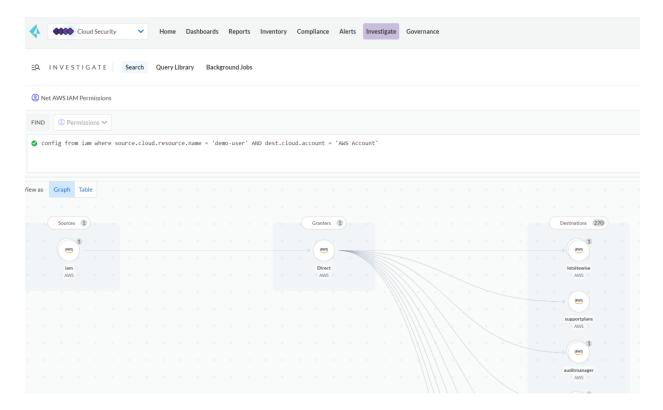
Step 2. Navigate to Prisma Cloud > Cloud Security > Investigate and select Net AWS IAM Permissions from Saved Searches



Step 3. The RQL query of the selected search query should look like the following:

config from iam where source.cloud.resource.name = 'demo-user' AND dest.cloud.account = 'AWS UTD Account'

Step 4. Click on the Graph icon.



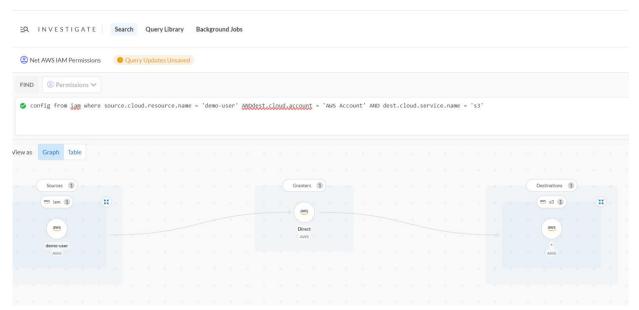




Step 5. This graph shows the permissions that the IAM user **demo-user** holds within the specified AWS Account. Feel free to explore the graph further.

Step 6. Within the **Destinations** column of the graph, to further narrow down the search to a specific AWS Service such as S3, update the query with the following

config from iam where source.cloud.resource.name = 'demo-user' AND dest.cloud.account = 'AWS UTD Account' AND dest.cloud.service.name = 's3'



Step 7. From the screenshot, you can see that there's a "*" (wildcard) permission assigned, which is not a best-practice implementation in a production environment.

Step 8. To investigate the permissions of the IAM role used by EKS Node in the previous task, use the below query and explore the **Graph/Table**

config from iam where dest.cloud.account = 'AWS UTD Account' AND grantedby.cloud.entity.name = 'EKSNodeGroupRole-cnsp-app4' AND source.cloud.service.name = 'ec2'