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Quick Start Guide for IBM Resiliency Orchestration Integration with EXPRESSCLUSTER X

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About this Guide

This guide provides a hands-on "Quick Start" set of instructions for configuration and setting the EXPRESSCLUSTER X integration with IBM Resiliency Orchestration on RHEL 7.4 / CentOS 7 (1708) operating system with two nodes. The guide assumes its readers to have Linux system administration & EXPRESSCLUSTER X knowledge and skills, installation and configuration of IBM Resiliency Orchestration, EXPRESSCLUSTER X, and Linux Server. The guide includes systematic instructions to integrate and configure of IBM Resiliency Orchestration with EXPRESSCLUSTER X.

Where to go for more information

Refer to additional documentation under the "documentation" directory on the EXPRESSCLUSTER X distribution CD or archive file.
For any further information, please visit the EXPRESSCLUSTER X web site at
https://www.nec.com/EXPRESSCLUSTER

The following guides are available for instant support:
GettingStartedGuide.pdf – This guide explains general cluster concepts and overview of EXPRESSCLUSTER functionality.
InstallationGuide.pdf – This guide explains EXPRESSCLUSTER X installation and configuration procedures in detail.
ReferenceGuide.pdf – This is a reference of commands that can be put in EXPRESSCLUSTER X scripts and maintenance commands that can be executed from the server command prompt.

MaintenanceGuide.pdf – This guide is intended for administrators and system administrators who want to build, operate, and maintain. The guide describes maintenance-related information for EXPRESSCLUSTER.

HardwareFeatureGuide.pdf – The guide describes features to work with specific hardware, serving as a supplement to the Installation and Configuration Guide.

LegacyFeatureGuide.pdf – The guide covers topics of EXPRESSCLUSTER X 4.0 WebManager.

The above stated guides can also be found at:
https://www.nec.com/en/global/prod/expresscluster/en/support/manuals.html

The EXPRESSCLUSTER X team can also be contacted via the following E-mail address:
info@EXPRESSCLUSTER.jp.nec.com

Information about IBM Resiliency Orchestration is available on the below URL.
https://www.ibm.com/support/knowledgecenter/ja/SSBK5V_7.3.1/iro731_welcome.html

1 Overview

1. This guide describes how to integrate & configure IBM Resiliency Orchestration (hereinafter referred to as “IBM RO") with NEC EXPRESSCLUSTER X (hereinafter referred to as “ECX”).
2. Perform system planning to determine requirements and specify configuration settings prior to start of actual system installation and configuration.
3. Prepare the Primary and Secondary servers including OS installation and configuration if necessary.
4. Install, configure, and verify IBM RO on the Primary server.
5. Install and configure ECX Server on the Primary and Secondary servers.
6. Create and configure ECX failover group to enable continuous protection and automatic recovery for mirror disk resource & floating IP address resource.
7. Upload the configuration file on the server and start the cluster to complete the deployment.
8. Create and configure IBM RO recovery group and application group.
9. Edit and execute workflows of groups in RO.
10. View generated reports.

2 System Requirement and Planning

2.1 System Requirements

Machine 1: Primary/RO Server

- EXPRESSCLUSTER X (ECX) 3.3/4.0/4.1
- IBM Resiliency Orchestration (RO) 7.3

Machine 2: Secondary Server

- EXPRESSCLUSTER X (ECX) 3.3/4.0/4.1

	Machine 1 Primary/RO Server	**Machine 2 Secondary Server**	**Machine 3 Client system/Desktop**
CPU	1 GHz Pentium 4 or better		1 GHz Pentium 4 or better
Memory	4 GB or more		1GB or more
Disk	1 physical disks (having at least 3 partitions, one for OS, one for cluster partition and one for data partition) OS disk: 40 GB or more space available Mirrored & Data disk: As per requirement (20MB partition available for EXPRESSCLUSTER management) The same size for each server system		1 physical disk with 40 GB or more space available
OS	Red Hat Enterprise 7.4 CentOS-7 (1708)		Windows 7 or Later
Software	Java 1.8.0_212 enabled web browser		Java 1.8.0_212 enabled web browser
Network	2 100Mbit or faster Ethernet network interface cards		1 100Mbit or faster Ethernet network interface card

Table 1 System Requirements

3 Base System Setup

3.1 Management Console/Test Client (Machine 3)

Setup a Windows desktop or laptop with specified OS and network configuration from previous section. A Java enabled web browser should also be installed to enable access to ECX WebUI or WebManager.

3.2 Setup the Primary/RO Server (Machine 1)

1. If necessary, install required hardware components and a supported OS as specified in Chapter 2.

2. Verify basic system boot and root login functionality and availability of required hardware components as specified in Chapter 2.

3. Configure network interface names
   a. Rename the network interface to be used for internal ECX management and data mirroring network communication between servers to **Interconnect**.

4. Configure network interface Settings:
   a. In the "System" tab go to "Administration" further go to "Network".
   b. In the Network Connections window, double-click Public.
   c. In the dialog box, click the statically set IP address: option button.
   d. Type the IP address, Subnet mask, and Default gateway values (see Table 1 System).
   e. Go back to the Network Connections window. Double-click Interconnect.
   f. In the dialog box, click the statically set IP address: option button.
   g. Type the IP address and Subnet mask values (see Table 1 System). Click OK.
   h. On the terminal, run the command "service network restart".

5. Configure the Data Disk:
   a. Make sure the disk device or LUN is initialized as a Linux Basic disk device.
   b. Create swap partition of 2*size of RAM.
   c. Create a mirrored disk cluster partition on the disk with specified size in Table 1 and make sure it is 20MB or greater. Assign partition name as specified in Table 1 to the partition but do NOT format it.
   d. Create a mirrored disk data partition on the disk with specified size in Table 1. Assign partition name as specified in Table 1 to the partition and format it.
   e. Verify the mirrored disk cluster and data partitions are visible in command prompt using "fdisk" command under their respective assigned partition names.

6. Enable ssh:
   a. Change "PermitRootLogin" to Yes in **/etc/ssh/sshd_config**.
   b. Restart sshd with "systemctl restart sshd"

3.3 Setup the Secondary Server (Machine 2)

Perform steps 1-6 in Section 3.2 on the Secondary Server.

4 EXPRESSCLUSTER Server Installation & Setup

4.1 Install EXPRESSCLUSTER on the Primary & Secondary Server (Machine 1 & 2)

1. Install the ECX on Machine 1 & 2.
2. Register ECX licenses
   - EXPRESSCLUSTER X for Linux
   - EXPRESSCLUSTER X Replicator for Linux
3. First restart the Primary server and then restart the secondary server.
4. Configure a cluster
   - Failover Group: failover
     - fip1: floating IP resource
     - md1: mirror disk resource
     - md2: mirror disk resource
   - Monitoring Resource
     - usrw: user mode monitor resource
     - mdw1: mirror disk monitor resource
     - mdw2: mirror disk monitor resource
     - mdnw1: mirror connect monitor resource
     - mdnw2: mirror connect monitor resource
     - fipw1: floating IP monitor resource
5. Start the Cluster & group on cluster manager.

5 Install & Configure Resiliency Orchestration

Please refer to **IBM Resiliency Orchestration 7.3 Installation Guide.pdf** and install the IBM RO on Primary server.
After Installing & configuring the RO software, we can access the RO application from client machine with following URL. http://<RO-server IP address>:8080/PanacesGUI/

- RO homepage & login with support user which you created during the RO installation.

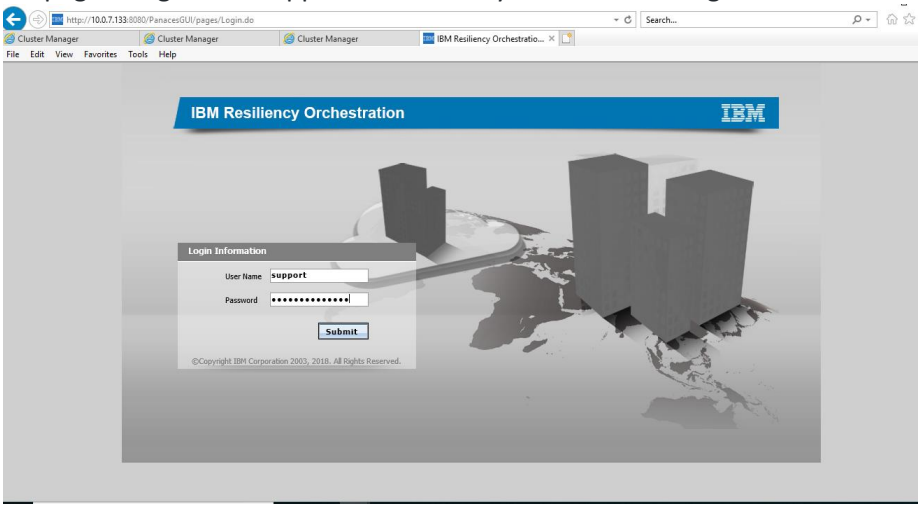

Figure 1 IBM RO Login page

- After Login, you will get following page.

Figure 2 IBM RO WebUI

5.1 Edit sudoers

- Execute **visudo** command to edit sudoers.
- Add the below 2 lines.

```
panacesuser ALL=(ALL) ALL

panacesuser ALL=(ALL) NOPASSWD: ALL
```

5.2 RO Configuration

- 1 Application Group that includes 1 recovery group.
  - ECX: Application Group
  - TestingECX: Recovery Group
- RO folder path : /opt/panaces/
- Scripts folder path for ECX: /opt/panaces/scripts/ECX/TestingECX
- RO service path: /opt/panaces/bin/

6 Create & Copy Custom scripts on Each Servers.

1. Create a folder **/opt/panaces/scripts/ECX** on RO server (Primary server).
2. Create a folder **/opt/panaces/scripts/ECX/TestingECX** on RO server (Primary server).
3. Change permission of the folders.

```
sudo chown panacesuser:panacesusergroup /opt/panaces/scripts/ECX

sudo chown panacesuser:panacesusergroup /opt/panaces/scripts/ECX/TestingECX

sudo chmod 775 /opt/panaces/scripts/ECX

sudo chmod 775 /opt/panaces/scripts/ECX/TestingECX
```

4. Copy **ECX_RepInfo.tcl** and **getrpo.tcl** to **/opt/panaces/scripts/ECX/TestingECX** on RO server and following script will be available on ECX official web page:
5. Change owner and owner group and permission of **ECX_RepInfo.tcl** and **getrpo.tcl**.

```
sudo chown panacesuser:panacesusergroup ECX_RepInfo.tcl

sudo chown panacesuser:panacesusergroup getrpo.tcl

sudo chmod 776 ECX_RepInfo.tcl

sudo chmod 776 getrpo.tcl
```

6. Edit parameters in **ECX_RepInfo.tcl** and **getrpo.tcl** script.
   - **fip** is the floating IP address in ECX cluster.
   - **port** is the port to communicate with WebUI or WebManager.
   - **mdName** is mirror disk resource name.
   - **recoveryGroup** is RO recovery group name you will create.
7. Copy **checkstatus.sh** and **movegrp.sh** on both ECX servers {RO server (Primary server) & Secondary server} and following scripts will be available on ECX official web page:
   - Copy scripts to anywhere in both servers & give the executable permission.

7 Create DR Site on RO Dashboard

Follow the below steps to create DR site.
Production site has already been created. (**SCC_Site**).

- After Login to RO dashboard, click **Discover** icon and you will get below screen.

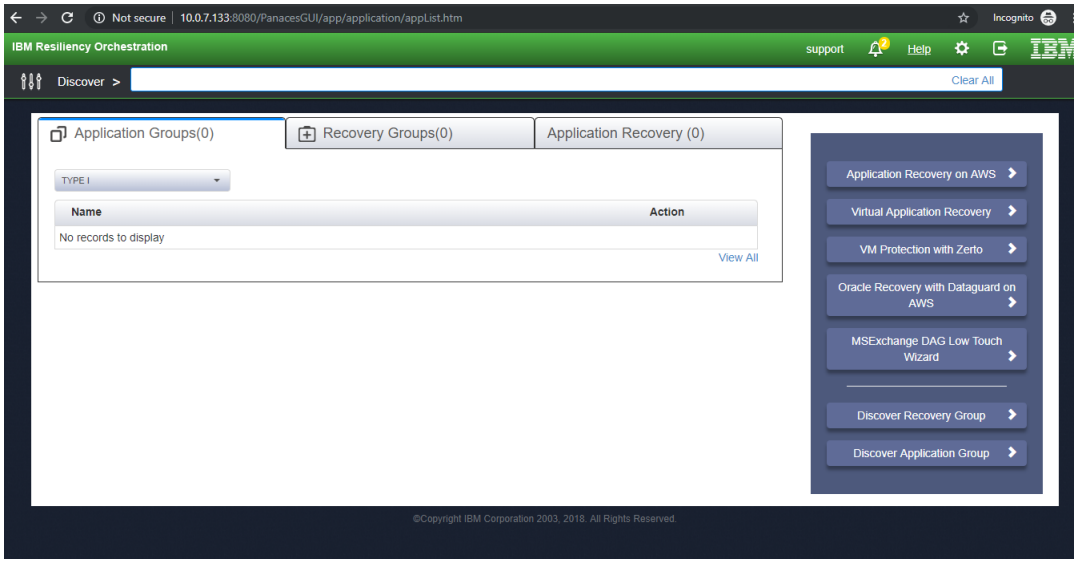

Figure 3 Discover Tab

- Mouse over **Discover** tab on left corner.

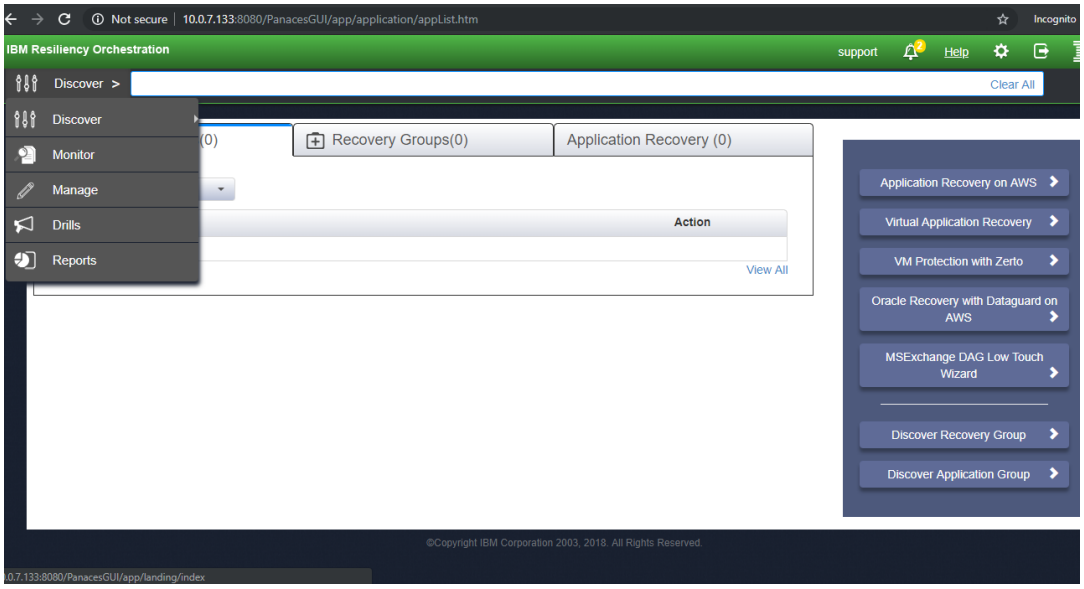

Figure 4 Discover tab options

- Inside the **Discover** tab, select **Sites**.

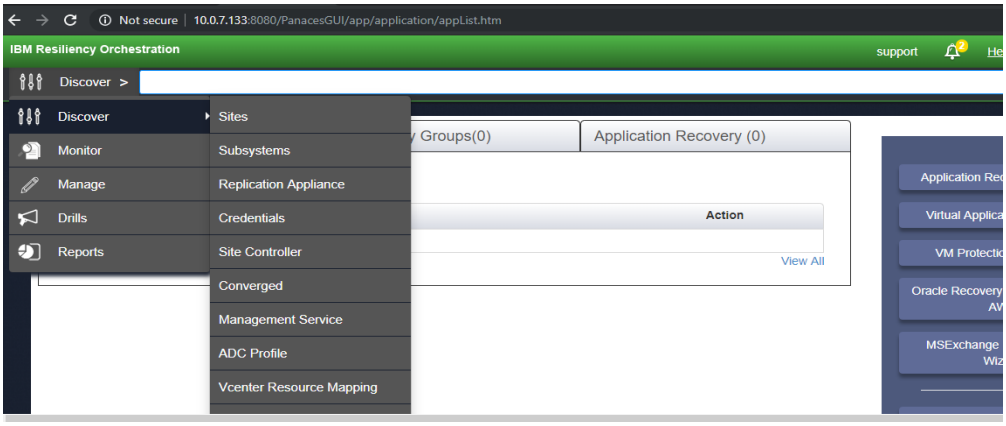

Figure 5 Selecting Sites

- Click on **Sites** tab and you will get following screen, wherein default site is SCC_Site (In this document, **SCC_Site** is Production site.)

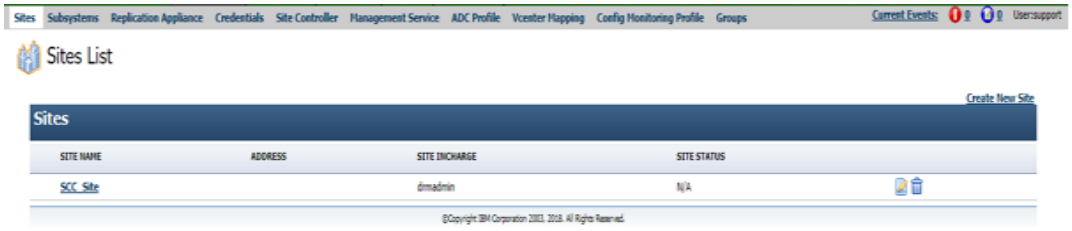

Figure 6 Default site

- Click on **Create New Site**

Figure 7 New Site

- Input **Site Name** and **Site Address** of DR Site & click **Save**

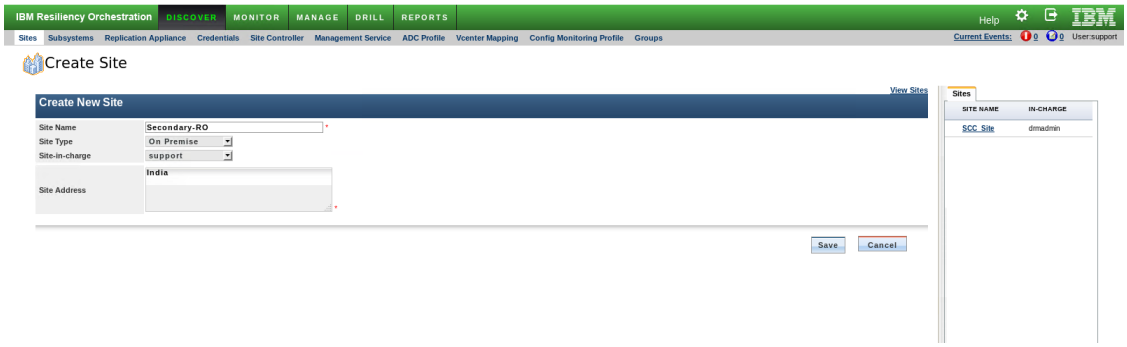

Figure 8 Creating DR Site

- After creating DR site, you will see the screen below.

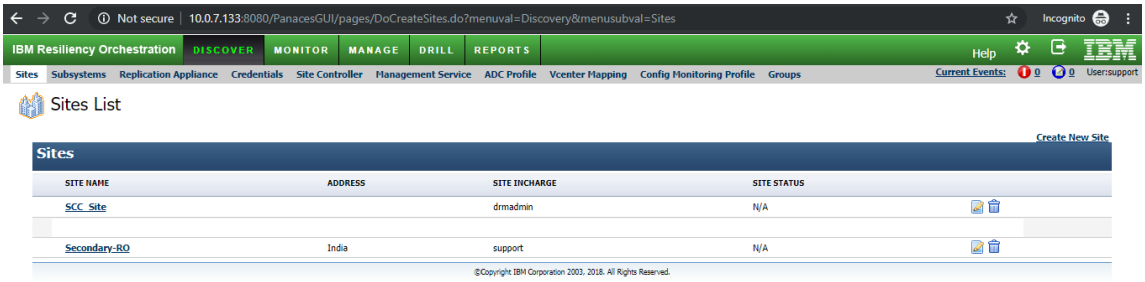

Figure 9 Sites List

8 Create Component Subsystem

The below steps show how to create a Component Subsystem.
Component for Primary server has already been created. (**AgentNode**)
You need to create component for Secondary server.

1. Click **Discover** and Mouse over **Discover**

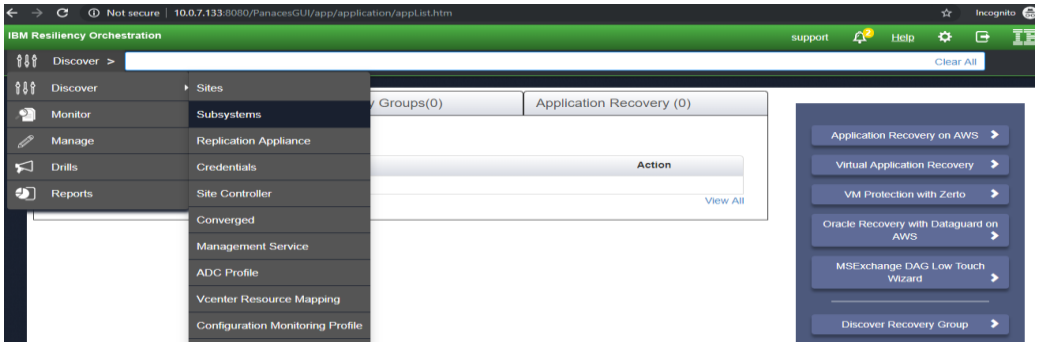

Figure 10 Subsystem option

2. Select **Subsystems**

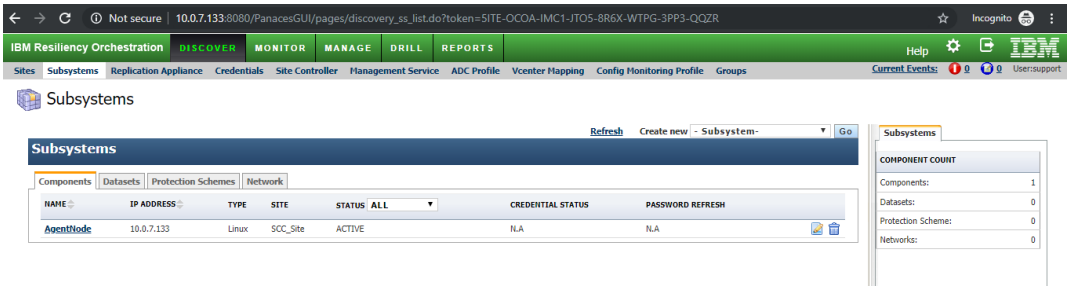

Figure 11 Selecting the Subsystem

3. Select **Create new** drop down & select required components **Linux**

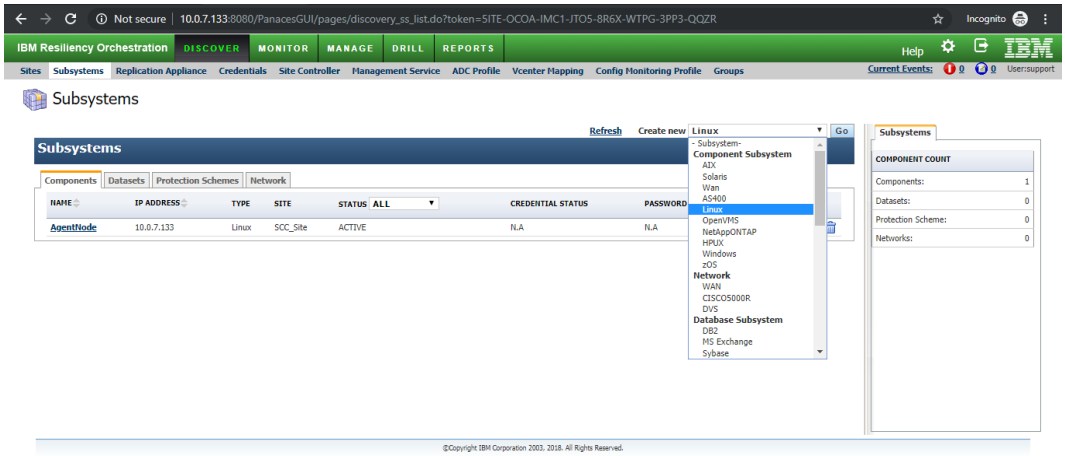

Figure 12 Select required component

4. Click **Go**

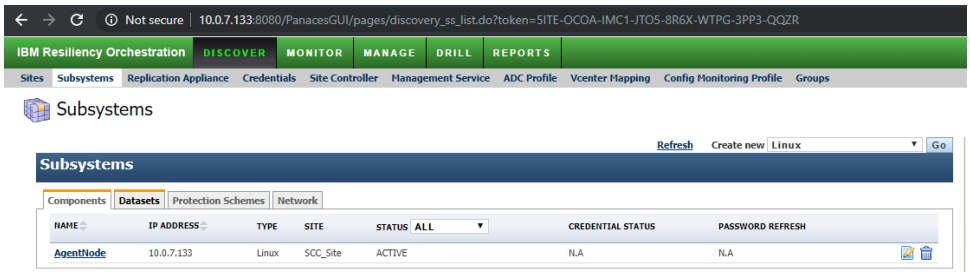

Figure 13 Select Subsystem

5. After clicking on **Go** tab, will get following screen:

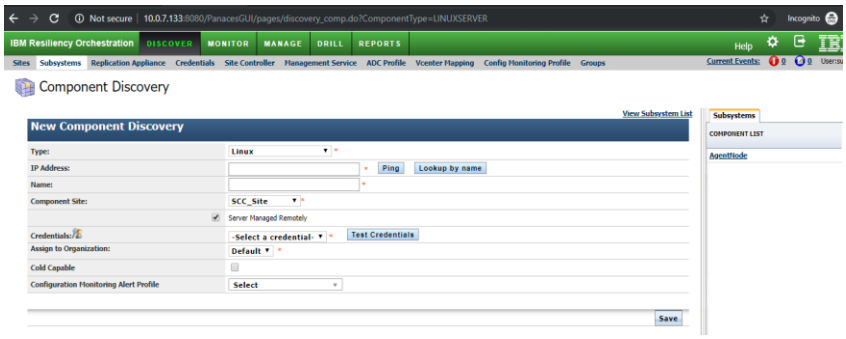

Figure 14 Component Discovery

6. **New Component Discovery**
   - Input **IP Address** of secondary server
   - Input **Name**
   - Select Secondary Site as **Component Site**
   - Select **Add new credential**
     - Input root to **User Name**
     - Input the password of root to **Password**

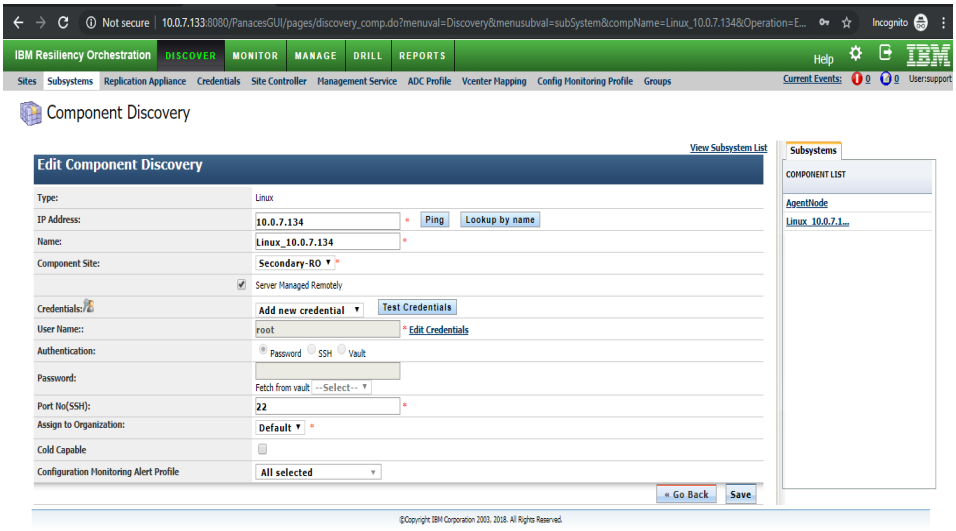

Figure 15 Adding credentials for the component discovery

7. After Save the Component Discovery, you can see the subsystem for Primary & Secondary node.

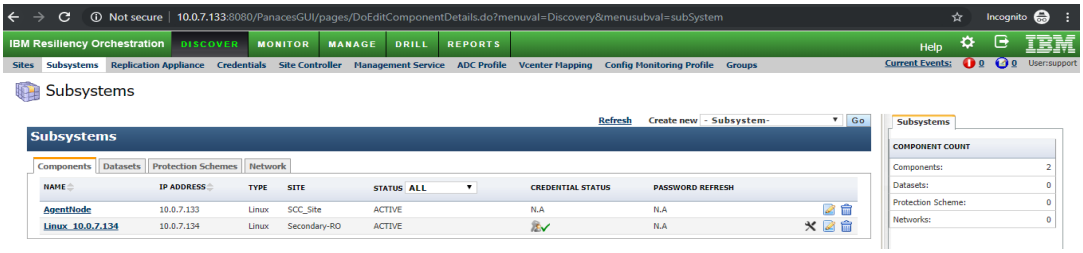

Figure 16 Subsystem ready

9 Create Recovery Group

1. Click **Discover** and Click **Discover Recovery Group**

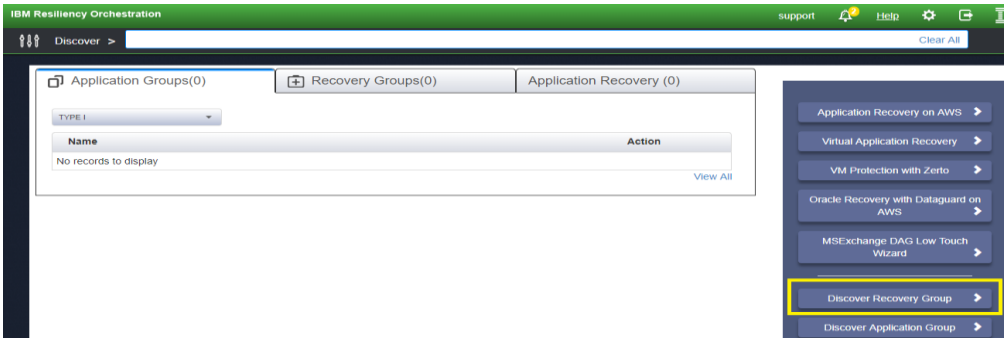

Figure 17 Discover Recover Group

After clicking you will get following page:

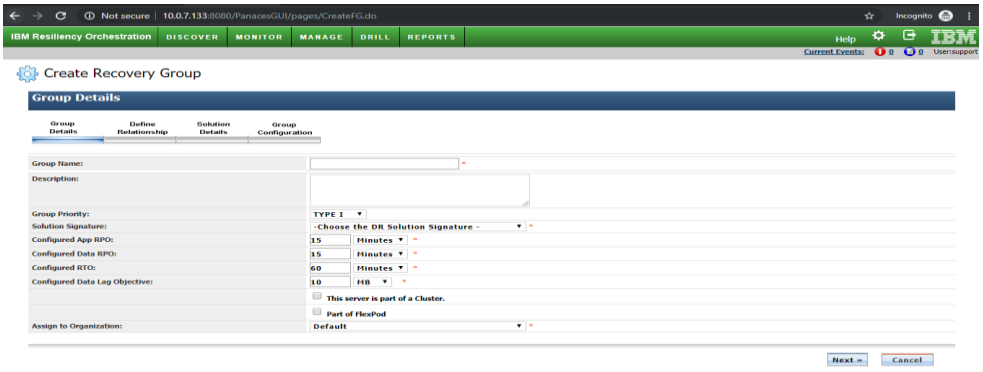

Figure 18 Parameters for recovery group

2. **Group Details**
   - Input **Group Name**
   - Select **VM Replication with OtherReplicator** as **Solution Signature**
   - Input **EXPRESSCLUSTER X** as **Other_Replicator**
   - Check **This server is part of a Cluster.**
   - **Click Next**

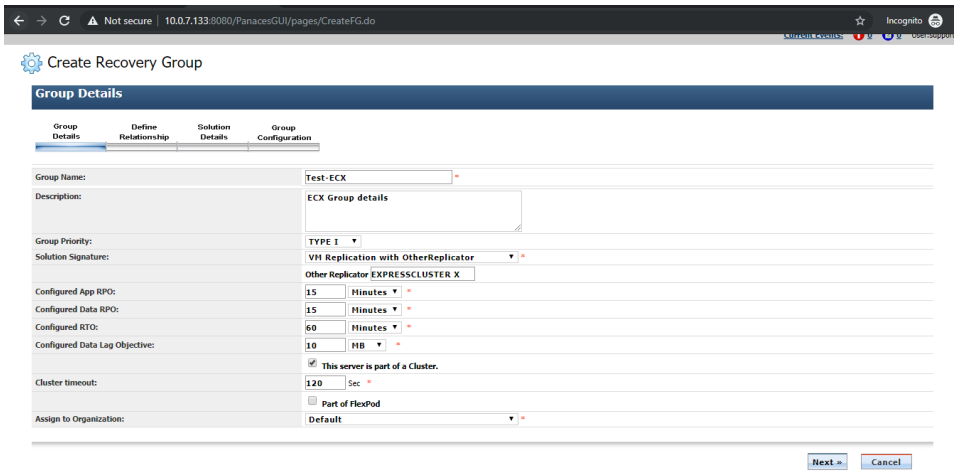

Figure 19 Create Recovery group

3. **Define Group Relationship**

   - **Server Component**
     - Select Primary server as **PRIMARY COMPONENT**
     - Select Secondary server as **Secondary COMPONENT**

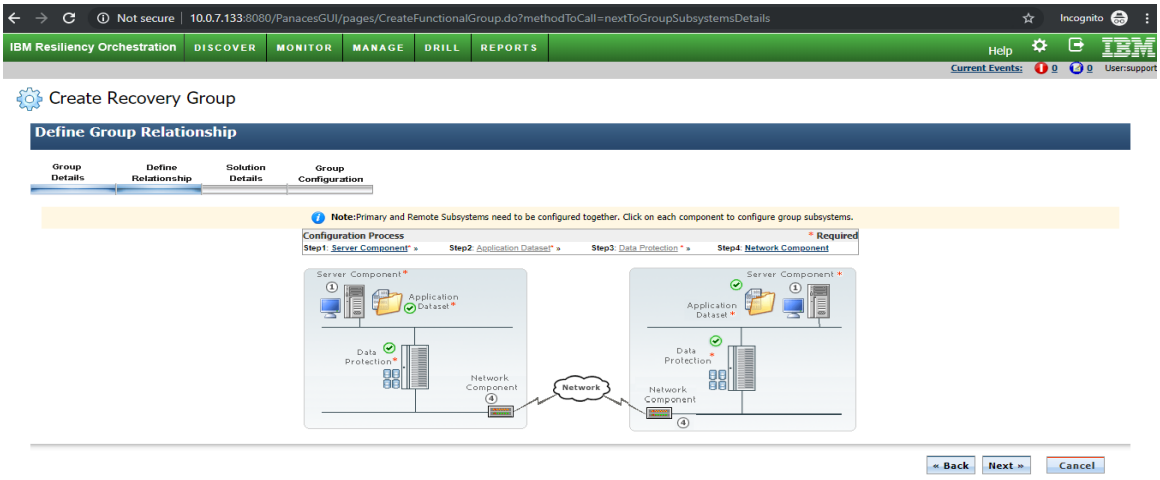

Figure 20 Defining Group Relationship

   - **Network Component**
     - Select **PRIMARY COMPONENT**
     - Select **Secondary COMPONENT**

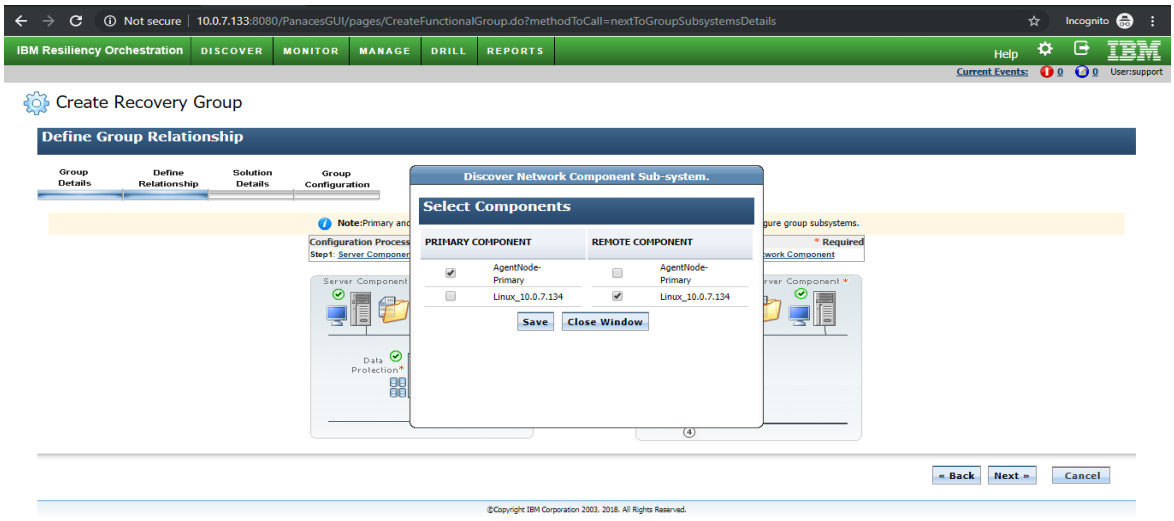

Figure 21 Selecting Primary and Secondary Component

- **Configuration Details: Name**
  - **License**
    - Select **Recovery [Management, Monitoring]**
    - Click **Save**

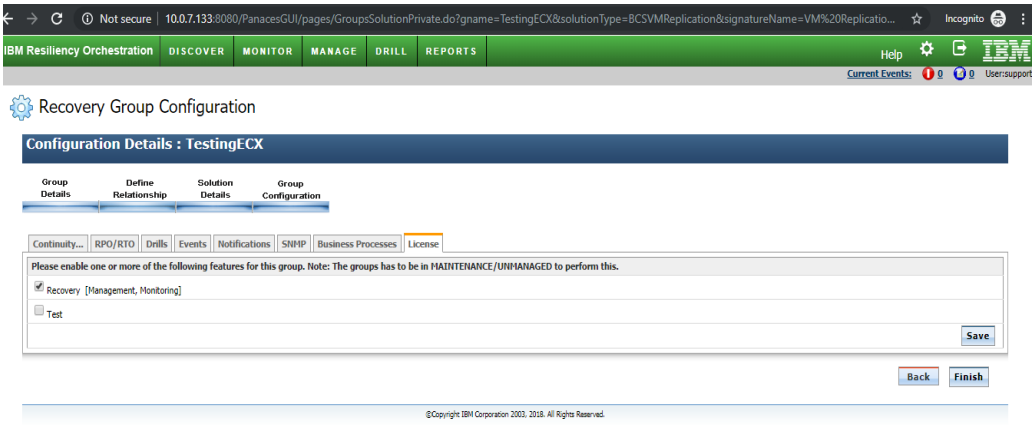

Figure 22 Configuring Recovery Group

4. Click **Finish**

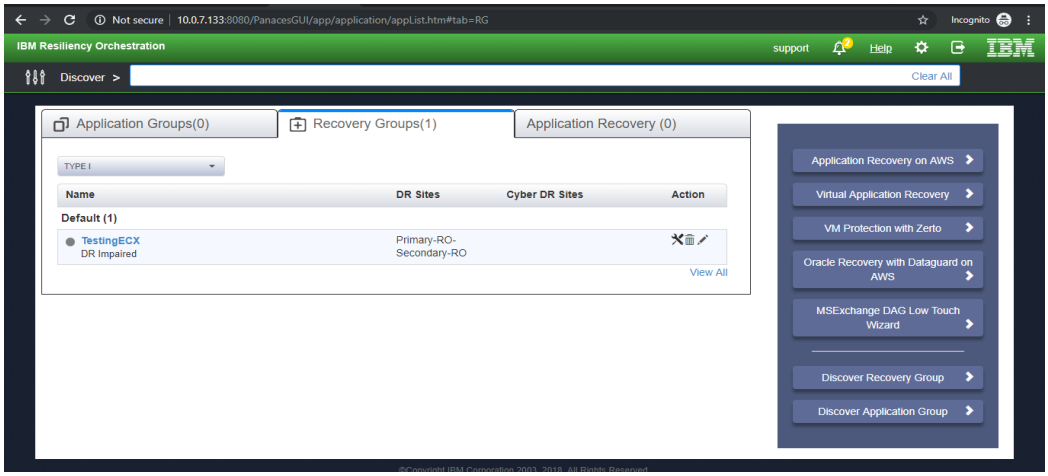

Figure 23 Completing configurations

5. Click tool icon (Change Continuity) in **Action**

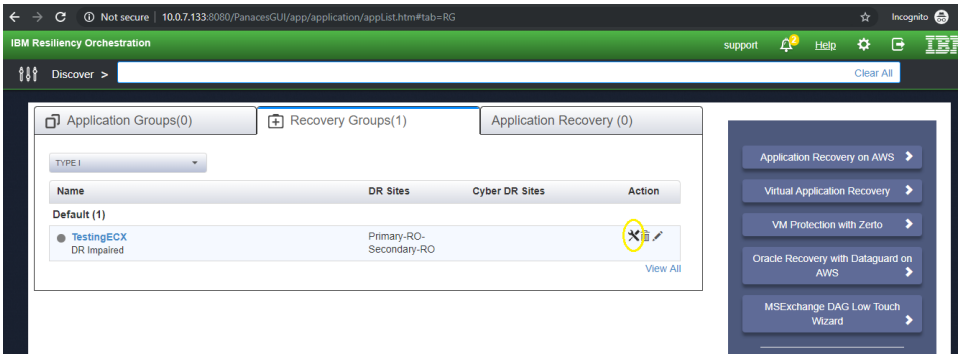

Figure 24 Setting Actions

6. Click **Manage Group**

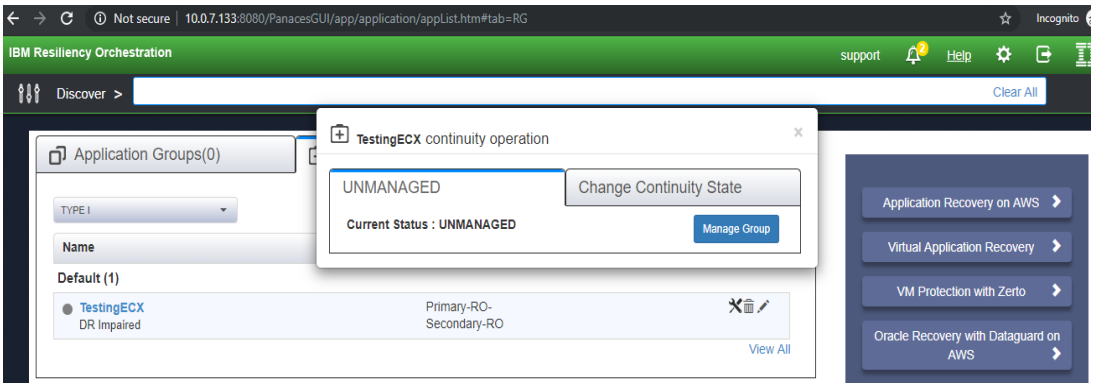

Figure 25 Managing Group

7. Click **OK**

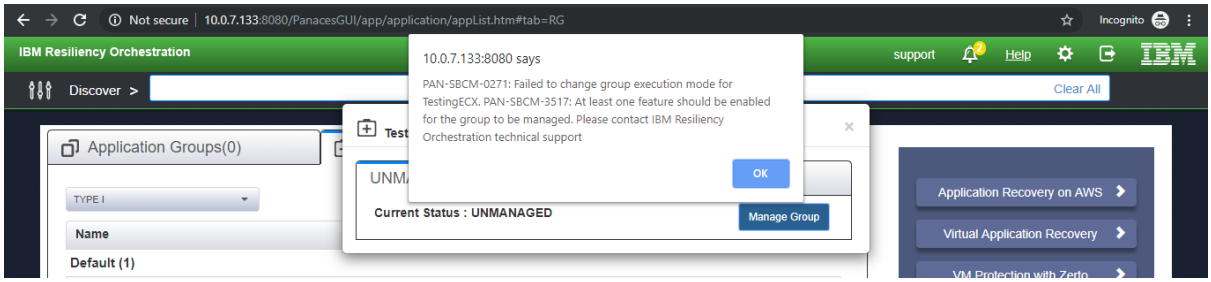

Figure 26 Finishing the configuration

10 Create Application Group

1. Click **Discover** & then Click on **Discover Application Group**

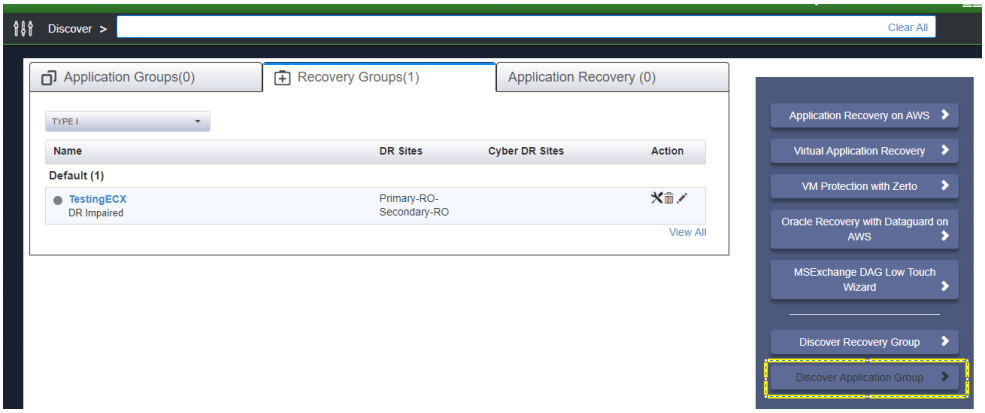

Figure 27 Configuring Application Group

2. **Organization Selection** Click **Next**

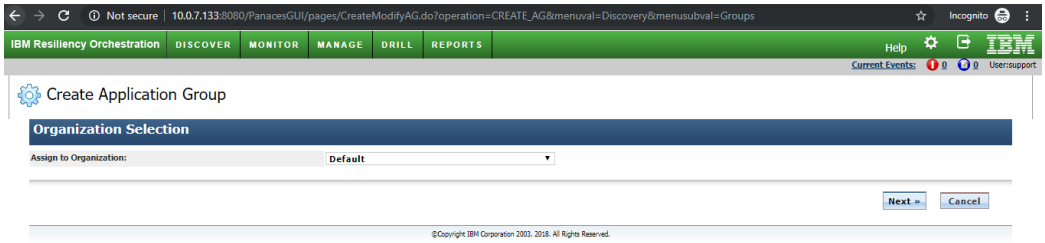

Figure 28 Creating new Application group

3. **Application Group Details**
   - Input **Application Group Name**
   - Select **Recovery Groups** and click **Next**

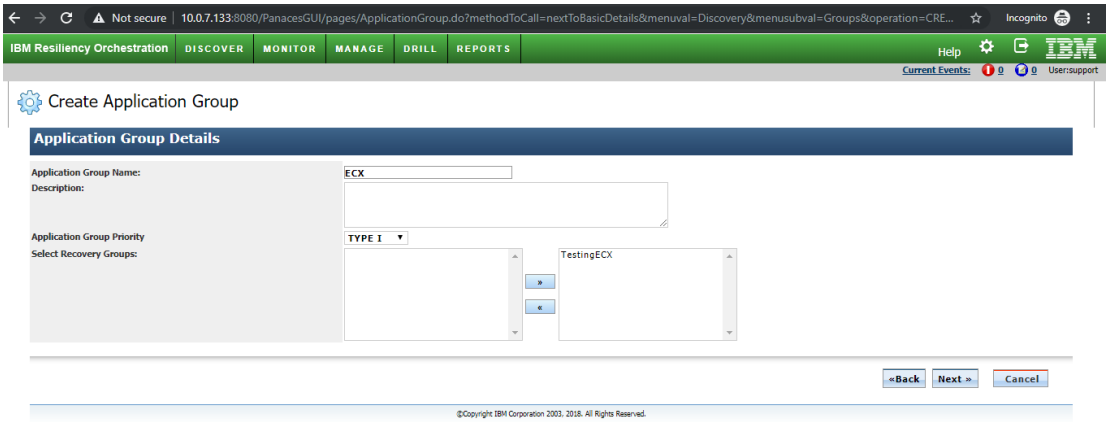

Figure 29 Application Group Details

4. **Create Recovery Order - Name**
   - Drag and drop **Recovery Group Name** to **Recovery Order**

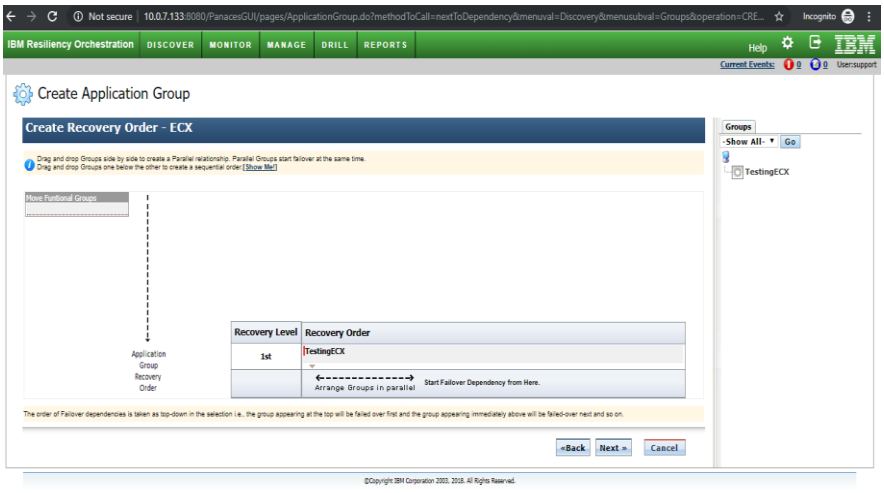

Figure 30 Setting recovery order

5. **Application Group Details**
   Input **Configured RTO** and **Configured RPO** and Click **Finish**

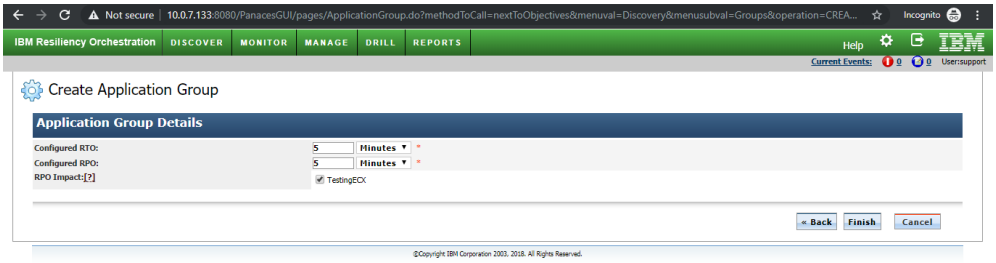

Figure 31 Configuring RPO and RTO for the application

6. Click tool icon (Change Continuity) in **Action**

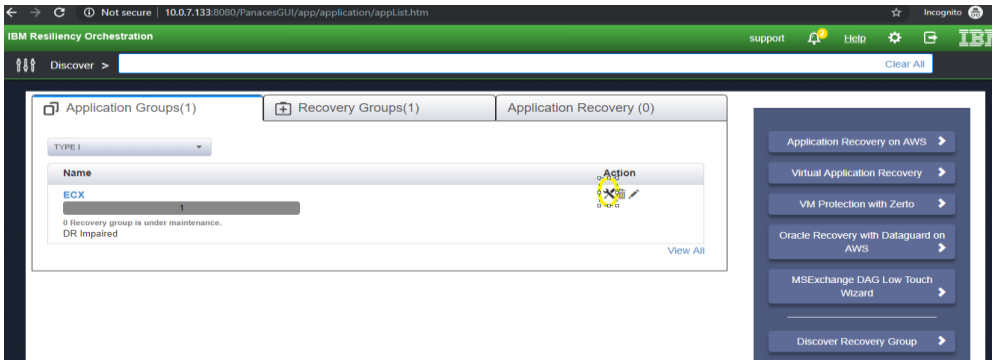

Figure 32 Setting Actions

7. Click **Manage Group** and Click **OK**

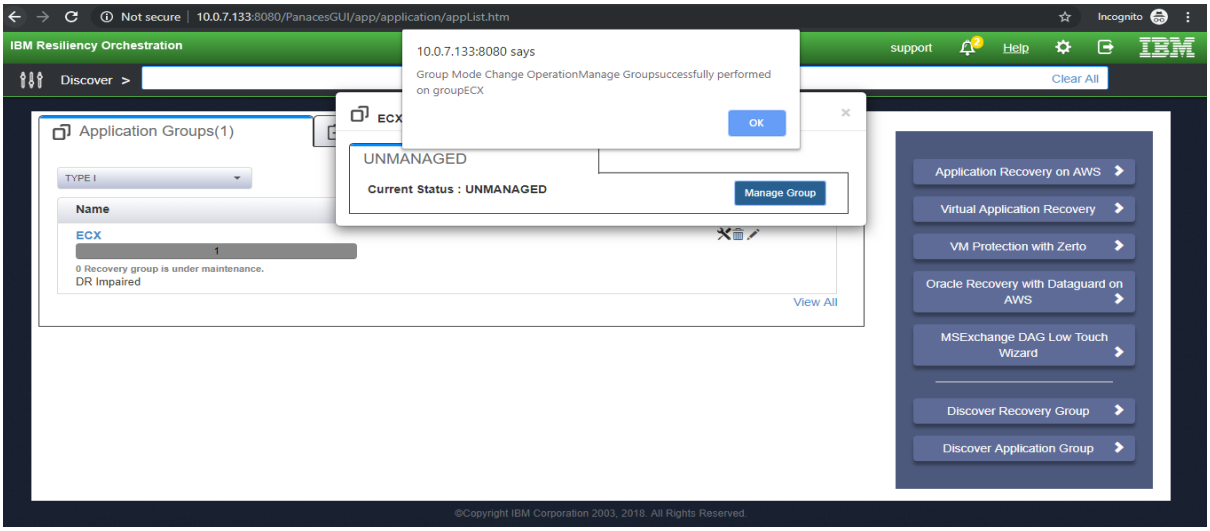

Figure 33 Finishing the recovery settings

11 Edit BCO Workflow of Recovery Group

The below steps is how to show a list of BCO Workflows.

1. Click **Manage**

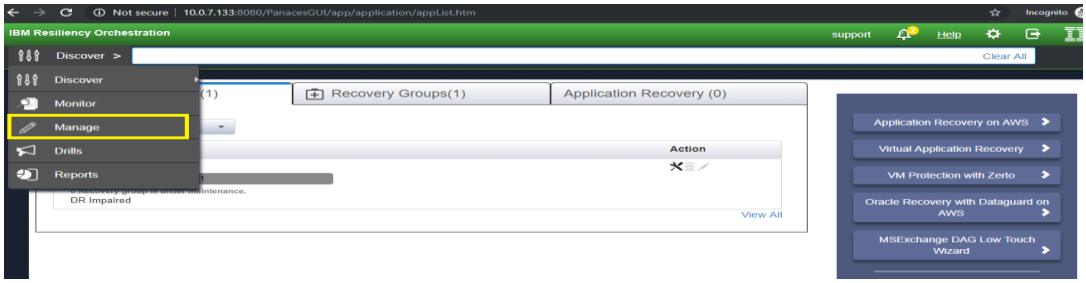

Figure 34 Creating Workflow of Recovery Group

2. Click a group name that you want to edit

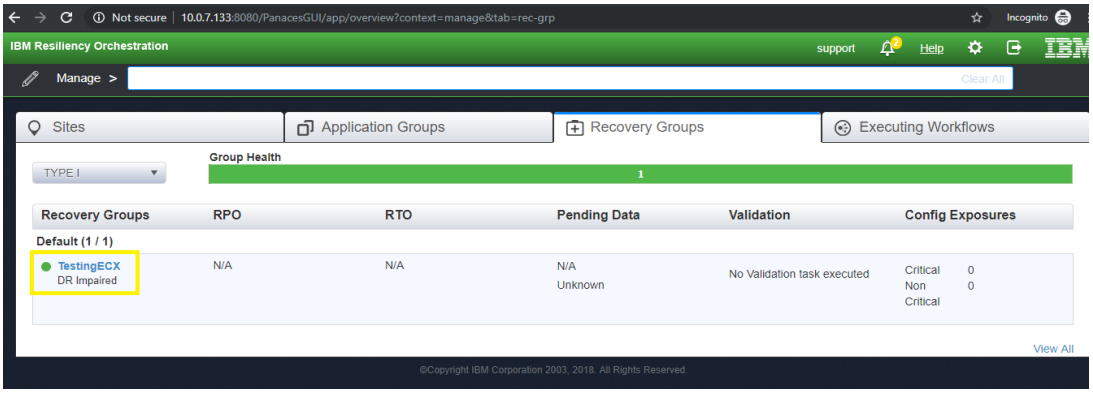

Figure 35 Editing Group name

3. After click on Group name, you will get below screen

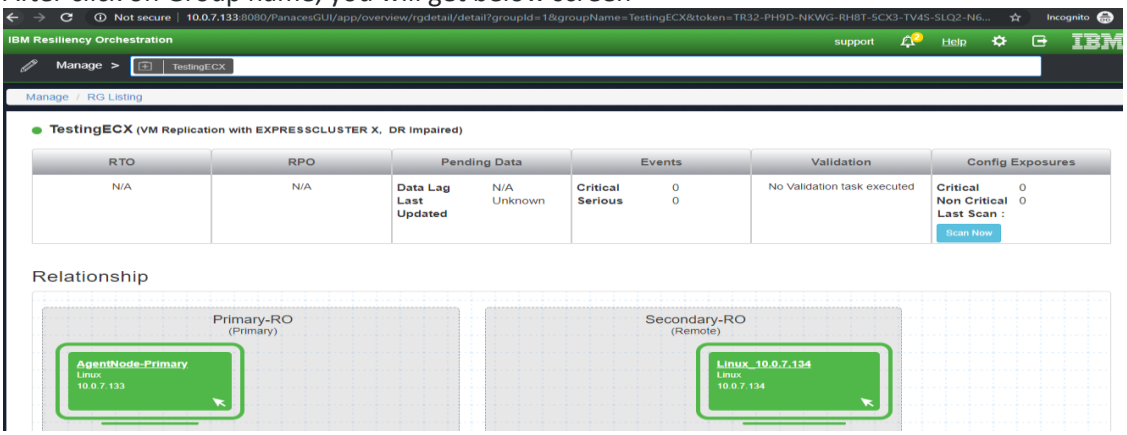

Figure 36 Settings actions for workflows

4. Click **View all workflows**
   Need to edit BCO Workflows by clicking a pen icon and publish the workflow.
   A workflow consists of some actions.
   You can edit an action by double-clicking the action icon

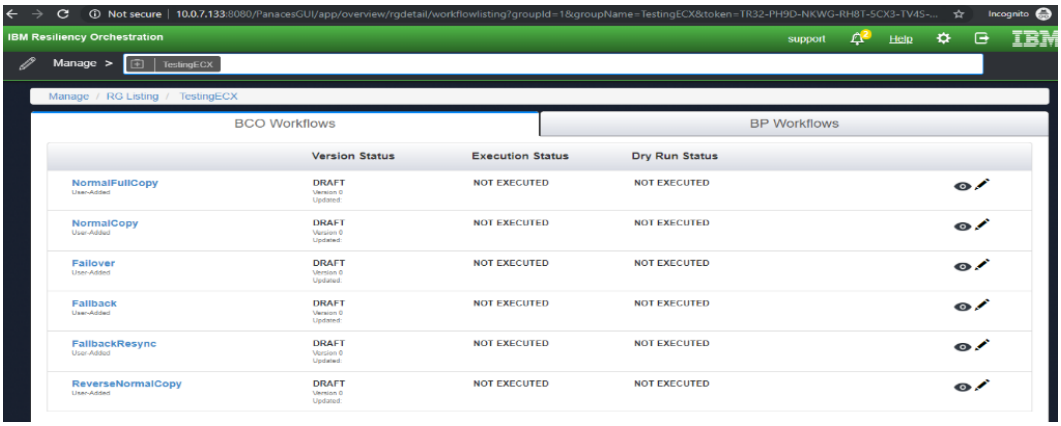

Figure 37 Defining Workflows

- **NormarlFullCopy**

  It is needless to edit a workflow because ECX copies data on a mirror disk constantly.

  Only publishing is needed.

  - Click **Next**

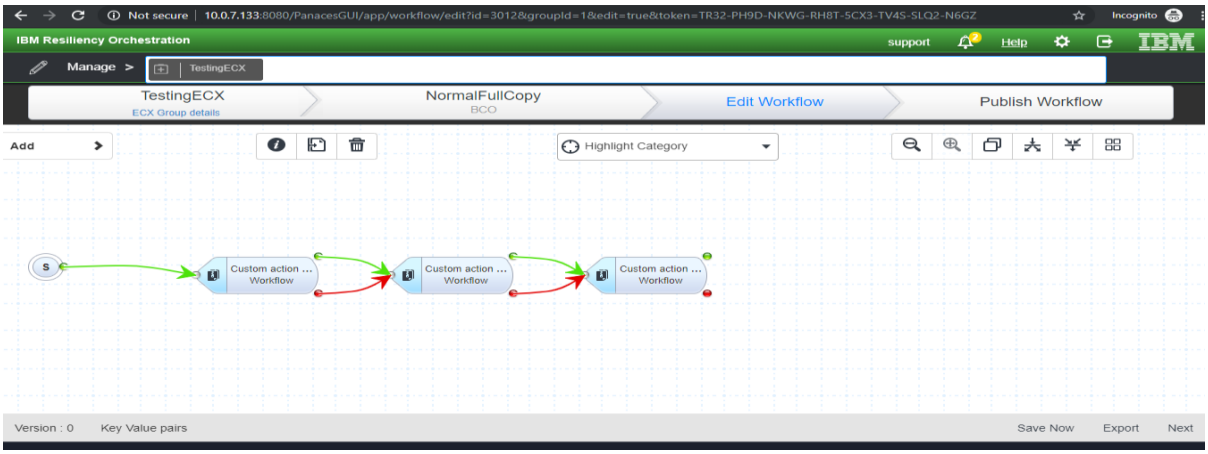

Figure 38 Normal Full Copy Workflow

- Click **Publish Workflow**

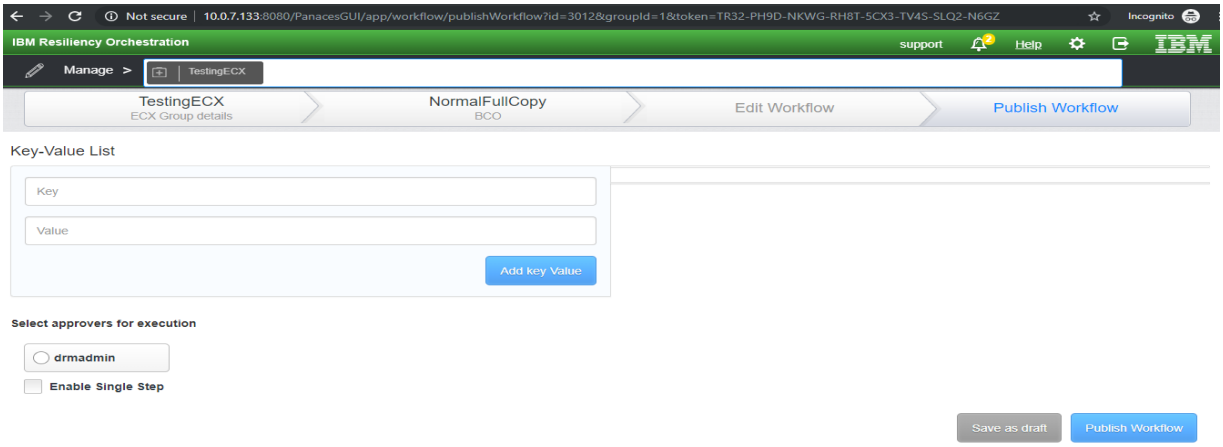

Figure 39 Publish Normal Full Copy workflow

➢ Failover

Here need to define a complete workflow of Failover between Primary & Secondary site, as you will calculate the RTO for this functionality through to ECX.

- Input **Name** and **Description**

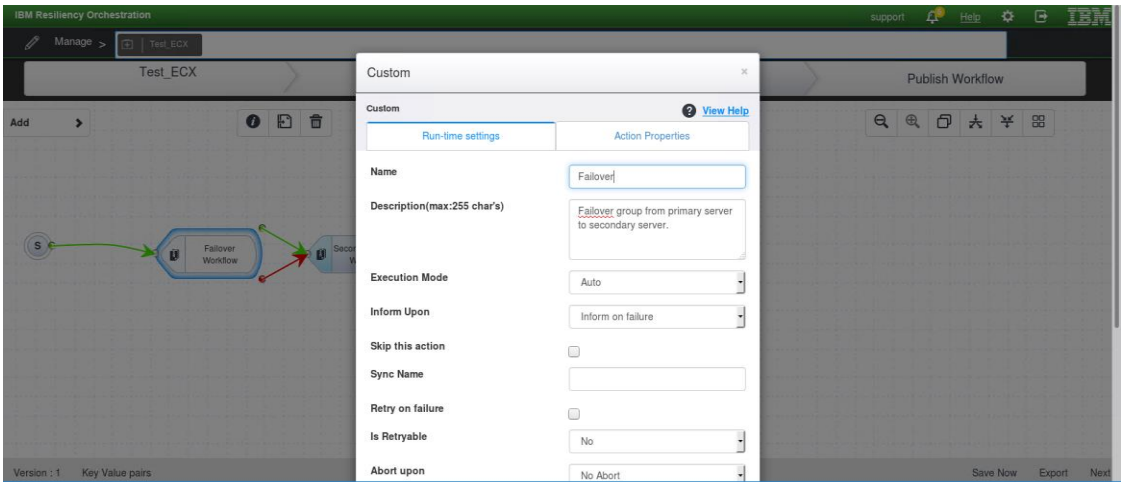

Figure 40 Name and Description

- Select a Primary server as **Server/Machine Name**
- Select **Script** as **Type of Custom Action**
- Check **Enable Sudo**
- Input **root** as **Sudo Username**
- Input the path of movegrp.sh as **Command/Script to be executed with absolute path**

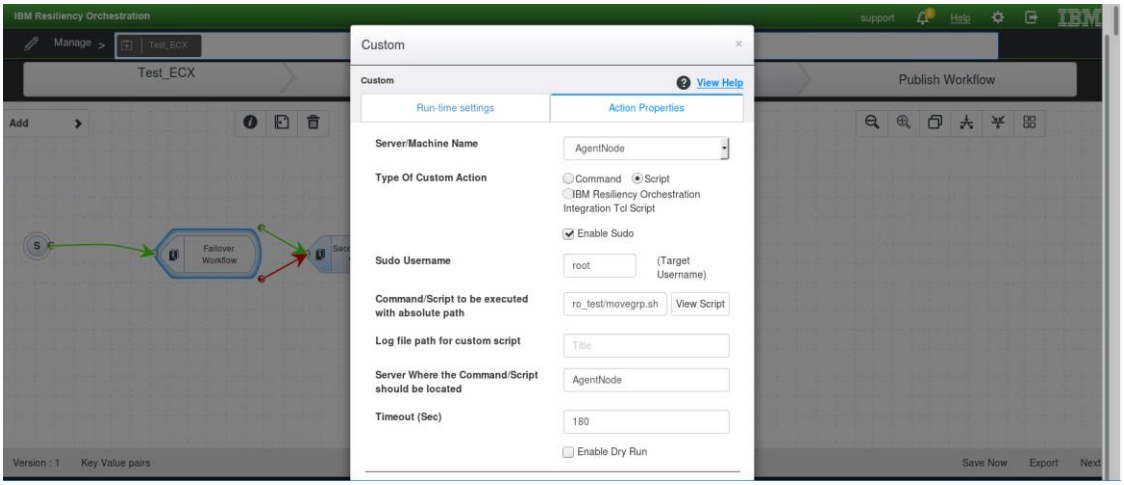

Figure 41 Defining scripts

- Delete 2nd and 3rd action by clicking trash can icon
- After following the above steps, you will get below screen

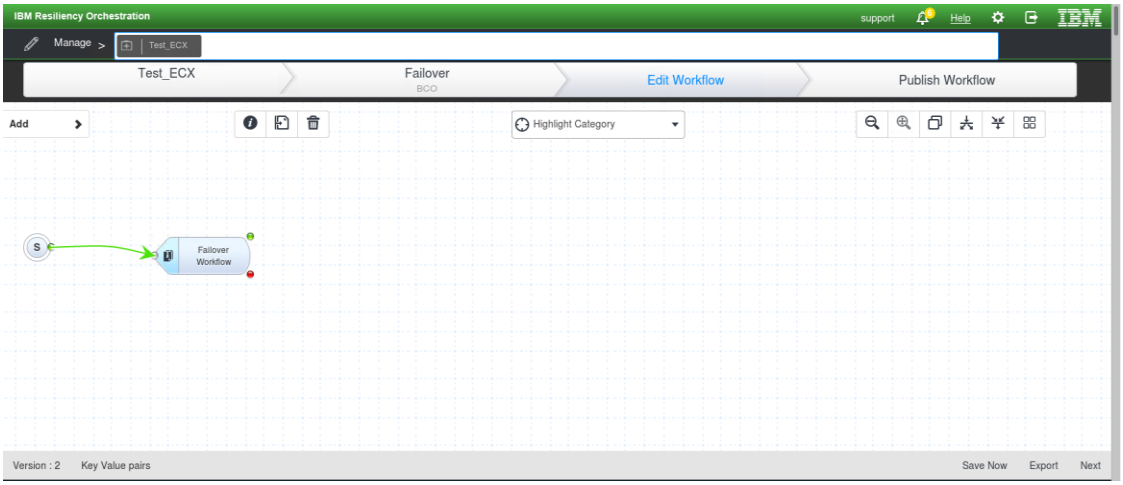

Figure 42 Failover workflow of recovery group

- Click **Next**
- Click **Publish Workflow**

➢ Fallback

- Input **Name** and **Description**
- Select a Secondary server as **Server/Machine Name**
- Select **Script** as **Type of Custom Action**
- No need to check **Enable Sudo**
- Input the path of movegrp.sh as **Command/Script to be executed with absolute path**
- Delete 2nd and 3rd action by clicking trash can icon
- After following the above steps, you will get below screen

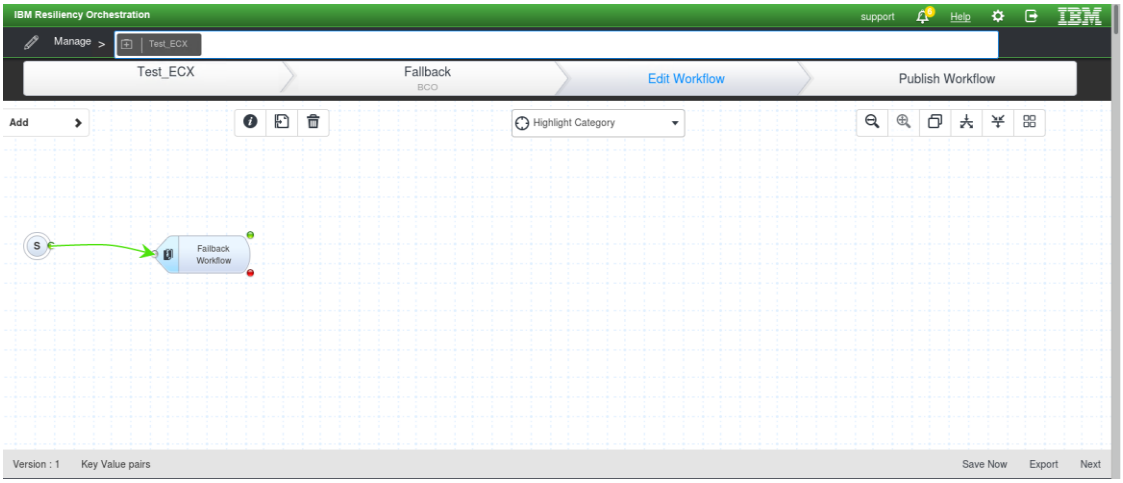

Figure 43 Fallback workflow of recovery group

- Click **Next**
- Click **Publish Workflow**

➢ FallbackResync

It is needless to edit a workflow because ECX copies data on a mirror disk constantly.

Only publishing is needed.

- Click **Next**
- Click **Publish Workflow**

12 Edit BP Workflow of Recovery Group

The below steps is how to show a BP Workflows.
Mandatory workflow is only **ReplicationInfoWorkflow**.

ReplicationInfoWorkflow is executed to get mirror disk information from ECX.
In this workflow, **ECX_RepInfo.tcl** is executed.
ECX_RepInfo.tcl calculates RPO and Pending Data of mirror disk, and sends these information to RO.

- **ReplicationInfoWorkflow**
  - Input **Name** and **Description**

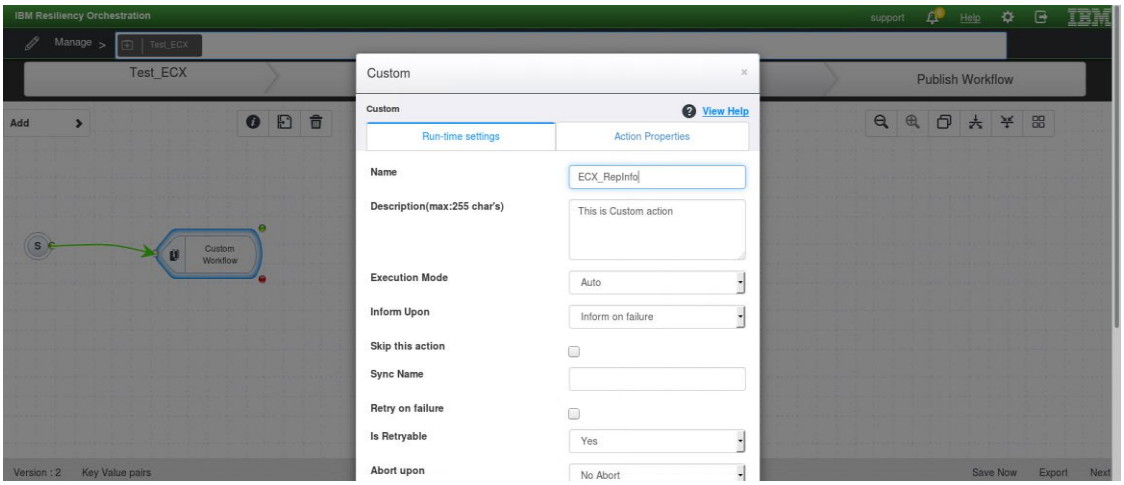

Figure 44 Name and Description

  - Select **AgentNode** as **Server/Machine Name**
  - Select **IBM Resiliency Orchestration Integration Tcl Script** as **Type of Custom Action**
  - Input the path of **ECX_RepInfo.tcl** as **Command/Script to be executed with absolute path**

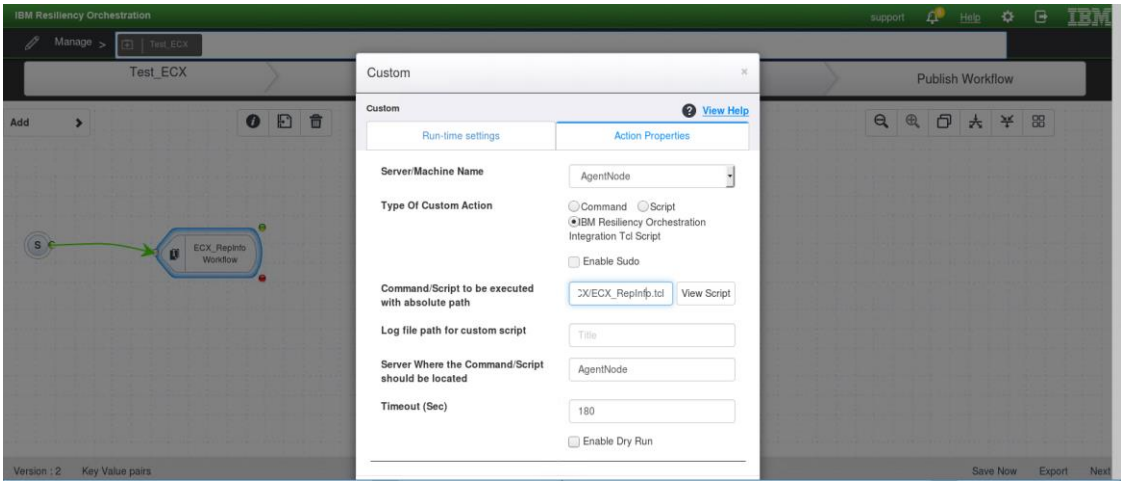

Figure 45 Defining scripts

- Click **Next**
- Click **Publish Workflow**

13 Execute BCO Workflows of Recovery Group

After executing 4 BCO workflows that you created in the previous steps, the RTO is displayed on RO dashboard.

Please note that ECX failover group moves if you execute Failover/Fallback workflow.

The below step shows how to execute BCO workflows.

1. Click **Manage**

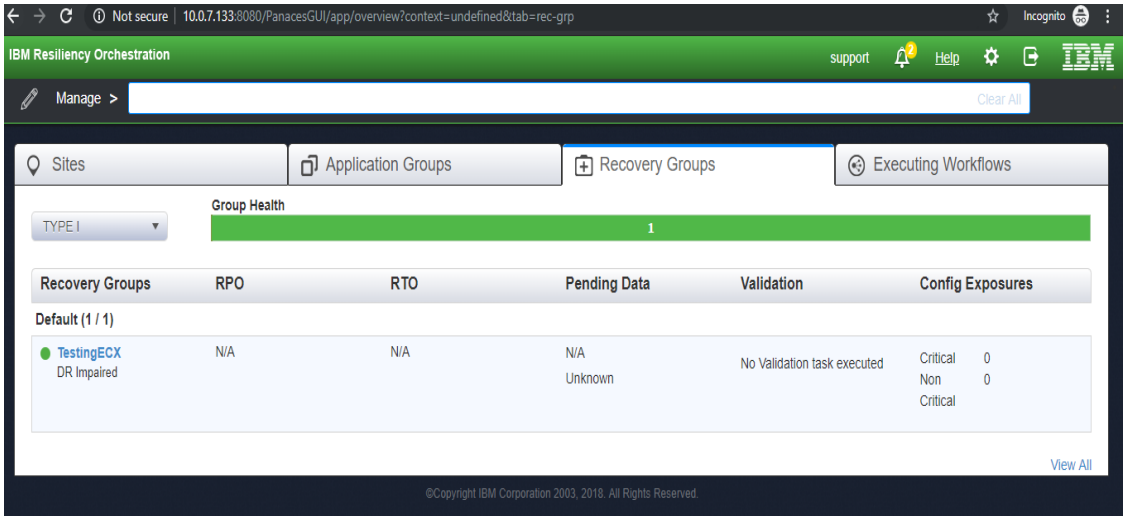

Figure 46 Group Health

2. Click a group name
3. Click **Execute** in **Continuity Workflows**

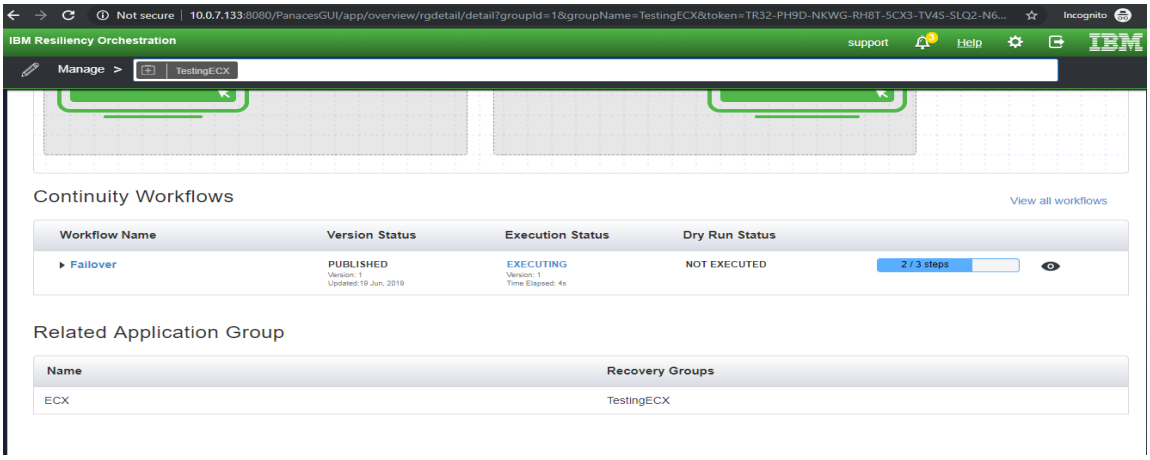

Figure 47 Workflow execution

4. Click On **Workflow name** (Failover) & see the RTO (Time taken)

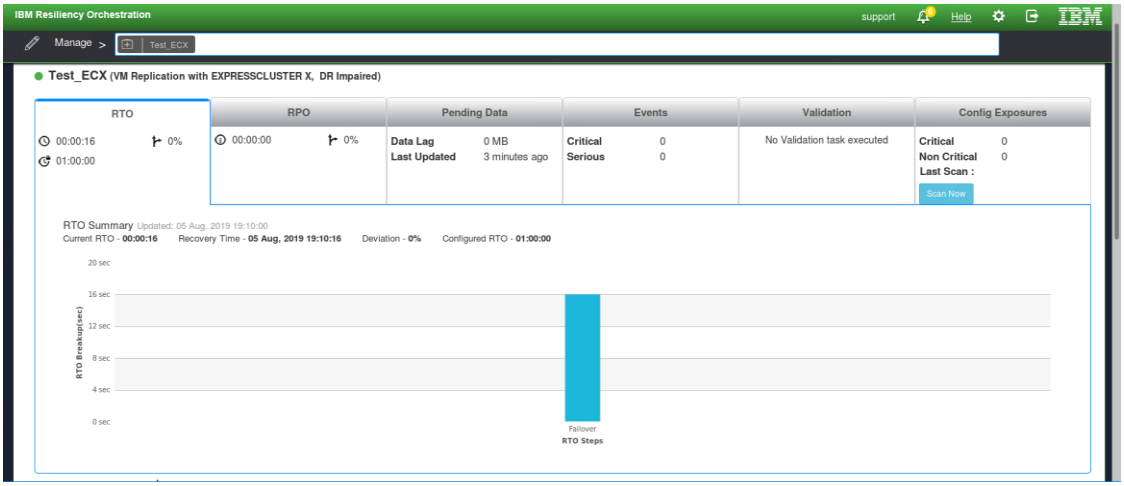

Figure 48 RTO on group page

5. You can see the failover on ECX end which is executed by IBM RO.

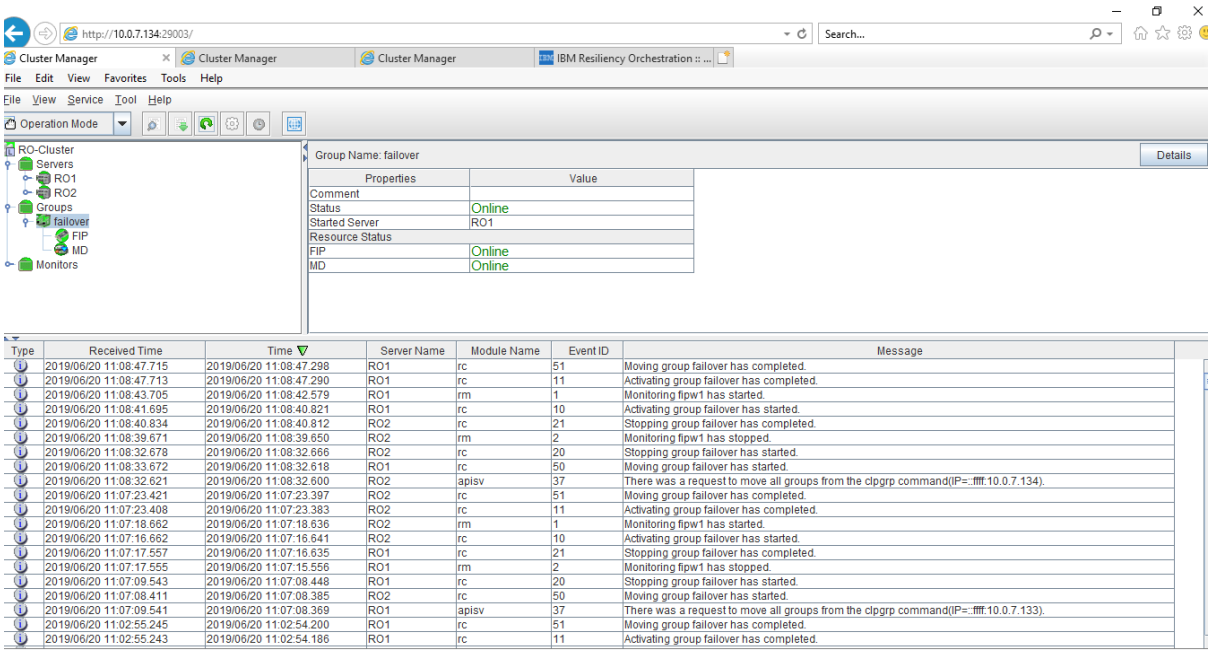

Figure 49 EXPRESSCLUSTER X Cluster Manager

14 Execute BP Workflow of Recovery Group

ReplicationInfoWorkflow is executed every 10 minutes automatically to calculate RPO.

After executing the workflow, the RPO and Pending Data is displayed on RO dashboard. Group page is updated every 10 minutes.

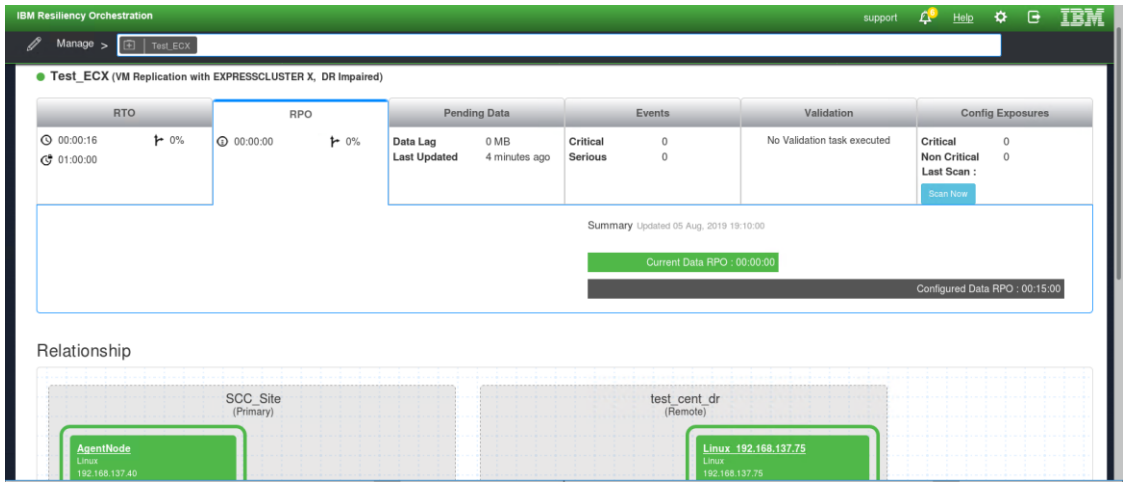

Figure 50 RPO on group page

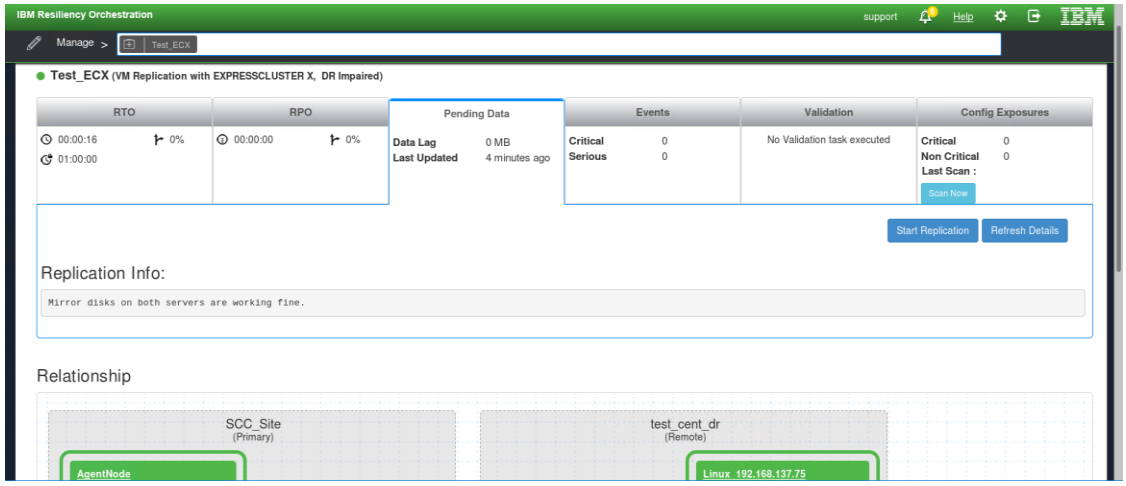

Figure 51 Pending Data on group page

15 Edit BCO Workflows of Application Group

Failover and Fallback workflow must be edited.

1. Click **Application Groups** in **Manage** page
2. Click a group name that you want to edit
3. Click **View all workflows**

➢ **Failover**

- Click **Add**

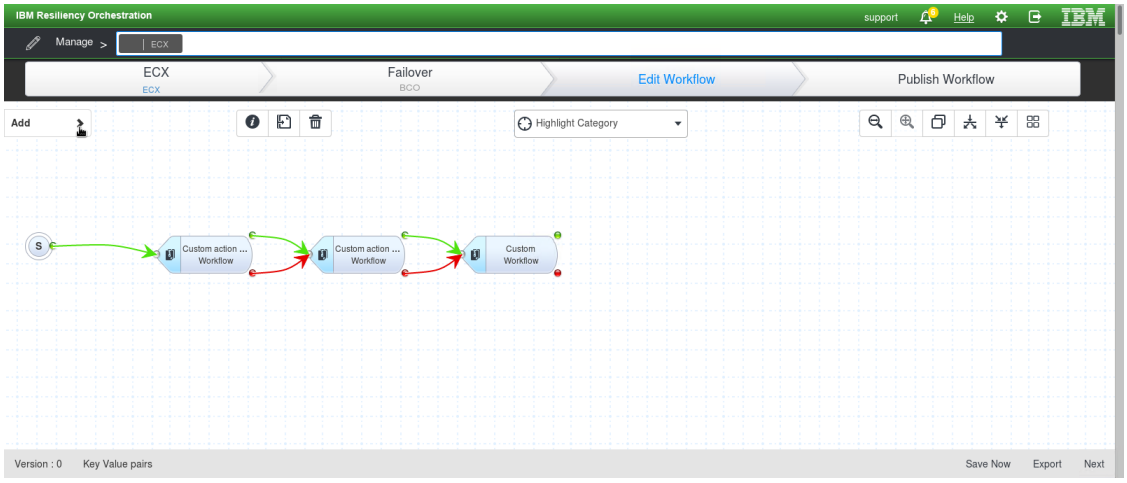

Figure 52 Defining scripts

- Select **VM Replication with OtherReplicator** in **Select Solution Signature**

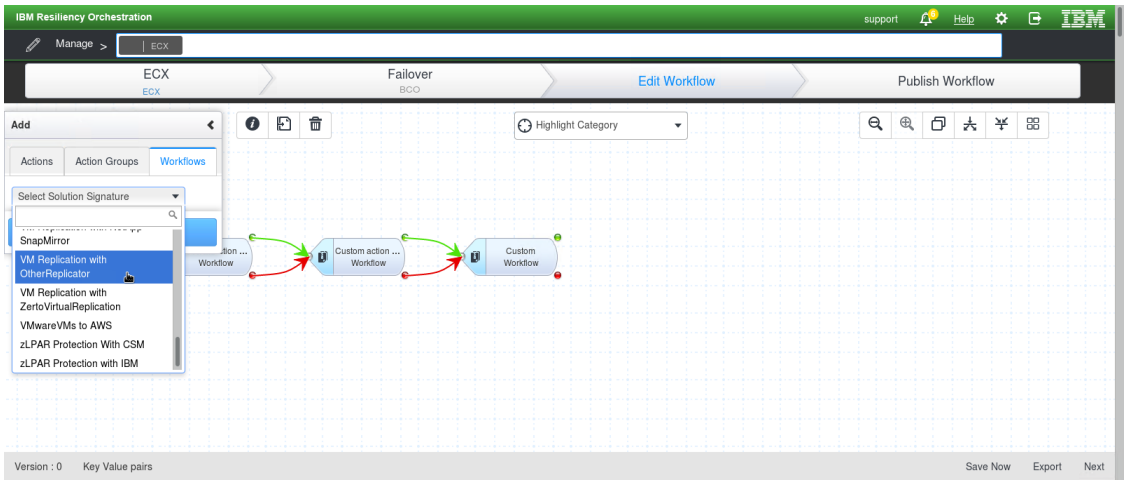

Figure 53 Defining scripts

- Click recovery group name

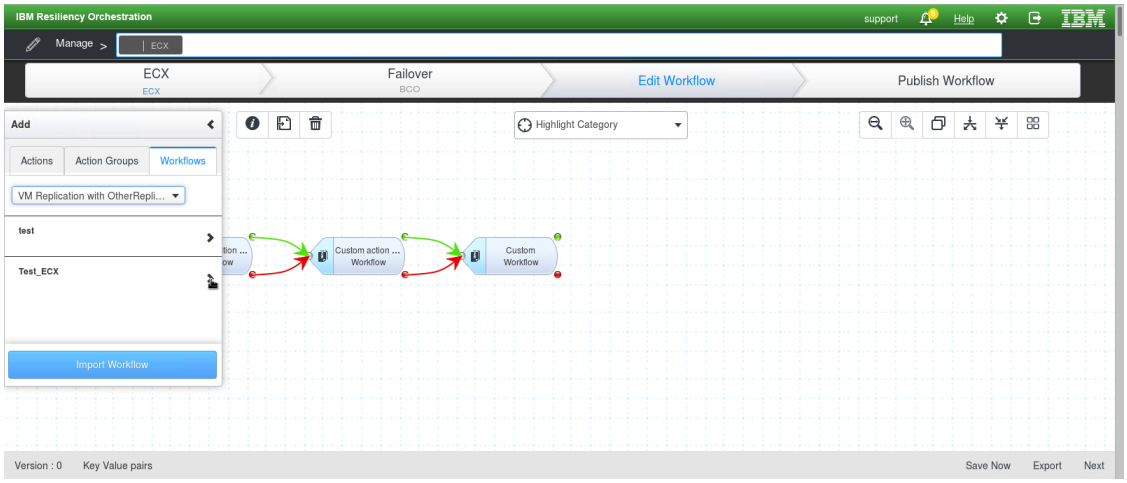

Figure 54 Defining scripts

- Click **Failover**

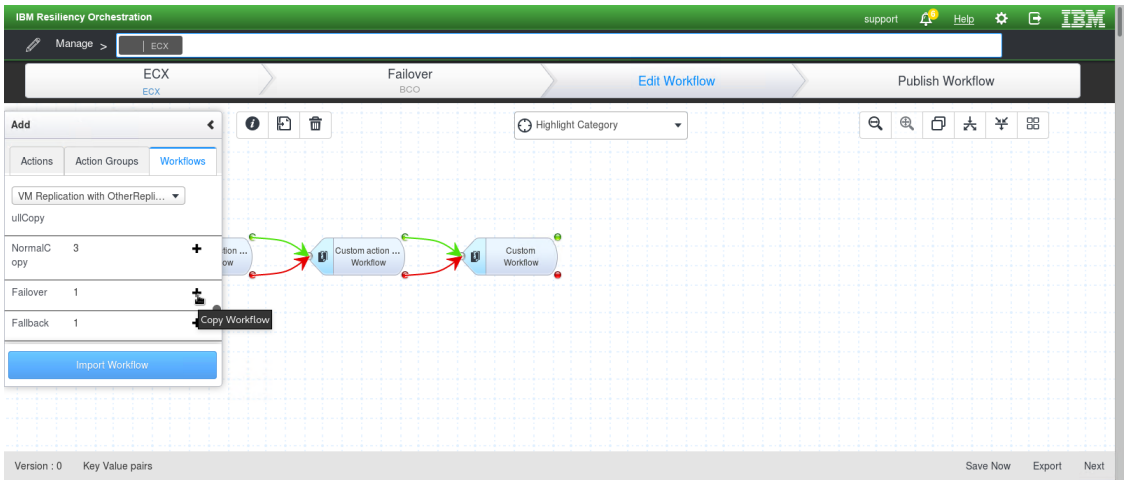

Figure 55 Defining scripts

- Click **Next**
- Click **Publish Workflow**

- **Fallback**
    - Click **Add**
    - Select **VM Replication with OtherReplicator** in **Select Solution Signature**
    - Click recovery group name
    - Click **Fallback**
    - Click **Next**
    - Click **Publish Workflow**

16 Execute BCO Workflows of Application Group

After executing **Failover** and **Fallback** workflow, you can see RTO on group page.

Please note that ECX failover group moves if you execute Failover/Fallback workflow.

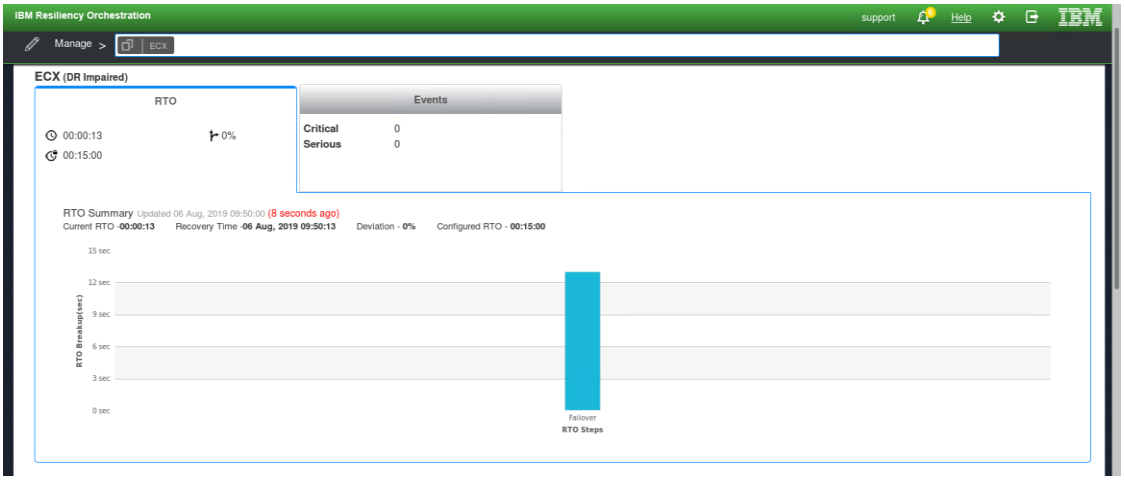

Figure 56 RTO on group page

17 Edit Drill Workflows of Application Group

In this section, we will create Drill workflows of application group.
After executing Drill workflow, Drill report is generated automatically.

The below steps is how to show a list of Drill Workflows.

1. Click **Drill**

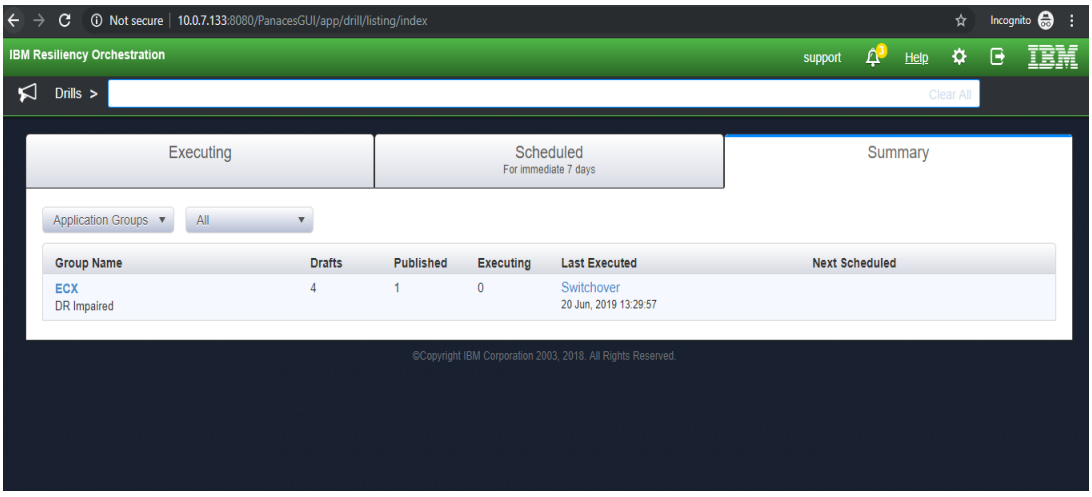

Figure 57 Executing drills

2. Click **Summary**
3. Click a group name that you want to edit

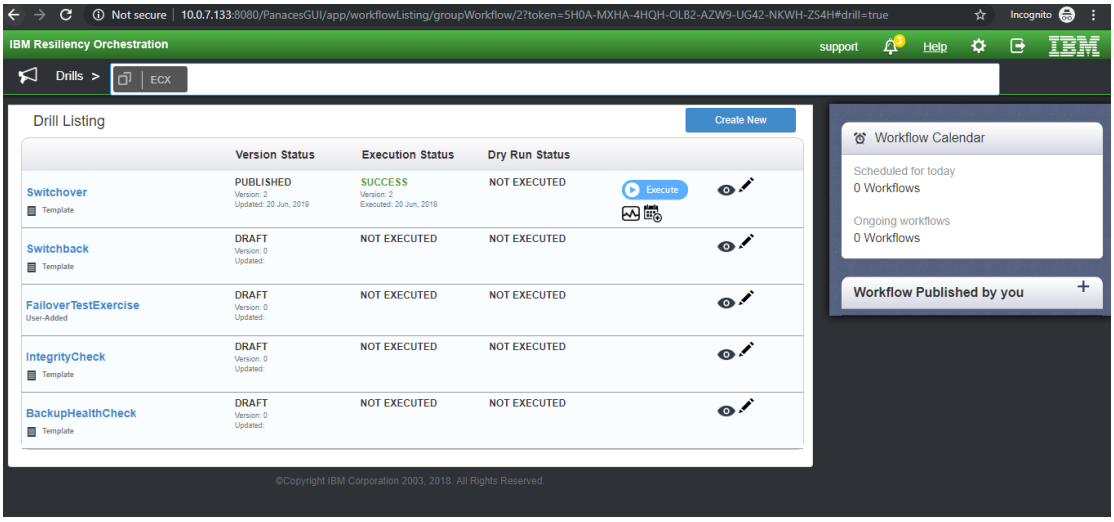

Figure 58 Defining drill for Application group

For example, we will edit **Switchover** to output the below reports.

- Status of primary server
- Status of secondary server
- Time taken to move ECX failover group (RTO)
- RPO
- Pending Data of mirror disk

1. 1st action: Output status of primary server
    - Input **Name** and **Description**
    - Select a Primary server as **Server/Machine Name**
    - Select **Script** as **Type of Custom Action**
    - Check **Enable Sudo**
    - Input **root** as **Sudo Username**
    - Input the path of checkstatus.sh as **Command/Script to be executed with absolute path**
2. 2nd action: Output status of secondary server
    - Input **Name** and **Description**
    - Select a Secondary server as **Server/Machine Name**
    - Select **Script** as **Type of Custom Action**
    - Input the path of checkstatus.sh as **Command/Script to be executed with absolute path**
3. 3rd action: Move ECX failover group from primary server to secondary server
    - Input **Name** and **Description**
    - Select a Primary server as **Server/Machine Name**
    - Select **Script** as **Type of Custom Action**
    - Check **Enable Sudo**
    - Input **root** as **Sudo Username**
    - Input the path of movegrp.sh as **Command/Script to be executed with absolute path**
4. 4th action: Output RPO and Pending Data
    - Input **Name** and **Description**
    - Select **AgentNode** as **Server/Machine Name**
    - Select **IBM Resiliency Orchestration Integration Tcl Script** as **Type of Custom Action**
    - Check **Enable Sudo**
    - Input **root** as **Sudo Username**
    - Input the path of getrpo.tcl as **Command/Script to be executed with absolute path**

After editing action, you will get the below screen.

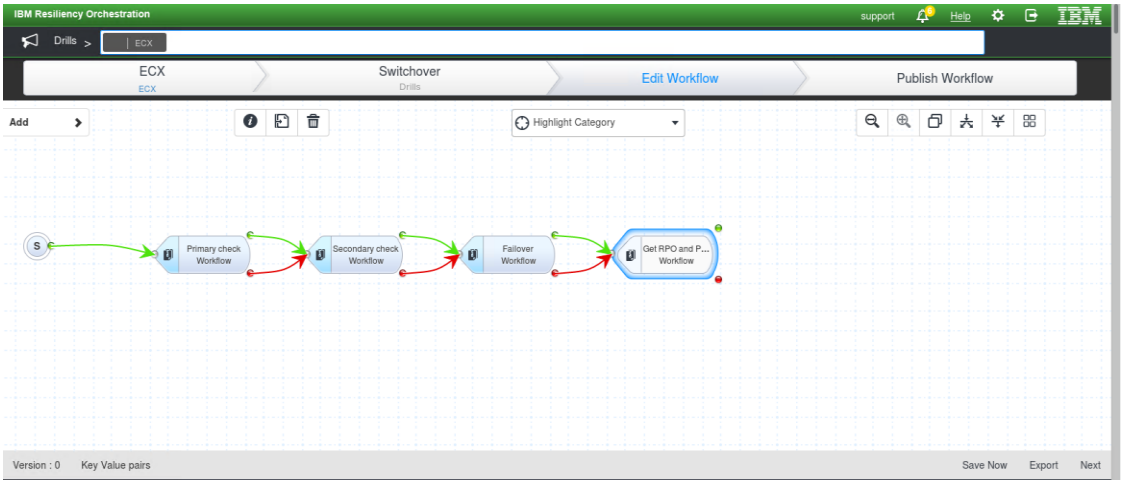

Figure 59 Swichover workflow

Click **Next** and **Publish Workflow**.

18 Execute Drill Workflows of Application Group

1. Click **Drill**
2. Click **Summary**
3. Click a group name
4. Click **Execute**

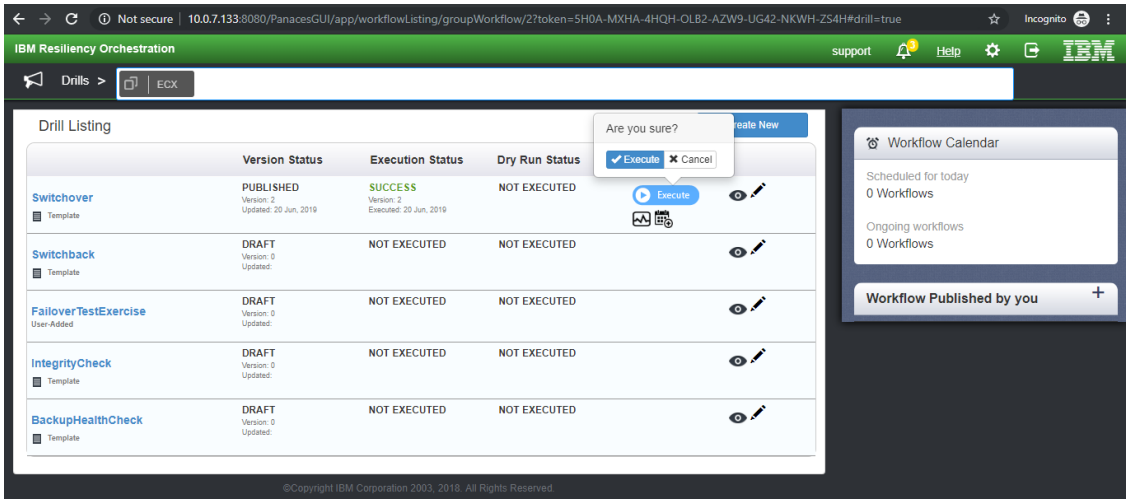

Figure 60 Execute drill workflow for application group

Drill workflow will be stopped if you execute the workflow while any servers or ECX cluster are not running.
You need to restart workflow manually if workflow is stopping.

1. Click **AWAITING INPUT**

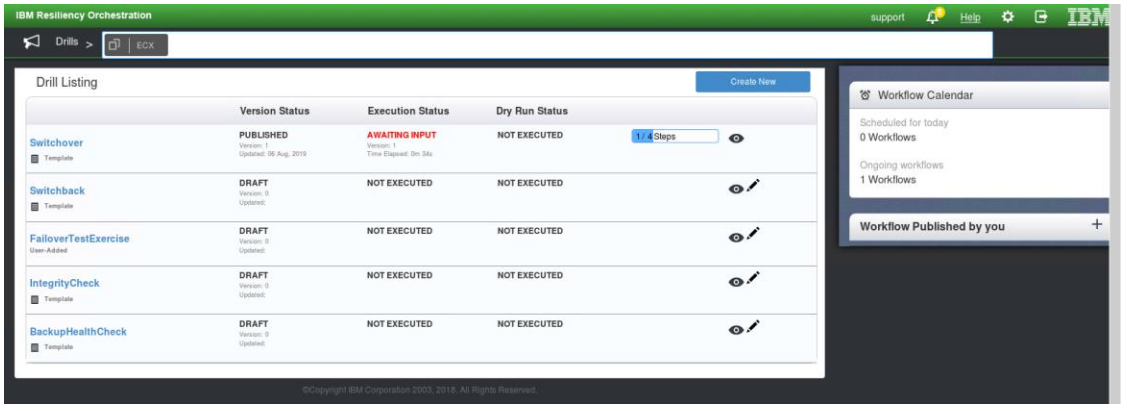

Figure 61 Execute awaiting dril workflow

2. Click **Awaiting Input**

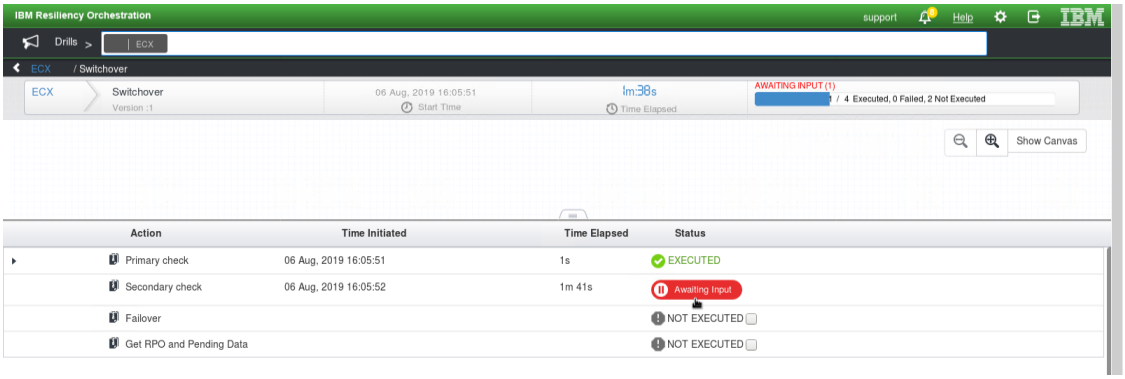

Figure 62 Execute awaiting action

3. Click **Continue as Success**

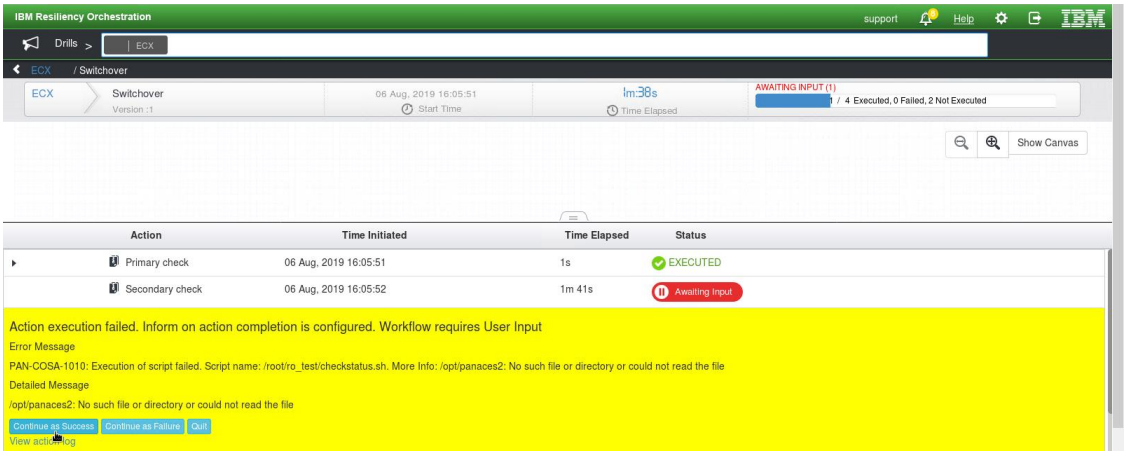

Figure 63 Continue as Success

19 Confirm Drill Report

We can see Drill reports in **Drill** page.

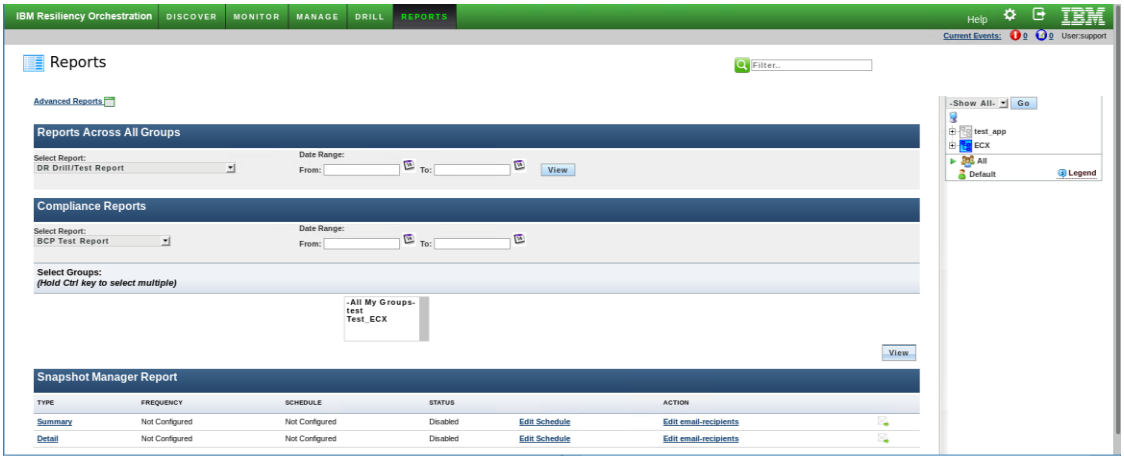

Figure 64 Sample report

The Drill report in next page is generated after executing the workflow in section 18
Time Elapsed of **Failover** action represents RTO.

Group Name	ECX
Workflow Name	Switchover
Status	SUCCESS
Start Time	Aug 7, 2019, 11:43 AM
End Time	Aug 7, 2019, 11:44 AM
Time Elapsed	00:00:24
Approver Details	
Rejected Details	

Success	Failed	Not Executed
4	0	0

Name	Status	Time Initiated	Time Elapsed	Status Details
Primary check	EXECUTED	2019-08-07 11:43:53.0	00:00:01	Executed the script/command using sudo: /root/ro_test/checkstatus.sh Additional Details: Exit Code = 0 Output = ========== CLUSTER STATUS ========== Cluster : cluster cluster .....: Start <server> *roserver .....: Online lankhb1 : Normal Kernel Mode LAN Heartbeat lvmhost .....: Online lankhb1 : - Kernel Mode LAN Heartbeat <group> failover .....: Online current : roserver fip1 : Online md1 : Online md2 : Online <monitor> fipw1 : Online mdnw1 : Online mdnw2 : Online mdw1 : Online mdw2 : Online userw : Online ========== On component AgentNode (192.168.137.40)

Name	Status	Time Initiated	Time Elapsed	Status Details
Secondary check	EXECUTED	2019-08-07 11:43:54.0	00:00:01	Executed the script/command using sudo: /root/ro_test/checkstatus.sh Additional Details: Exit Code = 0 Output = ========== CLUSTER STATUS ========== Cluster : cluster cluster .....: Start <server> roserver .....: Online lankhb1 : - Kernel Mode LAN Heartbeat *lvmhost .....: Online lankhb1 : Normal Kernel Mode LAN Heartbeat <group> failover .....: - current : roserver fip1 : - md1 : - md2 : - <monitor> fipw1 : Offline mdnw1 : Online mdnw2 : Online mdw1 : Online mdw2 : Online userw : Online ========== On component Linux_192.168.137.75 (192.168.137.75) Provided Reason: test
Failover	EXECUTED	2019-08-07 11:43:55.0	00:00:19	Executed the script/command using sudo: /root/ro_test/movegrp.sh Additional Details: Exit Code = 0 Output = Command succeeded. On component AgentNode (192.168.137.40) Provided Reason: test
Get RPO and Pending Data	EXECUTED	2019-08-07 11:44:14.0	00:00:03	Status : Mirror disks on both servers are working fine. RPO : 0 h:0 m:0 s DataLag: 0 MB

Figure 65 Sample report