

Duplicate Detection Addon for Dynamics CRM

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Supported version of Dynamics CRM

- 2011, 2013, 2015 & 2016
On-Premise, IFD and Online are supported.

Trial version

No license is required, it is by default in trial mode until you have purchased and inserted valid license.

Limits of trial version are:

- Bulk merge up to 10 rows per bulk detection
- One duplicate detection rule

License Activation

To activate license, you need to send us the license name from CRM.

Open CRM and navigate to Settings -> Extensions -> Cowia Licenses

If there is already one record created then open it and send the value of 'name' to support@cowiasolutions.com

If there is no record then click on 'New Cowia License' and click 'Save', it will generate value in 'name' field, send us this value to support@cowiasolutions.com

The value looks something like this, values are unique for each system:

Name  **bd302c368f6146dfa448602541b375ab**

We will send your activation code which you will insert in 'Activation Code' field and click 'Save'
You will be able to see by 'License Status' if it is accepted.

Default Duplicate Detection

It is up to you if you want default duplicate detection to continue running, we recommend to deactivate rules on those entities where you will use duplicate warning window of this addon, otherwise users will get two duplicate detection warnings, one by default and other by this addon.

Create Duplicate Rules

To create duplicate rules, navigate to 'Settings' -> 'Extensions' -> 'DD Rule' and click 'New'

When you open it, you will see 'Loading' in field 'Source Entity', wait for it to finish, it is scanning your systems for entities.

When ready, give it a name, for example 'Contact duplicates by e-mail'.

(When users or integration gets duplicate warning, name of the rule will be displayed)

General Tab

Source Entity: This is the entity where it will use source data from

Target Entity: This is the entity where it will use target data from

If you want to check contact duplicates, you will select 'Contact' in source and target entity.

If you want to check leads against accounts, check if lead is already created as account, you will select 'Leads' in source and 'Account' in target entity.

Result View: This will show all system views for 'Target Entity' that you can select, this is used to select which columns/fields to show users when they get duplicate warning.

For an example: You want to show users 'Firstname, Lastname, E-mail, Owner' of contacts when they get duplicate warning for contacts.

Run As User: If you want it to detect duplicates based on data that this user has read access to.

Run As System: This can be used if you want it to detect duplicates in the whole system, regardless what the user has access to.

For example: You have user 'A' that is only allowed to read own records but you want it to detect duplicates if users tries to create record that exist in the CRM owned by user 'B'.

User will get duplicate warning that same record exists but will not give the user more access.

Run On: When you want it to detect duplicate, when records are created, updated or both.

Include Inactive: If you want to check duplicates against inactive records

Allow Duplicates: This option controls if it is allowed for users or integration to create new duplicates.

If it is allowed, it will still give warning to users and they will be able to either cancel or save the new record.

If it is not allowed, it will give warning to user and they will **not** be allowed to create the new record, it will also prevent integration from creating new record.

Source Filtering for Bulk Detection Tab

Source Entity Filter Type: This is used if you want to filter source data, for example 'Only contacts that have value in e-mail'

You have option of using existing system view or fetch xml for filtering records.

Target Filtering for Bulk Detection Tab

Target Entity Filter Type: This is used if you want to filter target data that source data will check for duplicates, for example 'Only contacts that have value in e-mail'

You have option of using existing system view or fetch xml for filtering records.

If you filter source data and not target data, it will use source data and check for duplicates against all records from target entity.

If you don't filter source data and filter target data, it will use source data and check for duplicates against the filtered records.

Fields matching for finding duplicates Tab

Before you can add fields to the rule, you need to 'Save' the DD Rule first.

To add new field, click on '+' sign and it will open new window.

It will automatically detect fields from the source and target entity that you have selected.

Source Field: Field from the source entity that you want to use to detecting duplicates

Target Field: Field from the target entity that you want to check source field against for duplicates

Compare Blank Values: If it should detect duplicate if value in the field is empty, for example if you have two contacts without e-mail and you use e-mail to detect duplicates, do you want it to detect those two contacts as duplicate or ignore them

Field Type: This is just for information to display what kind of field type you have selected.

Compare Lookups As Text: If you want to use lookup field for detecting duplicates, like 'Parent Account', you can select it to detect duplicate by the specific record from the lookup or the name value from the lookup.

For example: Do you want to detect duplicates on contacts that have specific account as parent or do you want to detect duplicates on contacts that have parent account with same name.

Duplicate Detection: For information, name of the 'DD Rule' that this field matching belongs to.

Trim Text: If you want to remove empty space before and after the value.

Remove Whitespace: If you want to remove all spaces from the value.

Text Comparison: Here you can select how you want to match fields from source entity against target entity.

Exact: Value from source field is exact to value from target field

First N Characters: How many characters to use from the source field and use that value to detect duplicates against target field.

For example: You have account named 'Covia Solutions' and if you use 'First N Characters' and set it to '5' Then it will take first 5 characters and use that value to detect duplicate, in this example it will use value 'Covia' and check if other accounts starts with 'Covia'

Last N Characters: Same as above but last characters instead of first.

Contains: It will detect duplicate if the value from source field is part of the value in target field.

For example, you have account named 'Covia Solutions' and try to create new account named 'Covia', it will detect duplicate because 'Covia' is part of 'Covia Solutions'

Ignore Words: If you want to ignore/exclude words from the value, for example, you want to ignore words like Inc, Corp, GmbH and ApS from account name when detecting duplicates, values are separated by comma.

Example of DD rule on contacts that have same e-mail

COWIA SOLUTIONS Settings DD Rules Contact duplicates...

+ NEW DEACTIVATE DELETE BULK DETECTION UPDATE METADATA EMAIL A LINK RUN WORKFLOW START DIALOG WORD TEMPLATES

Damir Mijic Cowia Solutions

DD RULE - INFORMATION

Contact duplicates by e-mail

General

Name * Contact duplicates by e-mail

Source Entity Contact

Target Entity Contact

Result View Active Contacts

Run As User -- Run As System * No

Run On * Create & Update Include Inactive * No

Allow Duplicates * No

- Source Filtering for Bulk Detection
- Target Filtering for Bulk Detection
- Fields matching for finding duplicates

DD Fields				
Source Field ↑	Target Field	Field Type	Text Comparison	Created On
emailaddress1	emailaddress1	Text	Exact	1/15/2017 2:29 PM

Status **Active**

Active

Bulk Detection

You can run bulk detection on any duplicate rule and check for existing duplicates.

Navigate to 'Settings' -> 'Extensions' -> 'DD Rule' and open the rule that you want to run bulk detection on.

Click on the button 'BULK DETECTION', it will ask you if you want to run it as 'Foreground' or 'Background'.

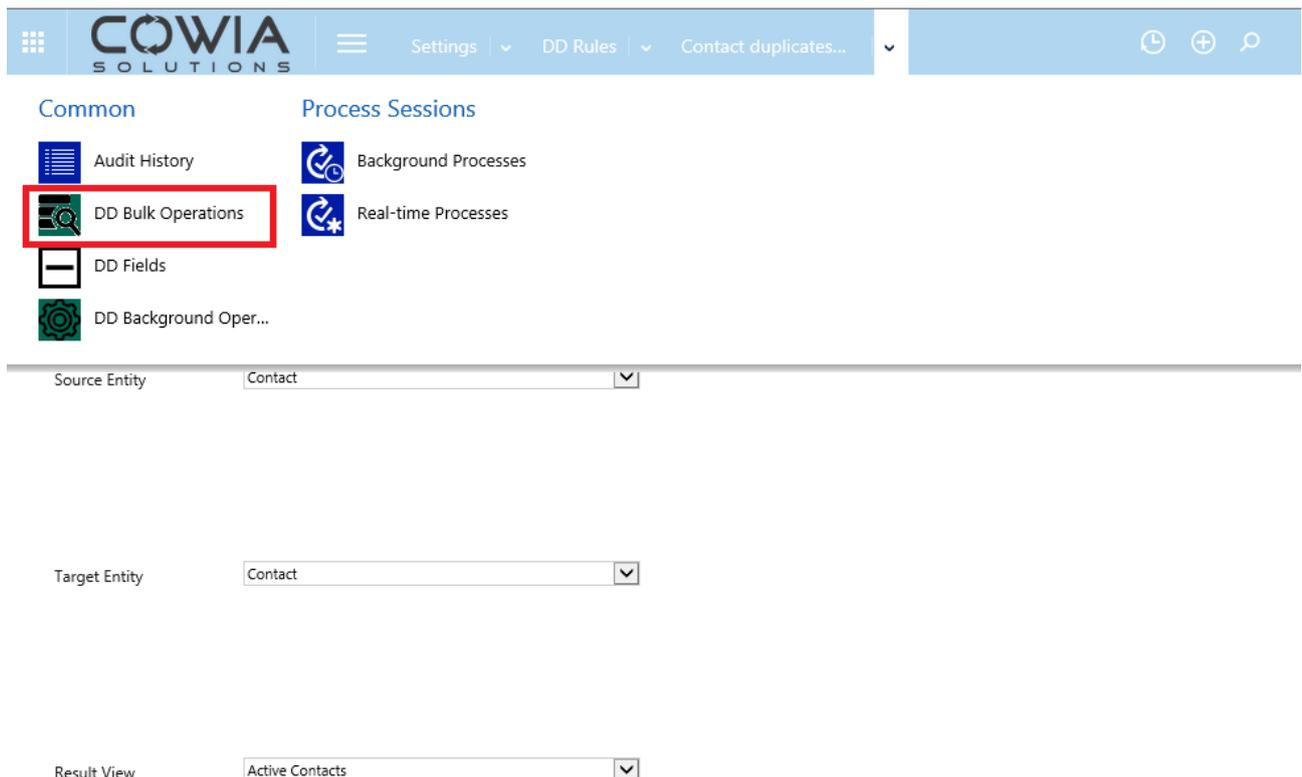
Foreground means that it will use your browser to run the bulk detection and you must keep it open to finish.

Benefit of foreground is that it can be faster than background.

Downside is that you need to keep your browser open and risk of time-outs are increased.

If you select 'Foreground', new window will open and it will start to run the bulk detection where you can see the status, when it is completed, you can click on 'Open report' or 'Show all duplicates'.

To see all bulk detection results that have been executed for each duplicate rule, open 'DD Rule' and click on 'DD Bulk Operations'



The screenshot displays the COWIA SOLUTIONS user interface. At the top, there is a navigation bar with the COWIA SOLUTIONS logo on the left and a menu on the right containing 'Settings', 'DD Rules', and 'Contact duplicates...'. Below the navigation bar, the interface is divided into two main sections: 'Common' and 'Process Sessions'. Under 'Common', there are four menu items: 'Audit History', 'DD Bulk Operations' (which is highlighted with a red rectangular box), 'DD Fields', and 'DD Background Oper...'. Under 'Process Sessions', there are two menu items: 'Background Processes' and 'Real-time Processes'. Below the menu items, there are three dropdown menus: 'Source Entity' set to 'Contact', 'Target Entity' set to 'Contact', and 'Result View' set to 'Active Contacts'.

Background will only work if you have installed 'Bulk Detection Background Service', you can schedule it to run at specific time or immediately.

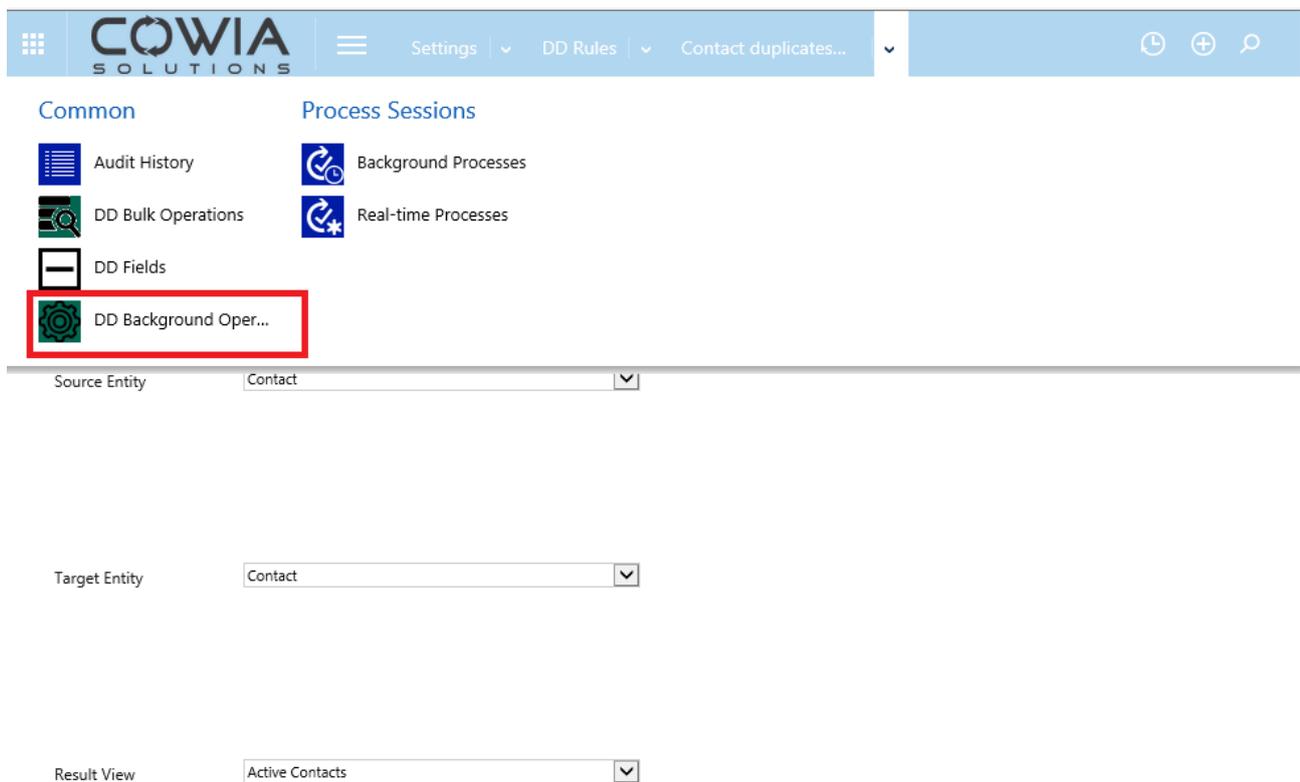
Benefit of background is that you don't need to have open browser and is more reliable when running on many records.

Downside is that it can be slower than foreground.

We recommend to use background service if you have many records or experience time-outs when running in foreground.

If you select to run in 'Background', you can view status by opening the 'DD Rule' and click on 'DD Background Operations'

It will also save the result under 'DD Bulk Operations'



Bulk Merge

To run bulk merge, open the 'DD Rule' -> 'Bulk Operations Result'

Note that bulk merge is recommended to run as user that have system administrator security role.

Open the bulk detection result that you want to use for bulk merge and click on 'MERGE DUPLICATES' button.

Rules:

1. Records will be merged with the master record in the selected order.
2. Only selected and empty fields will be overwritten.
3. Merging related records is optional.
4. Merged records will be deactivated after the operation succeeds.

Selecting master record:

You will use options under 'Merge order' to determine which record will be master record.

Oldest to newest (Oldest record is preserved), you can select that master record will be the oldest in CRM by using 'Created On' or 'Modified On' value.

Newest to oldest (Newest record is preserved), you can select that master record will be the newest in CRM by using 'Created On' or 'Modified On' value.

Most to least (Having most of record is preserved), you can select that master record will be the one with most activities or by most filled fields.

Least to most (Having least of record is preserved), you can select that master record will be the one with least activities or by least filled fields.

Merge related records: you can select if you want to merge related records, it will move related records from the duplicate to master record.

Skip errors: If you want to skip errors when it runs bulk merge, you could have some business logic on the record where bulk merge fails, this option is if you want to continue to next record or stop the whole bulk merge operation.

Fields: You can select which fields you want it to merge to master record, if master record has value in the field, it will not be overwritten, it will only merge values to empty fields on master record.

Operation: If you want to run bulk merge in background, check 'Work in background' and choose if you want to schedule the job and click 'Start merge'

If you don't select 'Work in background', it will run in foreground using your browser.

When record has been merged, it will mark the record and if you run bulk merge again on same 'Bulk Operations Result', it will not merge those records again. You can see this on column 'Merged'

Enabling Duplicate Warning Window

You need to manually enable duplicate warning window for each entity.

It does not take long time to do, around 3 minutes.

Here is what will happen if you don't enable it and have duplicate rule for the entity.

For an example, you have created rule on contacts and set 'Allow Duplicates' = Yes.

When it detects duplicates, users will not get duplicate warning because it is not enabled.

If you set it to 'Allow Duplicates' = No, then users will get default error message of CRM where it will display 'Business error and name of the duplicate rule'.

To enable duplicate warning windows, navigate to 'Settings' -> 'Customizations' -> 'Customize the System' -> 'Entities' -> Select the entity where you will duplicate detection -> 'Forms', if you have multiple forms for same entity, you need to enable it for each form.

Open the form and click on 'Form Properties'

Under 'Form Libraries', click 'Add' and search for value 'Cow_'

Scroll down until you see 'cow_/DuplicateDetection.js' and click 'Add'

Look Up Record

Enter your search criteria.

Look for: Web Resource

Look in: WebResource Lookup View For Java Sc

Search: cow_

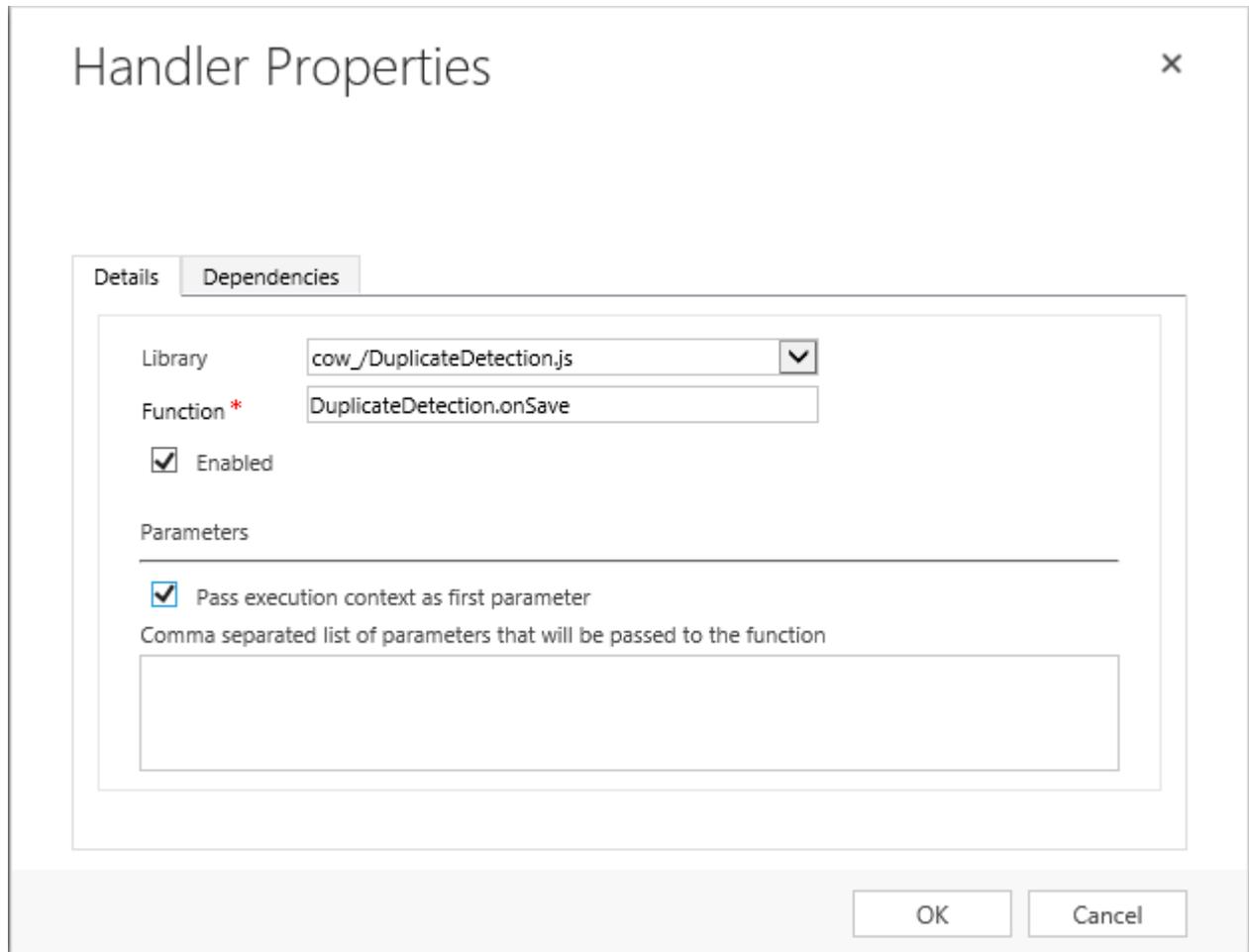
Name	Display Name ↑	Description
cow_/Forms/Scripts/dropdown.js	cow_/Forms/Scri...	
cow_/Forms/Scripts/duplicates_bundl...	cow_/Forms/Scri...	
cow_/Forms/Scripts/merge_bundle.js	cow_/Forms/Scri...	
cow_/Scripts/cow_DuplicateDetectio...	cow_/Scripts/co...	
cow_/Scripts/cow_DuplicateDetectio...	cow_/Scripts/co...	
cow_/Scripts/cow_DuplicateDetectio...	cow_/Scripts/co...	
✓ cow_/DuplicateDetection.js	Duplicate Detect...	Put OnLoad on forms for en

1 - 9 of 9 (1 selected) Page 1

New Add Cancel Remove Value

Under 'Event Handlers', select 'Event' = onSave

Click 'Add' and under 'Function', type 'DuplicateDetection.onSave' and mark 'Pass execution context as first parameter' and click 'OK'



End result should look like in below image, click 'OK' -> Save -> Publish

Form Properties



Modify this form's properties.

Events | **Display** | Parameters | Non-Event Dependencies

Form Libraries

Manage libraries that will be available in the form.

+ Add | ✖ Remove | ⬆ Up | ⬇ Down | 📄 Edit

Name	Display Name	Description
cow_/DuplicateDetection.js	Duplicate Detection PUT ON FORM	Put OnLoad on for...

Event Handlers

Manage functions that will be called for form or field events.

Control:

Event:

+ Add | ✖ Remove | ⬆ Up | ⬇ Down | 📄 Edit | 📄 Edit Library

Library	Function	Enabled
cow_/DuplicateDetection.js	DuplicateDetection.onSave	True

OK

Cancel

Security Roles

For non-administrative users, you need to assign them 'Duplicate Detection' security role, this will give them minimal access to duplicate detection addon.

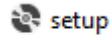
For non-administrative users that needs to create duplicate rules, you can assign them 'Duplicate Detection Administrator' security role.

Removing the addon

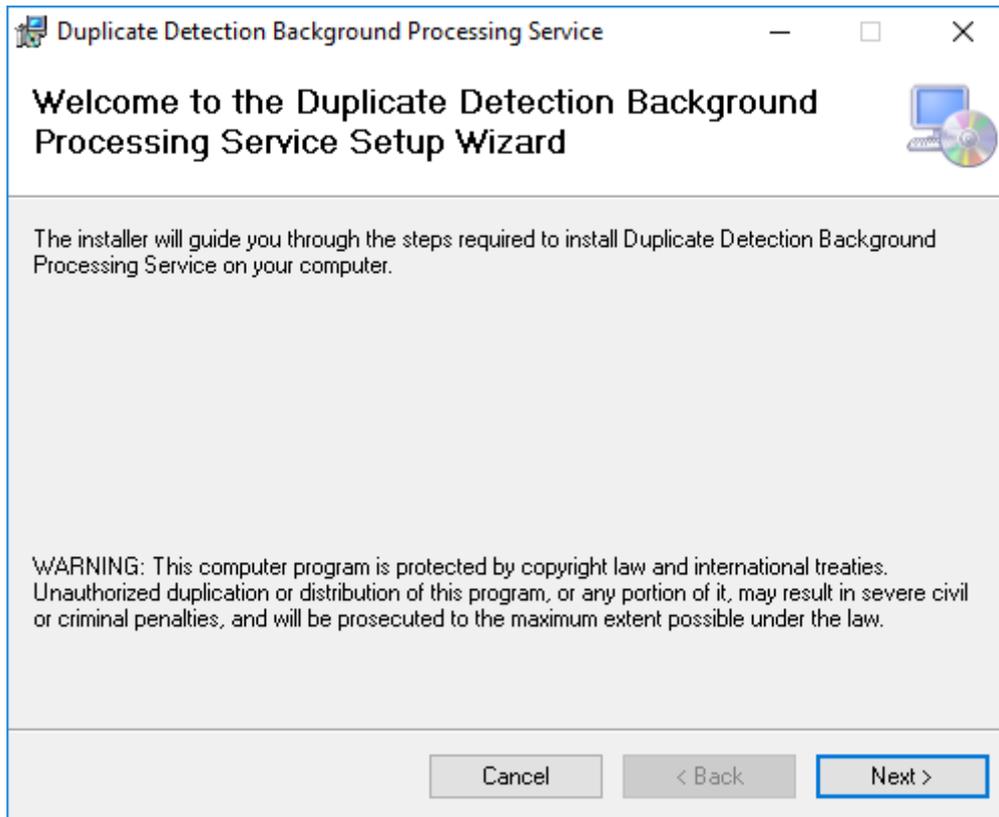
Before you can remove the addon, you need to remove the duplicate warning window on the entities where enabled, if you try to remove it before, it will give you error.

Background Service Installation

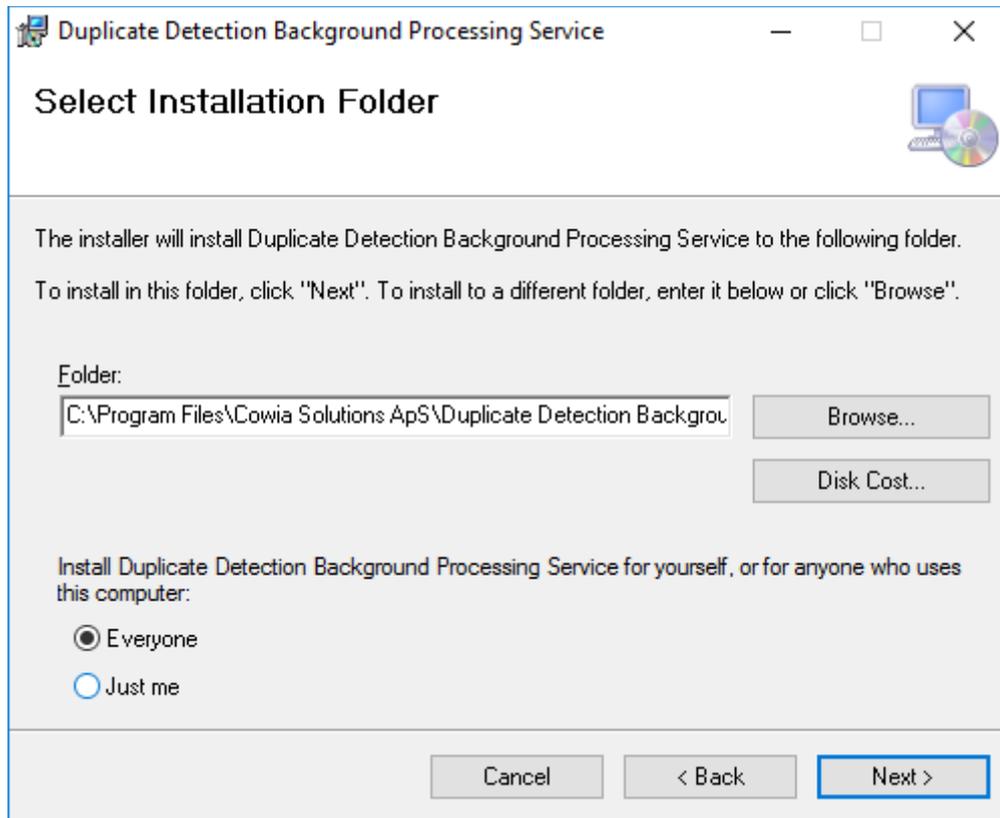
1. Extract files from DuplicateDetection.BackgroundService.Installer and run setup.exe



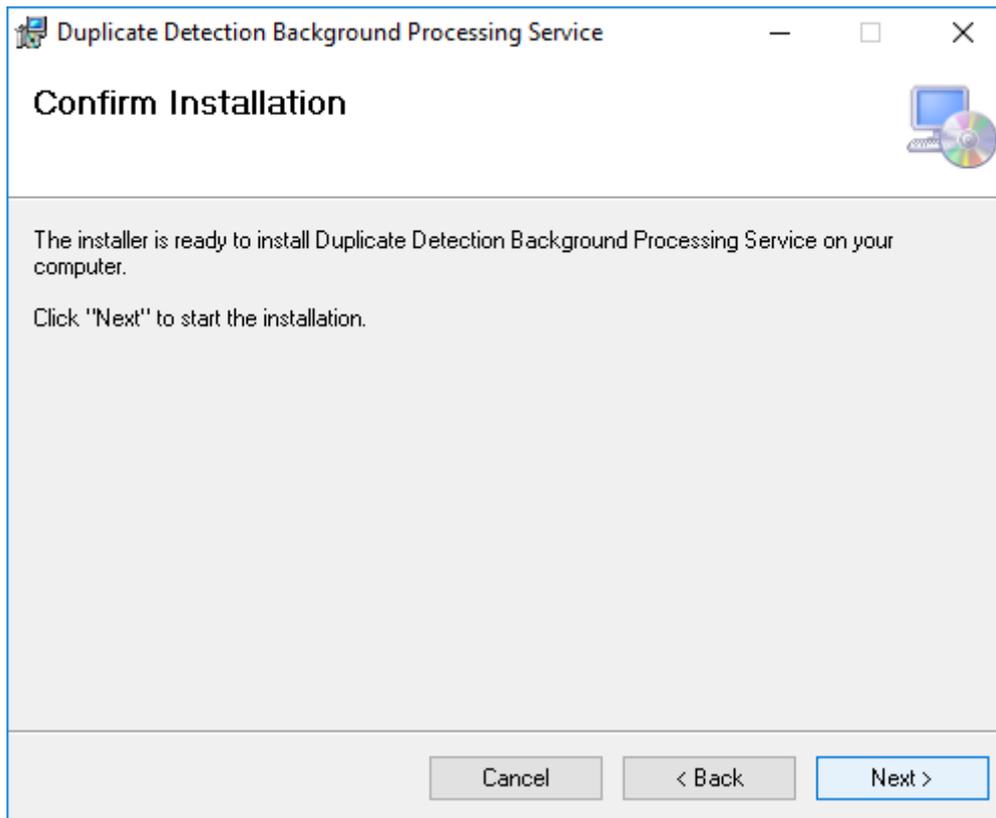
2. Click 'Next'



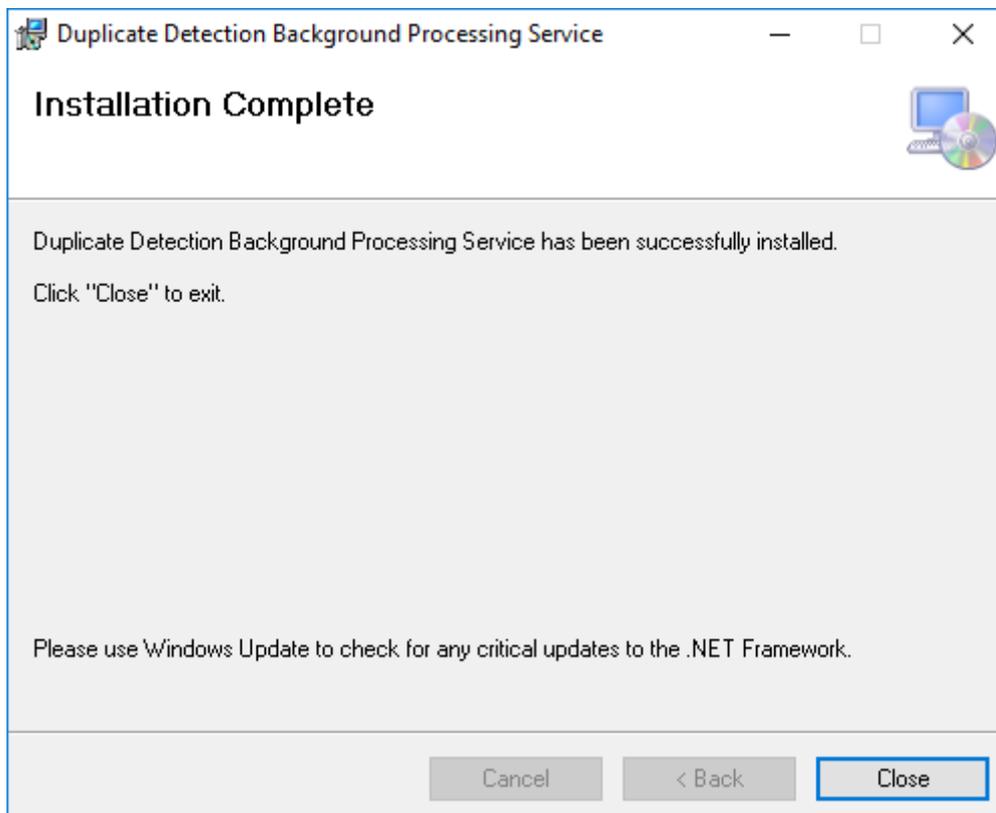
3. Select install path and click 'Next'



4. Click 'Next'

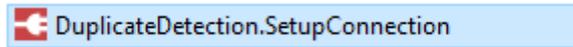


5. Click 'Close'

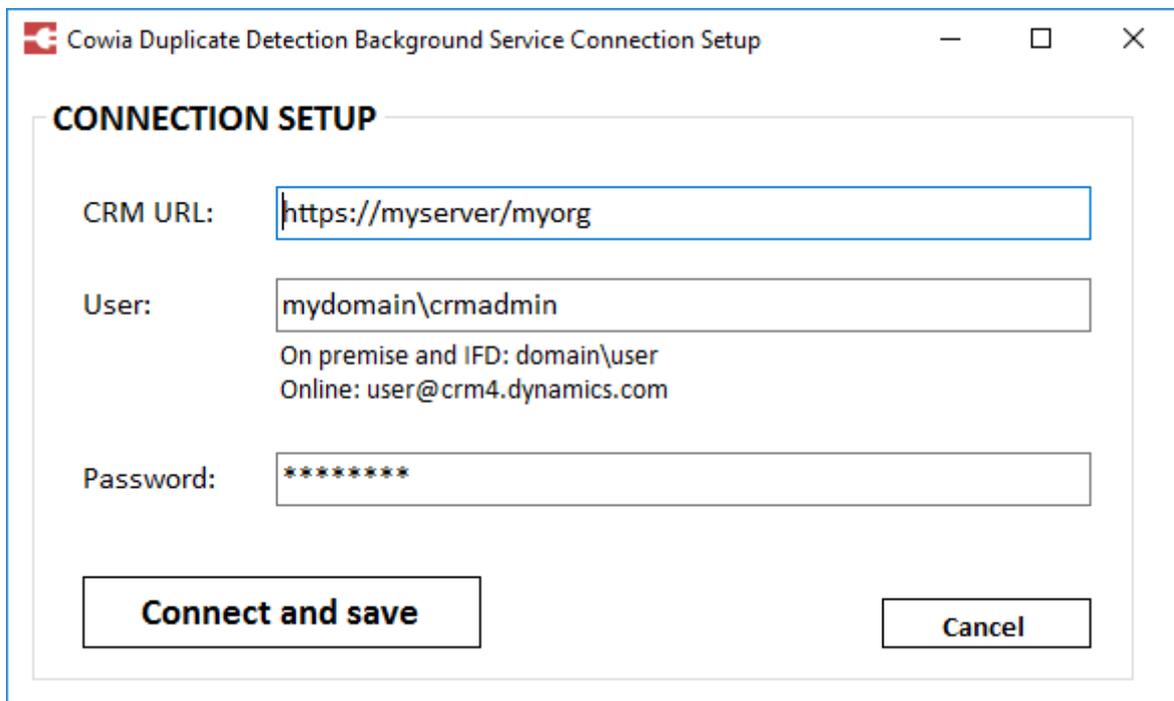


6. Go to installed path folder, if you haven't changed install path, then you can find it here:
C:\Program Files\Cowia Solutions ApS\Duplicate Detection Background Processing Service

7. Run DuplicateDetection.Setup.Connection



8. Type your CRM URL and user/password and click 'Connect and save'
If successful, it will close the window and if it can't connect, it will give error



9. That's it, you can now run background jobs directly from Dynamics CRM

SUPPORT AND FAQ

For support: send e-mail to support@cowiasolutions.com

For newest updates and FAQ, visit <https://duplicate-detection.com>