



U.S. Department of Labor
Digital Government Strategy (DGS) Milestone #2.2 – **API Implementations**

Last Updated: May 22, 2013

Introduction

This document summarizes the U.S. Department of Labor’s (DOL) overall status and approach for implementing DGS Milestone #2.2, *API Implementations*, which originally had two parts requiring federal agencies to:

1. Make high-value data and content in at least existing two major customer-facing systems available through web Application Programming Interfaces (APIs)
2. Publish a plan to transition additional high-value systems.

However, as per the Office of Management and Budget (OMB) DGS implementation instructions, published on April 1, 2013, federal agencies are no longer required to compose a separate plan to make additional high-value data and content publically available via web API. Instead, agencies are encouraged to describe in their Enterprise Roadmap document how modernization of existing systems will leverage web APIs to make the high-value data and content publically available.

The remainder of this document describes DOL’s API activities including its innovative approach in establishing a centralized API portal for sharing high-value data and content with the public as well as the DOL data sets that are currently available via its centralized public API portal.

Background

DGS Background

On May 23, 2012, the Federal Chief Information Officer (CIO) initiated the DGS entitled *Building a 21st Century Platform to Better Serve the American People*. The primary goal of the DGS is to leverage digital technology and information to better manage and improve the delivery of digital services across the Federal Government. The DGS describes ten agency milestones that are to be implemented within 12 months of the release of the strategy document.

To ensure the successful implementation of the DGS milestones, the DOL Office of the Chief Information Officer (OCIO) and Office of Public Affairs (OPA) are leading and working collaboratively in implementing the Department’s DGS and complying with OMB’s DGS milestone requirements.

The scope of DOLs digital services include: open data and content on DOLs Internet and Intranet websites, social media sites, public DOL communications, public API, public mobile app services, mobile device and wireless contract management, as well as digital services associated with internal DOL IT systems and services.

API Background

An Application Programming Interface (API) is a software application that software developers use or create to aid or support the sharing of information (i.e., data) between applications (apps) including for example smartphone apps, mobile apps, website apps, and/or web-based information systems applications. In other words, APIs are used as a doorway to access information and/or interconnect separate information systems or applications. Thus, APIs have become essential and effective tools for software developers to use to release and capture data and combine data from various sources to create new apps. APIs are used to support all types of apps including smartphone apps, web apps, and even stand-alone legacy business mission systems. APIs have evolved over time from single function proprietary software code to sophisticated, standardized, open source and freeware that support a wide variety of features and/or capabilities. APIs are now the fundamental building block for sharing data and information via mobile apps, website apps, websites, and/or web-based information systems applications.

Overall Status

DOL's status for achieving and addressing the goal and intent of this milestone as described in the *Introduction* is: **Complete as of May 15, 2013**. It is important to note that there are ongoing activities associated with this milestone and future activities are described in the *Next Steps* section of this document.

Approach

In 2011, in support of the President's Open and Transparent Government initiative, DOL took the initiative to establish a public-facing Developer Community website, at <http://developer.dol.gov/>, to assist, support, and encourage public entities to develop user friendly software applications using DOL datasets. Since that time DOL has published 175 data tables grouped into 32 datasets of DOL agency information, to its public developer website. As part of its vision to implement this vast amount of publicly-available data efficiently and effectively, DOL took an innovative approach and implemented a centralized API based portal to its developer web page. This centralized API portal acts a smart centralized communications/access point for all of DOLs public data. Thus, instead of having a unique API for each of the 175 data tables, DOL established a more scalable single API portal that allows user access to all accessible DOL information. Some of this data, such as the data tables from the Bureau of Labor Statistics contains live up to the minute real-time data from their

production systems. (For more information on DOLs approach to its centralized API portal, see the next section.)

An example of two DOL data tables that are publically available include 10 years of labor and/or economic indicator data from the Bureau of Labor Statistics (BLS) and Unemployment Insurance initial claims related data from the Office of Unemployment Insurance (OUI), which manages programs providing unemployment benefits to eligible workers who become unemployed through no fault of their own, and meet certain other eligibility requirements. The two datasets can be viewed at the following urls:

- BLS datasets - http://developer.dol.gov/BLS_Numbers-DATASET.htm
- OUI datasets - http://developer.dol.gov/OUI_Claims-DATASET.htm

DOL's Centralized API Portal – An Innovative Approach to API Implementation

DOL's centralized public-facing API portal was built using a unique approach - rather than standing up a separate API for each dataset, DOL envisioned publishing ALL of its publicly-available data through a single API. While other federal agencies are publishing individual datasets as distinct APIs, DOL recognized early that this approach did not scale efficiently or effectively for an organization that has large volume of data such as DOL. Thus, DOL decided to pursue a more scalable approach – by having a large number of data tables contained within a smaller number of datasets, which are all served via a single API. At this time, DOLs API portal has available 175 data tables within 32 datasets.

Figure 1, below, represents a conceptual illustration of DOLs centralized API portal. It shows how numerous web-based applications from various sources including, for example, other federal agencies, DOL agencies, and 3rd party mobile developers can interconnect via the centralized API portal, which manages and controls access to various connected databases and/or agency owned web-services. The illustration shows that DOL uses the centralized API portal to interconnect to its DOL developer.dol.gov website, which contains an API sampler. This sampler allows developers to view data served by the API so that they may, at a minimum, compare what they see with what their own applications are returning.

The single API portal acts as a smart communications hub to control and manage application data requests from one or more interconnected datasets, which improves the efficiency and effectiveness of data queries as well as the overall potential of supporting more advanced applications. The centralized API portal utilizes open standards served by an Open Data Protocol (OData) implementation. OData allows data access from a web service-consuming applications and supports many data source technologies. OData is based on the REST web-based software architecture design principles, which is the industry standard for open and scalable APIs served over the Web. OData serves data in JSON and XML formats.

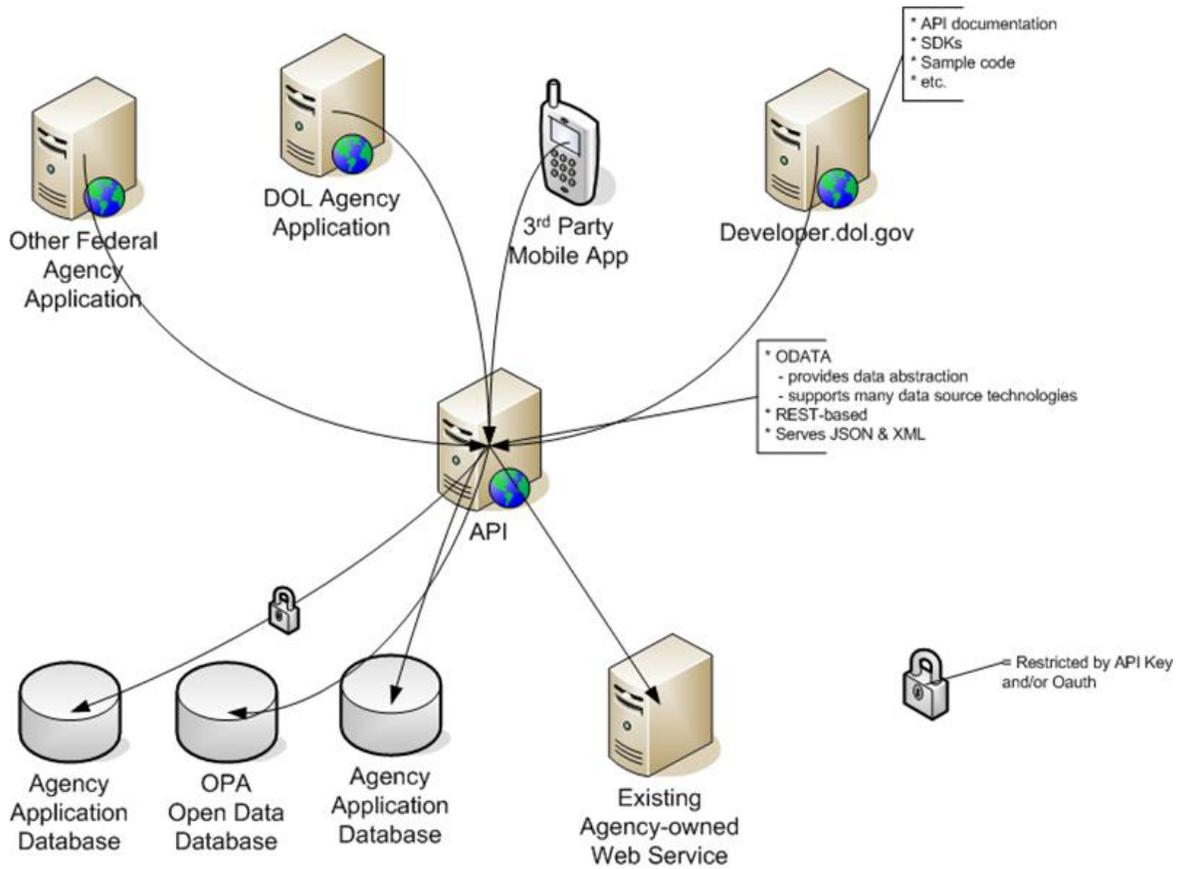


Figure 1 - DOL's Current Public-Facing API and Developer Portal.

Next Steps

The Department plans to make additional datasets and tables available to the public, via its centralized public API portal at <http://developer.dol.gov/>, as applicable existing information systems are modernized and the high-value data and content is identified for publication. The additional data will be added as it's requested by the DOL agency. In time, DOL plans to interconnect more existing agency-owned web services to the API portal. However, this depends on agency need and the execution of the Open Data Policy.