

Kelverion Automation

New User Onboarding

User's Guide

Version 1.2

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1. Overview

The tasks related to setting up a new user are basically simple, but for some reason they just never get done in time for the new employee or contractor to start working. If you have started a job or new assignment in the modern era you have had the experience of sitting at an empty desk your first day on the job. Over the next days and or weeks you get your phone, a desktop, and a login. That login will get you to the internet but almost certainly nothing else. The next six months are full of requests to get access to email, files, folders, SharePoint sites, remote access, and the time entry system.

To get around this problem some companies will just give you administrator rights to everything so they don't have to worry about many days of lost efficiency. Inefficiency on boarding new users has untold productivity cost and creates potential security risks as those slower processes are routinely circumvented.

Kelverion's New User Onboarding solution enables System Centre 2012 owners to setup new users quickly, consistently, and securely. Out of the box the Solution supports the following steps:

- Create Active Directory User
- Setup Email Account
- Populate Active Directory Fields like Employee ID
- Add Group Membership
- Add Send As Rights
- Setup Lync
- Setup Virtual Desktop
- Setup Remote Access
- Set Employee Start and End Times

Within the framework of the solution other steps are easily added and customizing the default steps is straight forward. All of the Runbooks are based on our experience building these types of solutions for many customers. The Runbook sets are designed to provide the foundation for our customer's automation projects out of the box.

By using the Persistent Data Store approach any complex decision logic can be handled using the database and Orchestrator Runbooks. You can extend the Runbooks yourself or we can provide consultancy to help you with the design update and Runbook modifications.

1.1. Kelverion New User Onboarding Solution Operation

The Runbooks utilise a common Persistent Data Store (PDS). From a very high level, the Runbooks operate as follows:

1. A new request is created through the Service Manager portal
2. From the Portal the user can enter details such as department and select features such as 'Remote Access Required' or 'Virtual Desktop Required'.
3. Based on the features selected, the runbooks process the actions required e.g. 'Remote Access'.

2. Pre-Installation Information

2.1. Kelverion New User Onboarding Solution Package Contents

Kelverion New User Onboarding Solution contains the following elements:

- Kelverion Persistent Data Store creation scripts (Microsoft SQL Server)
- Kelverion New User Onboarding Solution Runbook Set
- Kelverion New User Onboarding Solution Users Guide
- Kelverion New User Onboarding data manipulation file.
- System Center 2012 Service Manager Management Pack.

2.2. Integration Packs Required

The solutions requires the following Integration Packs:

Microsoft

- System Center 2012 R2 Service Manager Integration Pack
- System Center 2012 R2 Active Directory Integration Pack
- System Center 2012 R2 Exchange Admin Integration Pack
- System Center 2012 R2 Exchange Users Integration Pack

Kelverion

- SQL Server Integration Pack (version 2.3 or higher)
- Runbook Management Integration Pack (version 2.2 or higher)

- Data Manipulation Integration Pack (version 3.3 or higher)

Other

- Active Roles Management Shell for Active Directory
- Lync PowerShell Snap-In

Before importing any Runbooks please ensure these Integration Packs are installed in Orchestrator. If you do not already have Kelverion Integration Packs they can be downloaded for evaluation from our website.

2.3. System Center Products Required

The following System Center products are required:

- System Center 2012 SP1 or R2 Orchestrator
- System Center 2012 SP1 or R2 Service Manager*

*Note: The solution can be modified to receive new user information from other sources such as SharePoint, ServiceNow, Remedy, and more.

2.4. Persistent Data Store

The Persistent Data Store or PDS is a SQL Server database that is used by this Solution to allow all of the actions that the Runbooks take to be carried out in a robust way. The use of the database at each “step” allows us to design the Runbooks such that each Runbook is simple and can be considered a discrete unit. In programming terms it allows the Runbooks to be modular.

In your environment there may be a number of constraints that control the creation of a new database. For example the location of the log and data files, the recovery options that should be used, and the collation of the server. These requirements are typically specified by the DBA responsible for your database server. These options do not affect the Runbooks so please use the appropriate options for your environment.

Location

Typically the PDS is created on the same database instance as is used for the Orchestrator database. There is no specific requirement that this must be the case. In environments where there is very high load you may find that creating the PDS on a different database instance advantageous.

Database version

The Runbooks provided, have been tested against SQL2012 with the latest patches / updates applied. You may need to modify the SQL Script to get it to operate in your environment or to install it on older versions of SQL Server.

Collation

The Runbooks have all been developed on systems using **Case Insensitive** collations, the specific collation setting used for your environment must be case insensitive other than that though the setting can be chosen as appropriate for your environment.

Sizing

The minimum recommended size of the PDS is 1GB.

The amount of space required will depend on the two following factors:

- Number of requests processed
- Housekeeping frequency

3. PDS Creation

Each Kelverion Runbook Solution uses a set of common tables within the PDS Database and a set of tables specific to itself.

As part of each solution package you are provided with a SQL script which will generate the PDS database tables required for the solution. When the SQL scripts are executed they check for the existence of each table they required in the PDS database. If this is a new installation they will create both the Common Tables and their Solution Specific database tables. If you are already using a Kelverion Runbook Solution then the script will detect that some of the tables this solution requires already exist and the script skips these table creation steps and creates only the tables which do not exist in your installation.

This means you can easily deploy one or more Kelverion Runbook Solution to an existing PDS database without damaging and tables which already exist. This also means when installing multiple Runbook Solutions in a new installation of the PDS you can run each Solution PDS creation script in order you like and know that when done you will have all the tables you need for all your Runbook Solutions to operate.

3.1. PDS Creation Steps

1. Create a New Database on your SQL Server called PDS_LIVE or connect to your existing PDS_LIVE database

2. Then execute the SQL Scripts provided within the PDS_LIVE database you created.
3. Once the PDS_LIVE database is created you must ensure the Orchestrator Runbook Server Service Account has as a minimum Read and Write Access permissions to the PDS_LIVE database.

4. Solution Installation Steps

The installation steps below assume that the System Center 2012 applications are installed. These steps should be followed by an experienced user.

4.1. Runbook Solution Installation

The Runbook Solution installation steps are as follows:

1. Install the required Kelverion and Microsoft System Center Integration Packs into Orchestrator. Follow the guidance given as per respective IP User Guide.
2. Import the New User Onboarding Solution Runbook Set.

5. Solution Configuration

5.1. System Center 2012 R2 Orchestrator Configuration

To use the Solution, you have to do a series of simple configuration steps to make the Runbooks operate in your environment.

KA SQL Server IP:

In the Options Menu of Runbook Designer find the KA SQL Server settings. In here you will see a default database connection (PDS_LIVE), which is required for the IP operation against the PDS.

Leaving the default Database Name (PDS_LIVE), modify the default database connection by changing the 'Server Name' and authentication details to values appropriate to your environment.

In the Authentication scheme field, select how the connection request will be authenticated.

If you selected *SQL Server Authentication*, type the SQL user credentials into the User name and User password fields.

KA Runbook Management IP

To set up a Runbook Management configuration

1. In the Runbook Designer, click the **Options** menu, and select *KA Runbook Management*.
The **KA Runbook Management** dialog box appears.
2. On the **Configurations** tab, click **Add** to begin the connection setup. The **Configuration Entry** dialog box appears.
3. In the **Name** box, type **SCORCH** as the name for the connection.
4. Click the ellipsis (...) button next to the **Type** field and select *Runbook Management*.
5. In the **Web Service URL** box, type the URL of the Orchestrator 2012 web service. For example,
`https://example.com:81/Orchestrator2012/Orchestrator.svc`
6. In the **Username** and **Password** boxes, type the credentials that will be used to connect to Orchestrator.
7. Click **OK** to close the configuration dialog box, and then click **Finish**.

KA Data Manipulation IP

In the Options Menu of Runbook Designer, find the KA Data Manipulation settings. In here you will see a default configuration (New User Parse), which is required for the IP operation.

Configure the Properties by supplying the location of the KA Data Manipulation IP Specification File New User Onboarding - Parse User Input.txt (supplied in this package).

Microsoft Active Directory IP

To set up an Active Directory configuration

1. In the Runbook Designer, click the **Options** menu, and select *Active Directory*.
The **Active Directory** dialog box appears.
2. On the **Configurations** tab, click **Add** to begin the connection setup. The **Configuration Entry** dialog box appears.
3. In the **Name** box, type **AD_Domain** as the name for the connection.
4. In the **Configuration User Name** and **Configuration Password** boxes, type the credentials that Orchestrator will use to log on to *Active Directory*.
5. In the **Configuration Domain Controller Name (FQDN)** box type the fully qualified name of the domain or domain controller for the connection.
6. In the **Configuration Default Parent Container** box, type the default Distinguished Name for an Organizational Unit or Common Name.

7. Click **OK** to close the configuration dialog box, and then click **Finish**.

Microsoft Exchange User IP

To set up a Exchange User configuration

1. In the Runbook Designer, click the **Options** menu, and select *Exchange User*. The **Exchange User** dialog box appears.
2. On the **Configurations** tab, click **Add** to begin the connection setup. The **Configuration Entry** dialog box appears.
3. In the **Name** box, type **Automation User** as the name for the connection.
4. Enter the remaining configuration properties.
5. Click **OK** to close the configuration dialog box, and then click **Finish**.

Microsoft Exchange Admin IP

To set up a Exchange Admin configuration

1. In the Runbook Designer, click the **Options** menu, and select *Exchange User*. The **Exchange Admin** dialog box appears.
2. On the **Configurations** tab, click **Add** to begin the connection setup. The **Configuration Entry** dialog box appears.
3. In the **Name** box, type **Exchange** as the name for the connection.
4. Enter the remaining configuration properties.
5. Click **OK** to close the configuration dialog box, and then click **Finish**.

Active Roles Management Shell for Active Directory

Download the appropriate Active Roles Management Shell for Active Directory and install as directed. This product has been provided as a free software from Quest which is now owned by Dell.

5.2. System Center 2012 R2 Service Manager Configuration

The installation steps are as follows:

1. From the Administration>Management Packs, 'Delete' any previous ManagementPack.fa81191f344443ca8d5408bfda8c75c2.xml Packs.
2. Import the 'ManagementPack.fa81191f344443ca8d5408bfda8c75c2.xml' unsealed Management Pack.
3. Once completed the Management Pack should appear in the Management Packs pane

The Service Request Offerings should now be available via the Self Service Portal. If for any reason this is not the case consider the following steps:

1. Verify the Service Offerings are published. Secondly verify the Request Offerings are published.

If they are already published but still not available via the Portal. UnPublish and Publish again from 'Service Catalog' section under the Library tab.

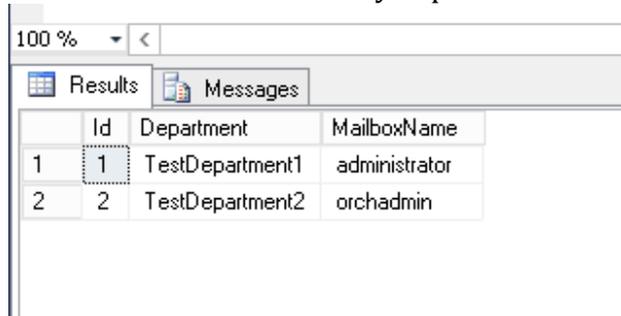
2. If the Request Offerings are visible but the Service Offering is not visible from the portal, ensure that it is associated to the visible Request Offerings. From the Library tab under the Service Catalog folder open up the 'Virtual Machine Management' published Service Offering form. In the Request Offering section add the related Request Offerings.

5.3. Populate Mapping Tables

There are two mapping tables that may need to be populated depending on your requirements.

5.3.1. Send As Mapping

The SEND_AS_MAPPING table only takes two inputs Department and Mailbox Name. These should be filled out by department as needed.

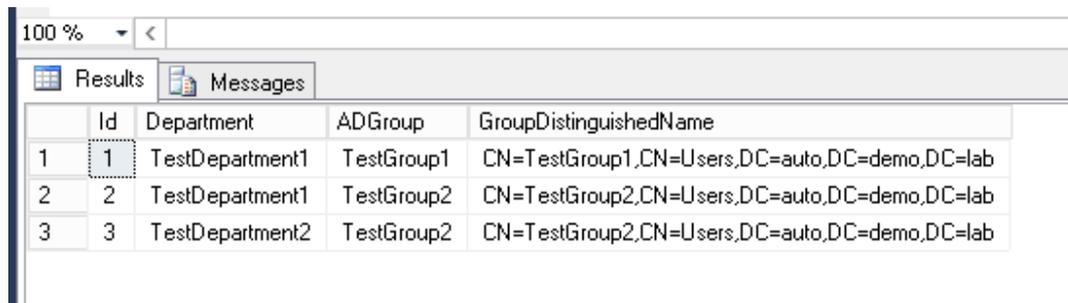


The screenshot shows a software interface with a table titled 'Results' and 'Messages'. The table has four columns: 'Id', 'Department', and 'MailboxName'. There are two rows of data. The first row has '1' in the Id column, 'TestDepartment1' in the Department column, and 'administrator' in the MailboxName column. The second row has '2' in the Id column, 'TestDepartment2' in the Department column, and 'orchadmin' in the MailboxName column.

Id	Department	MailboxName
1	TestDepartment1	administrator
2	TestDepartment2	orchadmin

5.3.2. Group Membership Mapping

The Group_Mapping table requires 3 columns. If you know the Group Distinguished Name then this table can be populated all at one time. If you prefer to only populate a Department and ADGroup name, the utility Runbook 99.3 can be run to lookup each Distinguished name and populate that column automatically.



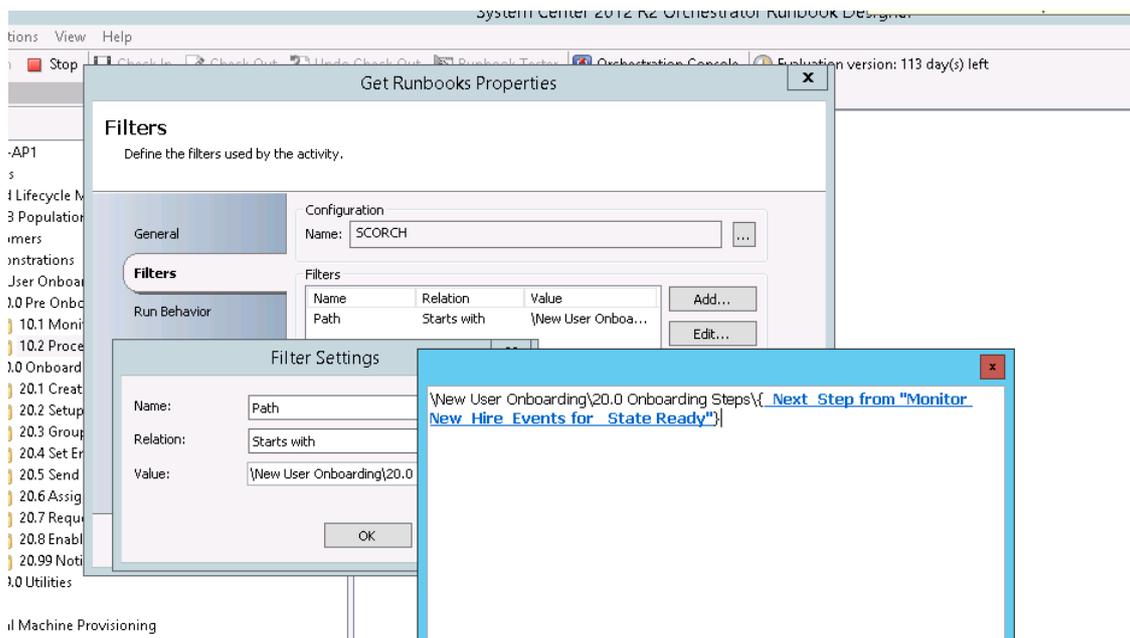
The screenshot shows a SQL query results window with a zoom level of 100%. The window has two tabs: 'Results' and 'Messages'. The 'Results' tab is active and displays a table with the following data:

	Id	Department	ADGroup	GroupDistinguishedName
1	1	TestDepartment1	TestGroup1	CN=TestGroup1,CN=Users,DC=auto,DC=demo,DC=lab
2	2	TestDepartment1	TestGroup2	CN=TestGroup2,CN=Users,DC=auto,DC=demo,DC=lab
3	3	TestDepartment2	TestGroup2	CN=TestGroup2,CN=Users,DC=auto,DC=demo,DC=lab

6. Use of the KA Runbook Management IP to drive solution

The solutions make use of the Kelverion Runbook Management IP to provide flexibility in triggering the appropriate Runbook for each onboarding step. In the `New_Hire_Events` table there are two columns that are used to control the automation flow, `state` and `_next_step`. When `_state` is "Ready" the Runbook `10.2_Process_Steps` will run. It will change `_state` and find which Runbook starts with the information found in `_next_step`. `_next_step` is populated with a number 20.x. If it is 20.1 then "20.1 Create AD Account" will be executed.

This means that adding a step can be as easy as creating a folder under the `20.0_Onboarding_Steps` and then making the previous step populate the `_next_step` column to that folder number.



7. Customising the New User Onboarding Population Solution

7.1. Default 'Out of the Box' behaviour

Each customer will have their specific set of user onboarding requirement. This section will explain how to configure each of the out of the box steps to match your needs.

7.2. Configuring Automation Steps

7.2.1. 20.1_Create_AD_Account

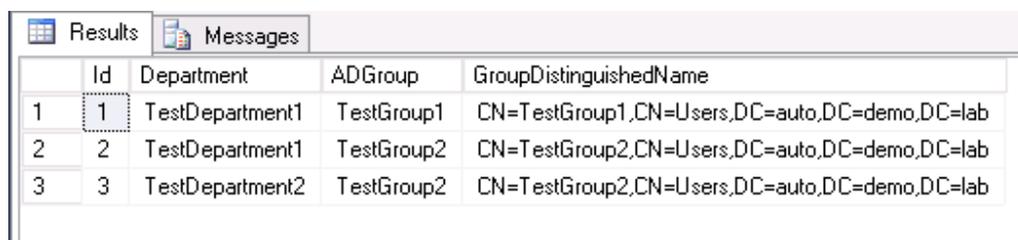
This step creates the temporary password and then creates the AD user. This is also the step that sets the users account end date if one is provided. Configure the "Generate Temp Password" step to match you companies' password complexity requirements.

7.2.2. 20.2_Setup_Mailbox

This step creates the exchange mailbox using the Create Mailbox activity from the Exchange Admin IP. If a different mail system is used please replace the Create Mailbox" activity with one that will work with you company's email system.

7.2.3. 20.3_Group_Membership

This step is one of two that use a mapping table in the PDS_LIVE database. The mapping table lists company departments and then the corresponding security groups these departments have rights too. See picture below. This Runbook will get the list of needed security groups and then add this user to those groups.



Id	Department	ADGroup	GroupDistinguishedName
1	TestDepartment1	TestGroup1	CN=TestGroup1,CN=Users,DC=auto,DC=demo,DC=lab
2	TestDepartment1	TestGroup2	CN=TestGroup2,CN=Users,DC=auto,DC=demo,DC=lab
3	TestDepartment2	TestGroup2	CN=TestGroup2,CN=Users,DC=auto,DC=demo,DC=lab

7.2.4. 20.4_Set_Employee_ID

This step uses the ActiveRoles Management Shell for Active Directory in a Run .Net activity to update fields in Active Directory that are not available in the AD Integration Pack. Employee ID is only one example of this sort of attribute. This activity can be easily altered to add any additional data to a user's AD account.

7.2.5. 20.5_Send_As_Permissions

This step will grant the new user the rights to send emails as another user based on their department. The Send As mapping is stored in a table and the Runbook functions like 20.3_Groups_Membership

7.2.6. 20.6_Assign_Virtual_Desktop and 20.7_Request_Remote_Access

20.6 and 20.7 are both placeholder runbooks for activities that are significantly different in every company. Each has a place holder Run .Net activity that will need to be updated if this step is required in your company.

7.2.7. 20.8_Enable_Lync_Access

This step uses the Lync PowerShell commands to add a user. The commands are not active in the Run .Net activity. These commands must be updated to match your firm's settings.

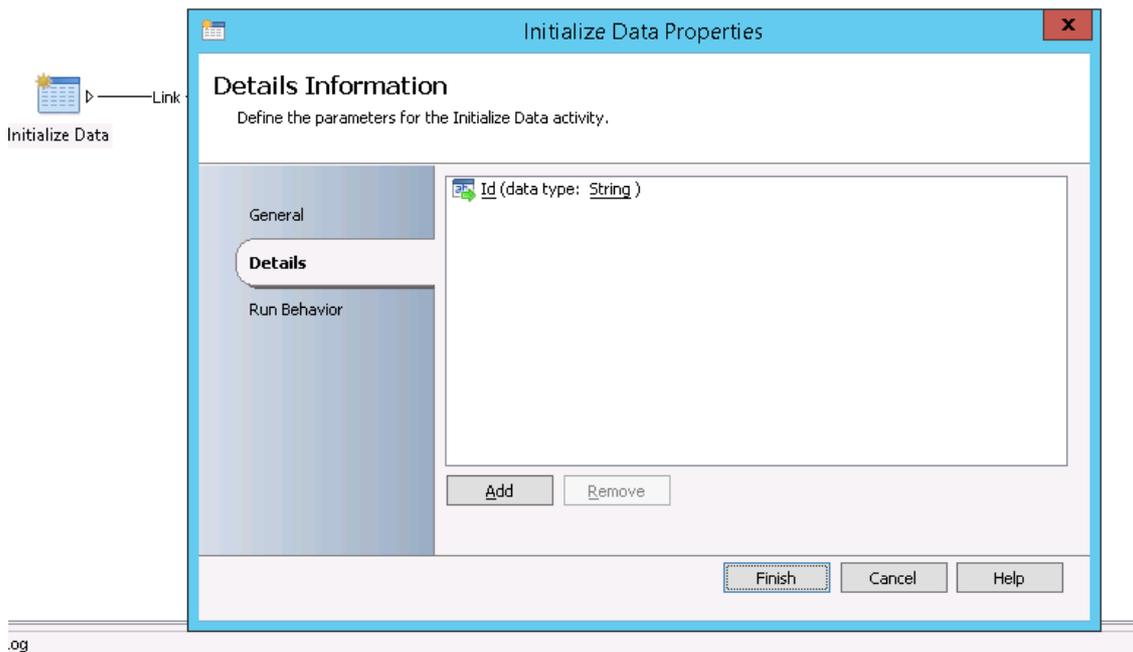
7.2.8. 20.99_Notify_Manager

The last step in the process is to notify the manager that the user has been provisioned. The email shows all of the steps taken and provides the user's account name and temporary password.

7.3. Adding Steps

Steps in this automation run in sequential order 20.1 is first and then 20.2 and so on. The last step in 20.1 is to set the `_state` to Ready and `_NextStep` to 20.2. The Runbook under the folder starting with 20.2 will run no matter what the words that follow the numbers are. For this reason two folders should never start with the same numbers.

Adding a new step is as simple as creating a new folder 20.x_Step_Name and then creating a single Runbook in that folder. That Runbook must be able to accomplish its steps using only the ID column found in the PDS_LIVE table called New_Hire_Events.



7.4. Error Handling

There are two mechanisms for error handling in this Runbook solution.

7.4.1. Activity Trace

As with all Kelverion Solutions key steps in each Runbook write to the Activity Trace table in the PDS_LIVE database if they fail. This is a way to record the actual error when it happens.

7.4.2. Delay Report

The start and end time of each step is recorded there. 99.1_Report_Delay checks every 10 minutes to see if any user requests are older than 30 minutes and remain uncompleted. If one is found an email will be sent to the account specified, that email will show which steps completed and which did not.

8. Installing Temporary License of Kelverion Integration Packs

To run the solution you will need a full or evaluation licence key for Kelverion Integration Packs.

The licence files need to be copied into a folder called C:\Program Files (x86)\Kelverion Automation\Licenses. If this folder does not already exist on your system please first create the folder C:\Program Files (x86)\Kelverion Automation\Licenses and then copy the attached files into it.

The license key is regularly updated as it includes a specific license end date after which the product will no longer work. If you have a license or date format error on trying to run this product please contact info@kelverion.com detailing date of download and error details.

To purchase a license please contact your Kelverion representative, reseller or email info@kelverion.com

9. Notes

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