DRYiCE iAutomate

Getting Started Guide on GCP

Version 6.0.3

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Document Revision History

This guide updates with each release of the product or when necessary.

This table provides the update history of this Getting Started Guide for iAutomate on GCP.

Version Date	Description
September 2021	DRYiCE iAutomate v6.0.3 on GCP

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1 Preface

This section provides information about the Getting Started Guide for DRYiCE iAutomate on GCP. Marketplace and includes the following topics.

- Intended Audience
- About This Guide
- Related Documents
- Conventions

1.1 Intended Audience

This guide is intended for the users who are looking to launch and deploy DRYiCE iAutomate directly from the Google Cloud marketplace for enabling intelligent automation in their environment, focused towards resolution of IT support tickets. It details the steps to launch and deploy with product with certain set of pre-defined configurations.

1.2 About this Guide

This guide provides you with the detailed steps to launch and deploy iAutomate on GCP Marketplace. It leverages 'mpdev' package which bundles Google Deployment Manager templates internally to automate provisioning of the underlying iAutomate infrastructure and install the product with pre-defined configurations to enable ease of use.

This document includes the following topics:

- iAutomate Overview
- Architecture
- Launching iAutomate product from GCP Marketplace
- Pre-defined Configurations
- Basic Manual Configuration
- Setup Validation

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1.3 Related Documents

The following documents can be referenced in addition to this guide for further information on the iAutomate.

- iAutomate Introduction Guide
- iAutomate User Guide
- iAutomate Configuration Guide
- iAutomate Lab Manual
- iAutomate Troubleshooting Guide
- iAutomate Integration Guide

1.4 Conventions

The following typographic conventions are used in this document:

Table 1 - Conventions

Convention	Element
Boldface	Indicates graphical user interface elements associated with an action, or terms defined in text or the glossary
Underlined blue face	Indicates cross-reference and links
Numbered lists	Indicates steps in a procedure to be followed in a sequence
Bulleted lists	Indicates a list of items that is not necessarily meant to be followed in a sequence

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2 iAutomate Overview

iAutomate is an Intelligent Runbook Automation product which is equipped with Artificial Intelligence, Machine Learning and Natural Language Processing capabilities for simplifying and automating the IT Operations issues resolution lifecycle including incidents, service request tasks, change request tasks and events. It leverages its NLP capabilities for analyzing and understanding the context of a specific issue, recommends the most relevant solution and even triggers the execution, thereby enabling Zero Touch Automated Remediation. It also provides AI-driven Knowledge Recommendation by suggesting relevant knowledge articles from various repositories, both internal and external, as and when required by human agents.

When no runbook is available for automated remediation, it searches & downloads relevant executable codes and scripts for subject matter expert to validate, customize, approve and publish for future use.

On GCP Marketplace iAutomate application will be installed over four different compute instance representing 4 tiers of iAutomate namely, WEB, APP, DB and RBE. Each of these instances will have in-turn multiple individual components that are required by iAutomate Application. Below table shows the description of each tier of iAutomate Application and next table shows details about what all components reside in each of the tiers.

Table 2 – iAutomate Tiers Description

S. No.	iAutomate Tier	Description
1	WEB	Web Tier of iAutomate application consists of all basic components to automate end to end remediation of incident, change and service requests. It includes AI components like iRecommend that recommends list of relevant runbooks for ticket resolution.
2	APP	App Tier of iAutomate application consists of all components related to Knowledge Search and Analysis. It will be used to implement document search engine where user can see list of relevant documents matching Ticket description for query.
3	DB	DB tier of iAutomate application consists of backend database engine which maintains all configurations for each of module required by iAutomate.

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4	RBE	RBE tier of iAutomate application consists of Runbook Automation Engine which is used to execute self-healing runbook for a Query. This engine will be deployed with pre-defined list of runbooks as part of setup.

Below table provides an overview of ports used by iAutomate for internal functionality. As part of GCP marketplace deployment these ports will be allowed under the firewall configurations of individual VMs.

Table 3 – iAutomate Ports Details

Instance Type	Components	PORT	Description
Web	Web UI	80	Web User Interface for Admin, Configuration, Operations Console, Dashboards and Knowledge Analysis and Search functionalities
	Web API	8080	It is an API in the iAutomate web module that can be accessed using the HTTP protocol. It also includes the Key Rotation Service component which serves the purpose of providing additional security through rotation of keys on a periodic basis.
	iRecommend	9000	It leverages Natural Language Processing and is responsible for recommending the best-suited runbook for resolving the issue based on the ticket description
	iParse	8006	It serves the purpose of analyzing the ticket description and summary for extracting relevant parameters to be passed to configurable runbooks
	iUnique	8009	It helps in clustering the ticket data (incident, service requests, change requests) into different categories for identification of automation opportunities
	Data Collector	8012	It is responsible for collecting ticket information from the ITSM tool

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	Generic Executor	8015	It is used for data processing at the DB layer for enabling backend processes.
	RBA Executor	8018	It helps in triggering the identified runbook for automatic resolution using an underlying RBA tool
	Release	8021	It is used to release the ticket in case an appropriate runbook is not recommended OR runbook execution for a ticket fails. In the latter case, the ticket is released and assigned to a human agent to investigate it.
	Generic Listener	NA	Ticket passes through multiple stages during the resolution lifecycle using iAutomate. Generic Listener module is responsible for ensuring the ticket is moved to the next stage based on the outcome. Its job is to identify the status of the present stage and based on success / failure, move the ticket to the consequent stage in the lifecycle
	AD Sync	9022	It is responsible for fetching LDAP user from LDAP Server.
	Email Service	9025	It is responsible for sending mail-based notifications to user.
APP	Advanced Knowledge	9009, 9019, 9013, 9016	It returns a list of relevant documents for a query that have been crawled from different repositories like SNOW KB, Web URL, Satori repository, and internal files and folders.
	iKnowledge	8024	It returns a list of relevant results from Google for a query, if no relevant document exists in the organization’s repository.
	Knowledge rating	8027	It enables users to provide feedback as a rating for the document search corresponding to the ticket summary.
	MongoDB	27017	No-SQL database which is used to store document content and user's rating.

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	Apache Solr	8983	An Indexer which is used to store meta-data information for a document for knowledge search.
	iScrape	8030	It helps in automated runbook creation for ticket categories for which runbooks don't exist by exploring various internal and external data sources for relevant executable code snippets and scripts.
DB	MSSQL	1433	All data related to iAutomate will be stored in MSSQL
RBE	RBE	8052	Runbook Execution Engine where executable scripts or runbooks are present

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3 Prerequisites

Before starting with deployment on GCP, user should have below pre-requisites in place:

1. User should have access to GCP Project which has the Network and subnetwork in place for the required region where iAutomate needs to be deployed.
2. User should have basic knowledge of working with GCP Compute and Networking services.
3. User should have privilege to launch GCP Compute instances from Marketplace
4. During installation certain packages are pulled from GCP Cloud storage for which GCP Network should have outbound internet access allowed for the subnetwork where iAutomate VMs will be deployed.

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4 Launching iAutomate product from GCP Marketplace

To deploy DRYiCE iAutomate from GCP marketplace, perform the following steps –

1. Login to your GCP Project which will be used for iAutomate deployment from marketplace. Navigate to Google Cloud Marketplace and search for **iAutomate** or **HCL DRYiCE iAutomate.**

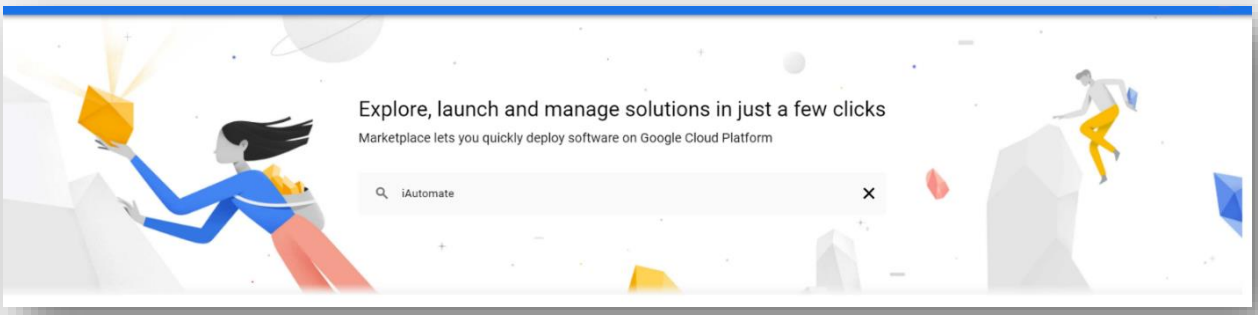

Figure 1 - Search iAutomate on GCP marketplace

2. Select **HCL DRYiCE iAutomate** from the search results**.**

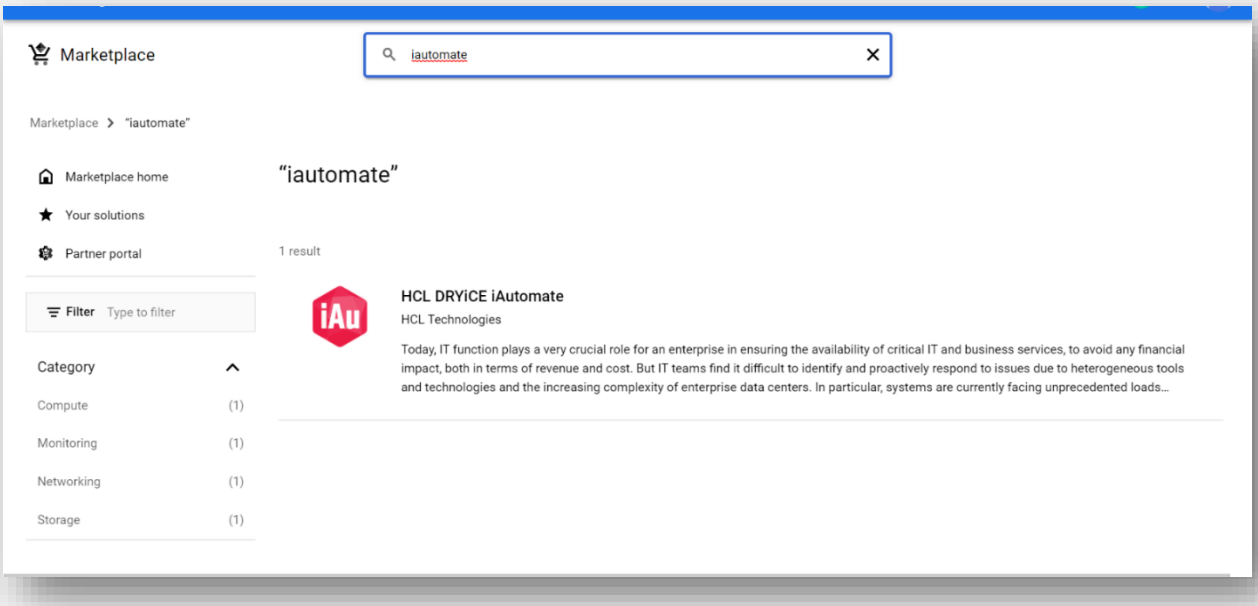

Figure 2 - Select HCL DRYiCE iAutomate from search results

3. Click on **Launch button** to proceed.

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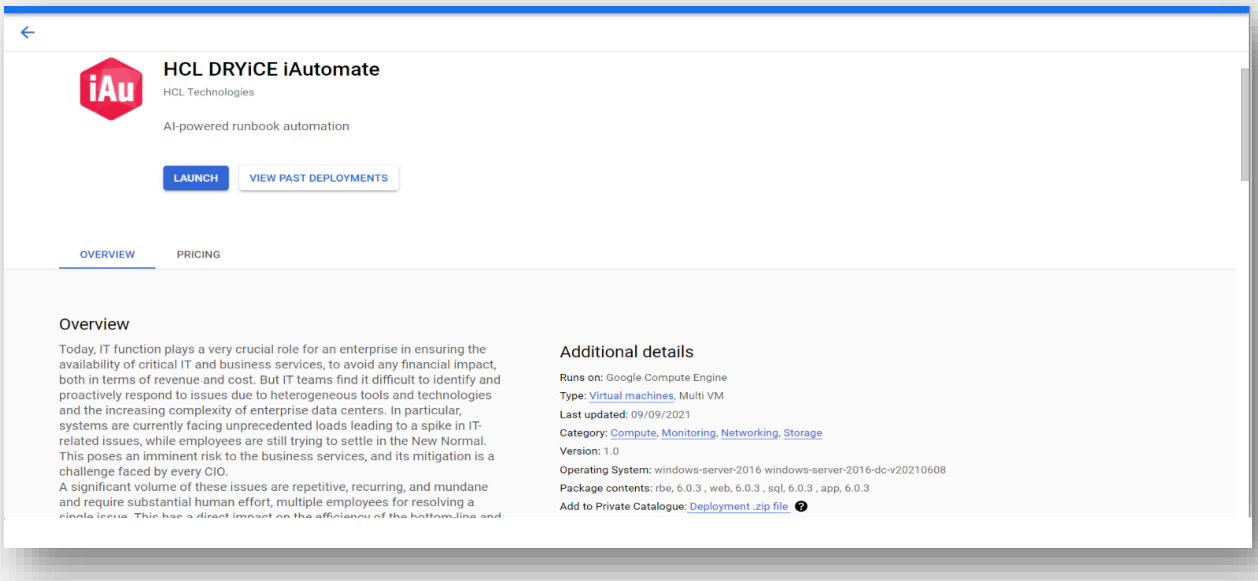

Figure 3 - Select HCL DRYiCE iAutomate from search results

4. Enter **Deployment Name** as shown in Figure below. You can use deployment name as per your environments naming convention.

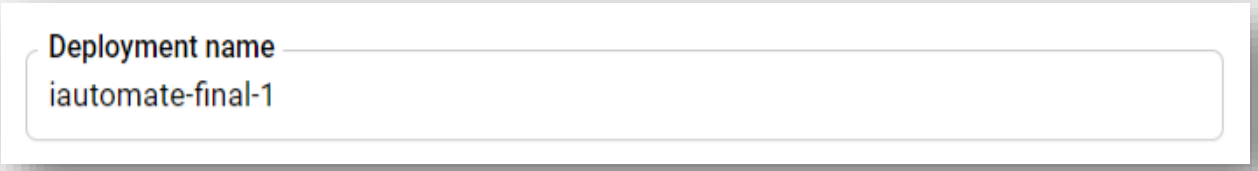

Figure 4 - Deployment name input

5. Now, select the appropriate **Zone** where iAutomate will be deployed as shown in Figure below:

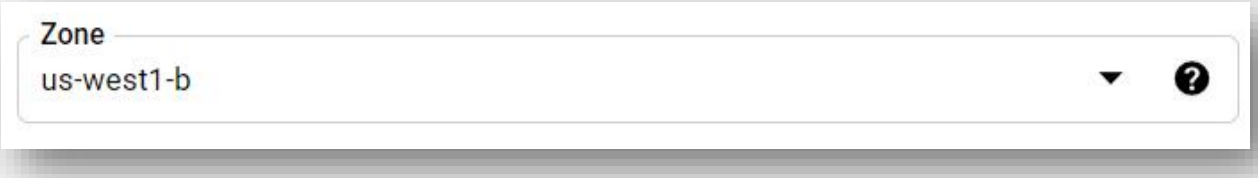

Figure 5 - Network Zone selection

6. As part of iAutomate deployment, four Compute instances will be deployed corresponding to 4 tiers of iAutomate application: (Web, RBE, DB, and App)

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Please refer to the below table for reference regarding GCP Compute instance size based on environment scale. Please select the respective machine family, series, and machine type for optimal performance of iAutomate application.

Table 4 - Hardware Configuration

Environment Indicator (Number of CIs to be managed)	Tier Type	Machine Family	Series	Machine Type
Small (up to 2500 OS instances)	Web	Cost Optimized	E2	e2-standard-2
	App	Balanced	N2	n2-standard-4
	DB	Memory Optimized	n2	n2-standard-4
	RBE	Balanced	E2	e2-standard-4
Medium (up to 5000 OS instances)	Web	Cost Optimized	E2	e2-standard-2
	App	Balanced	N2	n2-standard-8
	DB	Memory Optimized	E2	e2-standard-4
	RBE	Balanced	E2	e2-standard-4
Large (up to 10000 OS instances)	Web	Cost Optimized	E2	e2-standard-4
	App	Balanced	N2	n2-standard-16
	DB	Memory Optimized	E2	e2-standard-4
	RBE	Balanced	E2	e2-standard-4

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7. For all the four tiers, select the instance count field to default value 1 as shown in Figure below. In case this count is changed the application installation may have configuration issues in it.

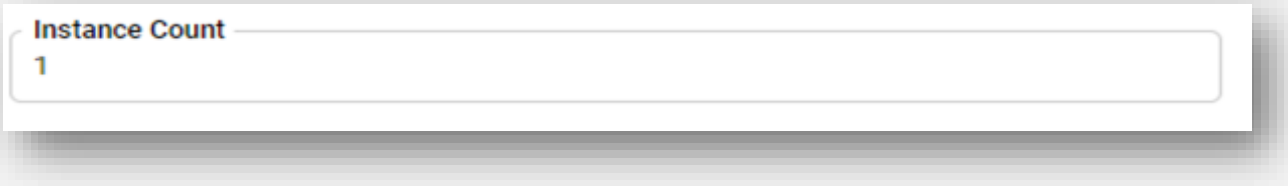

Figure 6 - Instance count details for all 4 VMs (Web, App, DB & RBE Tier)

8. Select the **Machine family**, **Series** and **Machine type** for Web tier as per the Environment type (Small, Medium or Large). Please refer to Table 4 - Hardware Configuration for details regarding individual tiers.

   The following figures depict Machine configuration for Web, App, DB and RBE tiers assuming Small environment type for customer.

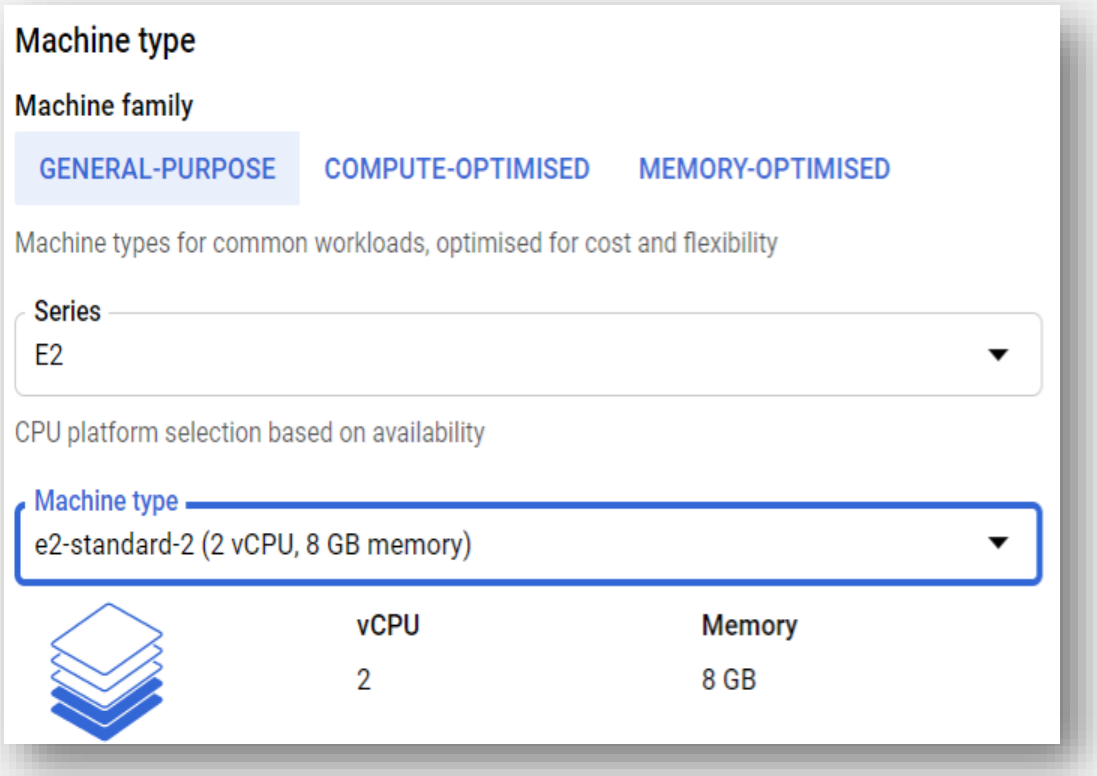

Figure 7 - Web Tier Instance size (Customer environment type Small)

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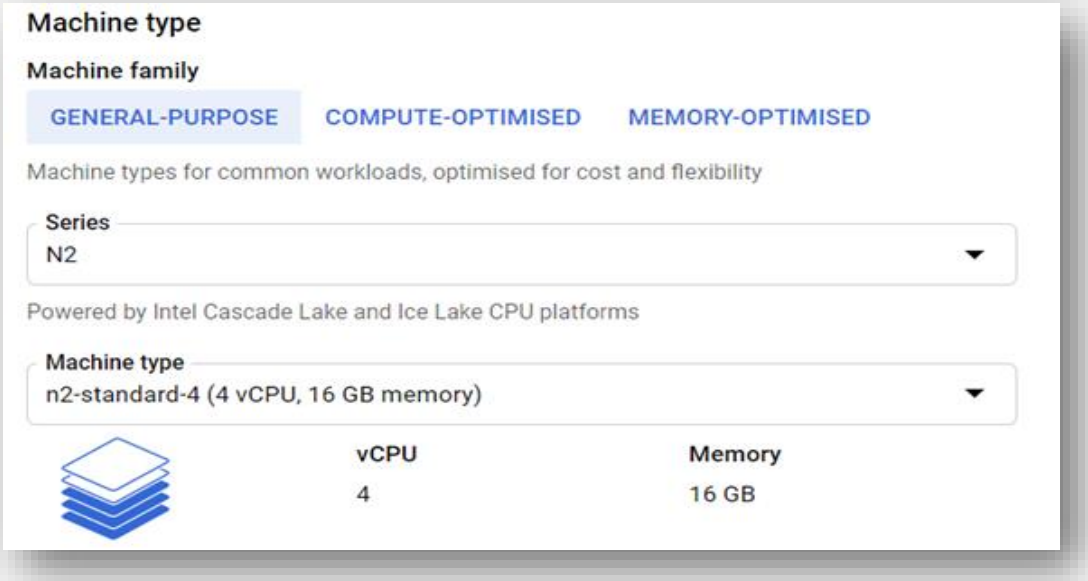

Figure 8 – App and DB Tier Instance size (Customer environment type Small)

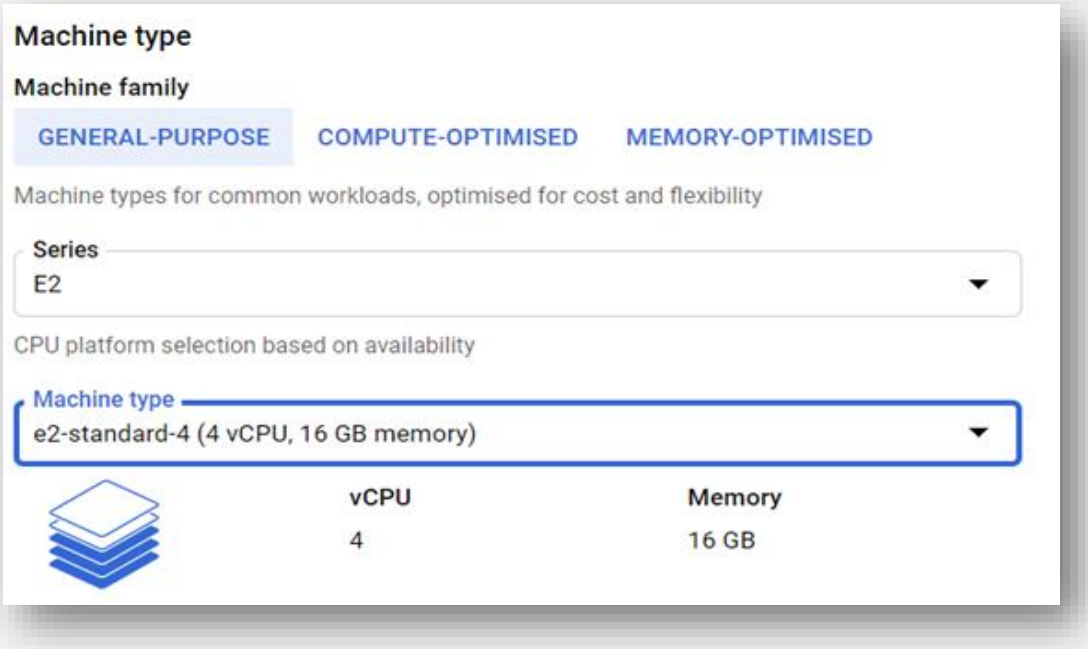

Figure 9 – RBE Tier Instance size (Customer environment type Small)

9. Select the **Boot disk type** as 'Standard Persistent Disk' for all 4 Tiers with '100 GB disk size' as shown in the following figure:

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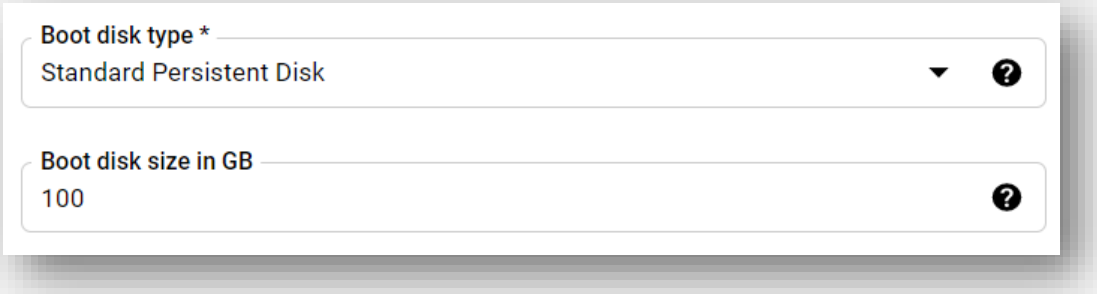

Figure 10 – Disk type and size configurations for all 4 VMs (Web, App, DB & RBE Tier)

10. Select the appropriate **Network** for deploying 4 Tiers of iAutomate as shown in the figure below:

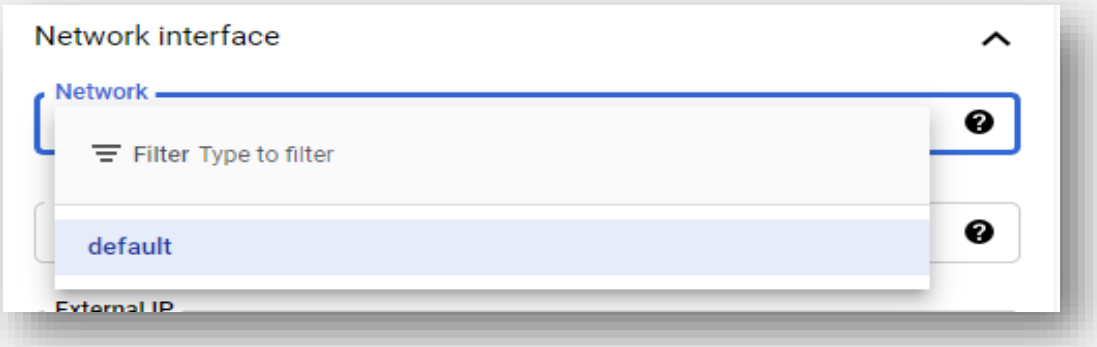

Figure 11 – Network Selection for 4 VMs (Web, App, DB, and RBE Tier)

11. Select the appropriate **Subnetwork** for deploying 4 Tiers of iAutomate as shown in the figure below:

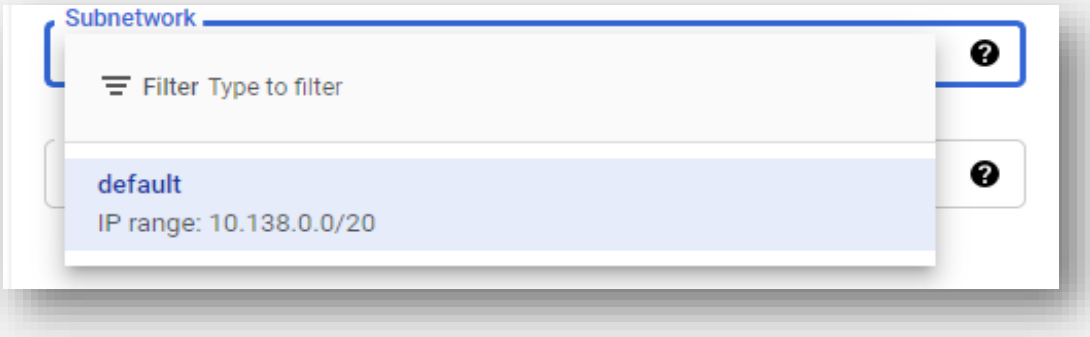

Figure 12 – Sub-Network Selection for 4 VMs (Web, App, DB and RBE tier)

12. Under the Firewall configuration for all 4 VMs, provide the **CIDR** range as per your environment requirement in the box named as **Allow HTTP traffic from internet** and **Allow HTTPS traffic from internet** from where iAutomate access needs to be enabled as per environment (as shown in Figure below). You do not have to add any rule for 0.0.0.0/0 access for HTTP and HTTPS as it is enabled by default. In case your environment architecture does not allow access from 0.0.0.0/0 range you can

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disable rule from GCP console or you can leverage 3rd party Firewall filtering mechanism to control the access for iAutomate application for HTTP and HTTPS ports.

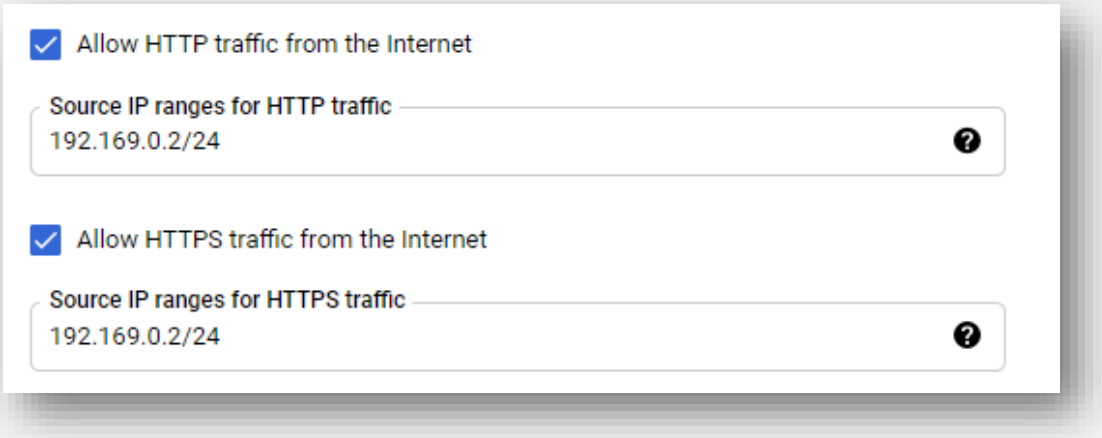

Figure 13 – HTTP and HTTPS traffic source IP range configuration

13. Rest Firewall port details are by default enabled as part of GCP Marketplace deployment. User does not have to select any value for Firewall configurations for Non HTTP and HTTPS ports (as shown in below Figure).

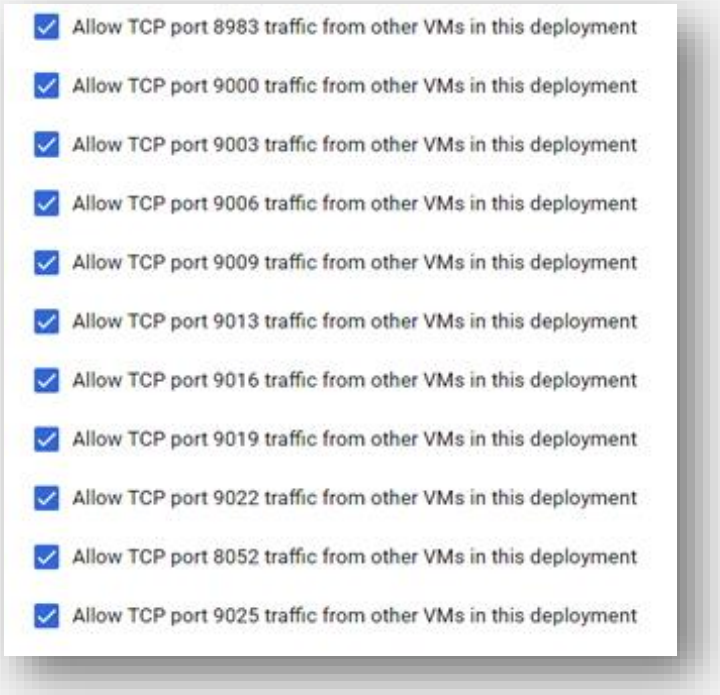

Figure 14 - Non HTTP and HTTPS traffic port configuration review

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14. Select the checkboxes for **Allow access for GCP APIs** and **Accept GCP marketplace terms of Service**. Click on **Deploy** button to initiate iAutomate deployment.

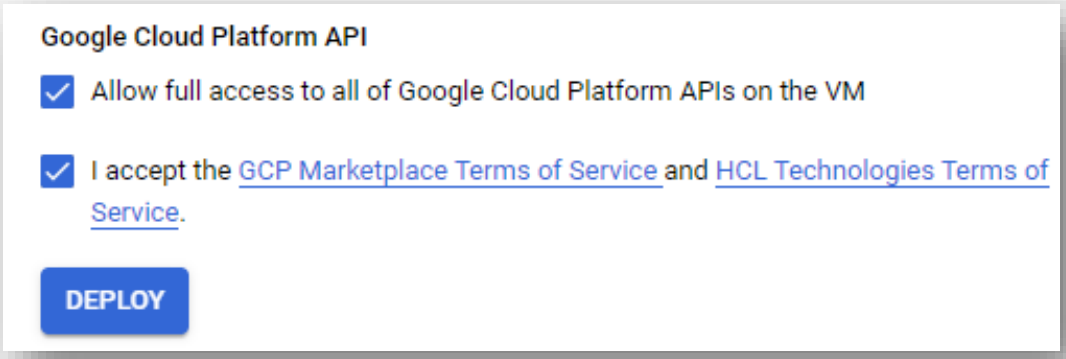

Figure 15 - Allow access of GCP APIs, accept GCP market terms of Service and Deploy

15. You can track the progress of iAutomate VM deployment as shown in Figure below.

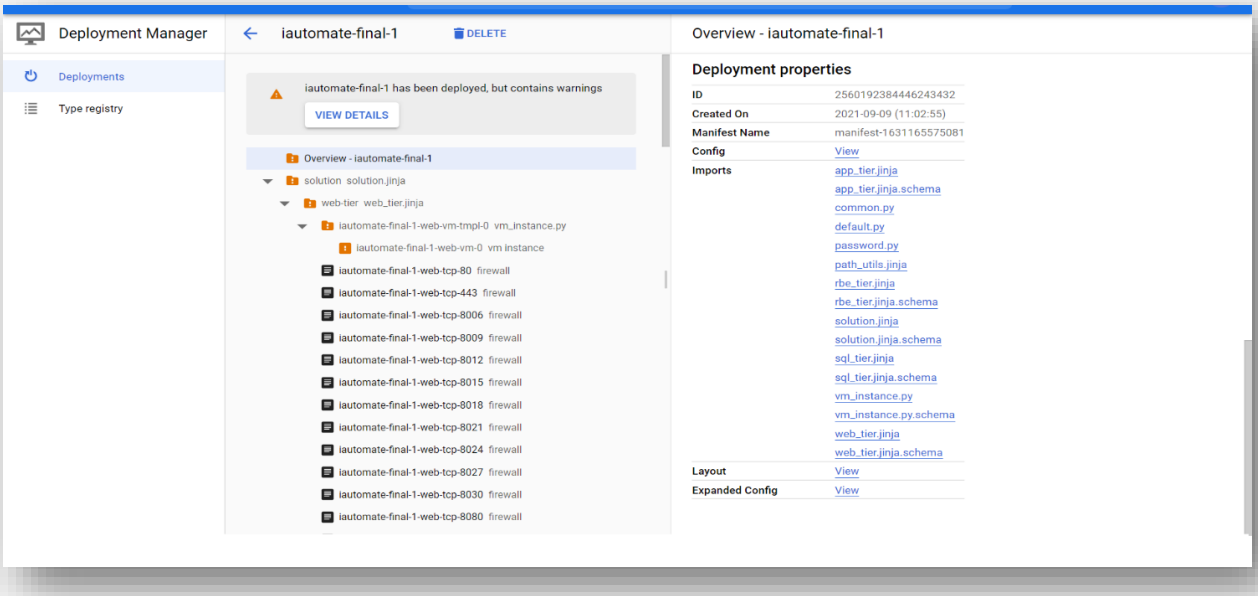

Figure 16 – Deployment progress review

16. Once VM deployment is completed iAutomate application silent installation process is triggered using RBE. The product installation will take approximately 2 hours and 30 minutes. In order to check the final status of installation, login to RBE machine and navigate to /tmp directory and review content of iautomate.log file. For successful installation, there should be no unreachable, failed or rescued instance count (as shown in Figure below).

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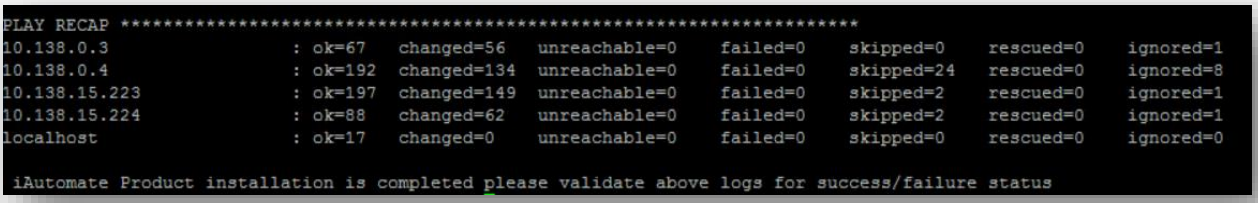

Figure 17 – iAutomate application deployment log review on RBE server

17. Post successful deployment of iAutomate navigate to the **Compute Engine** service and review the 4 Virtual machines configurations (as shown in Figure below). Names of the Virtual machines will have Deployment name field value as prefix.

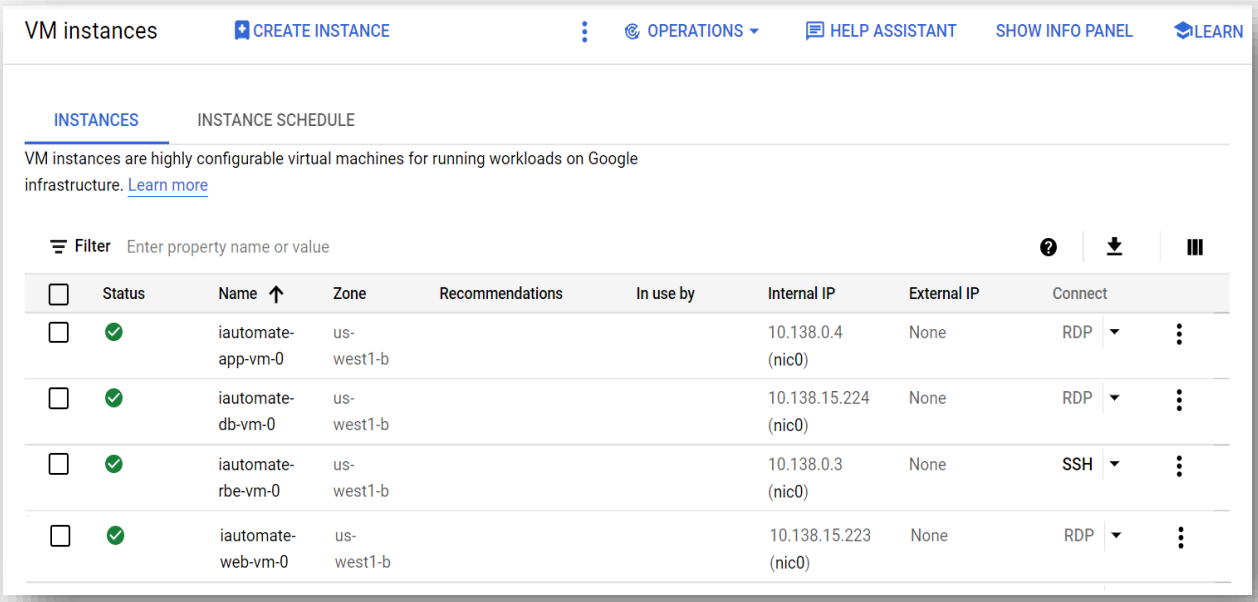

Figure 18 – Review VM details post completion of iAutomate deployment

18. Post successful installation of iAutomate, copy the Internal IP address value as shown in Figure below from the **Compute Engine** Service page for the **Web tier** machine.

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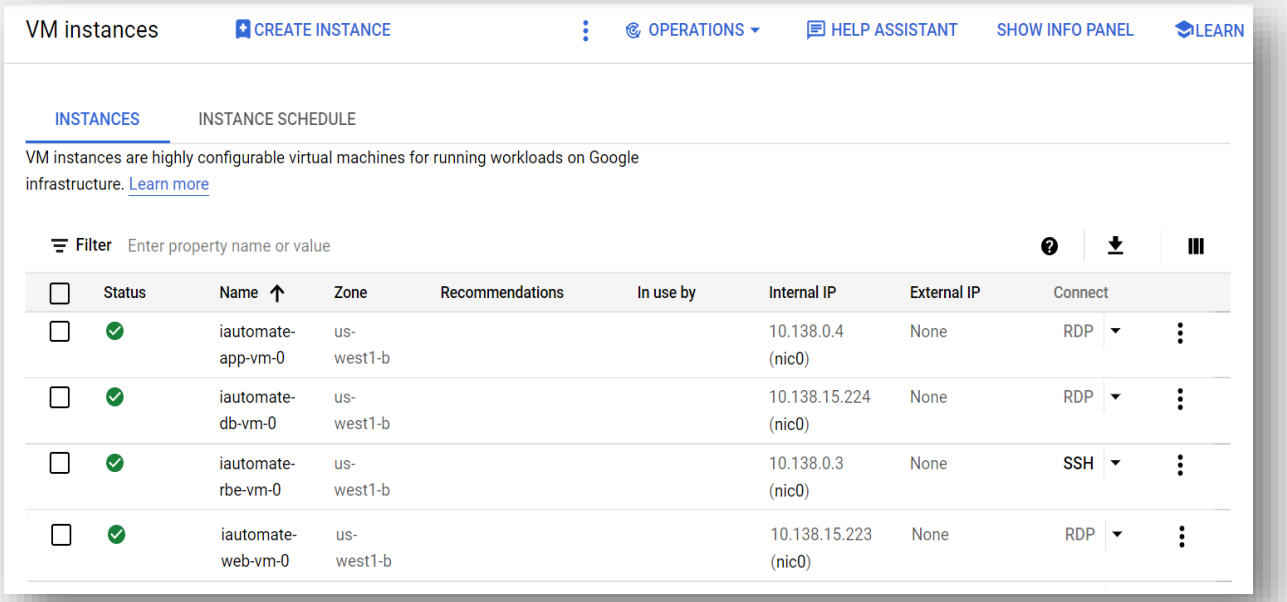

Figure 19 – Post Installation – Copy the Internal IP for web tier machine

19. Open the browser and paste the below URL replacing value for the Internal IP address copied earlier, e.g., *http:// <IP address of iAutomate Web Portal>* to open HCL DRYiCE iAutomate Login screen.

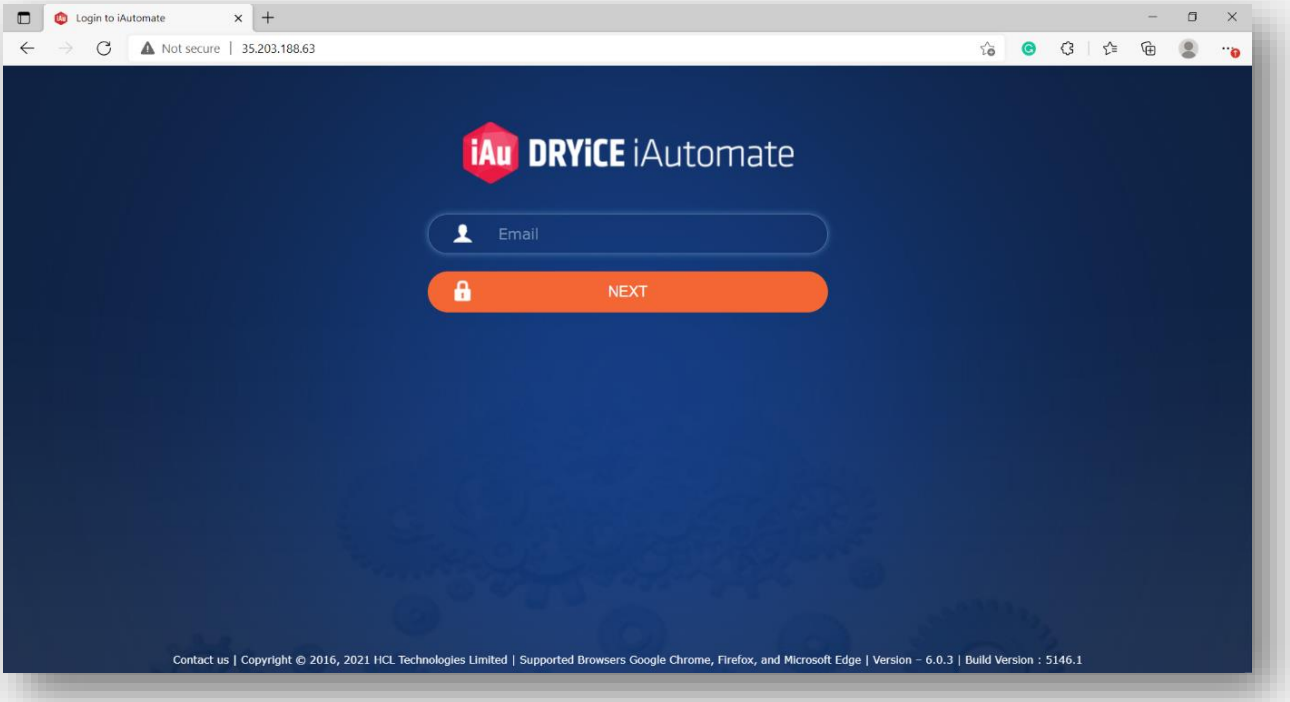

Figure 20 – Access the DRYiCE iAutomate Login Screen

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5 Pre-defined Configurations

As part of the application installation and deployment process, certain set of configurations are also readily available as mentioned below:

1. **Organization** – A default organization by name "Dryice" is already configured, which can be leveraged for performing further configurations. Additionally, as part of current out of the box deployment. **ServiceNow** is selected as the default ITSM Tool Type for all modules like Incident, Change, SRCMDB, and others. However, if the ITSM tool needs to be changed, it can be done by Editing the organization configuration. (Please refer to the **Organization** section of **iAutomate Configuration Guide** for detailed steps)
2. **Runbook Tool** – By default, RBE tool comes bundled and configured with iAutomate. If required, another tool can also be leveraged. (Please refer to the Manage **Runbook Tool** section of **iAutomate Configuration Guide** for detailed steps)
3. **Runbooks Configured –** Multiple runbooks have been preconfigured and are available to use as is. If required, new runbooks can also be on boarded.

(Please refer the **Manage Runbooks** section of **iAutomate Configuration Guide** for detailed steps).

5.1 Resetting Default User Credentials

As a first step User needs to login and reset the password for default accounts using credentials listed in table below:

Table 5 – Default User Details

User Type	Description	Email	Default Password	Remarks
Organization Admin	Manages all the organization specific configurations	iautomateuser@iautomate.com	B4yKyhLvcpcX5Qm	This is an admin account for an organization and password is generated automatically. User will be prompted to change password on first login.

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Super Admin	Manages the organization creation	admin@iautomate.com	B4yKyhLvcpcX5Qm	This is super-admin account for which password is generated automatically. It is required to create / manage organizations. Additionally, the password should be changed, post first login using Reset Password screen.

The following sections describe the steps to reset the credentials for Organization admin and Super admin user accounts from iAutomate Web Portal.

5.1.1 Login as Organization Admin

1. Launch a web browser and provide the iAutomate Web Portal URL.
2. On the **iAutomate Login** page, type customer's admin email ID in the **Email** field as shown in the figure below:

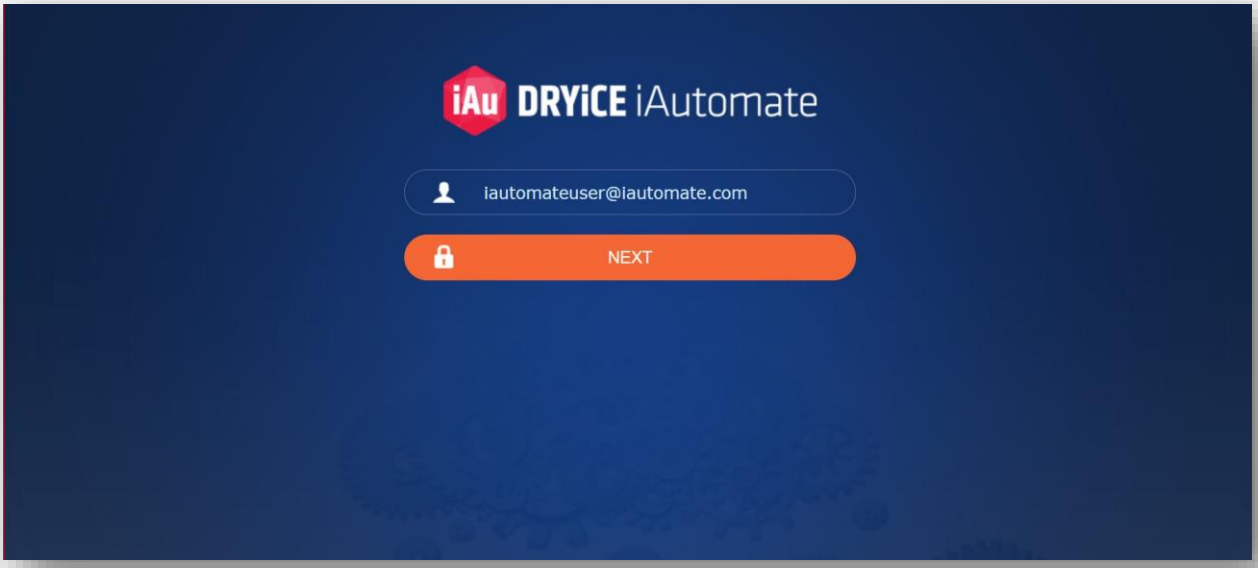

Figure 21 - Access the DRYiCE iAutomate Login Screen

3. Type the **Password** (as mentioned in Table above). If you are logging for the first time, enter your default password, the system prompts you to reset your password as shown in Figure 22 - Password Reset Screen.

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4. Enter the old password in the **Old Password** field.
5. Enter the new password in the **New Password** field and re-enter the same password in the **Confirm Password** field as per defined policy.
6. Click **Submit** to save the details or click **Cancel** to stop the password reset procedure.

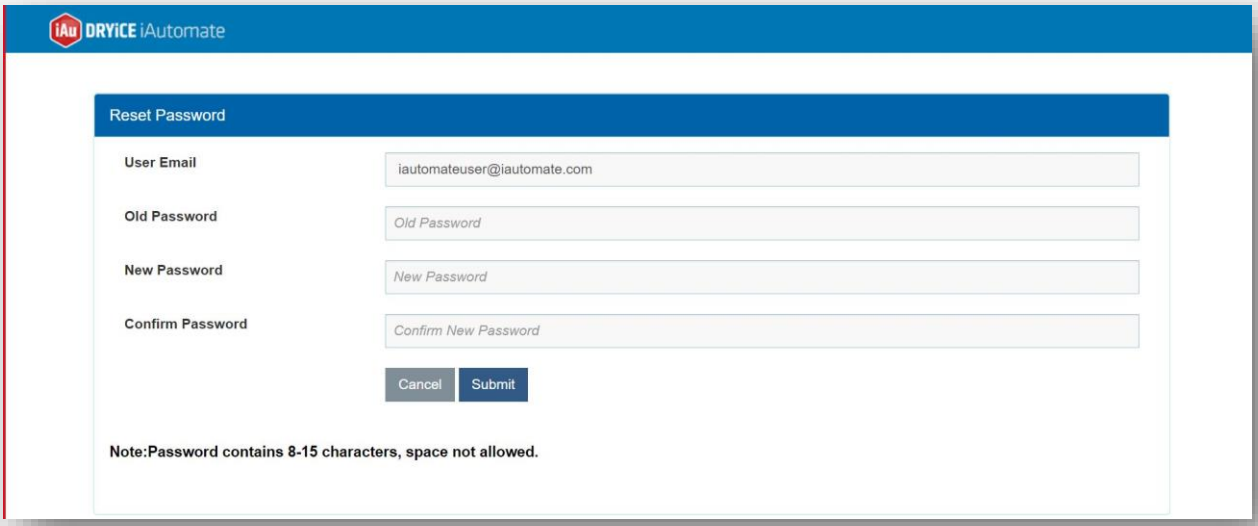

Figure 22 - Password Reset Screen

7. This will redirect you to login screen. Please enter email id followed by new password to login into iAutomate as shown in Figure 23 - iAutomate Login Screen – Email ID and Password.

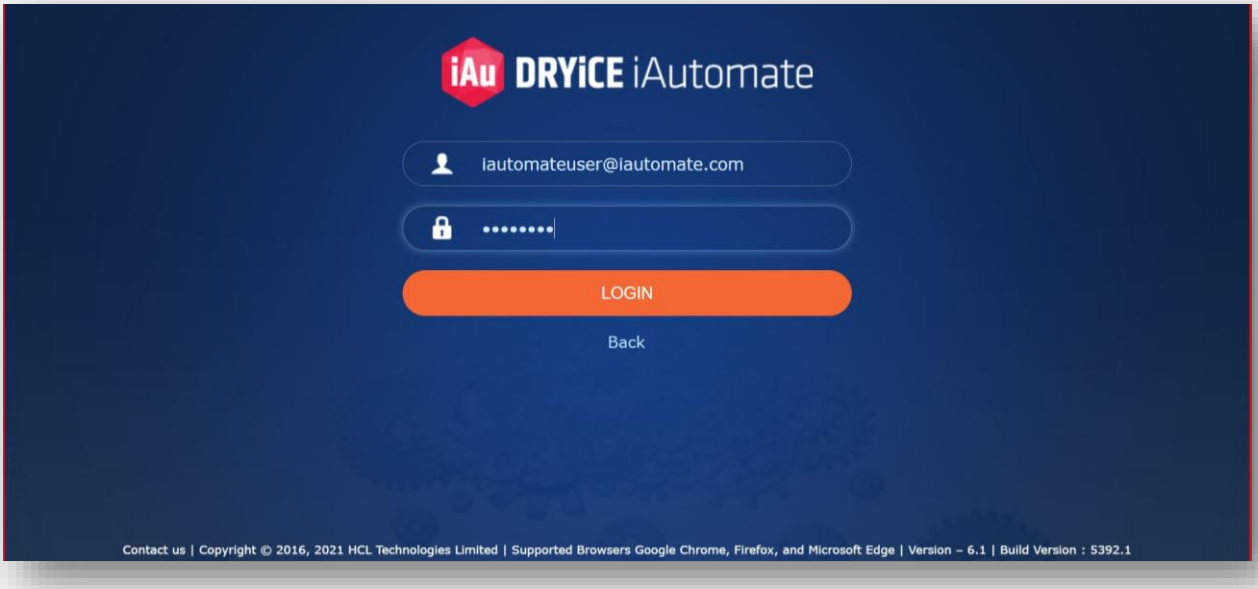

Figure 23 - iAutomate Login Screen – Email ID and Password

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8. Next, click on **LOGIN** button. It will take you to the welcome screen of iAutomate as shown in Figure 24 - iAutomate Welcome Page.

Figure 24 - iAutomate Welcome Page

5.1.2 Login as Super Admin

1. Launch a web browser and provide the iAutomate Web Portal URL.
2. On the **iAutomate Login** page, type super admin email ID in the **Email** field as shown in Figure 25 - iAutomate Login Page – Super Admin.

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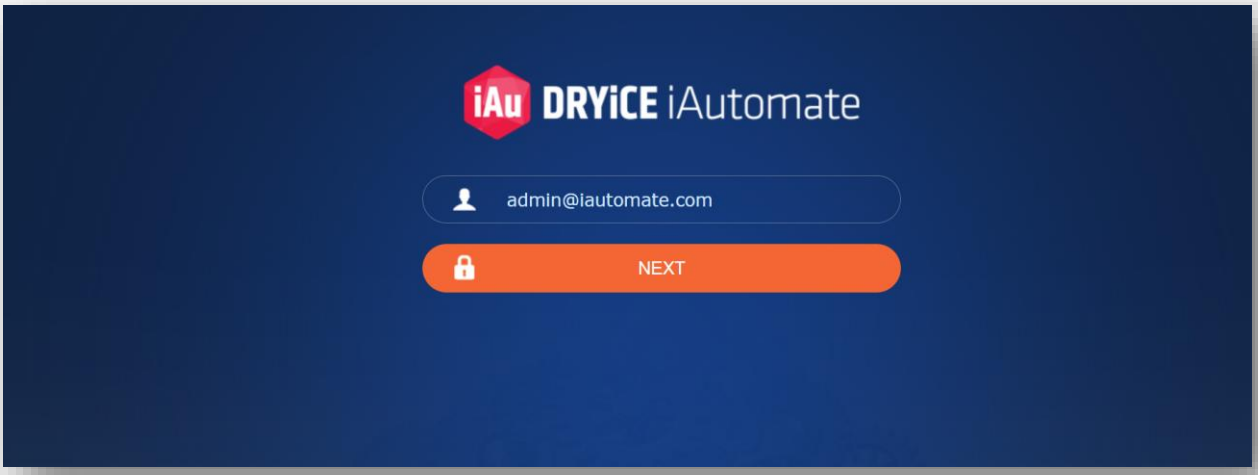

Figure 25 - iAutomate Login Page – Super Admin

3. Next, please provide the password for super admin as mentioned in table as shown in Figure 26 - iAutomate Login Page – Super Admin (password).

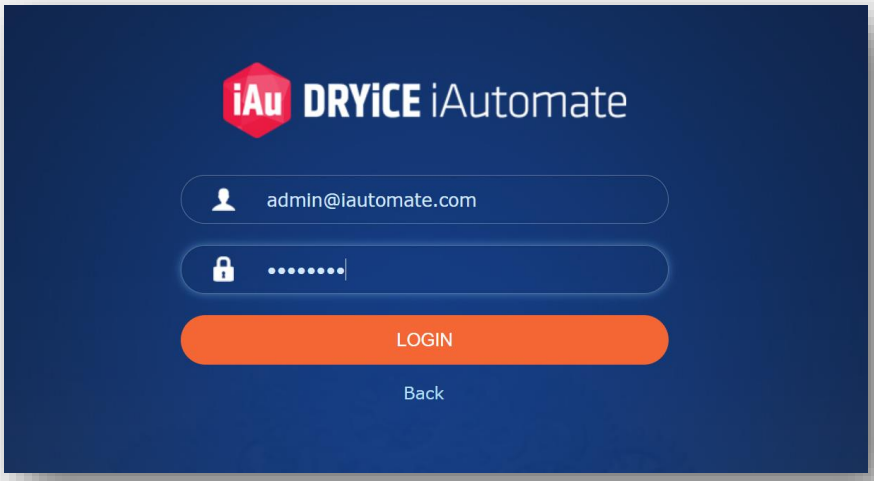

Figure 26 - iAutomate Login Page – Super Admin (password)

4. This will redirect you to the welcome page of iAutomate as shown in Figure 27 - iAutomate Welcome Page – Super Admin.

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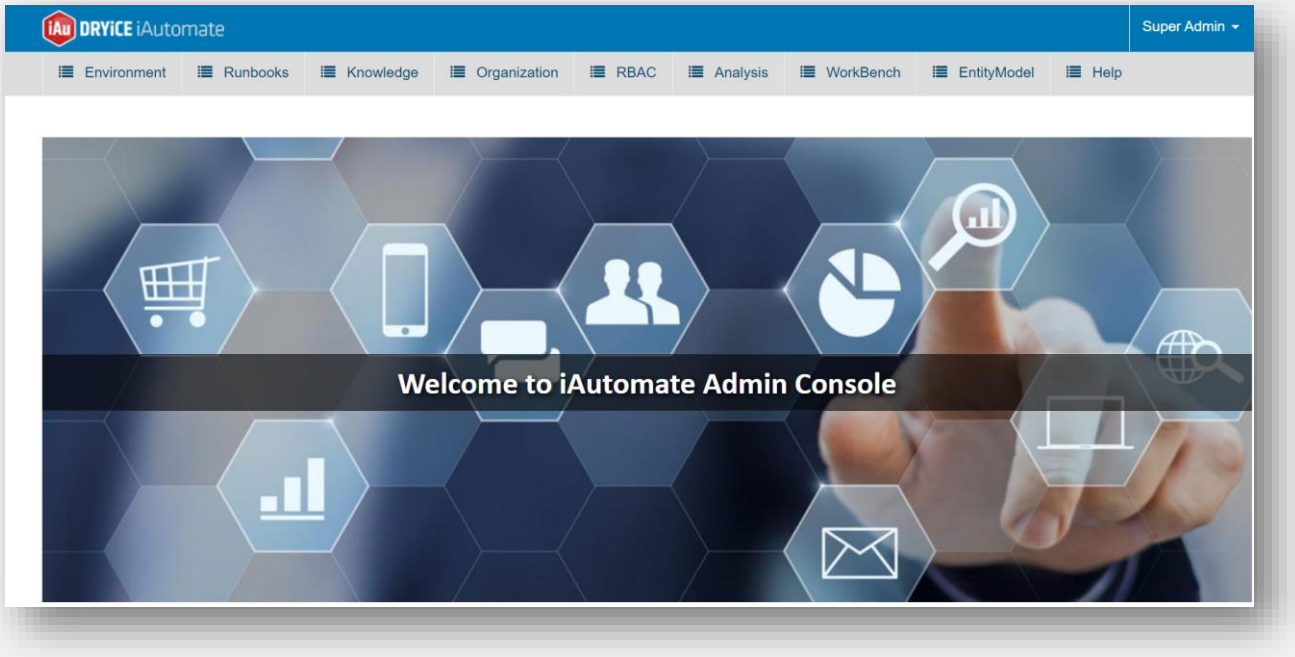

Figure 27 - iAutomate Welcome Page – Super Admin

For Super-admin user, iAutomate will not prompt you to change password during the first login. We recommend to change the password for super-admin or any user then follow the further steps:

5. Navigate to the top right corner and click on user's role as shown in Figure 28 - Verify user role.

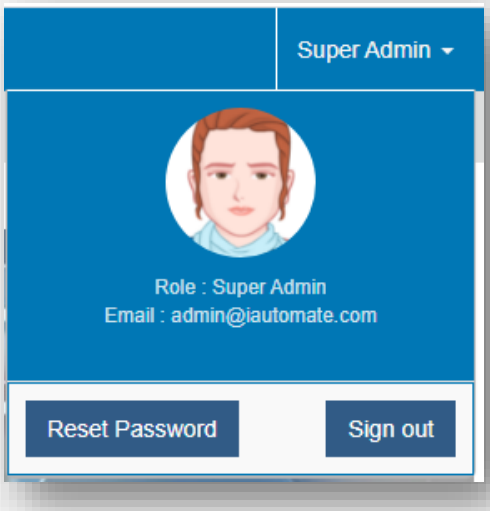

Figure 28 - Verify user role

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6. Next, expand the panel on the top right corner and click on **Reset Password** button. It will redirect to **Reset Password** screen as shown in Figure 29 - Password Reset – Super Admin.

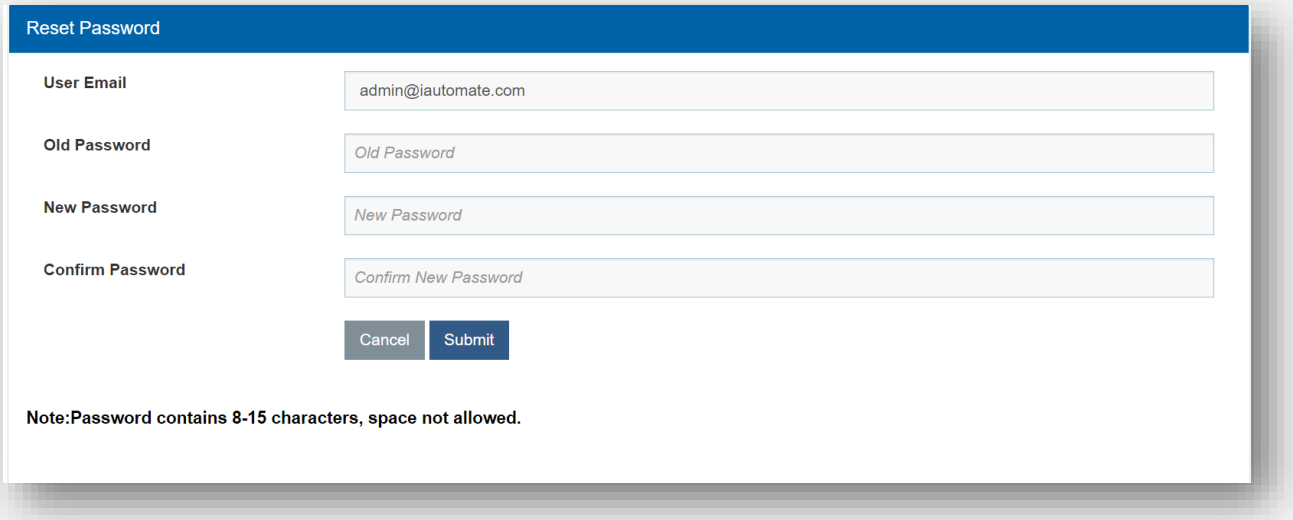

Figure 29 - Password Reset – Super Admin

7. Enter the User Email, Old Password, New Password and Confirm Password details.

a. Click **Submit**. A confirmation message is displayed as shown in Figure 30 - Confirmation – Password Reset.

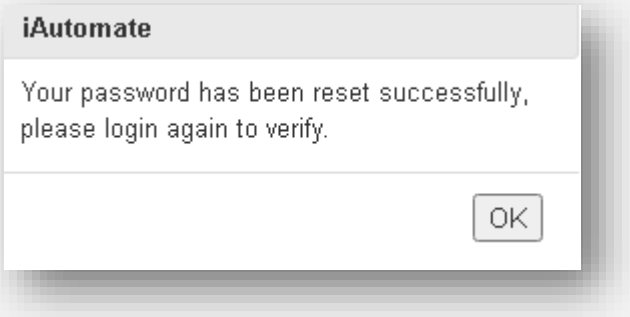

Figure 30 - Confirmation – Password Reset

8. Click **OK** and the user will be redirected to the **Sign In** page as shown in Figure 31 - iAutomate Login Page.

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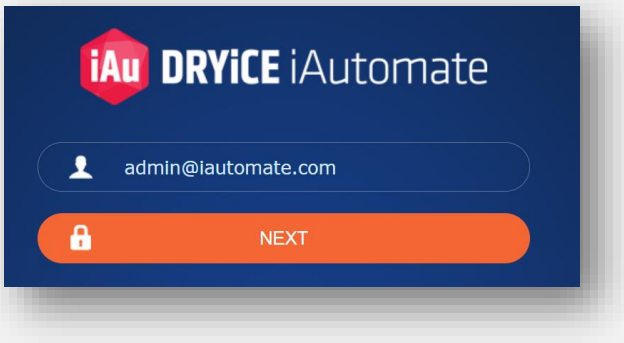

Figure 31 - iAutomate Login Page

By end of this section, user should be able to login into iAutomate as Organization admin as well as super-admin. In following section covers the required configuration to run iAutomate over tickets.

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6 Basic Manual Configuration

As part of the product deployment process, some of the configurations are already in place. However, to start consuming the product, certain additional configurations are required to be manually performed. The steps to be followed are mentioned below, with reference to detailed product guides, which can be further used for reference as well for detailed configuration procedures.

6.1 Create Data Source

In this section, data source will be created to integrate with ITSM tool. For this exercise, SNOW ITSM will be integrated to iAutomate via data source. Follow steps below to configure ITSM details in data source.

1. Open iAutomate Web URL and login with Customer Organization Admin (iautomateuser@iautomate.com) credentials.
2. Go to **Organization** and click **Create Data Source**.

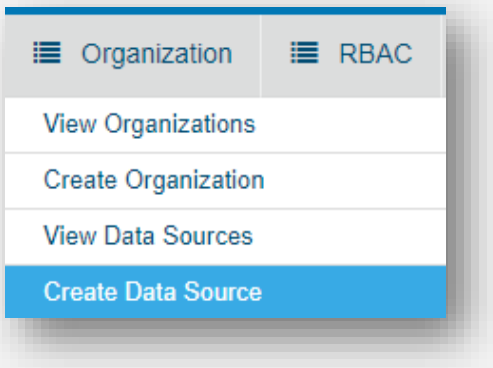

Figure 32 - Create Data Source

The **Create Data Source** page appears.

3. On the **Organization** tab, select the organization for which user wants to create the data source from the **Organization Name** field. For e.g., DRYiCE.
4. Select a module, where the organization brings the data from the data source (ITSM) in iAutomate, from the **Module** field. iAutomate supports 8 different types of modules as shown below:
   a. Incident Management
   b. Service Request Task
   c. Change Request Task
   d. CMDB CI

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e. SR Request Item
f. Service Request
g. Change Request
h. Event Management

These modules are mapped while creating an organization in iAutomate. For this guide, Incident Management module has been automatically mapped to Organization DRYiCE. So, select module as Incident Management.

5. Upon selection of the **Module**, two additional input parameters will be populated – **Is Ticket Closure Managed by iAutomate job** & **Is Ticket InProgress Managed by iAutomate job.** Leave them as it is.
6. Service represents type of ITSM tool to be integrated. For this guide, select value for Service as "**ServiceNOW** Tool".
7. Select Integration Type to integrate between iAutomate and ITSM Tool. iAutomate supports two types of integration i.e., REST API and SOAP API. For this guide, select value for **Integration Type** as "REST API".
8. Click **Next**.

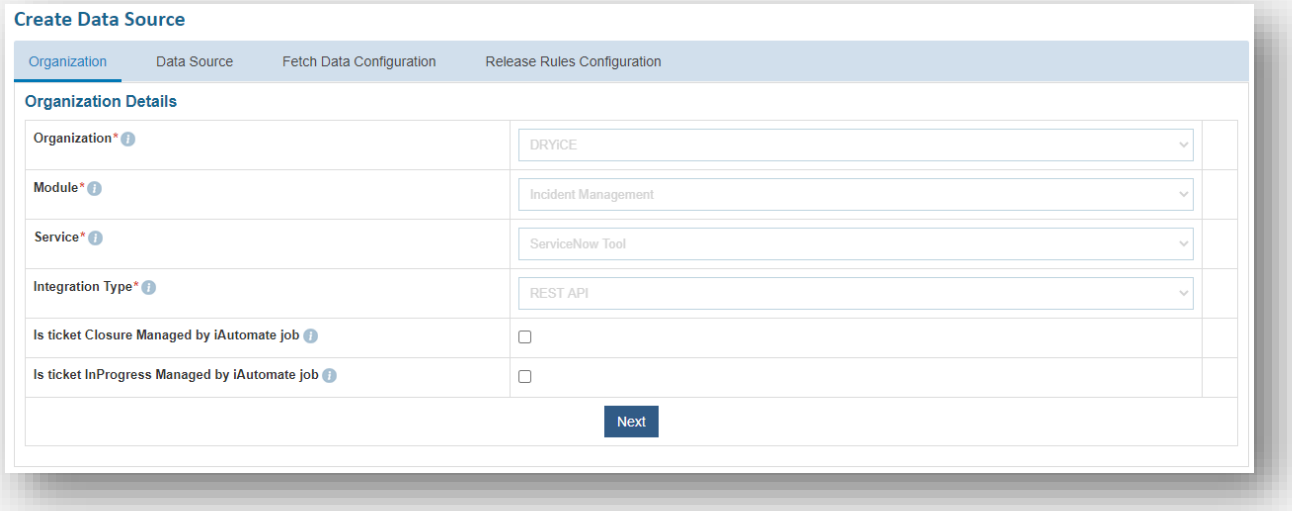

Figure 33 - Create Data Source (cont.)

9. On the **Data Source** tab, define data source name. For e.g., **DRYiCE_DataSource**.
10. Select 'GMT' as **Timezone** as.
11. **Timestamp** here indicates that whether date is in EPOC format or not. Select this option if date field in tickets' data is not in EPOC format.

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12. Analysis Enabled option will be selected by default. This option will be disabled for any changes.
13. Enter the **Seed Limit** *(Limit of number of records fetched in single API call)* as **1000** (Default) and click **Next.**

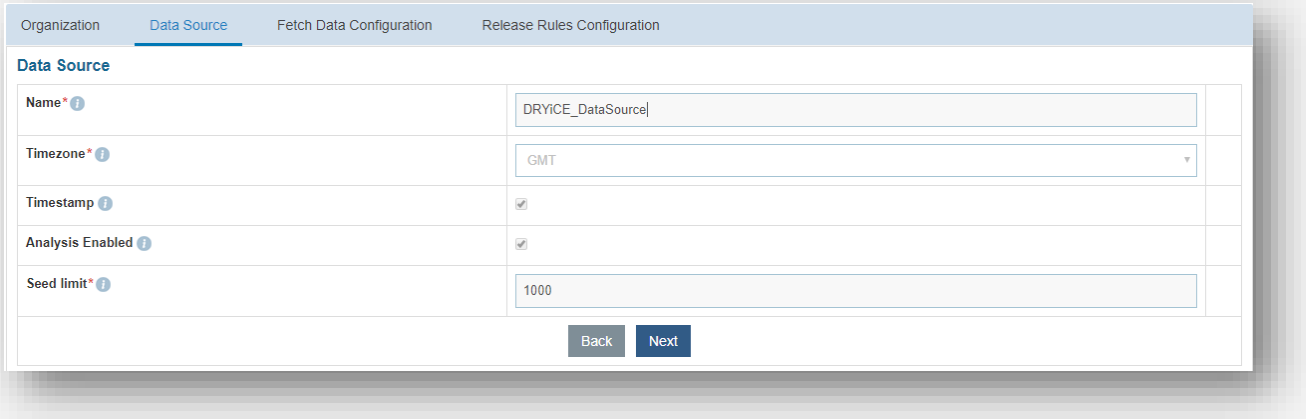

Figure 34 - Create Data Source (cont.)

14. On the **Fetch Data Configuration** tab, type in the details as per your requirement. It includes multiple sections.

– **Connection Details**

Sample information that can be populated –

- ***URL -*** *https://sample.service-now.com/api/now/v1/table/incident?sysparm_fields=#Columns#&sysparm_query=sys_updated_on>=#StartDate#^sys_updated_on<=#EndDate#^ORDERBYsys_updated_on.*

Authentication Type, User ID, and Password should be of your ITSM system.

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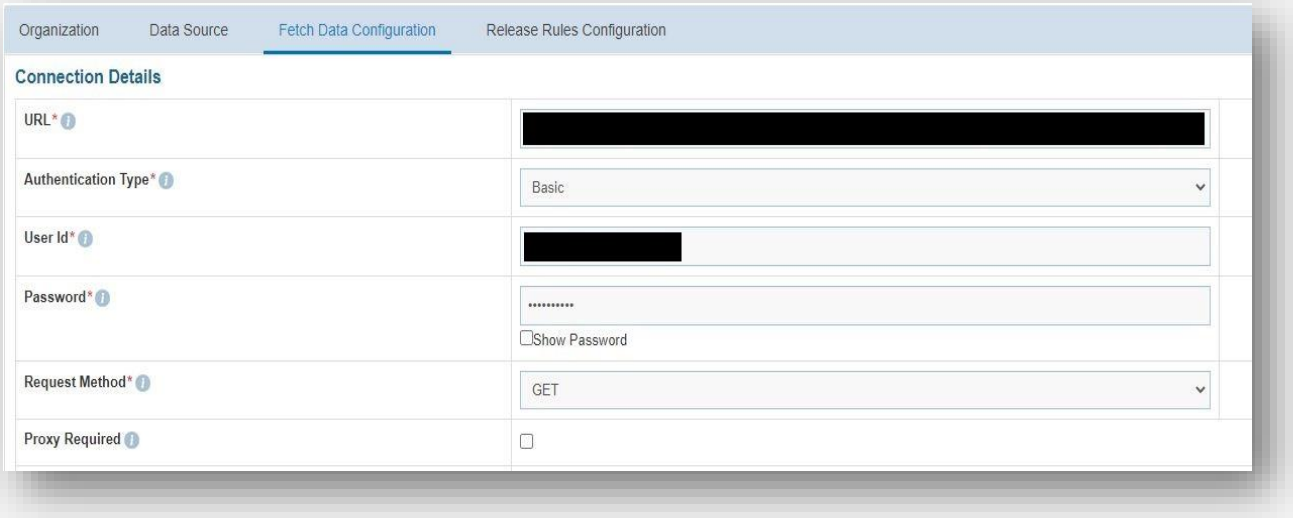

Figure 35 - Connection Details

– **Request Authentication Parameters and Request Header Parameters**

See below the sample information:

```
Key: #Columns#
ValueType: Text
Value:
number,sys_updated_on,short_description,description,assignment_gro
up,incident_state,closed_at,category,dv_assigned_to,sys_id

Key: #StartDate#
ValueType: SQL UDF
VALUE: @@GetFromDateTimeUsingIncidentModifiedDate (applicable for
ITSM Tool: SNOW)

Key: #EndDate#
ValueType: SQL UDF
VALUE: @@GetToolCurrentDateTime (applicable for ITSM Tool: SNOW)
```

```
Response Body:

{  "result": [{   "number": "INC0079154",   "closed_at": "",
"assignment_group": {    "link": "<https://sample.service-
now.com/api/now/v1/table/sys_user_group/All user group>",
"value": "All user group"   },   "incident_state": "6",
```

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```
"sys_created_on": "2017-12-22 06:59:03",   "description": "Memory
Utilization:10.0.0.11", "short_description": "Memory
Utilization:10.0.0.11",  "sys_updated_on": "2018-01-02 06:39:56",
"category": "",   "priority": "4",   "sys_id": "123456"  }] }
```


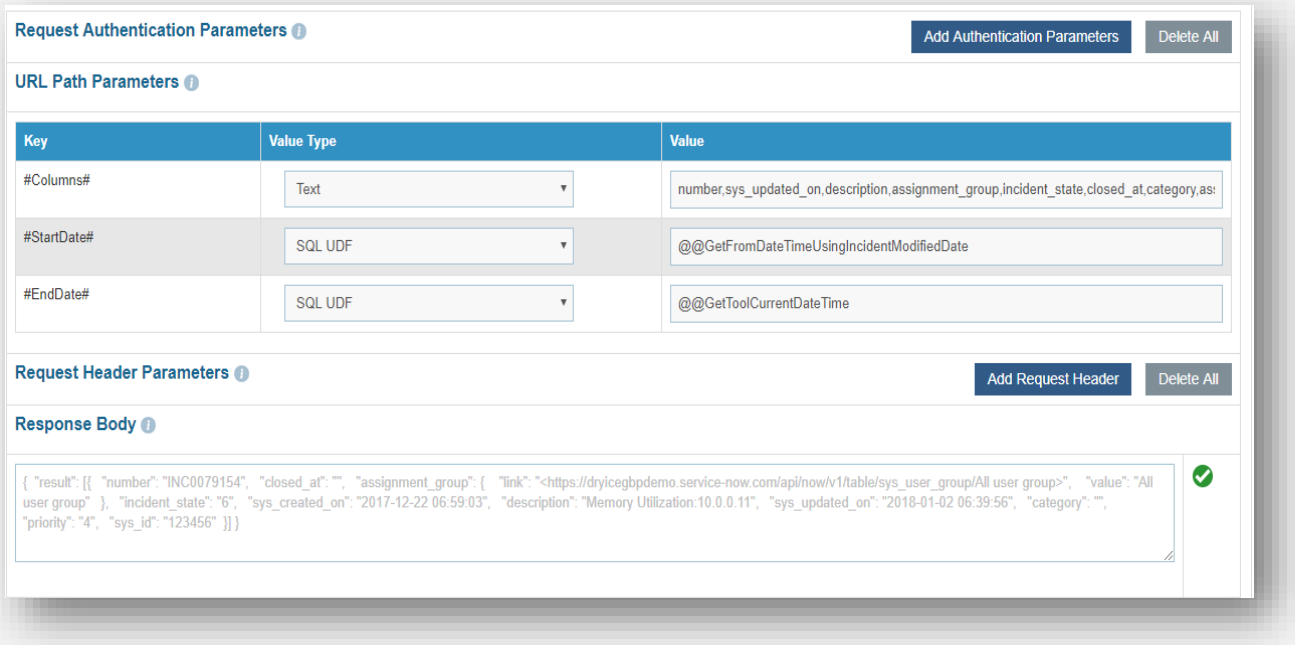

Figure 36 - Request Authentication Parameters

– **Mandatory Parameter Mapping**

This section maps the mandatory columns required for iAutomate with the fields available in response received. The field values are the same as the ones available in JSON added in **Response Body** section. Refer to below table for sample information:

Table 6 – Sample Mandatory Parameter Mapping

Key	Value Type	Value
TicketNumber	JSON.Keys	result.0.number
Summary	JSON.Keys	result.0.short_description
Description	JSON.Keys	result.0.description
CreatedDate	JSON.Keys	result.0.sys_created_on
StatusCode	JSON.Keys	result.0.incident_state
ResolvedDate	JSON.Keys	result.0.closed_at
LastModifiedDate	JSON.Keys	result.0.sys_updated_on

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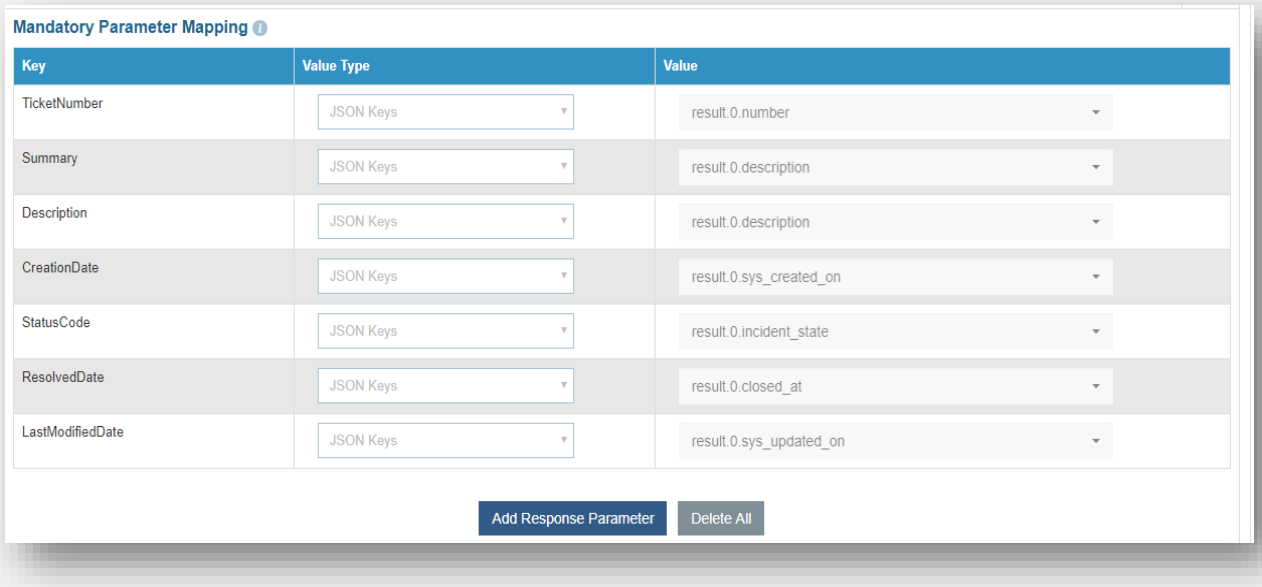

Figure 37 - Mandatory Parameter Mapping

– **Optional**

This section is an extension to **Mandatory Parameter Mapping** section. You can create additional columns in Automate database if extra parameters are to be mapped. Refer to table below for sample information:

Table 7 – Sample Extended Mandatory Parameter Mapping

Key	Value Type	Value
AssignedGroup	JSON.Keys	result.0.assignment_group.value
Col1	JSON.Keys	result.0.sys_id

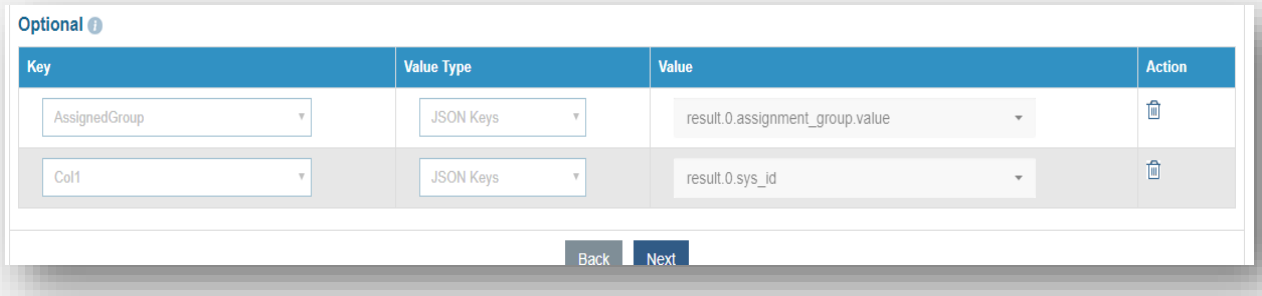

Figure 38 - Optional Key Parameters

15. Click **Next** after populating all the sections in **Fetch Data Configuration** tab.
16. On the **Release Rules Configuration** tab, type in the details as per your requirement.

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– **ITSM (PUT)** details have to be entered as shown in below screenshot. See below the sample information:

- **URL**: https://sample.service-now.com/api/now/table/incident/#incident#

AuthenticationType, **UserId**, **Password**, and **RequestMethod** should be of your ITSM system.

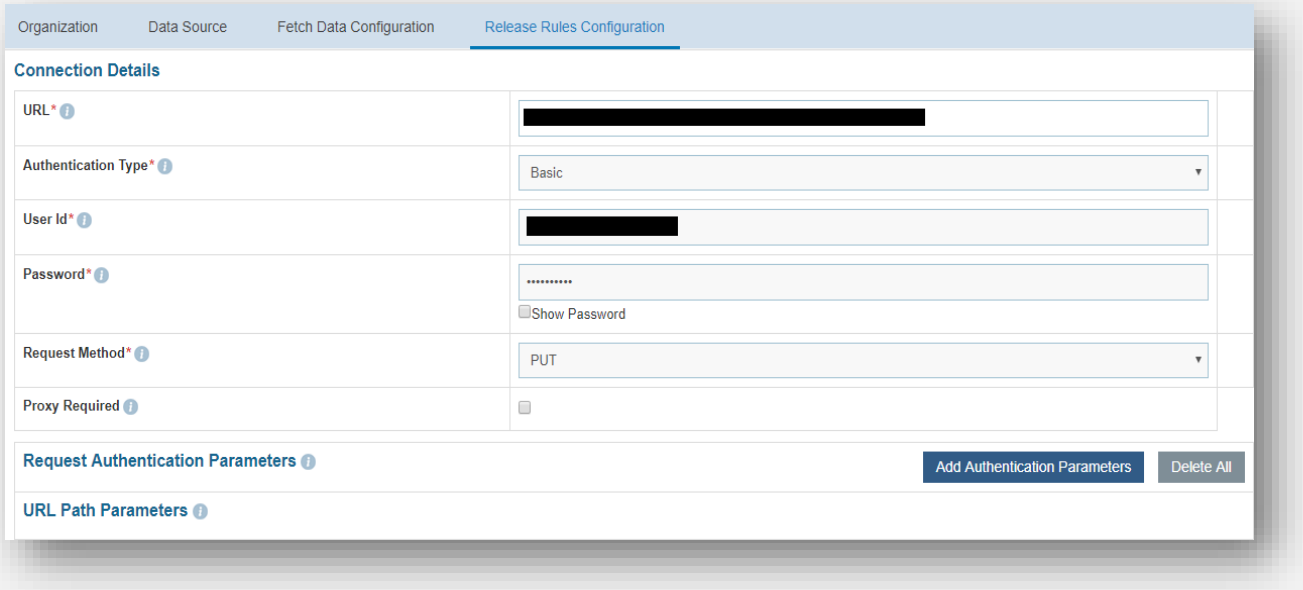

Figure 39 - Release Rules Configuration

- It also has the other fields. **Request Payload** should be populated in following fields:

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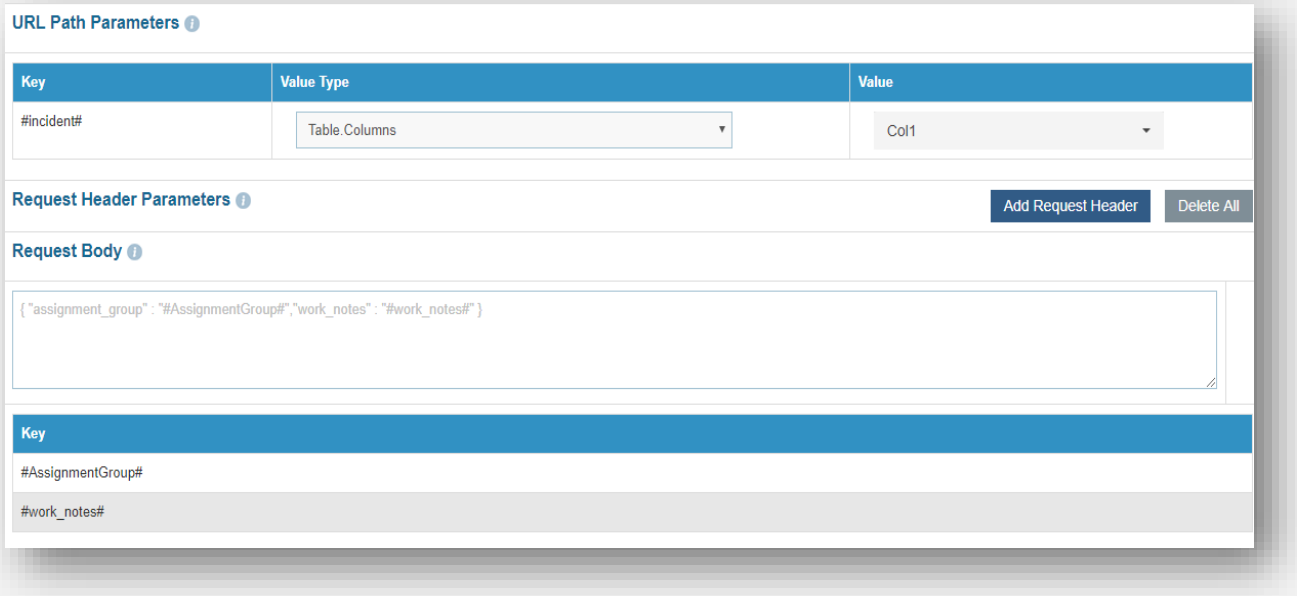

Figure 40 - URL Path Parameters

- Considering that sample information has been populated in as in Figure 38 - Optional Key Parameters , URL Path parameters sample value can be referenced from the table below:

Table 8 – Sample URL path Parameter

Key	Value Type	Value
Incident	Table.Columns	Col1

- For sample **Request Body**, see below**:**

```
RequestBody
{ "assignment_group" : "#AssignmentGroup#","work_notes" :
"#work_notes#" }
```

- Sample request can be captured in the following fields:

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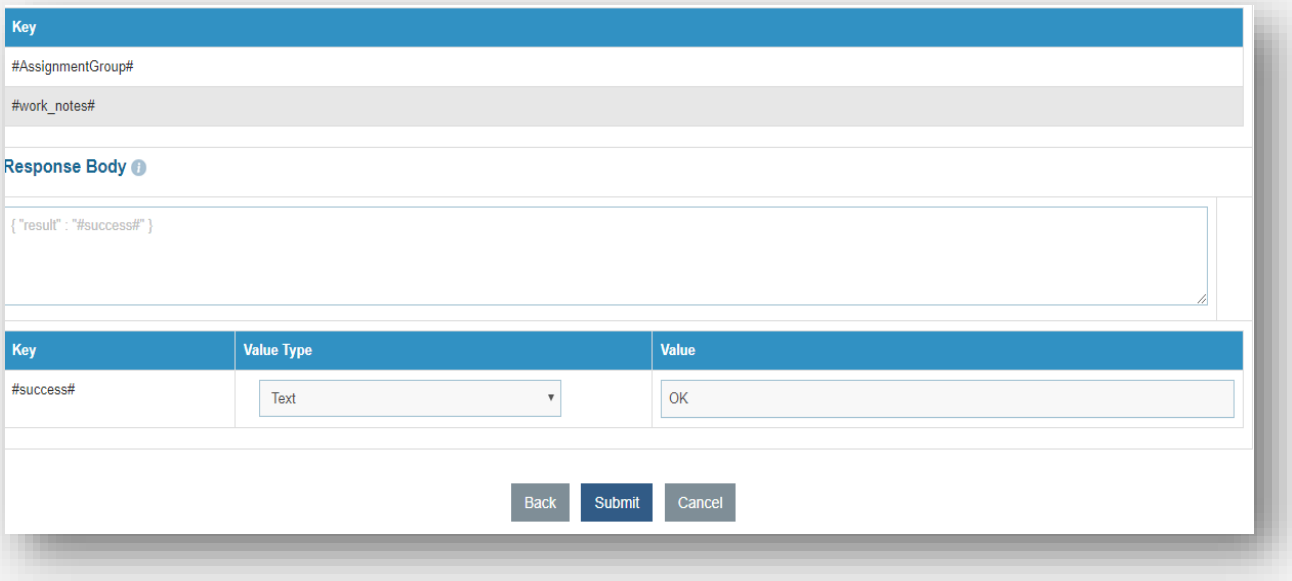

Figure 41 – Key Parameters Sample Request

- For sample **Response Body,** refer to the following section:

```
Response Body
{ "result" : "#success#" }
```

- **Response Key value** mapping can be done as per below table:

Table 9 – Sample Response Key value mapping

Key	Value Type	Value
#success#	Text	OK

17. Click **Submit** to create the data source.
18. To view the data source and related information, go to **Organization** and click **View Data Source**.
19. Ensure that the newly created data source is visible in the list.

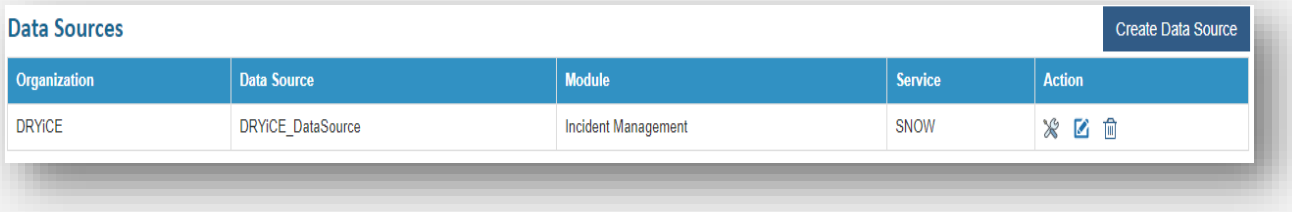

Figure 42 - Data Source List

20. To manage the entry criteria, click gear icon in **Action** column against the data source.

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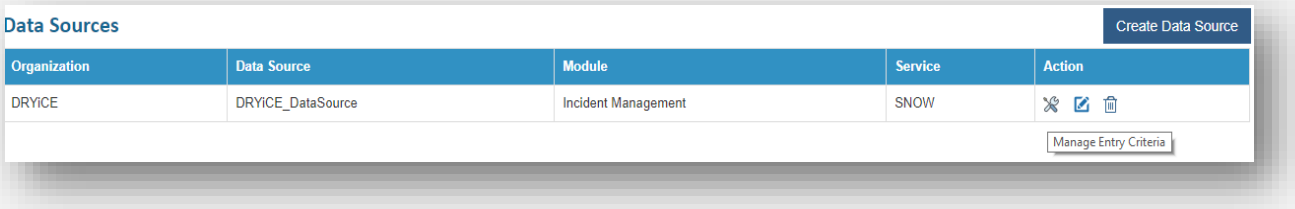

Figure 43 - Data Source List (Cont.)

21. The **Manage Entry Criteria** popup appears.

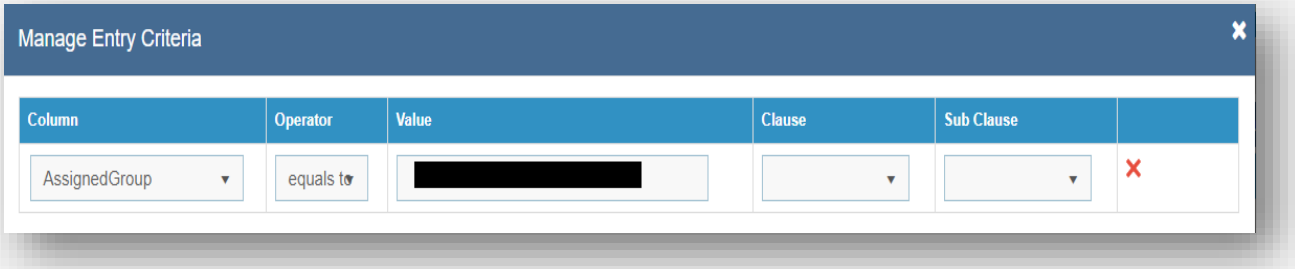

Figure 44 - Manage Entry Criteria

22. Define entry criteria on this screen. For example, if you want to pull tickets for **iAutomate Group** Assigned group only, then you can save the same filter condition as shown in above screen.

6.2 Create Users

By default, you are provided with a Super Admin and Organizational Admin user credentials. If required, additional users can also be created and mapped to roles and groups.

For user management, perform the following steps:

1. On the main menu bar, click **Organization**.
2. Click **User Management**.

   The **User Management** page appears.

Figure 45 - User Management

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It lists the available users in a tabular view and allows user to create a new user, edit the existing user, and assign widgets to users.

6.2.1 Add New User

A Super Administrator or Organization Admin can add a new user in an organization by performing the following step:

1. On the **User Management** screen, click **Add New**.
2. The **Add User** page appears.

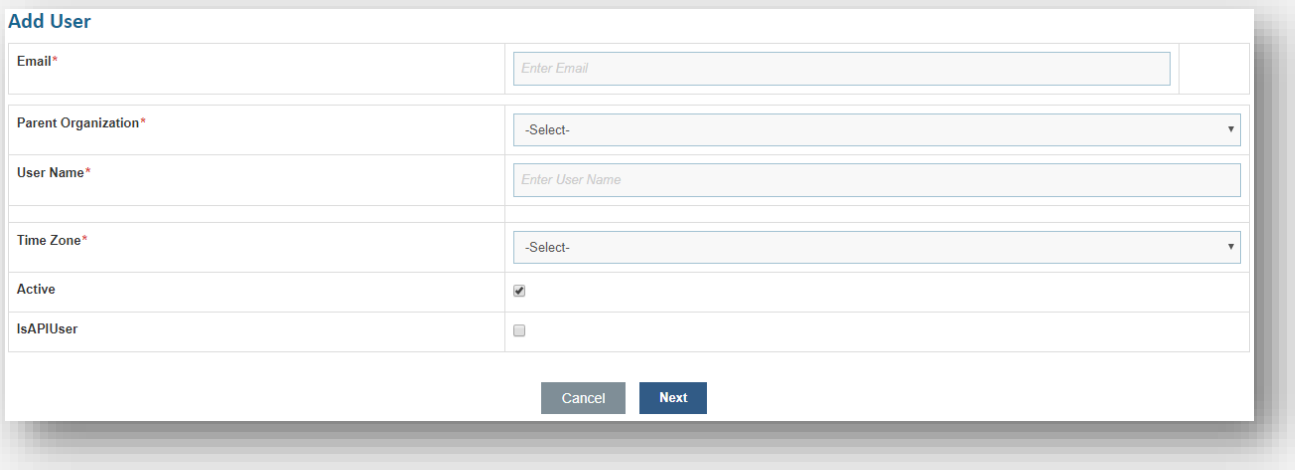

Figure 46 - Add New User

3. You must provide the details for the following fields on the **Add New User** page.
   a. Specify the email address to send or receive notifications in the **Email** field.
   b. Select the organization to which the user belongs in the **Parent Organization**.
   c. Further fields populate based on the authentication type of selected organization.
   d. In case of selecting the organization with **Form Based Authentication**, the user password will be auto generated in the **Password** field. This password field remains invisible in case of organization with SAML and LDAP based authentication.

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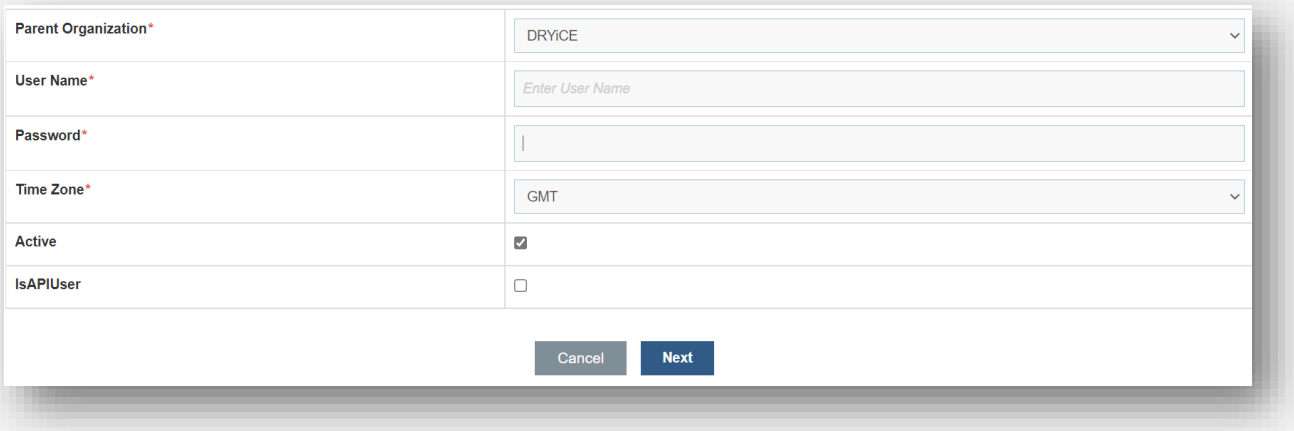

Figure 47 - Select Organization

e. Type the username of the user in the **UserName** field to authenticate the user.

f. Select **Time Zone** to which the user belongs.

g. Select **Active** check box to activate the user immediately after creation.

h. Select **IsAPIUser** check box to enable the user to access certain services of iAutomate only through APIs and not the Web User Interface.

i. Click **Next**. It prompts user to select an **Organization**.

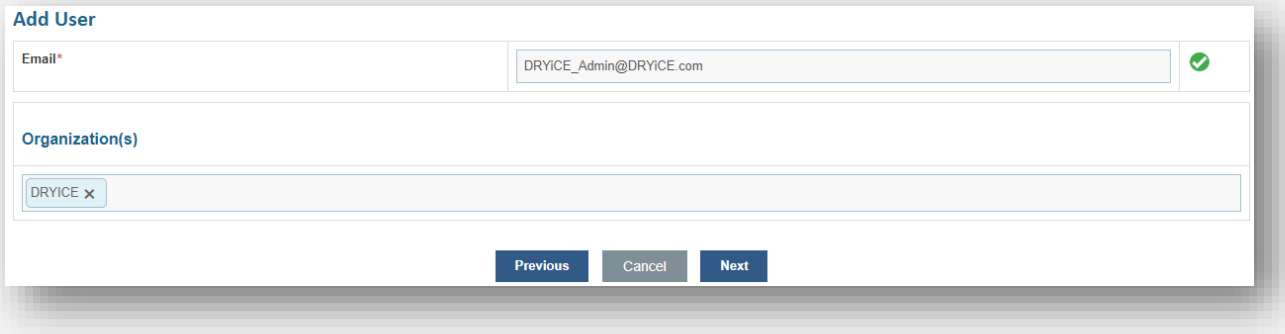

Figure 48 - Add New User (Cont.)

j. Click **Next**. This navigates user to another screen that lists the existing organization and module to configure the organization for the selected user.

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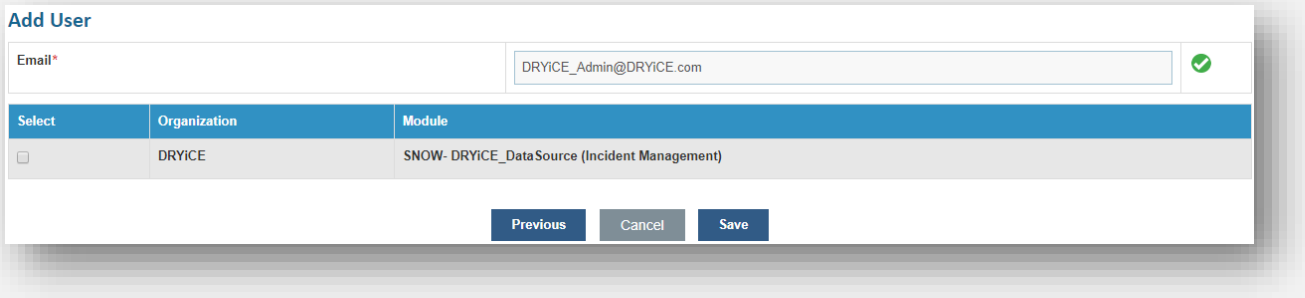

Figure 49 - Add New User (Cont.)

k. Select the checkbox of the specific customer and then click **Save**.

A confirmation dialog box appears.

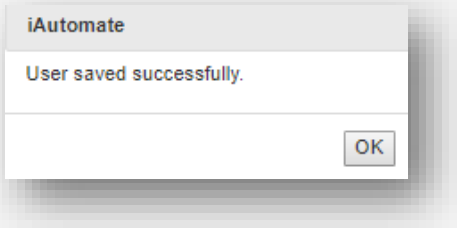

Figure 50 - Add New User (Cont.)

The new user is added and appears in a list of users.

6.3 Map Runbook Tool

The next step is to map the Runbook Tool to the Organization.

To map a runbook tool, perform the following steps:

1. On the main menu bar, click **Organization**, and then click **Map Runbook Tool**.

   The **Map Runbook Tool** page appears and lists all the mapped runbook tools in a tabular view.

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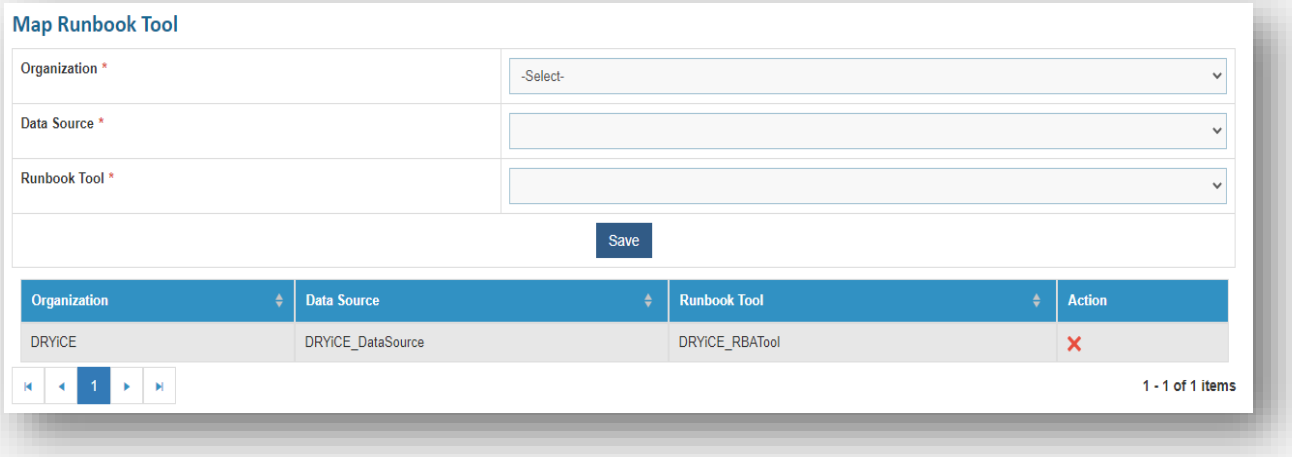

Figure 51 - Map Runbook Tool

2. Select an organization from the list of organizations listed in the **Organization Name** field.
3. Select a data source to fetch the data from the list of data sources listed in the Data **Source Name** field.
4. Select a runbook tool to execute the data from the list of runbook tools listed in the **Runbook Tool Name** field.

You can map multiple runbook tools to an organization.

5. Click **Save**.

   The new runbook tool is mapped to an organization and lists in the tabular view.

All fields marked with an asterisk (*) are mandatory.

If required, user can delete a mapped runbook tool from an organization by clicking ✕ next to the runbook tool.

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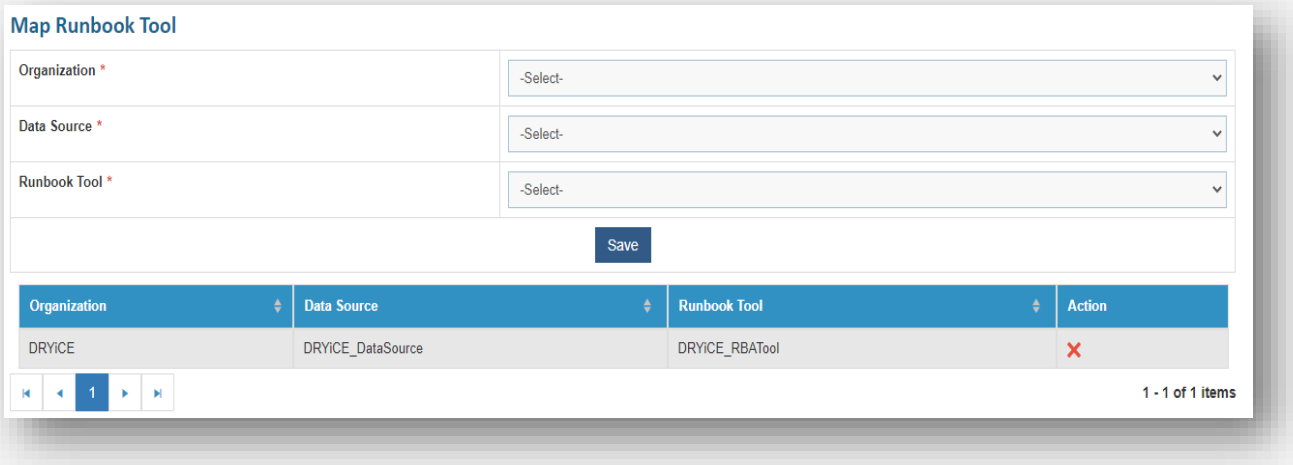

Figure 52 - Map Runbook Tool (Cont.)

6.4 Manage Execution Scope

1. Open iAutomate Web URL and login with Customer Organization Admin (iautomateuser@iautomate.com) credentials.
2. Go to **Organization** and click **Manage Execution Scope**.

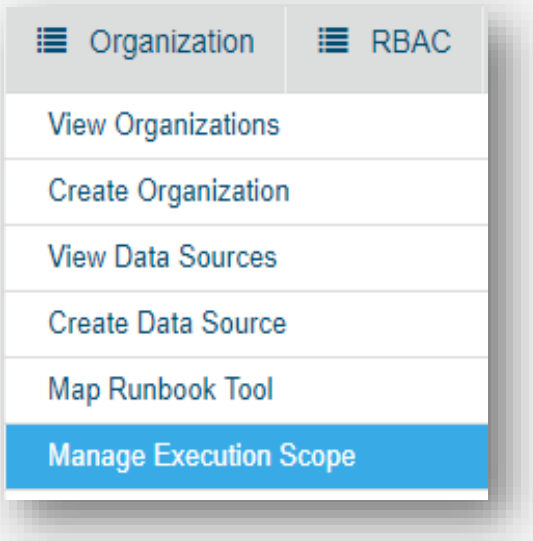

Figure 53 - Manage Execution Scope

3. Select **Organization** and **Data Source** from respective dropdowns.
4. Select **Runbook Tool** mapped with the organization and type in the **Runbook Tool Tenant ID** (optional).

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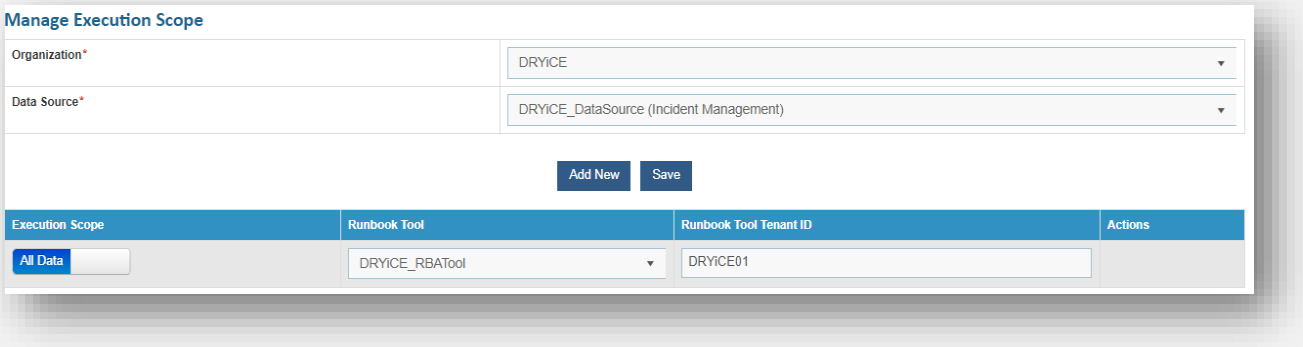

Figure 54 - Figure - Manage Execution Scope (cont.)

5. Click **Save**.

6.5 Release Rule Configuration

1. Open iAutomate Web URL and login with Customer Organization Admin (iautomateuser@iautomate.com) credentials.
2. Go to **Organization** and click **Manage Release Rules**.

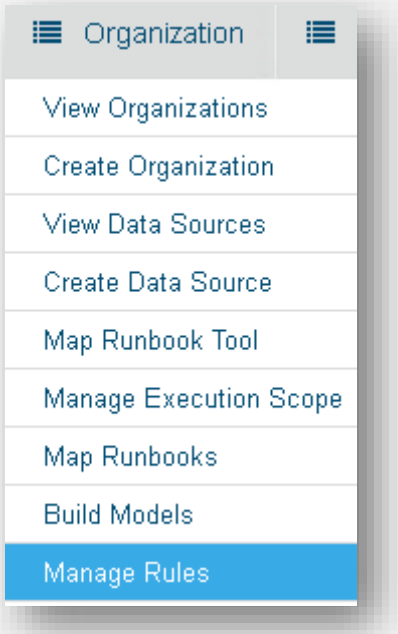

Figure 55 - Manage Release Rules

3. Select DRYiCE as the **Organization**.
4. Select 'DRYiCE_DataSource' as the **Data Source**. Select 'Release' as the **Configuration**.

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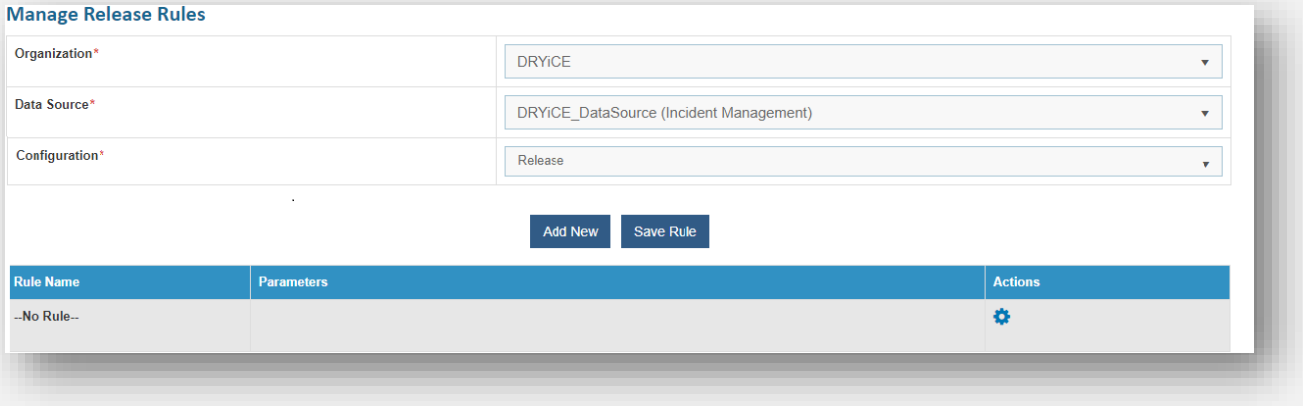

Figure 56 - Manage Release Rules

5. Click gear icon under the **Actions** column. A popup window for configuring **Parameters** will appear. Enter 'Transfer Group' in the **Assignment Group** field and 'Out of Scope' in **Work Notes** field.

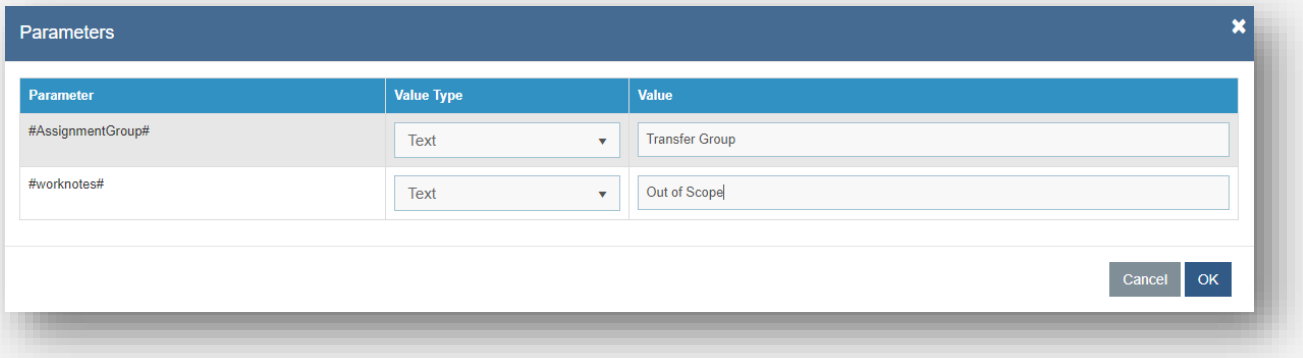

Figure 57 - Manage Rule Parameters

6. Click **OK** to save the parameters**.**
7. Click **Save Rule** to save the release rule configuration**.**

6.6 Map Runbooks

Multiple runbooks are already pre-configured and available as part of the initial setup. Additionally, in case additional runbooks need to be added and mapped, this can be done as part of this step.

To map a runbook, perform the following steps:

1. On the main menu bar, click **Organization**, and then click **Map Runbook**.
2. Select an organization from the drop-down list available in the **Organization** field.
3. Select a module from the list of modules configured to a selected organization in the **Module** field. This populates the runbooks in the following tabs.

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- **Organization Runbooks**- It lists all the runbooks mapped to the selected organization.
- **All Runbooks**- It lists all the runbooks available for mapping.

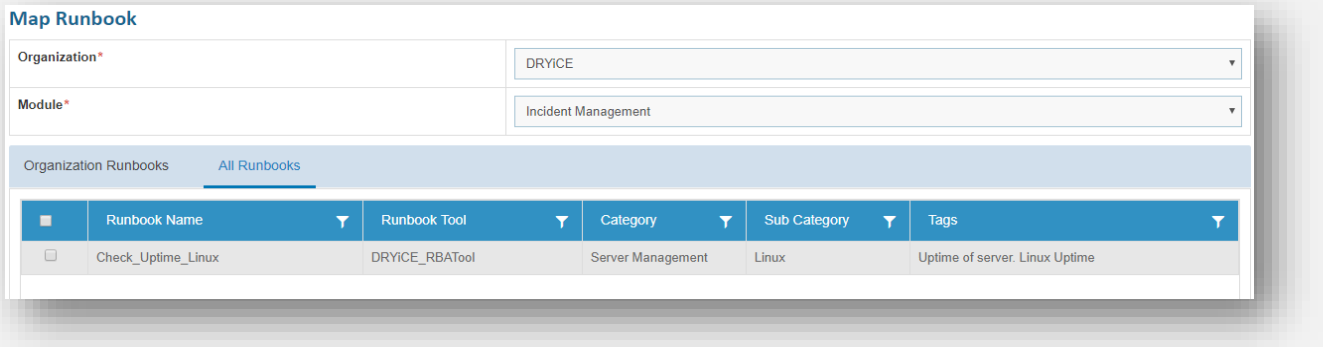

Figure 58 - Map Runbooks

4. The **Map Runbook** page allows user to map a new runbook and delete an existing, mapped runbook from an organization.

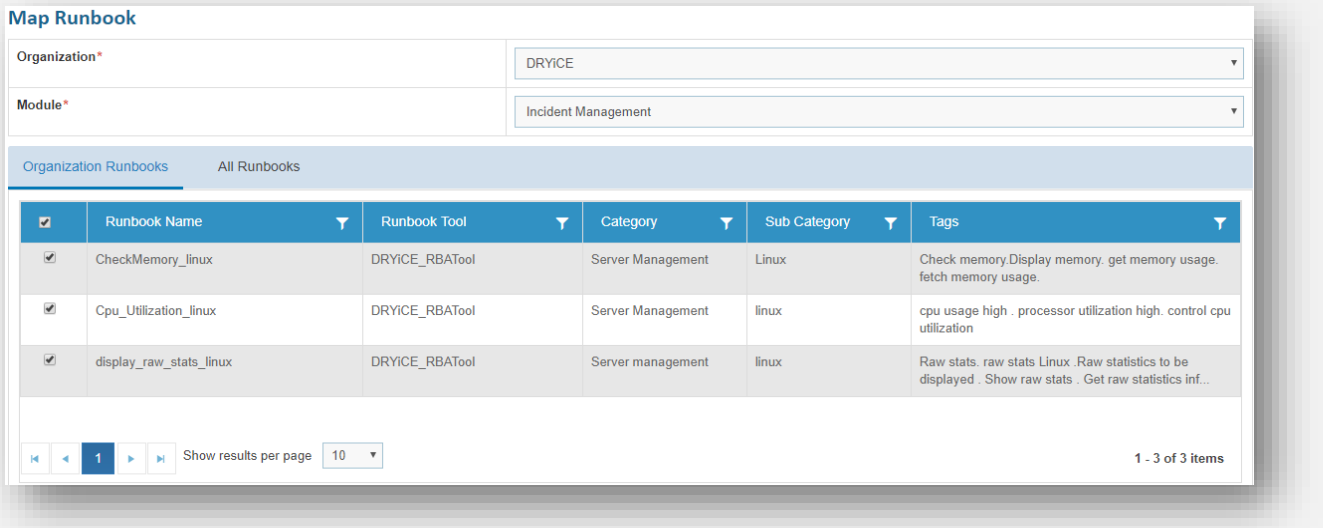

Figure 59 - Map Runbooks (Cont.)

5. To map a runbook, go to the **All Runbooks** tab.
6. Select the **Runbook** to be mapped.

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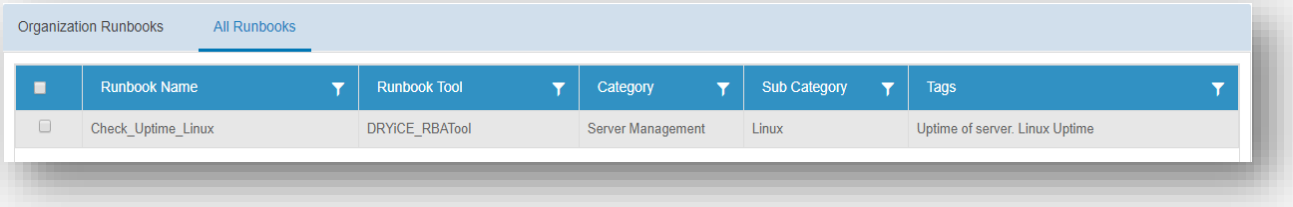

Figure 60 - Map Runbooks (Cont.)

A confirmation dialog box appears.

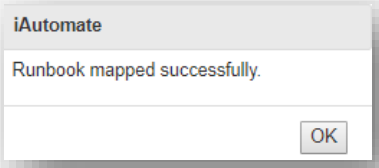

Figure 61 - Map Runbooks (Cont.)

7. To remove a runbook from an organization, go to the **Organization Runbooks** tab.
8. To delete an existing mapped runbook, clear the check box of that runbook.

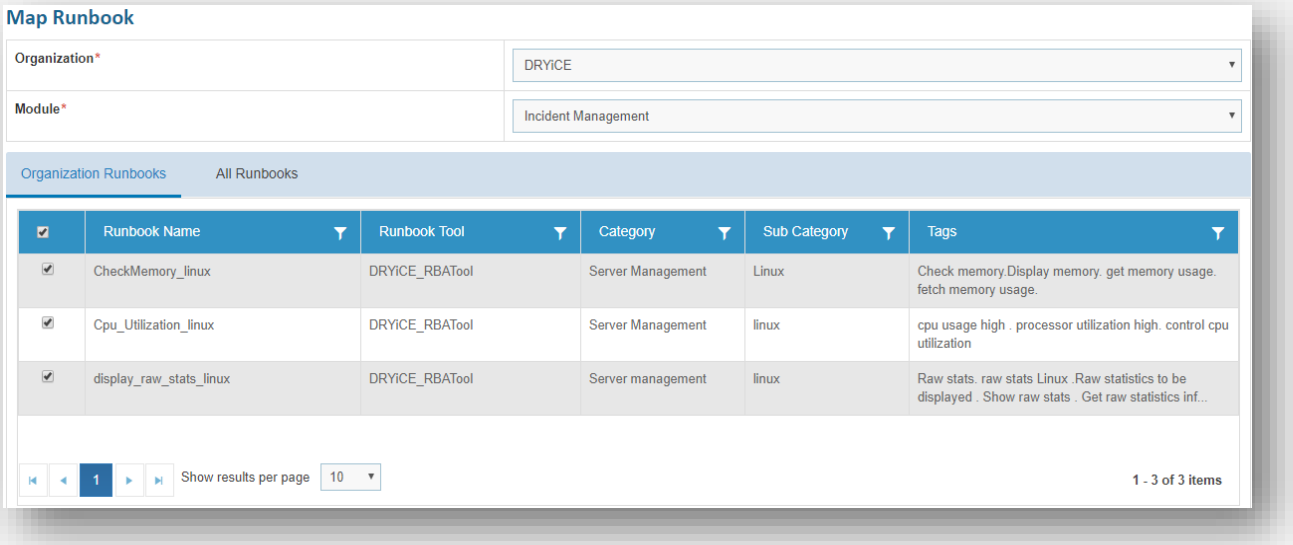

Figure 62 - Map Runbooks (Cont.)

9. Click **Yes** to confirm that you want to un-map the selected runbook.

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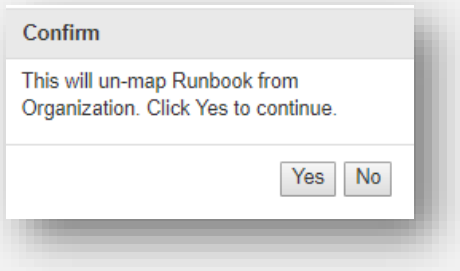

Figure 63 - Map Runbooks (Cont.)

A confirmation dialog box appears.

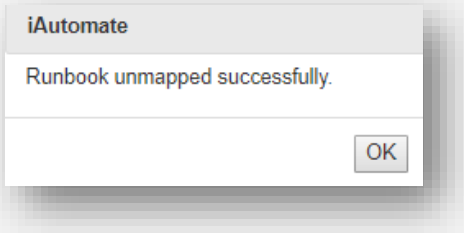

Figure 64 - Map Runbooks (Cont.)

6.7 Build Model for Recommendation

To enable the recommendation of relevant runbooks for the incoming tickets, the models build is required.

To build a model, perform the following steps:

1. On the main menu bar, click **Organization**.
2. Click Build Models.

   The **Build Models** page appears and lists the available build models with their status, the associated organization, module, and the runbook tool in a tabular view.

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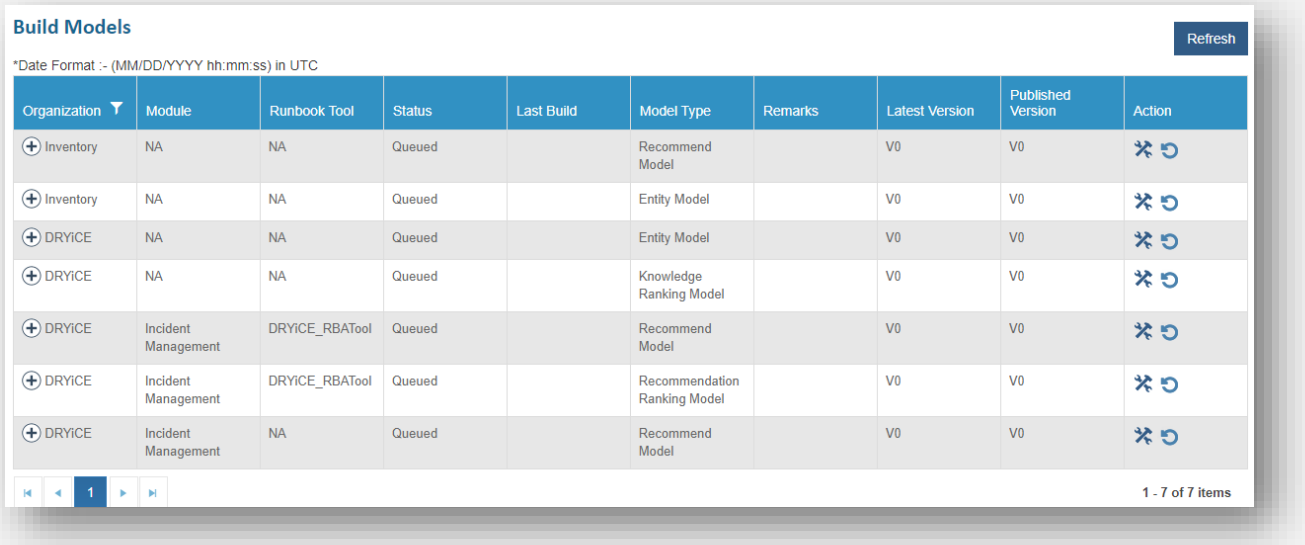

Figure 65 - Build Models

3. Using this page, a user can build four types of models:
    - **Entity Model** – This model is used to identify the entities (windows, Linux) from the runbook description and ticket summary.
    - **Recommendation Model –** This model is used to recommend the list of relevant runbooks based on the ticket summary.
    - **Recommendation Ranking Model –** This model is used to re-rank the list of recommended runbooks based on the resolution status of past executions.
    - **Knowledge Ranking Model –** This model is used to re-rank the list of relevant documents based on the user feedback.

A **Recommendation Model** cannot be created without creating the Entity Model. Also, a **Recommendation Ranking Model** cannot be created without the **Recommendation Model**.

6.7.1 Build Model

User can build any type of model for an organization by performing the following steps. Here, we have used Entity model as reference:

1. On the **Build Models** page, click next to the organization to build the model.

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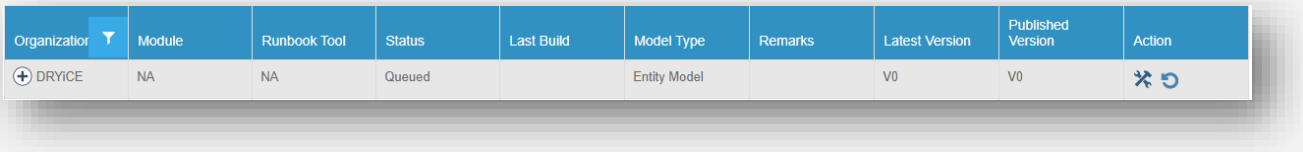


Organization	Module	Runbook Tool	Status	Last Build	Model Type	Remarks	Latest Version	Published Version	Action
DRYiCE	NA	NA	Queued		Entity Model		V0	V0	

Figure 66 - Build Models

A message confirming the initiation of model build appears.

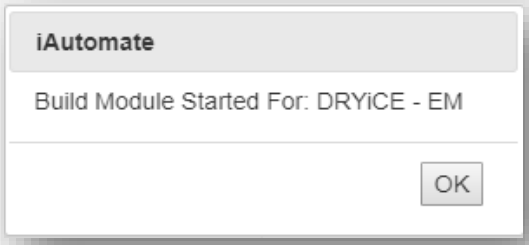
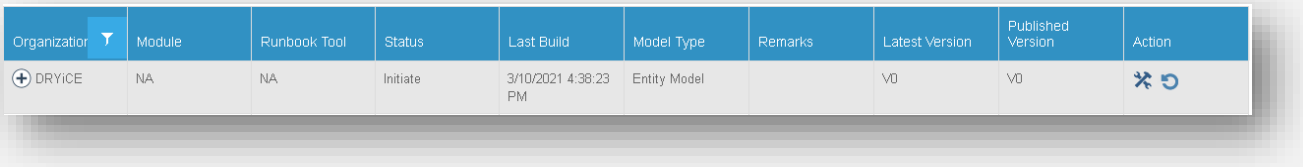


Figure 67 - Build Models (Cont.)

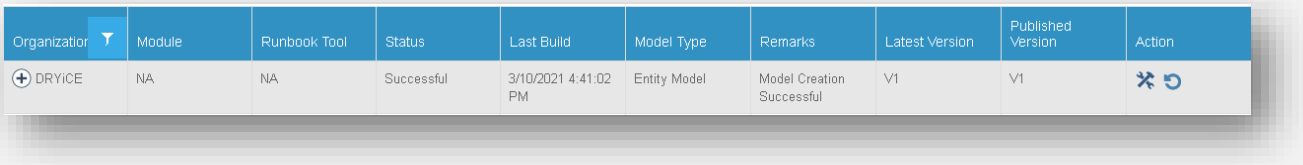
2. The status of the build changes from **Queued** to **Initiate**.



Organization	Module	Runbook Tool	Status	Last Build	Model Type	Remarks	Latest Version	Published Version	Action
DRYiCE	NA	NA	Initiate	3/10/2021 4:38:23 PM	Entity Model		V0	V0	

Figure 68 - Build Models (Cont.)

3. Once the build is successfully created, the status changes from **Initiate** to **Successful** and the **Remarks** column is updated.



Organization	Module	Runbook Tool	Status	Last Build	Model Type	Remarks	Latest Version	Published Version	Action
DRYiCE	NA	NA	Successful	3/10/2021 4:41:02 PM	Entity Model	Model Creation Successful	V1	V1	

Figure 69 - Figure - Build Models (Cont.)

4. Repeat steps (1-3) for model type "**Recommendation model**" as well for the same organization and runbook tool.

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7 Setup Validation

This section covers the procedure for enabling end to end ticket flow – from sourcing the ticket information from ITSM tool, recommending the relevant runbook based on ticket description and executing the runbook for automated resolution.

Please ensure that the user has the roles and privileges of Organization Admin and the valid access credentials.

Follow below steps to test end to end execution of ticket flow.

1. Open iAutomate Web URL and login with Customer Organization Admin (iautomateuser@iautomate.com) credentials.
2. Go to **Environment** and click **Manage Jobs**.

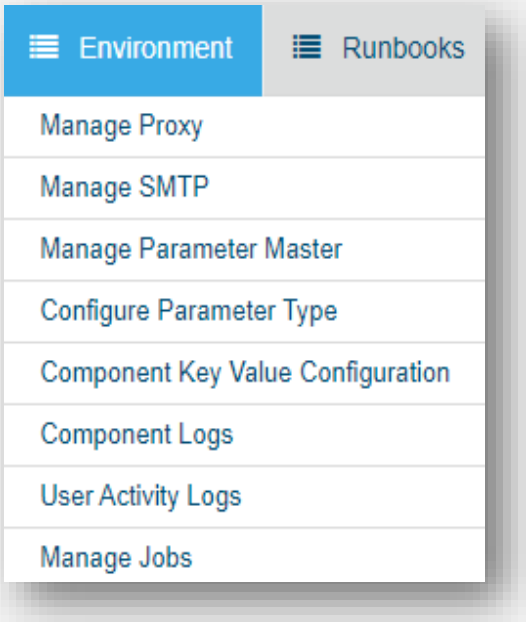

Figure 70 - Manage Jobs

3. Select the jobs mentioned in the below list and click **Enable Jobs**.

Table 10 - Types of Jobs with their description

Job Name	Job Description
CollectIncidentsDRYiCE	Responsible For Collecting Incidents From ITSM
RunRecommendationDRYiCE	Responsible For Recommendation Activity
RunParsingDRYiCE	Responsible For Parsing Activity

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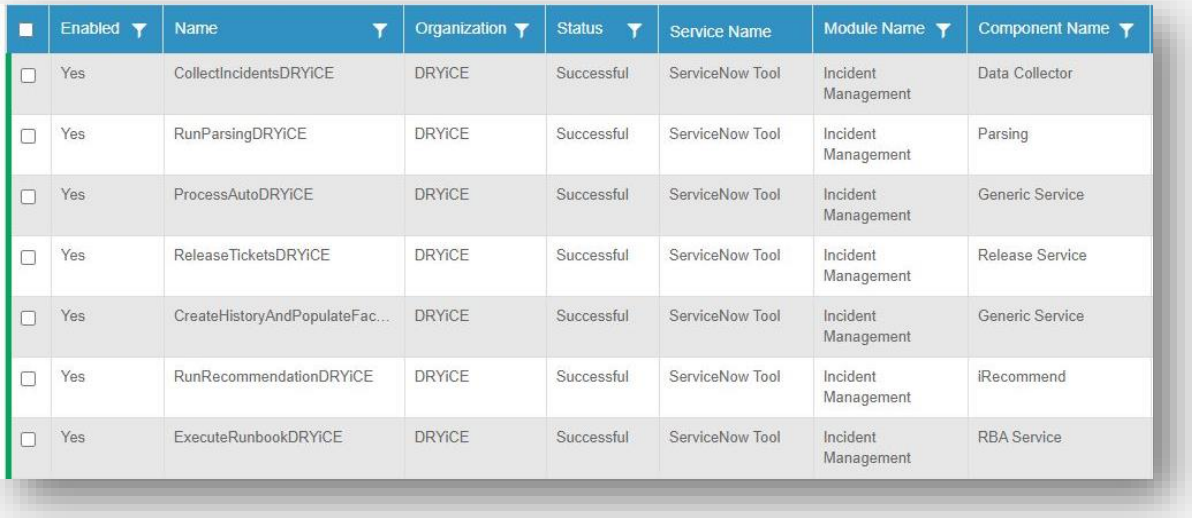
ProcessAutoDRYiCE	Responsible For Deciding If Execution Will Happen In Auto Or Manual Mode.
ExecuteRunbookDRYiCE	Responsible For Triggering Runbook Into RBA Layer
ReleaseTicketsDRYiCE	Responsible For Releasing Ticket From iAutomate Console.
CreateHistoryAndPopulateFact	Responsible for Creating Dashboards

4. All jobs are suffixed with DRYiCE where **DRYiCE** is your **Organization Name**.



Enabled	Name	Organization	Status	Service Name	Module Name	Component Name
Yes	CollectIncidentsDRYiCE	DRYiCE	Successful	ServiceNow Tool	Incident Management	Data Collector
Yes	RunParsingDRYiCE	DRYiCE	Successful	ServiceNow Tool	Incident Management	Parsing
Yes	ProcessAutoDRYiCE	DRYiCE	Successful	ServiceNow Tool	Incident Management	Generic Service
Yes	ReleaseTicketsDRYiCE	DRYiCE	Successful	ServiceNow Tool	Incident Management	Release Service
Yes	CreateHistoryAndPopulateFac...	DRYiCE	Successful	ServiceNow Tool	Incident Management	Generic Service
Yes	RunRecommendationDRYiCE	DRYiCE	Successful	ServiceNow Tool	Incident Management	iRecommend
Yes	ExecuteRunbookDRYiCE	DRYiCE	Successful	ServiceNow Tool	Incident Management	RBA Service

Figure 71 - Manage Jobs (cont.)

5. In order to see the tickets landing in iAutomate, first we need to create a ticket in ServiceNow. Usually this is done automatically in production environments where ServiceNow is integrated with Monitoring / Event Management tools and auto-ticketing is enabled.
6. Open **ServiceNow** URL of your organization's instance. Enter the **Username** and **Password**.
7. Create an incident ticket with description "**High CPU Utilization on server 1.x.x.x**" in SNOW and populate data in all mandatory fields.
8. Once the ticket is created, login into iAutomate using the Organization Admin User credentials to see the tickets.
9. Go to **Tickets** and click **Actionable Tickets**.

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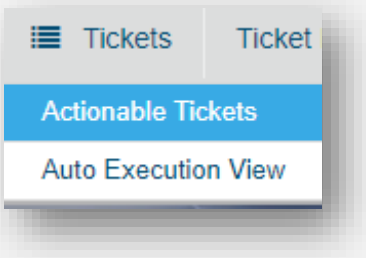

Figure 72 - Actionable Tickets

10. Click **All Tickets** tab. In this section, you will see all the tickets satisfying the criteria.

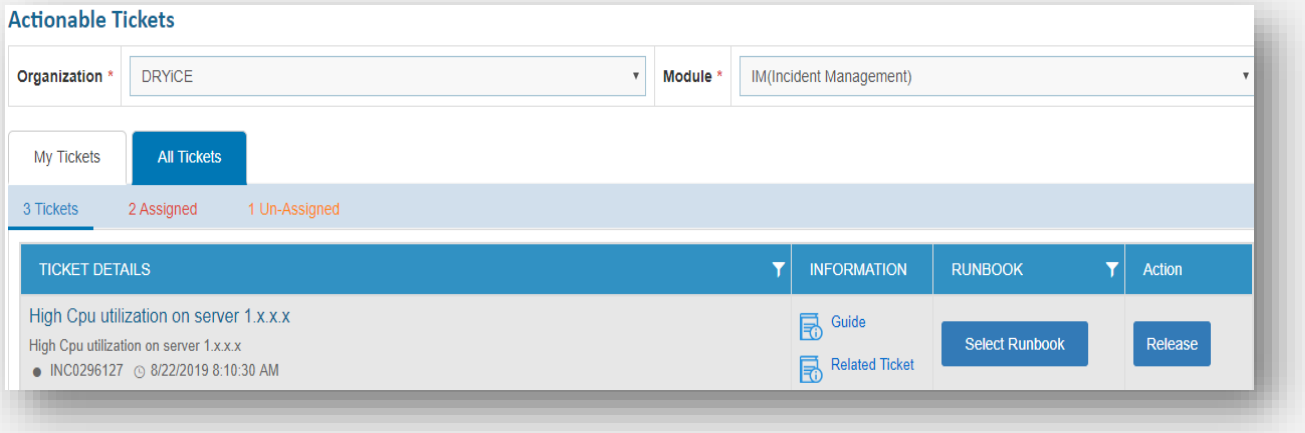

Figure 73 - Actionable Tickets (cont.)

11. Click **Select Runbook** for any ticket in **All Tickets** tab if you want to trigger the automated resolution.

    It will launch a popup window as shown in Figure:

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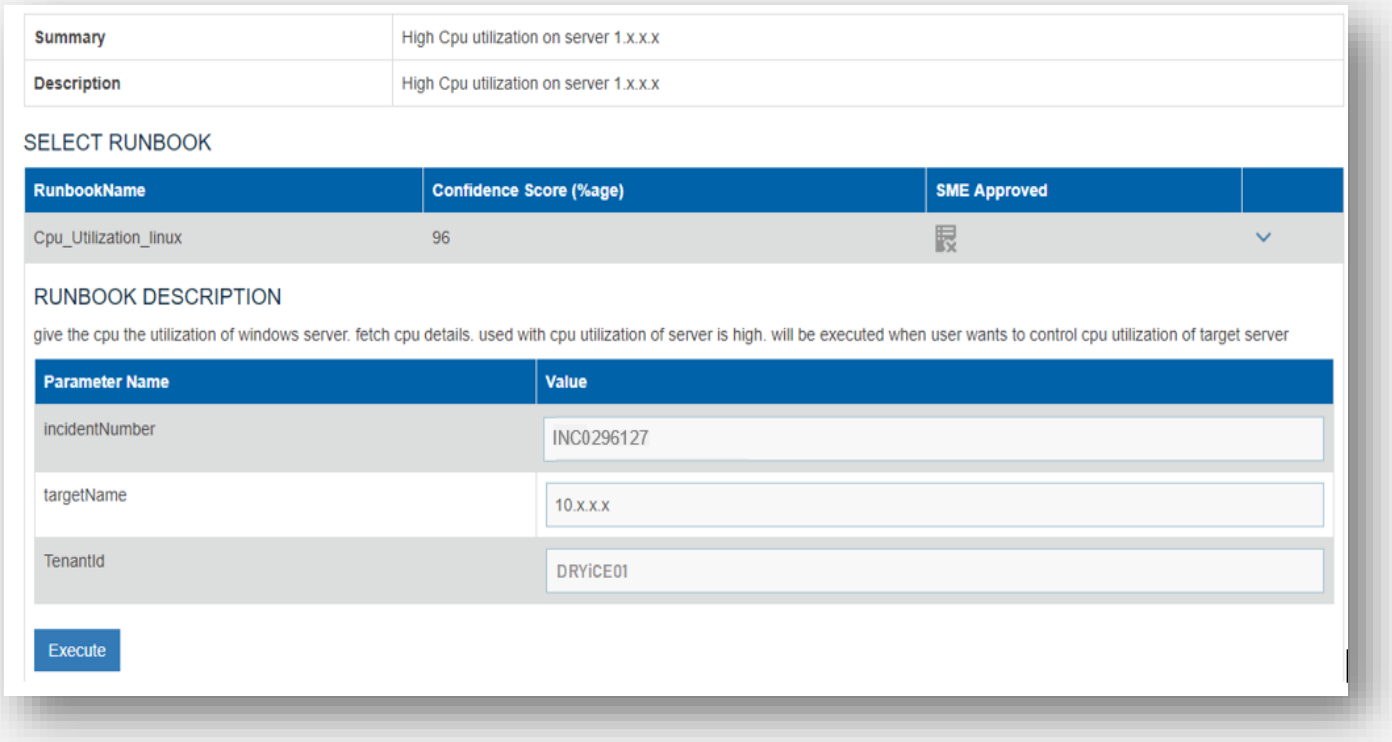

Figure 74 - Pop-Up of automated solution

a. Click the down arrow on any of the runbooks which you think is relevant and all the parameters will be automatically populated post parsing. You can go ahead and edit the parameters, if required.

b. After ensuring that the parsed and extracted parameters are correct, click the **Execute** button to execute the runbook. The ticket for which execution is in progress will appear in **My Tickets** tab.

12. The ticket execution status can be viewed on **Logs** section available at the bottom as shown in Figure below:

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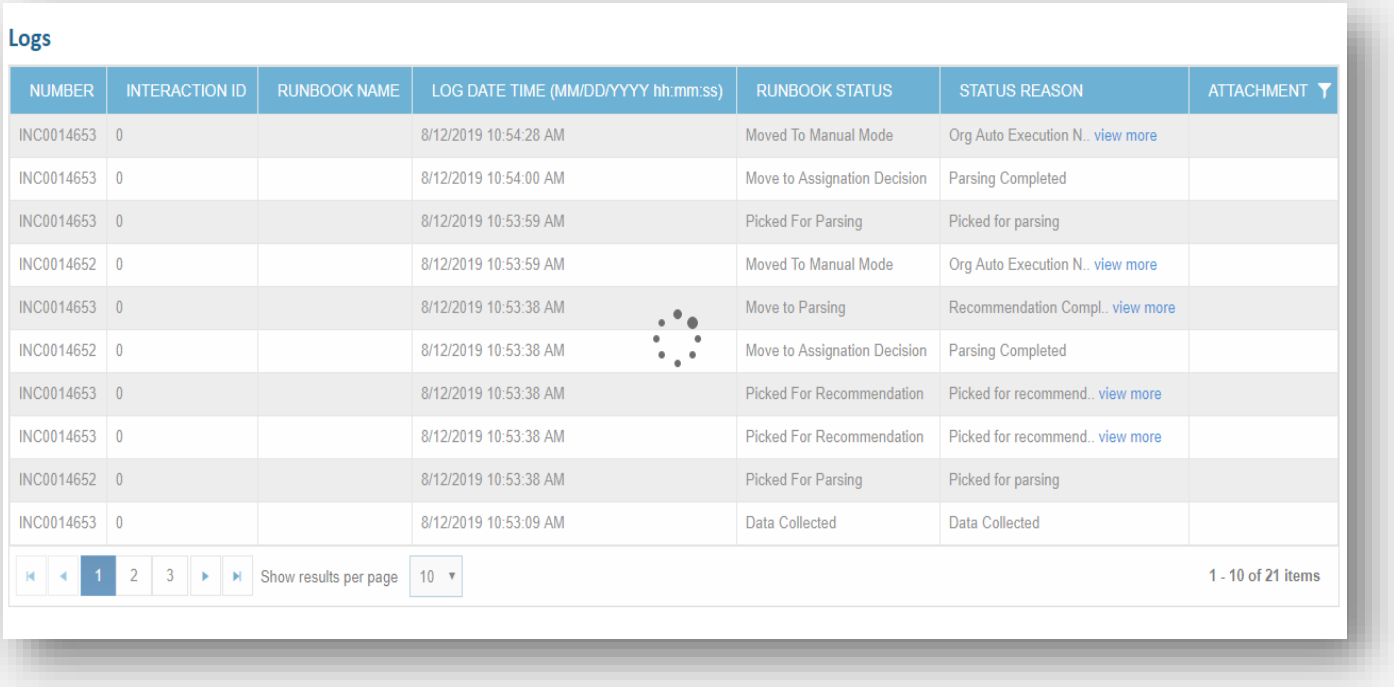

Figure 75 - Job Logs

13. Please check in your SNOW instance if incident ticket has resolved or not. If it has resolved, then iAutomate application has solved issue mentioned in ticket description.

For any additional requirements, please refer to the below set of documentation available for iAutomate:

- Introduction Guide
- Configuration Guide
- User Guide
- Integration Guide
- Troubleshooting Guide
- Lab Manual

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