The Hashemite Kingdom of Jordan

Open Application Programming Interfaces (APIs) Policy 2020

(Updated)

Table of Contents

Introduction

The mandate for implementing the e-government programme was assigned to the Ministry of Digital Economy & Entrepreneurship (previously the Ministry of Information & Communications Technology) when launching the programme in March 2001.

The government recognizes that all government services should be digitally transformed and accessible to all beneficiaries from public and private sectors, individuals, civil society and entrepreneurs through multiple channels including web, mobile, Chabot and through common service delivery outlets. To meet this requirement, there is a need build and develop a secured integrated ecosystem for the government infrastructure including data, applications and processes that will make the right data and information available to the right user at the right time.

Application Programming Interfaces (APIs) are, therefore, critical to promote open standards of software, applications and systems interoperability across various Government entities, ensure accessibility to data and services which available via APIs by the consumers from public and private sectors, individuals and entrepreneurs. In addition to enable usage and utilize that data and services while compliance with the personal data protection requirements. In order to create add-on applications and services quicker and at lower costs, expand the options and create diversity and competition in the process of providing services to citizens.

The General Policy for Information & Communications Technology and Postal Sectors (ICTP Policy) 2018, Articles (121) to (149), clearly highlight the government direction for digital transformation of its services.

Article No. (121) articulates, "Government aims to make digitally provided services the primary means of interacting with beneficiaries. To do this, Government will make its services universally smartly available from anywhere, at any time for all beneficiaries".

Article No. (122) states, "Government aims also to minimize the need to collect information from beneficiaries and to simplify the procedures to be followed. It will achieve this in part by reducing the number of duplicate requests for information and documents. If information or a document has been provided in association with one service, Government will make it available for use within another service without recourse to the service beneficiary".

Article No. (123) stipulates ،"Government needs to continue to develop and administer its own secure Digital Transformation Infrastructure".

Finally, Article No. 128 requires that he Ministry of Digital Economy & Entrepreneurship ("The Ministry") to "develop and maintain standards for digital transformation technology to ensure the interoperability between all public sector entities. These standards will cover ICT systems, devices, applications, services, business processes, data and security architectures". Moreover, the government requires the Ministry under Article No. (146) to "continue to develop, upgrade and update its digital transformation infrastructure to ensure that it has the required capacity, availability, performance, reliability and security for effective use by all public sector entities". As such, Application Programming Interfaces (APIs) are major components of the infrastructure for the process of digital transformation implemented by the ministry, as it is the responsible for government digital transformation operations, based on Article No. (149) of the ICTP Policy 2018.

Legal Framework

In addition to the above-mentioned requirements stipulated in the Statement of Government Policy on the Information Communications Technology and Postal 2018, the Open Application Programming Interfaces Policy 2020 ("Policy") shall apply as stated herein considering relevant legislation and regulations in Jordan, specifically the following:

- Cybersecurity Law No. (16) Of 2019 and the legislation issued by it.
- Right to Access information Law No. (47) Of 2007.
- Personal Data Protection Law (when issued) and the legislation issued by it.
- Open Government Data Policy 2017
- National Cyber Security Policies 2019
- Data Classification & Management Policy 2020
- Instructions for exchange and supply data among government entities through interconnection system 2017
- Instructions for Open Governmental Data Publishing on Open Gov. Platform for 2019

Purpose

Policy aims to ensure the availability of classified data and information in accordance with the applicable legislation and pre-defined terms and conditions, facilitate the access to it, and enable the utilization of key functions of systems and functions that available by APIs in a way that enhance and support the innovation in the public and private sectors, individuals and entrepreneurs.

The policy provides requirements and procedures that need to be applied in order to provide access to data and information, and the adopted bases for refusal to grant access. In addition to that, the Policy provides guidance to government entities in developing, publishing, implementing and using these Open APIs under open principles that enable easy and transparent integration with other systems.

Scope of Application

The Policy shall apply to:

- **APIs providers:** All Government entities that have existing or planned e-Government systems and applications, in addition to any new versions of the legacy and existing systems.
- **APIs Consumers:** Government entities, private organizations or individuals that wish to benefit from and use the APIs.

The Policy shall take effect upon its approval by the Council of Ministers. Under this policy, the ministry is responsible for managing, monitoring, and implementing this policy.

Government requires that all Ministries and other public sector entities, within their respective responsibilities, to adhere the policy requirements and provide the ministry with periodic reports regarding their achievements in delivering Policy measures.

Vision

Through the issuance of this policy, the government aspires to achieve more transparency through sharing data and information, enhance Public Private Partnership, and increase private sector role in the design and development of government services and to enable interoperability across all government applications, data, systems and services. In addition to achieving quick and transparent integration between them to enhance the process of transformation towards digital economy in the Kingdom.

Policy Objectives

1. Facilitate access to not classified government data and information by public and private sectors, individuals and entrepreneurs, and making the utilizing of that data and information available in order to enable them to develop applications and services that benefit all segments of society.

2. Promote and support the culture of innovation within the public sector, private sector, individuals and entrepreneurs to create add-on products and services quicker and at lower costs.

3. Enhance the security and Enable safe and reliable data and information sharing across the unified government API Gateway that will be established by the ministry.

4. Make the key functionality of systems and services flexibly available, and facilitate their utilization, linking to it without significant and expensive development effort. the availability of key functionality through the application programming interfaces enables the Consumers to integrate and develop systems in proportion to its technical and business functions with the greatest degree of flexibility and control.

Overview of Application Programming Interfaces (APIs)

An application Programming Interface (API) is a computing interface, which provides programing intermedia for software and systems to interact them and defines kinds of calls or requests that can be made, how to make them, the data formats that should be used, and the conventions to follow. Further, API allows a system or services to access data or functionality in other programs and systems in flexible and ease way.

An open API (often referred to as a public API), however, is a publicly available application programming interface that provides developers, business or individuals with programmatic access to a proprietary software application or systems or web service. Open API may be either integrated with the host application or may be an additional piece of software.

API Deployment Types

Automatic: published the APIs are immediately and automatically deployed to proxies.

On-demand: the deployment is triggered when a user with deployment permissions makes calls to API deployments resources in the API Portal.

Scripted: Custom scripts that you create trigger scripted deployments,. Deployment APIs retrieve API deployment data and update the API deployment status for a proxy to keep the API Portal updated.

APIs Services Categories

APIs services can be provided through one of the following categories:

1. **Registered APIs:** are those APIs that the exchanged data are available for public, and could be accessed and utilized by entities and developer community.
2. **Protected APIs:** are those APIs where access and utilize require additional validation, beyond permissions and usage consent
3. **Restricted APIs:** are those APIs whose access, or use, is intentionally limited by web site developers for security purposes or business reasons. Moreover, access to them requires unique identification keys (API Keys).

Architecture of Government APIs

In addition to complying with the above-mentioned legal and regulatory requirements, publishing and consuming of government APIs shall accord with the following set of prime characteristics and aspects, as follows:

1. Providing data and information via APIs in open and machine-readable format.
2. Ensuring continuity, stability and scalability of open APIs.
3. Making data available to requesting government entities via APIs through the unified government API Gateway that will be established by the ministry.
4. Ensuring that APIs are platform and language independent.
5. Open APIs Consumer entities shall undertake to commit by the requirements and procedures specified by the APIs providers, especially with regard to data and information handling, authentication and authorization.
6. Providing APIs for government and public usage free of charge whenever possible.
7. Providing APIs documentation and ensuring that all published APIs are backward compatible with two earlier versions.

API Connect Features

1. Access to the API is free of charge and/or developers should have non-chargeable access to test APIs.
2. Provide full documentation and sufficient information for each APIs, including an explanation of the system to which the API provides access to, the general architecture of the API, the implementation plans for the API (if it is not yet available) free of charge for developers to enable using that interfaces easily.
3. Cover all actions (methods) that are available through the API including the legitimate data (classes) and return codes, and providing Sample codes.
4. Provide Description of Error codes to ensure a high quality and unambiguous user experience in case the API call returns an unexpected result.
5. Provide A testing environment to allow the solutions developers to test their solutions without affecting production environments provided that testing environments does not hold or expose confidential data.

Governance

Government requires that this Policy will be implemented using a strong governance model. The Ministry, APIs Providers, and APIs Consumers should undertake the following responsibilities to ensure full implementation and smooth transition to the use of APIs services in Jordan.

Ministry's Roles and Responsibilities

Government requires that the Ministry:

1. Establishes the needed procedures, guidelines and standards to facilitate providing, managing, enhancing, and encouraging the use of APIs including preparing policy implementation guidelines to achieve rapid and effective adoption of the policy.
2. Drives government-wide adoption and deployment of APIs.
3. Develops and establishes effective, secured and safe government API platform in cooperation and coordination with government entities.

4. Develops business model for APIs service provision within a month issuing the policy in consultation with public and private stakeholders, so that the model includes but not limited to the following:
    a. Determination of the legal and contractual obligations between the Ministry and the providers of APIs (government entities) that holding the data.
    b. Determination of the legal and contractual obligations with the consumers and the developers of APIs.
    c. Determination of Service Level Agreement terms (SLAs), Non-Disclosure Agreement (NDA) & any terms and conditions related to API services.
    d. Consult an international expert specialist to determine an appropriate pricing structure for paid APIs services according to the best practices and in such a way that encourage and enhance the use of APIs by consumers, developers and entrepreneurs, include enable testing APIs services free of charge until the end of 2021.

5. Review and update the policy as needed periodically assist the impact based on the information gathered through the actual implementation of the policy, and keep pace with local regional and international best practices in the field of APIs.
6. Spreads awareness among government entities on APIs, build capabilities, qualify human resources and attract expertise in the field of API.
7. Provides a bi-annual report to the Council of Ministers on the implementations of the Policy.
8. In specific and justified cases and upon the recommendation of the Minister of Digital Economy and Entrepreneurship and in order to achieve the objectives of this Policy and enhance the Public Private Partnership in designing and developing e-government services and interoperability across all government applications, systems and services, and to encourage innovation in the Kingdom, the Council of Ministers may agree to exempt any Providers, APIs users and developers from the requirements stipulated in this policy.

APIs Providers Roles and Responsibilities

Government requires that the APIs providers:

1. Comply with standards, terms and conditions related to developing APIs.
2. Determine specific requirements in the Request for Proposal (RFP) when publishing the APIs to the public and other Government entities.
3. Ensure integration with the e-Government applications, systems, and services of other entities through the Government Service Bus (GSB.
4. Publish the APIs to enable the public to access relevant information and data from e-government applications and systems.
5. Publish the APIs to utilize it in the integrating with their e-government applications and systems.
6. Use the Identification Management Platform (IDM) as authentication mechanism to enable service interoperability and single sign-on.
7. Comply with standards regarding to classify the government assets including data, equipment, software and systems in accordance with the Data Classification and Management Policy 2020.

APIs Consumers Roles and Responsibilities

Government requires that the APIs consumers:

1. Consume the APIs services in accordance with legal and contractual obligations, service level agreements (SLAs) and agreed terms and conditions.
2. Inform the concerned government entities and the Ministry of any unauthorized access to data or technical defects in the services provided.

3. Prohibit any person or entity to access data without the prior approval from the ministry and concerned government entity and. In the event that the APIs Consumers desire to contract with a third party, the APIs consumers must obtain the prior approval of that by the Ministry and concerned government entities and sign a non-disclosure agreement (NDA)with the third party to ensure the security and the privacy of the data and systems.

4. Maintain the utmost integrity to protect data and information systems, meet information security requirements. Data shall not be stored, shared, processed, used, disclosed, disabled, modified, or destroyed in any way that breaches the integrity of the data, and Prohibit unauthorized access to that data and strict abide to the level of confidentiality and privacy set by the ministry and the government entities .

Contractual Relationship

Contracts and SLAs between the APIs Consumers and APIs Providers must include the following minimum requirements:

Contract

1. Detailed description of services to be provided; the contract's duration; purpose, exchanged data volume, number of using API within a certain period of time, payment terms, contract termination, general terms & conditions, dispute resolution, obligations on signing parties, penalties, prices and other charges as applicable, legal compliance obligations…etc.
2. Detailed Service Level Agreements (SLAs).
3. Non-Disclosure Agreement (NDA).
4. The duration of making API available for each capability of the API (method). Terms and conditions need to be clear on the definition of responsibilities in any service management agreement.

Service Level Agreements (SLAs)

1. Availability and timeliness of services.
2. Business continuity including disaster recovery, contingency and risk plans, maintenance and Help Desk Support for APIs.
3. Security standards compliance, vulnerability and penetration management.
4. Confidentiality and integrity of data, and data protection compliance, including Backups, retention periods, rights of the data subject and Encryption Controls; Access, management and data controls Permissions.
5. Data location.
6. The time required to inform about any data breach.
7. Cases to terminate the service.
8. Data provider responsibilities to ensure the availability, accuracy, and continuity of providing the services.

Information Privacy

Personal data held, transferred, or processed by APIs consumers must be protected from unauthorized access, use, disclosure, disruption, modification or destruction in accordance with all requirements of Jordanian personal data protection law (when issued) and the legislation issued by it and related legislations,