Dynamic Share

A **dynamic share** is a **job** that allows for real-time sharing of ServiceNow records as they are created, updated, and/or deleted. In other words, dynamic shares are caused by some triggering event (such as when incidents are created, updated, or deleted). The data is shared to a subscriber, which can be another instance of ServiceNow, the DataSync Agent, or any number of the other applications that Perspectium can integrate with.

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Dynamic shares can be configured per ServiceNow table. This setup can be used to control the format, conditions, and destination of the share, share multiple tables through the table hierarchy, run through advanced filters and scripts, share out related/auxiliary records, and more.

To access dynamic shares, go to **Perspectium > Perspectium Core > Shares**. Then, click **Dynamic Share.**

Dynamic share business rules vs flow designer

When creating a dynamic share in ServiceNow, you have the option of doing so with either business rules or flow designer. The major difference between these two options is that flow designer allows you to use dynamic share features without having to code. Click the hyperlinks to learn more.

> ⊘ **Dynamic shares created with flow designer cannot be changed to business rules, and vice versa.** If you want a dynamic share to use the alternate approach, you will have to delete it and create a new one.

The context and instructions around creating dynamic shares are different between the two approaches. Skip to whichever approach you're interested in below.

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Create a dynamic share using business rules

These instructions are for creating a dynamic share using business rules. Instructions for creating a dynamic share using flow are in the next section.

> ⓘ Because this approach uses business rules to trigger sharing records out, if a user is updating records with setWorkflow(false) to turn off executing business rules (including async business rules), records will not be shared. In this case, consider using alternative approaches like Scheduled Sync Up, Scheduled Bulk Share or Flow.

Prerequisites:

- Install and Configure DataSync for ServiceNow
- Create a ServiceNow shared queue

Instructions:

1. In your ServiceNow instance, go to **Perspectium** > **Perspectium Core** > **Shares**.

2. Select **Dynamic Share**.

3. Select **Create New Dynamic Share**.

4. Select **Business Rule** and click **Submit**.

   ⓘ **NOTE:** This is not editable - if you wish change the share type of this dynamic share once you save, you will have to delete the dynamic share and create a new one.

5. Enter a name of your new dynamic share in the **Name** field.

6. In the **Table** dropdown, find and select the table which includes the data that you want to dynamic share out of your ServiceNow instance.

7. Check the **Active** box to activate your dynamic share.

8. Use the **Encryption Method** dropdown to select a method to encrypt the data.

Cipher options include:

Encryption Method	Dynamic shared data will...
TripleDES	be encrypted with Triple DES.
AES128	be encrypted with AES-128.
AES256	be encrypted with AES-256. ⓘ **NOTE:** To ensure AES-256 encryption for your data, you will need to create an encryption and decryption key with at least 32 characters in the PSP Properties module.
Base64 Encode Only	have Base64 encoding only.
Unencrypted	not be encrypted.

9. To set the trigger conditions for this dynamic share, check the **Create**, **Update**, and/or **Delete** boxes, depending on the conditions on which you want your share to run:

Action	Record data will be shared out of your ServiceNow instance when...
Create	new records are created. `<table_name>.insert`
Update	record data is changed. `<table_name>.update`
Delete	records are deleted. `<table_name>.delete`

Alternatively, you can use **Update or Insert** under **Runtime Settings**.
When **Update or Insert** is selected, **Create** and **Update** actions will be grayed out and not selectable. Furthermore, when the messages are pushed out to Perspectium Cloud Server, the *name* field will contain:

`<table_name>.bulk`

This will instruct the consumer or subscriber to implement an *update* (by sys_id) or *insert* action when the *sys_id* is not found.

10. Click the **Search** icon next to the **Target queue** field and in the **Queues** popup, select the shared queue that you want to dynamic share your record data to.

11. Click **Submit** to save your changes.

Create a dynamic share using flow

Choosing **Flow Designer** for dynamic shares makes use of ServiceNow's Flow Designer to create a flow that will send records out of your ServiceNow instance as they are created and/or updated.

Because business rules may not always trigger when records are created and/or updated (due to changes done utilizing a script where setWorkflow is set to false to disable running business rules), this option is an alternative to ensure these changes are captured and shared out of your instance.

ⓘ

For more information, see ServiceNow Flow Designer and setWorkflow.

> ⊗ Starting with ServiceNow's Paris release, setWorkflow applies to Flow Designers to prevent flows from executing.

Because of the many tables used by ServiceNow to build the Flow Designer engine, records will be inserted/updated in the following tables when a flow is created/updated and the **first time** each flow is triggered:

sys_hub_action_input
sys_hub_action_output
sys_hub_action_type_snapshot
sys_hub_flow
sys_hub_flow_block
sys_hub_flow_input
sys_hub_flow_snapshot
sys_hub_step_ext_input
sys_hub_step_ext_output
sys_documentation

This will result in text_index events being created for these tables for updates by **Flow Designer**. The approximate updates are as follows:

Action	Number of Inserts/Updates
Dynamic share creates flows for insert and update	28
Insert flow is triggered for the first time	9
Update flow is triggered for the first time	12
Delete a dynamic share	1 (sys_metadata_delete)

> ⓘ **NOTE**: To ensure that the tables listed only grow to reasonable size, use ServiceNow's table rotation on the tables listed above. See ServiceNow Table Rotation on how to apply table rotation in your ServiceNow instance.

> ⓘ Once the dynamic share is created using **Flow Designer**, every field, except **Active**, will be read-only. You can only use the **Active** field to enable or disable the flow created with this dynamic share to ensure replication.

Prerequisites:

- Install and Configure DataSync for ServiceNow
- Create a ServiceNow shared queue
- (Optional) You have user access to Flow Designer in your ServiceNow instance. This will allow you to troubleshoot any issues creating flows but is not required as flows can be created as long as you have access to the Perspectium application and dynamic shares.

Instructions:

1. In your ServiceNow instance, go to **Perspectium** > **Perspectium Core** > **Shares**.

2. Select **Dynamic Share**.

3. Select **Create New Dynamic Share**.

4. Select **Flow Designer** as your share type and click **Submit**.

   ⓘ **NOTE:** This is not editable - if you wish change the share type of this dynamic share once you save, you will have to delete the dynamic share and create a new one.

5. Enter a name of your new dynamic share in the **Name** field.

6. In the **Table** dropdown, find and select the table which includes the data that you want to dynamic share out of your ServiceNow instance.

   ⓘ **NOTE**:

   - Flows can be run against any table like any business rule created globally.   However, in ServiceNow's Orlando release, SLA Task has its own application trigger. You cannot create a dynamic share using **SLA Task Application Trigger**. You can still select **task_s la** in the dynamic share's table field. The flow designer record for SLA Task will not be accessible, however, the dynamic share will still apply.
   - The **sys_audit** table is unsupported.

7. Check the **Active** box to activate your dynamic share.

8. In the **Encryption Method** dropdown to select a method to encrypt the data.

Cipher options include:

Encryption Method	Dynamic shared data will...
TripleDES	be encrypted with Triple DES.
AES128	be encrypted with AES-128.
AES256	be encrypted with AES-256. ⓘ **NOTE:** To ensure AES-256 encryption for your data, you will need to create an encryption and decryption key with at least 32 characters in the PSP Properties module.
Base64 Encode Only	have Base64 encoding only.
Unencrypted	not be encrypted.

9. Scroll to the **Trigger Conditions** tab and check as many of the following boxes as you wish:

Action	Record data will be shared out of your ServiceNow instance when...
Create	new records are created. `<table_name>.insert`
Update	record data is changed. `<table_name>.update`

ⓘ **NOTE**: Flow does not support **delete**. This is a platform limitation where Flow Designer only works on inserts and updates. To capture delete actions, you will need to create a dynamic share using business rules for delete, and have a separate dynamic share using flow for insert and/or update. If you choose to create a dynamic share for **deletes**, you may want to enable the Use Audit Delete Listener feature.

10. In the **Additional Settings** tab, click the **Search** icon next to the **Target queue** field and in the **Queues** popup, select the shared queue that you want to dynamic share your record data to.

11. Additionally, dynamic share provides other options that can enhance sharing your record. Share base table records only, interactive only, and much more.

See optional features for dynamic share or optional features for dynamic shares and bulk shares.

ⓘ **NOTE**: Scheduled sync up can be enabled with flow. However, this option is primarily used for capturing dynamic record **updates** and **creates** that may have been missed due to business rules being bypassed programmatically (e.g., via setWorkflow('false');) or automation that does not trigger business rules, which flow handles.

12. Click **Submit** to save your changes.

⊘ Editing the flow in the Flow Designer will not reflect on the dynamic share. Doing otherwise may cause some of the records to not replicate correctly.

Calling the Flow Designer as a Sub-Flow may also cause some of the records to not replicate correctly.

ⓘ **NOTES:**

- Flows can be created in the global application space like business rules.
- Flows performance is like running business rules async in the background, so the performance is similar to that which is better than standard business rules that block when the business rule is set to run before or after.

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Dynamic share rules dashboard

You can view information about the business rules created by each of your dynamic shares in the **Dynamic Share Business Rules Dashboard**.

To view your dashboard, go to **Perspectium** > **Perspectium Core** > **Shares** > **Dynamic Share** > **Dynamic Share Rules Dashboard**.

The first column of the dashboard displays the name of your dynamic shares, which you can click on to be redirected to the dynamic share record. And the second column specifies which table each share is targeting.

For the **domain** and **application** columns, a **green checkmark** indicates that the business rule is created in the global domain or application, whereas a **red X** indicates that the business rule is created in a non-global domain or application.

The last column checks whether or not the the business rule is unique. A **green checkmark** indicates that the business rule created by the dynamic share is unique, meaning no other share targets the same table. A **red X** indicates that the business rule is not unique, meaning at least one other dynamic share targets the same table.

accesses the same table, you may need to reset the dynamic share business rules for those dynamic shares (see next section).
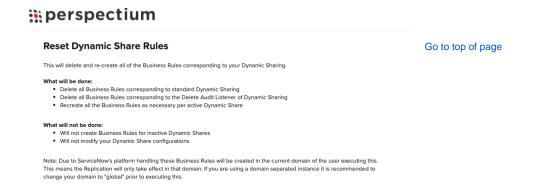
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Reset dynamic share rules

When one or more dynamic shares accesses the same table, you may need to **reset the dynamic share business rules** for those dynamic shares.

You can reset dynamic share business rules for individual dynamic shares by navigating to **Perspectium** > **Perspectium Core** > **Shares**. Then, go to **View Dynamic Share** and click into the dynamic share you want to reset business rules for, and then click **Reset Dynamic Share Rule** under **Related Links**.

Alternatively, you can reset the business rules for all of your dynamic shares by going to **Perspectium** > **Perspectium Core** > **Shares** > **Dynamic Shares** > **Reset Dynamic Share Business Rules**. Then, click **Confirm**.

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Reset Dynamic Share Rules

This will delete and re-create all of the Business Rules corresponding to your Dynamic Sharing.

What will be done:
- Delete all Business Rules corresponding to standard Dynamic Sharing
- Delete all Business Rules corresponding to the Delete Audit Listener of Dynamic Sharing
- Recreate all the Business Rules as necessary per active Dynamic Share

What will not be done:
- Will not create Business Rules for inactive Dynamic Shares
- Will not modify your Dynamic Share configurations

Note: Due to ServiceNow's platform handling these Business Rules will be created in the current domain of the user executing this. This means the Replication will only take effect in that domain. If you are using a domain separated instance it is recommended to change your domain to "global" prior to executing this.

Confirm

Next, explore some of the optional features that can be used to customize dynamic shares to fit your needs.