# IT Java Dev – Web Scraping

**Technical Application Description** 

Application Overview and Functionality Documentation

**Legal Considerations** 

Version 1.0

**Application Development Team** 

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# **Summary of Changes**

Version	Description	Created by	Date
0.1	First review draft with content from Justin Kim, Mikhail Liberchuck, Eleonora Groysman, Cindy Zhao; Placed manual description in Addendum	Carol Locus	06/09/2015
0.2	Combined SAM in same section as OIG	Carol Locus	06/10/2015
1.0	Final	Carol Locus	06/10/2015

# Glossary

Term	Definition
AEVS	Medi-Cal Automated Eligibility Verification System
CMB	California Medical Board
LEIE	List of Excluded Individuals and Entities
OIG	Office of Inspector General, under US Department of Health and Human Services
SAM	System for Award Management Registration

# **Key Contacts**

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# 1 Purpose

The purpose of this document is to provide technical information to IT and LAC management about key infrastructure and back end system information for IT/Java staff designing and implementing web scraping actions for CMB, OIG, SAM, and AEVS. The web scraping being performed automates public database searches and queries of provider and vendor data. This document offers information in order to facilitate support, maintenance, modifications and future updates regarding web scraping as described in this document, as necessary.

The purpose of these web scraping activities is to collect unprotected data in the public domain, offered by the either the state of California, or the federal government to protect itself from fraud. The federal data (from OIG, and later from SAM) is then compared to employees and vendors in the LAC network for the purpose of preventing known abusers from working with or providing services to the federal programs of Medicare and Medicaid.

# 2 Web Scraping Issues Overview

This paper describes the web scraping, applications and database descriptions in detail to address and clarify the possible legal issues regarding the procedures of web scraping, as related to finances and PHI. These issues are clarified in reference to how LAC IT reads the websites which are scraped, what is scraped and where the data collected is passed to.

Web scraping, as it is performed by LAC IT, is implemented in the same way that a browser works. In actuality, the web scraping, as described in this document, just automates the same keystrokes that would be done by a user sitting at his or her computer doing the guery manually with a browser.



**Note:** The illegal and criminal issues concerning web scraping are touched upon in two pieces of legislation: The Digital Millennium Copyright Act (DMCA) and the Computer Fraud and Abuse Act (CFAA). These acts were both conceived to give more protection to copyright owners. In a nutshell, these deem circumventing digital rights management that control access to copyrighted works as criminal, and give copyright owners greater protection of their digital content.



**Note:** The web scraping that is implemented by the LAC IT Application Development department automates manual searches of data that is available online in the public domain. The data scraped is freely accessible with no accounts or passwords required to access the data.



**Note:** The web scraping that is implemented by the LAC IT Application Development department automates manual searches without approaching any thresholds that would affect those websites bandwidth or capacity. Another words, the web scraping done by LAC IT is NOT producing any denial of service by over taxing these websites which would be illegal.



**Note:** Hackers have not yet been able to piggy back any packets of information through a browser or web scraping that returns only text files (as is the case with the web scraping being done as described.) herein). A user would have to download an executable to infect the PC and network with a virus or other executable file.

# 3 CMB – California Medical Board / BreEZe

The Mission of the Medical Board of California: The mission of the Medical Board of California is to protect health care consumers through the proper licensing and regulation of physicians and surgeons and certain allied health care professions and through the vigorous, objective enforcement of the Medical Practice Act, and to promote access to quality medical care through the Board's licensing and regulatory functions. Excerpted from: <a href="http://www.mbc.ca.gov/">http://www.mbc.ca.gov/</a>)

The CMB refers to the California Department of Consumer Affairs to verify the status of practitioners.

DCA BreEZe Online Services: Welcome to the California Department of Consumer Affairs (DCA) BreEZe Online Services. BreEZe is DCA's new licensing and enforcement system and a one-stop shop for consumers, licensees and applicants! BreEZe enables consumers to verify a professional license and file a consumer complaint. Licensees and applicants can submit license applications, renew a license and change their address among other services.

(Excerpted from http://www.mbc.ca.gov/Breeze/License Verification.aspx)

# 3.1 The LAC CMB Web Scraper

The LAC CMB / BreEZe website at: <a href="https://www.breeze.ca.gov/datamart/searchByLicNumber.do">https://www.breeze.ca.gov/datamart/searchByLicNumber.do</a>

The web scraper automates the search for a provider to search by:

- License
- Last name
- First name

The results are collected and placed in:

- Table PROVIDER
- Procedure: chglacorovider()

The web scraper for CMB updates and saves two things and automatically saves to the MPD:

- 1. License status
- 2. Expiration date

The web scrape template for the search parameters are:

http://www2.dca.ca.gov/pls/wllpub/WLLQRYNA\$LCEV2.QueryView?P LICENSE NUMBER={0}&P LTE ID={1}

The license numbers searched for come from the LAC Provider Table.



**Note:** This web scraping process does not touch or mix any PHI, as patient information is in different databases.

#### 4 OIG - SAM

## 4.1 OIG

The purpose of the Office of the Inspector General (OIG) website, (of Health and Human Services) is to provide lists of those excluded and not excluded by the federal government Department of Health and Human Services (HHS) from being providers, employees, or vendors for the Medicare and Medicaid federal programs.

As stated on their website at <a href="http://oig.hhs.gov/about-oig/about-us/index.asp">http://oig.hhs.gov/about-oig/about-us/index.asp</a>:

The OIG Mission: Office of Inspector General's (OIG) mission is to protect the integrity of the Department of Health & Human Services (HHS) programs as well as the health and welfare of program beneficiaries...Since its 1976 establishment, OIG has been at the forefront of the Nation's efforts to fight waste, fraud and abuse in Medicare, Medicaid and more than 100 other HHS programs...OIG develops and distributes resources to assist the health care industry in its efforts to comply with the Nation's fraud and abuse laws and to educate the public about fraudulent schemes so they can protect themselves and report suspicious activities. (Excerpted from: http://oig.hhs.gov/about-oig/about-us/index.asp)

The OIG website presents search results containing practitioners that are not permitted by the federal government to provide services in the Medicare, Medicaid programs.

In the case of OIG it is the federal government offering up the information. However, it seems that per the Privacy Act of 1974, it would be up to the individual to prevent such disclosures:

The right of privacy has evolved to protect the ability of individuals to determine what sort of information about themselves is collected, and how that information is used... In matters of privacy, the FTC's role is one of enforcing privacy promises made in the marketplace. Several additional laws form the foundation on which the FTC carries out this charge: the Privacy Act of 1974 ...The Privacy Act of 1974 (5 U.S.C. § 552a) protects personal information held by the federal government by preventing unauthorized disclosures of such information. Individuals also have the right to review such information, request corrections, and be informed of any disclosures. The Freedom of Information Act facilitates these processes. (Excerpted from: https://www.law.cornell.edu/wex/personal\_information)

# 4.1.1 How the LAC OIG Web Scraper Works

The LEIE database contains approximately 60,000 records which are the approximate number of people and entities that the federal HHS OIG website monitors.

The search and comparison and consolidation of all federal OIG and LAC OIG related data is automated with these components:

- 1. The consolidation of LAC medical employees and vendors into one list, from:
  - a. core (employees)
  - b. mon (vendors)
- 2. The re-mapped LEIE federal database, to match LAC data organization in:
  - a. \_OIG
- 3. The final step and result is to electronically compare the two with the end result being an autogenerated report of excluded and non-excluded providers.



**Note:** To manually verify a name and social security number on OIG, staff needs to have and them manually input the social security number.



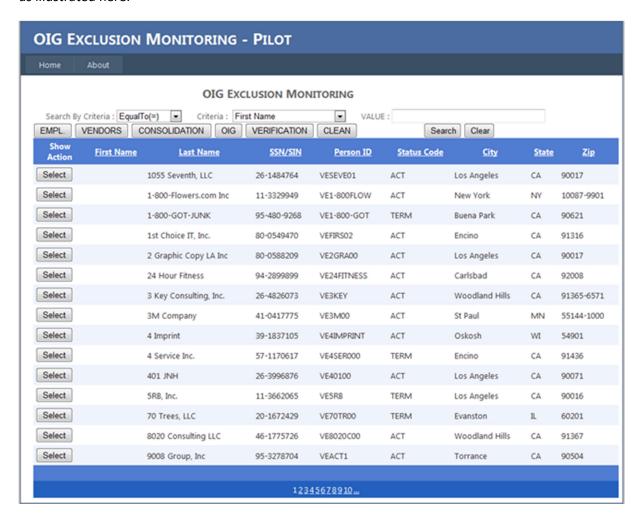
**Note:** The automated process, however, is totally discrete, and behind the scenes. No personal information needs to be input manually. The verification process is automated on the back end inside the software and computer equipment.



**Note:** This web scraping process does not touch or mix any PHI, as patient information is in different databases.

The LAC OIG Exclusion Monitoring screen displays lists of employees, and vendors. The search fields are on the first line, just below the application title.

When the VENDORS tab is opened with a click, the vendors are displayed with various status codes, ACT, TERM, as illustrated here:



The LAC OIG web scrape consists of doing the last verification with the web scrape inserting the employee social security number or the vendor tax ID number on the website to accomplish the final verification as illustrated below. The final verification report is returned as a completed cross checked list with the providers or vendors indicated with a No or a Yes. No means the employee or vendor is not excluded yes means yes, that employee or vendor is excluded from the federal programs.

This report page shows one Yes, for one that is excluded from the Medicare, and Medicaid networks:

VERIFICATION REPORT

#### New Report | Created: 3/10/2015 2:57:00 PM Person Name OIG Id Name OIG Address Consolid. Address OIG Result Consolid. Id Arturo Martinez 224059 AKTURO MARTINEZ EM2400 No EM2493 Janet Lee 221175 JANET LEE No EM2498 Donna Stewart 240891 DONNA STEWART No 198248 JAMES BROWN EM2516 James Brown No EM2516 James Brown 198249 JAMES BROWN No EM2516 James Brown 198250 JAMES BROWN No EM2516 James Brown 198251 JAMES BROWN EM2516 James Brown 198252 JAMES BROWN EM2516 James Brown 198253 JAMES BROWN No EM2516 James Brown 198254 JAMES BROWN No EM2516 James Brown 198255 JAMES BROWN No EM2516 James Brown 198256 JAMES BROWN No 198257 JAMES BROWN EM2516 James Brown No Marlon MARLON Yes, 1006 E. 32nd St, Apt C, Signal Hill, 4236 NELSONBARK AVENUE, EM2562 230069 ORELLANA CA 90755 LAKEWOOD, CA 90712 Orellana Match 217518 MELISSA JOHNSON Melissa EM2567 No 217519 MELISSA JOHNSON Melissa EM2567 No Johnson Mary Mitchell 226866 MARY MITCHELL EM2583 No EM2600 Karen Lawson 220960 KAREN LAWSON No Teresa **TERESA** EM2658 240868 STEVENSON Stevenson Jaime Sanchez 236841 JAIME SANCHEZ EM2675 No ROSA 214357 EM2718 No Hernandez HERNANDEZ EM2780 Lisa Reyes 234385 LISA REYES No

# 4.2 SAM – System for Award Management Registration

The Sam website About page give this information:

The System for Award Management (SAM) is combining federal procurement systems and the Catalog of Federal Domestic Assistance into one new system. This consolidation is being done in phases. The first phase of SAM includes the functionality from the following systems:

SAM.gov has replaced Central Contractor Registry, CCR.gov; Online Representations and Certifications Application ORCA.gov; and the Excluded Parties List System, EPLS.gov. Registration to Sam.gov is free.

The link to this federal service is: <a href="https://www.sam.gov/portal/SAM/#1">https://www.sam.gov/portal/SAM/#1</a>

Currently web scraping this website is under research and development in the Java Department.

There is no web scraping being done on SAM at this time.

The goal is to fold this into the LAC OIG application to streamline and consolidate the verifying providers, medical employees, and vendors to verify their statuses and isolate those that need to be excluded from the network.

# 5 AEVS – Medi-Cal Automated Eligibility Verification System

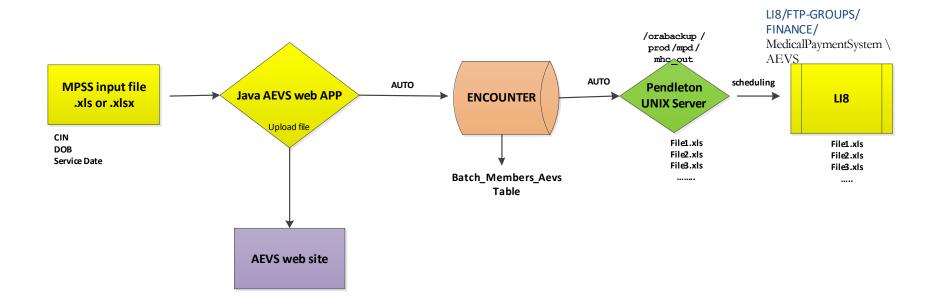
The LAC procedure to verify Medical eligibility is a batch process as illustrated in this section.

The procedure begins with an input file from MPSS that is uploaded to the Java AEVS Web App that then searches (web scrapes) on the AEVS web site. The eligibility verification results load to the Encounter database which then auto generates a file that is uploaded to the Pendleton UNIX server. From there, the eligibility information is input into the LI8 finance medical payment system.



# **AEVS Batch Process Work Flow for Medical Payment System and Services**

05/05/2015



## 6 ADDENDUM: Manual Search Procedures

This addendum describes in detail how manual searches are done for CMB-BreEZe, IOG and SAM.

The web scraping described in the preceding sections automates these manual search procedures.

## 6.1 CMB - BreEZe Online Manual License Verification

The CMB/BreEZe websites allow providers to be verified as being licensed, valid, in good standing and authorized to operate in California.

# 6.1.1 Physician and Surgeon Licensing Types and Descriptions

The BreEZe website offers manual searches with the following parameters:

- Choose a license type:
- Physician and Surgeon
- Search by Name
- Search by License Number
- Search by City
- Search by County

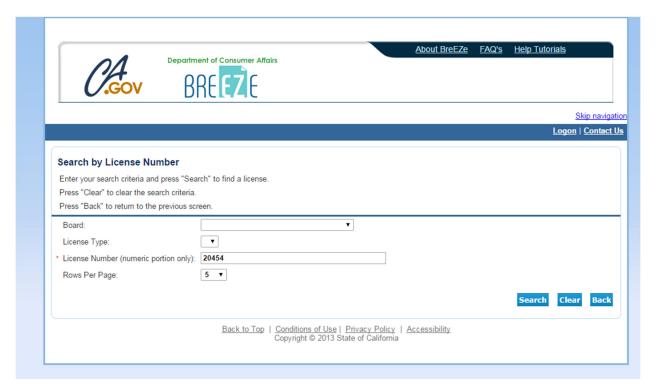
9

# **6.1.2** CMB – BreEZe Manual Search Example

The link to search by a license number is:

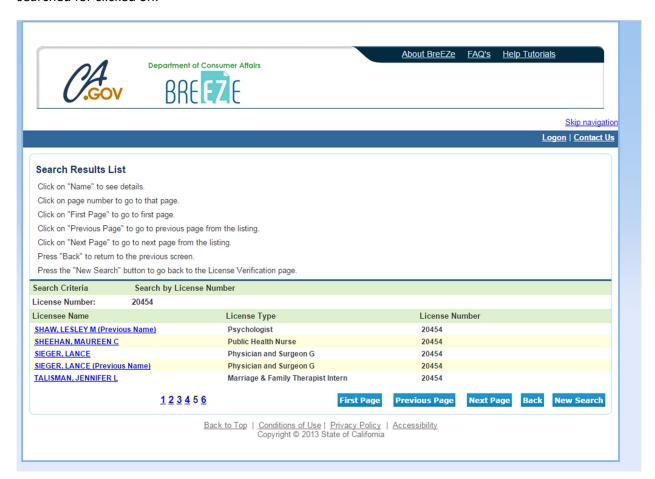
https://www.breeze.ca.gov/datamart/searchByLicNumber.do

In this example the search is for 20454:



## IT Java Dev – Web Scraping-IT Functional Specification

The search returns a result which must be manually scanned and scrolled through and the name being searched for clicked on:



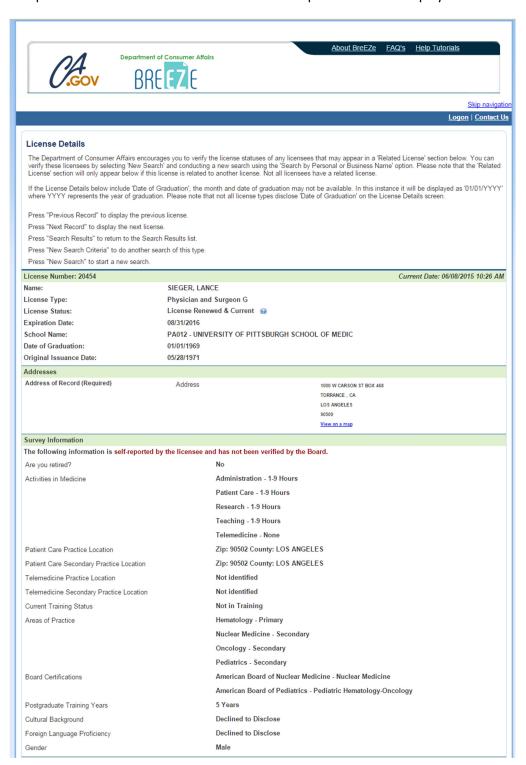


**Note:** The search box does not take any letters; numbers only may be entered.

In this search result there are many with the same license number. There are letter codes denoting the area of practice.

# IT Java Dev - Web Scraping-IT Functional Specification

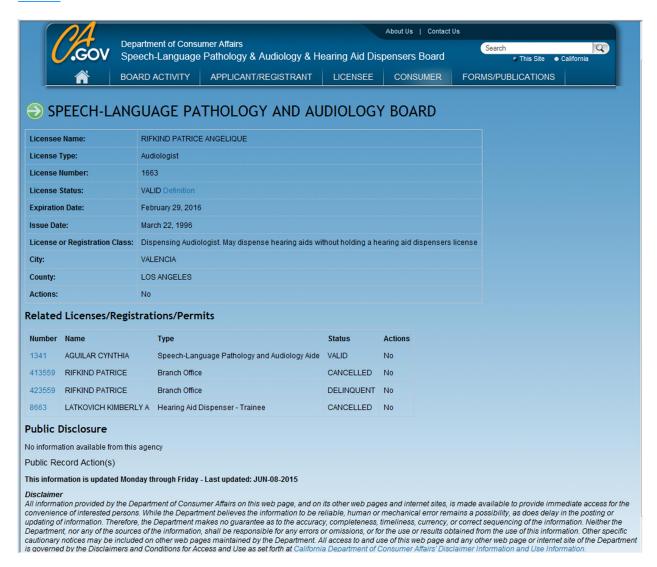
The provider searched for was clicked on that the public record is displayed:



#### IT Java Dev - Web Scraping-IT Functional Specification

## The non-physician search webpage example is at:

http://www2.dca.ca.gov/pls/wllpub/WLLQRYNA\$LCEV2.QueryView?P\_LICENSE\_NUMBER=1663&P\_LTE\_ID=835



# 6.2 OIG, SAM Manual Searches

The purpose of OIG and SAM is to verify that providers, medical employees, and vendors are not excluded from federal programs and employment.

## 6.2.1 Manual Search for Excluded Practitioners

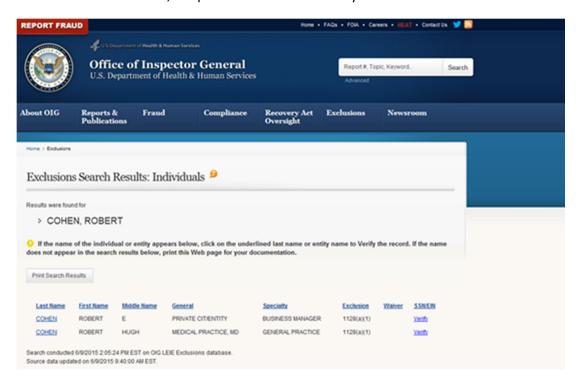
In the past, the Compliance Department would search for practitioners manually to check each one, one at a time. Data about the practitioner must be entered into various data entry fields. Once the data was entered and a search result was returned, it had to be scanned by staff, and the one to be verified had to be selected. Then the social security or Tax ID number that the practitioner provided had to be manually entered.

The screen for manual searches on the federal OIG website:

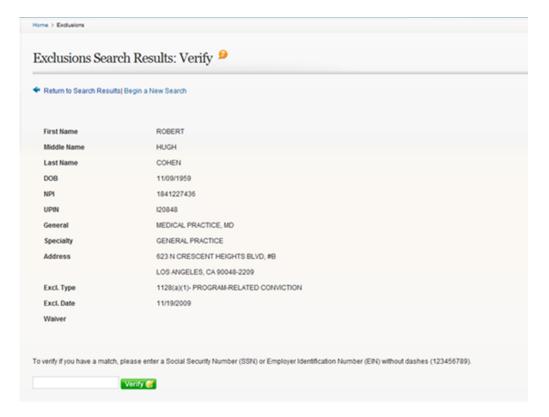


## IT Java Dev - Web Scraping-IT Functional Specification

The manual search result; the provider must be manually checked and selected:

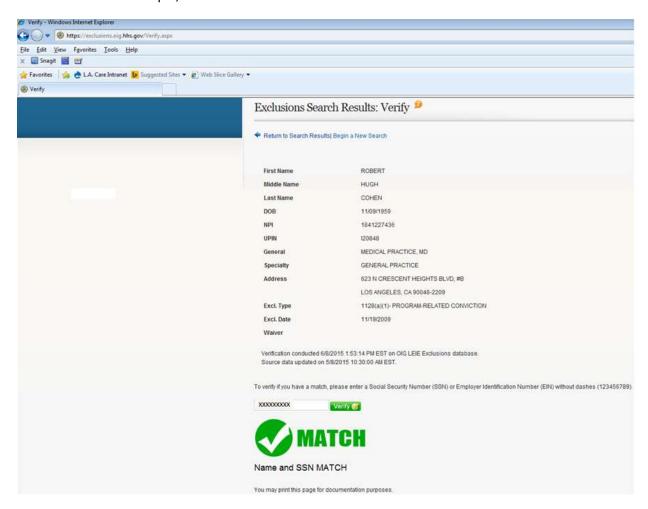


The manually selected search result, must be verified by inputting the social security number (the SSNs are not otherwise displayed from the website, only for the final verification to see if the provider is exclude from the federal medical networks:



## IT Java Dev - Web Scraping-IT Functional Specification

This screen capture illustrates the last step of the process. The Social Security Number (SSN) was input manually into the Name and SSN Match field. The Exclusion was matched, so it is verified and confirmed. In this example, the exclusion is due to a PROGRAM RELATED CONVICTION:





**Note:** To manually verify a name and social security number on OIG, staff needs to have them to manually input the social security number.



**Note:** The automated process, however, is totally discrete, and behind the scenes. No personal information needs to be input manually. The verification process is automated on the back end inside the software and computer equipment.



**Note:** This CMB web scraping process does not touch or mix any PHI, as patient information is in different databases.

## 6.2.2 The LAC OIG Web Scraper and Exclusion Monitoring Application

The purpose of the LAC OIG application is to compile consolidated lists of vendors and LAC medical employees to compare and find those excluded by the federal government Department of Health and Human Services (HHS) from being providers, employees, or vendors for the Medicare and Medicaid federal programs.

The product of LAC OIG application is the generating of monthly reports that illustrate the cross checks of LAC network providers against the federal OIG public website information.

There are two ways to verify a provider, manually as already described, or electronically automated.

The federal OIG generates monthly updates to their database that is available for free, public, unrestricted download, at: <a href="http://oig.hhs.gov/">http://oig.hhs.gov/</a>



Once the federal LEIE database is downloaded, it is remapped and input into the LAC OOIG application to run the excluded reports after consolidating the vendors and employees to then compare to LEIE.

The end result is a report listing those practitioners that are excluded and not excluded (yes, no).

# IT Java Dev – Web Scraping-IT Functional Specification

The LAC OIG application front end is comprised of six tabs that sort and list the data collected:

- 1. EMPL = Employees at LAC
- 2. VENDORS = Vendors that provide services to LAC
- 3. CONSOLIDATION = LAC employees, vendors consolidated with data collected from OIG website
- 4. OIG = OIG information for that month
- 5. VERIFICATION = the end result of 'No' not exclude, or 'Yes' excluded
- 6. CLEAN = this tab resets the application for the new month of data comparisons

## 6.2.3 SAM

#### Manual searches on the Sam website may be done at:

https://www.sam.gov/portal/SAM/?portal:componentId=24f38525-a064-4a77-b09f-3fa5986c2b48&interactionstate=JBPNS\_rO0ABXc0ABBfanNmQnJpZGdlVmlId0lkAAAAAQATL2pzZi9uYXZ pZ2F0aW9uLmpzcAAHX19FT0ZfXw\*\*&portal:type=action#1

