# Redcap Platform as Service Migration

This document provides a list of resource inventory that are part of the REDCap PaaS migration project. The REDCap PaaS project consist of migrating our redcap application from its current infrastructure as a service to platform as a service. The migration is made up of multiple components such as the application code hosted on an azure devops repo, virtual machines, application gateways and MySQL databases. The goal of this document is to provide an inventory of the current REDCap source inventory to what has been deployed as part of the REDCap PaaS migration project.

## Redcap source architecture:

As mentioned earlier, REDCap is currently hosted on multiple azure’s platforms with its application code hosted in the azure DevOps platform see link [src - Repos (azure.com)](https://dev.azure.com/wustl-i2/REDCap/_git/redcap-app?path=/src&version=GBmain&_a=contents). Additionally, the current environment is made up of 3 different environments, DEV, QA & Prod. The current Redcap azure resources are as follow:

### Virtual Machines:

* The current Redcap virtual machines are running on an **almalinux 8\_5-gen2** operating system.
* These databases are hosted within the **main** Subnet which is within the **i2-redcap-main-vne**t that is part of the **ICS – Redcap** Azure subscription.
* The VM names are as follow:

#### i2-redcap-prod-web-vm-01

* REDCap production virtual machines

#### i2-redcap-qa-web-vm-01

* REDCap QA virtual machines

#### i2-redcap-dev-web-vm-01

* REDCap development virtual machine.

#### i2-redcap-build-vm

* REDCap POC virtual machine

### Source Database Servers:

* The Current REDCap database servers consist of Azure MySQL Flex v5 servers.
* These databases are hosted within the **mysql-flex** Subnet which is within the **i2-redcap-main-vne**t that is part of the **ICS – Redcap** Azure subscription.
* The MySQL database servers are as follows:

#### i2-redcap-prod-mysql-flex

* REDCap production database.

#### Redcapv7-prod-restore-backup-host

* REDCap production backup database.

#### i2-redcap-dev-flex-mysql

* REDCap development database.

#### i2-redcap-dev-flex-mysql-02

* REDCap development database.

#### i2-redcap-migr-mysql

* Temporal development database that was created for migration purposes.

#### redcap-poc-mysql

* Temporal development database that was created for POC purposes.

### Source Database Credentials:

* Below are the links to the azure keyvault secrets that currently store both the v5(source) and v8(target) REDCap database server credentials.

#### **Dev Database Credentials:**

* [i2-redcap-dev-mysql-admin-password - Microsoft Azure](https://portal.azure.com/" \l "@gowustl.onmicrosoft.com/asset/Microsoft_Azure_KeyVault/Secret/https://i2-redcap-keys.vault.azure.net/secrets/i2-redcap-dev-mysql-admin-password)
  + This **i2-redcap-dev-mysql-admin-password** secret stores REDCap development database admin (**i2admin**) user password.
* [i2-redcap-dev-mysql-svc-password - Microsoft Azure](https://portal.azure.com/" \l "@gowustl.onmicrosoft.com/asset/Microsoft_Azure_KeyVault/Secret/https://i2-redcap-keys.vault.azure.net/secrets/i2-redcap-dev-mysql-svc-password)
  + The **i2-redcap-dev-mysql-svc-password** secret stores REDCap development database application **(redcap\_svc)** user password

* **[i](https://portal.azure.com/" \l "@gowustl.onmicrosoft.com/asset/Microsoft_Azure_KeyVault/Secret/https://i2-redcap-keys.vault.azure.net/secrets/i2-redcap-dev-v8-mysql-password)**[2-redcap-dev-v8-mysql-password - Microsoft Azure](https://portal.azure.com/" \l "@gowustl.onmicrosoft.com/asset/Microsoft_Azure_KeyVault/Secret/https://i2-redcap-keys.vault.azure.net/secrets/i2-redcap-dev-v8-mysql-password)
  + This **i2-redcap-dev-v8-mysql-password** secret stores REDCap development v8 database admin (**i2adminv8**) user password.
* [i2-redcap-dev-v8-mysql-svc-password - Microsoft Azure](https://portal.azure.com/" \l "@gowustl.onmicrosoft.com/asset/Microsoft_Azure_KeyVault/Secret/https://i2-redcap-keys.vault.azure.net/secrets/i2-redcap-dev-v8-mysql-svc-password)
  + The **i2-redcap-dev-mysql-svc-**password secret stored the REDCap development v8 database application **(redcapv8svc)** user password.

#### **QA Database Credentials:**

* [i2-redcap-qa-mysql-admin-password - Microsoft Azure](https://portal.azure.com/#@gowustl.onmicrosoft.com/asset/Microsoft_Azure_KeyVault/Secret/https://i2-redcap-keys.vault.azure.net/secrets/i2-redcap-qa-mysql-admin-password)
  + This **i2-redcap-qa-mysql-admin-password** secret stores REDCap QA database admin (**i2admin**) user password.
* [i2-redcap-qa-mysql-svc-password - Microsoft Azure](https://portal.azure.com/#@gowustl.onmicrosoft.com/asset/Microsoft_Azure_KeyVault/Secret/https://i2-redcap-keys.vault.azure.net/secrets/i2-redcap-qa-mysql-svc-password)
  + The **i2-redcap-qa-mysql-svc-**password secret stores REDCap QA database application **(redcap\_svc)** user password.
* **[i](https://portal.azure.com/" \l "@gowustl.onmicrosoft.com/asset/Microsoft_Azure_KeyVault/Secret/https://i2-redcap-keys.vault.azure.net/secrets/i2-redcap-dev-v8-mysql-password)**[2-redcap-qa-v8-mysql-password - Microsoft Azure](https://portal.azure.com/" \l "@gowustl.onmicrosoft.com/asset/Microsoft_Azure_KeyVault/Secret/https://i2-redcap-keys.vault.azure.net/secrets/i2-redcap-dev-v8-mysql-password)
  + This **i2-redcap-qa-v8-mysql-password** secret stores REDCap QA v8 database admin (**i2adminv8qa**) user password.

* [i2-redcap-qa-v8-mysql-svc-password - Microsoft Azure](https://portal.azure.com/" \l "@gowustl.onmicrosoft.com/asset/Microsoft_Azure_KeyVault/Secret/https://i2-redcap-keys.vault.azure.net/secrets/i2-redcap-qa-v8-mysql-svc-password)
  + The **i2-redcap-qa-v8-mysql-svc-password** secret stores REDCap QA v8 database application **(redcapv8svc)** user password.

***Prod Database Credentials***

* [i2-redcap-prod-mysql-admin-password - Microsoft Azure](https://portal.azure.com/#@gowustl.onmicrosoft.com/asset/Microsoft_Azure_KeyVault/Secret/https://i2-redcap-keys.vault.azure.net/secrets/i2-redcap-prod-mysql-admin-password)
  + This **i2-redcap-prod-mysql-admin-password** secret stores REDCap production database admin (**i2admin**) user password.
* [i2-redcap-prod-mysql-svc-password - Microsoft Azure](https://portal.azure.com/" \l "@gowustl.onmicrosoft.com/asset/Microsoft_Azure_KeyVault/Secret/https://i2-redcap-keys.vault.azure.net/secrets/i2-redcap-prod-mysql-svc-password)
  + The **i2-redcap-prod-mysql-svc-**password secret stores REDCap production database application **(redcap\_svc)** user password.
* [i2-redcap-prod-v8-mysql-password - Microsoft Azure](https://portal.azure.com/" \l "@gowustl.onmicrosoft.com/asset/Microsoft_Azure_KeyVault/Secret/https://i2-redcap-keys.vault.azure.net/secrets/i2-redcap-prod-v8-mysql-password)
  + This **i2-redcap-prod-v8-mysql-admin-password** secret stores REDCap production v8 database admin (**i2admin**) user password.
* [i2-redcap-prod-v8-mysql-svc-password - Microsoft Azure](https://portal.azure.com/#@gowustl.onmicrosoft.com/asset/Microsoft_Azure_KeyVault/Secret/https://i2-redcap-keys.vault.azure.net/secrets/i2-redcap-prod-v8-mysql-svc-password)
  + This **i2-redcap-qa-v8-mysql-svc-password** secret stores REDCap production v8 database user (**redcapv8svc**) user password.

## Target Database servers:

The Current target REDCap database servers consist of Azure MySQL Flex v8 servers. These databases are hosted within the **mysql-flex Subnet** which is hosted within **i2-redcap-main-vnet** that is part of the **ICS – Redcap Azure subscription**.

#### i2-redcap-dev-v8-flex

* REDCap v8 development database

#### i2-redcap-qa-v8-flex

* REDCap v8 QA database

#### i2-redcap-prod-v8-flex

* REDCap v8 production database

## Keyvault Certificates

The current REDCap keyvault certificates consists of multiple SSL certificates for our development, QA and Production environments together with certificates for the application gateway. Additionally, there are a few database certificates that can be used to connect to the databases when SSL is enabled. However, the current REDCap database and REDCap application only communicate within Washington University’s virtual network interface (**i2-redcap-main-vnet**). Below is a list of a few certificates within the REDcap keyvault certificates:

#### i2-redcap-dev-gateway-cert

* [i2-redcap-dev-gw-cert - Microsoft Azure](https://portal.azure.com/" \l "@gowustl.onmicrosoft.com/asset/Microsoft_Azure_KeyVault/Certificate/https://i2-redcap-keys.vault.azure.net/certificates/i2-redcap-dev-gw-cert)
  + The **i2-redcap-dev-w-cert** keyvault certificate stores the SSL certificate for the REDCap development application gateway.

#### i2-redcap-qa-app-cert

* [i2-redcap-qa-app-cert - Microsoft Azure](https://portal.azure.com/#@gowustl.onmicrosoft.com/asset/Microsoft_Azure_KeyVault/Certificate/https://i2-redcap-keys.vault.azure.net/certificates/i2-redcap-qa-app-cert)
  + The **i2-redcap-qa-app-cert** keyvault certificate stores the SSL certificate for the REDCap QA application gateway.

#### i2-redcap-prod-gateway

* [i2-redcap-prod-gateway - Microsoft Azure](https://portal.azure.com/#@gowustl.onmicrosoft.com/asset/Microsoft_Azure_KeyVault/Certificate/https://i2-redcap-keys.vault.azure.net/certificates/i2-redcap-prod-gateway)
  + The **i2-redcap-prod-gateway** keyvault certificate stores the SSL certificate for the REDCap production application gateway.

#### i2-redcap-prod-web-vm-01

* [i2-redcap-prod-web-vm-01 - Microsoft Azure](https://portal.azure.com/#@gowustl.onmicrosoft.com/asset/Microsoft_Azure_KeyVault/Certificate/https://i2-redcap-keys.vault.azure.net/certificates/i2-redcap-prod-web-vm-01)
  + The **i2-redcap-prod-web-vm-01** keyvault certificate stores the SSL certificate for the REDCap production virtual machine.

## Application Gateways

The current REDCap architecture consists of multiple application gateways that directs traffic to the REDCap virtual machines. There are currently three application gateways in the within the **ICS – Redcap Azure subscription** subscription, the three application gateways are as follows:

#### [i2-redcap-dev-gateway - Microsoft Azure](https://portal.azure.com/#@gowustl.onmicrosoft.com/resource/subscriptions/66fc3882-1a21-4787-9351-af5aa8eb3563/resourceGroups/i2-redcap-dev-rg/providers/Microsoft.Network/applicationGateways/i2-redcap-dev-gateway/overview)

* The i**2-redcap-dev-gateway** is currently used to route traffic to the **i2-redcap-qa-web-vm-01** virtual machine that currently host the redcap development application.
* This application gateway is currently fronted by <https://redcapdev.wustl.edu>
* The goal is to replace the virtual machine with an azure application service.

#### [i2-redcap-qa-gateway - Microsoft Azure](https://portal.azure.com/" \l "@gowustl.onmicrosoft.com/resource/subscriptions/66fc3882-1a21-4787-9351-af5aa8eb3563/resourceGroups/i2-redcap-qa-rg/providers/Microsoft.Network/applicationGateways/i2-redcap-qa-gateway/overview)

* The i**2-redcap-qa-gateway** is currently used to route traffic to the **i2-redcap-qa-web-vm-01** virtual machine that currently host the redcap QA application.
* This application gateway is currently fronted by <https://redcapqa.wustl.edu>
* The goal is to replace the virtual machine with an azure application service.

#### [i2-redcap-prod-gateway - Microsoft Azure](https://portal.azure.com/#@gowustl.onmicrosoft.com/resource/subscriptions/66fc3882-1a21-4787-9351-af5aa8eb3563/resourceGroups/i2-redcap-prod-rg/providers/Microsoft.Network/applicationGateways/i2-redcap-prod-gateway/overview)

* The i**2-redcap-prod-gateway** is currently used to route traffic to the **i2-redcap-prod-web-vm-01** virtual machine that currently host the redcap dev application.
* This application gateway is currently fronted by <https://redcap.wustl.edu>
* The goal is to replace the virtual machine with an azure application service.