

Cloudera Runtime 7.0.2

Ranger Auditing

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CLOUDERA

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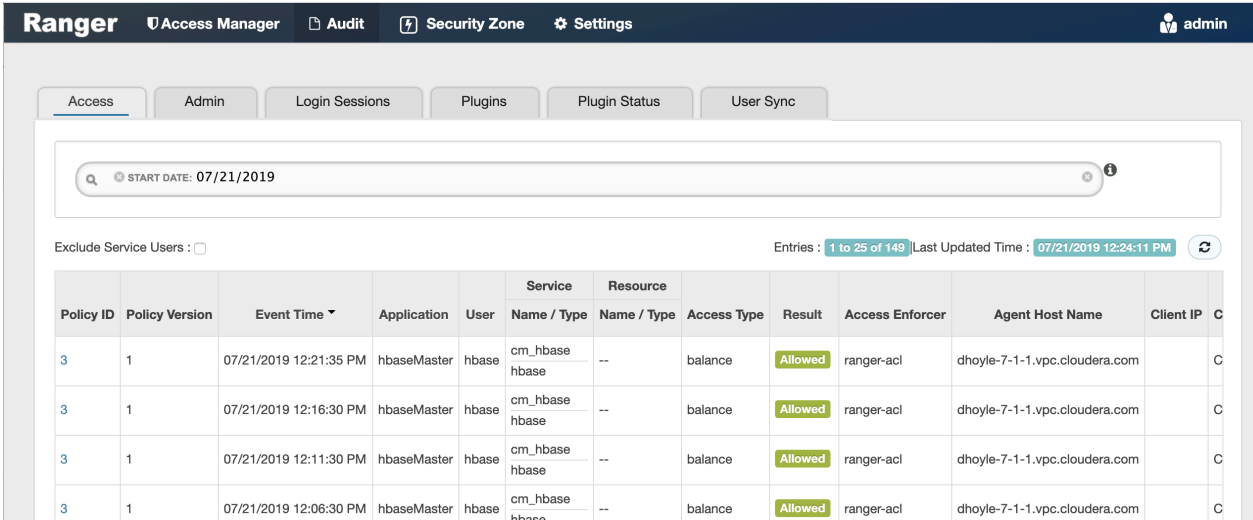
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Audit Overview

Apache Ranger provides a centralized framework for collecting access audit history and reporting data, including filtering on various parameters. Ranger enhances audit information obtained from Hadoop components and provides insights through this centralized reporting capability.

Managing Auditing with Ranger

To explore options for auditing policies in Ranger, click Audit in the top menu.



The screenshot shows the Ranger web interface. The top navigation bar includes 'Ranger', 'Access Manager', 'Audit', 'Security Zone', and 'Settings'. The user is logged in as 'admin'. Below the navigation bar are tabs for 'Access', 'Admin', 'Login Sessions', 'Plugins', 'Plugin Status', and 'User Sync'. The 'Audit' tab is active, displaying a search bar with 'START DATE: 07/21/2019'. Below the search bar, there is a table of audit entries. The table has columns for Policy ID, Policy Version, Event Time, Application, User, Service Name / Type, Resource Name / Type, Access Type, Result, Access Enforcer, Agent Host Name, Client IP, and a 'C' column. The table shows four entries, all with a result of 'Allowed'.

Policy ID	Policy Version	Event Time	Application	User	Service Name / Type	Resource Name / Type	Access Type	Result	Access Enforcer	Agent Host Name	Client IP	C
3	1	07/21/2019 12:21:35 PM	hbaseMaster	hbase	cm_hbase hbase	--	balance	Allowed	ranger-acl	dhoyle-7-1-1.vpc.cloudera.com		C
3	1	07/21/2019 12:16:30 PM	hbaseMaster	hbase	cm_hbase hbase	--	balance	Allowed	ranger-acl	dhoyle-7-1-1.vpc.cloudera.com		C
3	1	07/21/2019 12:11:30 PM	hbaseMaster	hbase	cm_hbase hbase	--	balance	Allowed	ranger-acl	dhoyle-7-1-1.vpc.cloudera.com		C
3	1	07/21/2019 12:06:30 PM	hbaseMaster	hbase	cm_hbase hbase	--	balance	Allowed	ranger-acl	dhoyle-7-1-1.vpc.cloudera.com		C

There are six tabs on the Audit page:

- Access
- Admin
- Login sessions
- Plugins
- Plugin Status
- User Sync

View audit details

How to view operation details in Ranger audits.

Procedure

To view details for a particular operation, click any tab, then Policy ID, Operation name, or Session ID.

Audit > Access: HBase Table

The screenshot shows the Ranger Access Manager interface. The 'Access' tab is active, displaying a table of audit entries. A search filter 'START DATE: 07/21/2019' is applied. The table lists several entries with 'Allowed' results. A modal window titled 'Policy Details' is open for the entry with Policy ID 3, showing details for the 'cm_hbase' service and 'hbase' resource. The modal includes fields for Policy Type, ID, Version, Name, Description, and Audit Logging, along with 'Include' and 'Exclude' buttons for various components.

Policy ID	Policy Version	Event Time	Application	User	Service Name / Type	Resource Name / Type	Access Type	Result	Access
3	1	07/21/2019 12:51:30 PM	hbaseMaster	hbase	cm_hbase hbase	--	balance	Allowed	ranger
3	1	07/21/2019 12:46:30 PM	hbaseMaster	hbase	cm_hbase hbase	--	balance	Allowed	ranger
3	1	07/21/2019 12:41:30 PM	hbaseMaster	hbase	cm_hbase hbase	--	balance	Allowed	ranger-acl
3	1	07/21/2019 12:36:30 PM	hbaseMaster	hbase	cm_hbase hbase	--	balance	Allowed	ranger-acl
3	1	07/21/2019 12:31:31 PM	hbaseMaster	hbase	cm_hbase hbase	--	balance	Allowed	ranger-acl
3	1	07/21/2019 12:26:30 PM	hbaseMaster	hbase	cm_hbase hbase	--	balance	Allowed	ranger-acl

Audit > Admin: Update

The screenshot shows the Ranger Access Manager interface with the 'Admin' tab active. The audit log displays various administrative operations. An 'Operation: update' modal is open for the operation 'tag_service2', showing the update details for the 'tag_tag' service.

Operation	Audit Type	User	Date (Eastern Daylight Time)	Actions	Session Id
Service updated tag_service2	Ranger Service	admin	07/21/2019 01:09:34 PM	Update	40
Group created temp_employees	Ranger Group	admin	07/20/2019 02:15:05 PM	Create	38
Group created audit	Ranger Group	admin	07/18/2019 04:18:42 PM	Create	35
Exported policies	Ranger Policy	admin	07/17/2019 03:06:22 PM	Export, Import	32
Service updated tag_service1	Ranger Service	admin	07/15/2019 04:11:25 PM	Update	
Policy created EXPIRES_ON	Ranger Policy		07/15/2019 04:11:25 PM	Create	
Service created tag_tag	Ranger Service		07/15/2019 04:11:25 PM	Create	
Policy created tag_tag	Ranger Policy		07/15/2019 04:11:25 PM	Create	
Service created tag_tag	Ranger Service		07/15/2019 04:11:25 PM	Create	
Policy created tag_tag	Ranger Policy		07/15/2019 04:11:25 PM	Create	
Service updated tag_service2	Ranger Service	admin	07/21/2019 01:09:34 PM Eastern Daylight Time	Update	29
Policy created all - global	Ranger Policy	admin	07/14/2019 05:04:32 PM	Create	27
Policy created all - hivesservice	Ranger Policy	admin	07/14/2019 05:04:32 PM	Create	27
User created auditor1	Ranger User	admin	07/14/2019 05:02:58 PM	Create	27
Service updated em_nifi_registry	Ranger Service		07/11/2019 11:30:39 AM	Update	
Policy created EXPIRES_ON	Ranger Policy		07/11/2019 11:30:39 AM	Create	

Audit > User Sync: Sync details

The screenshot shows the Ranger Admin console interface. At the top, there are navigation tabs: Access, Admin, Login Sessions, Plugins, Plugin Status, and User Sync. Below the tabs is a search bar with the text "START DATE: 07/21/2019". The main content area displays a table of sync events. The table has columns for User Name, Sync Source, Number Of New (Users, Groups), Number Of Modified (Users, Groups), Event Time, and Sync Details. A modal window titled "Sync Details" is open, showing a table of key-value pairs for the selected sync event.

User Name	Sync Source	Number Of New		Number Of Modified		Event Time	Sync Details
		Users	Groups	Users	Groups		
rangerusersync	Unix	0	0	0	0	07/21/2019 01:22:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:21:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:20:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:19:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:18:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:17:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:16:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:15:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:14:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:13:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:12:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:11:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:10:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:09:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:08:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:07:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:06:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:05:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:04:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:03:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:02:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:01:48 PM	👁
rangerusersync	Unix	0	0	0	0	07/21/2019 01:00:47 PM	👁

Name	Value
Unix	nss
File Name	/etc/passwd
Sync time	07/21/2019 10:21:48 AM
Last modified time	12/31/1969 04:00:00 PM
Minimum user id	500
Minimum group id	0
Total number of users synced	35
Total number of groups synced	39

Create a read-only Admin user (Auditor)

Creating a read-only Admin user (Auditor) enables compliance activities because this user can monitor policies and audit events, but cannot make changes.

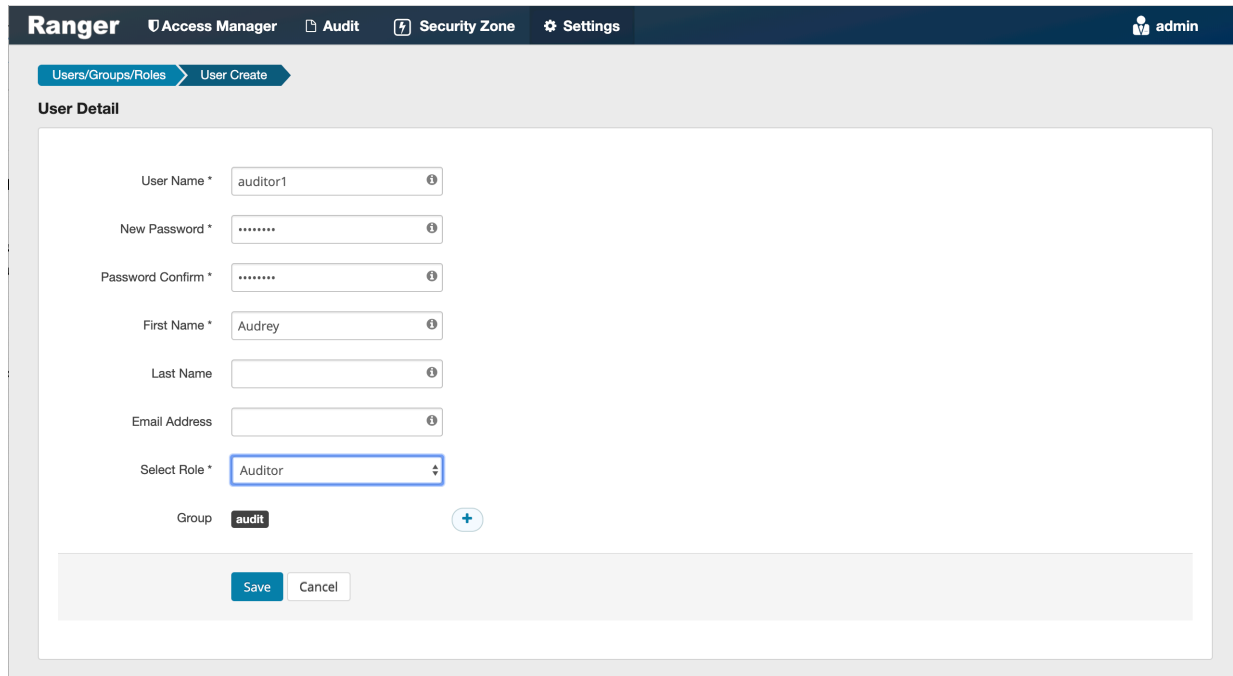
About this task

When a user with the Auditor role logs in, they see a read-only view of Ranger policies and audit events. An Auditor can search and filter on access audit events, and access and view all tabs under Audit to understand access events. They cannot edit users or groups, export/import policies, or make changes of any kind.

Procedure

1. Select Settings > Users/Groups/Roles.
2. Click Add New User.

3. Complete the **User Detail** section, selecting Auditor as the role:



The screenshot shows the Ranger web interface for creating a user. The top navigation bar includes 'Ranger', 'Access Manager', 'Audit', 'Security Zone', and 'Settings', with a user profile icon for 'admin'. The breadcrumb trail is 'Users/Groups/Roles > User Create'. The 'User Detail' section contains the following fields:

- User Name *: auditor1
- New Password *: [masked]
- Password Confirm *: [masked]
- First Name *: Audrey
- Last Name: [empty]
- Email Address: [empty]
- Select Role *: Auditor (highlighted with a blue border)
- Group: audit (with a plus icon to add more groups)

At the bottom of the form are 'Save' and 'Cancel' buttons.

4. Click Save.