The z/OS jobs REST interface is an application programming interface (API) implemented through industry standard Representational State Transfer (REST) services. This interface allows a client application to perform operations with batch jobs on a z/OS system.

With the z/OS jobs REST interface, an application uses REST services to perform the following operations with batch jobs on z/OS:

- **Get status of a job**
- **List the jobs for an owner, prefix, or job ID**
- **List the spool files for a job**
- **Retrieve the contents of a job spool file**
- **Submit a job to run on z/OS**
- **Cancel a job**
- **Get the job class of a job**
- **Purge a job from the JES spool**

**Processing overview:** The z/OS jobs REST interface services can be invoked by any HTTP client application, running on the z/OS local system or a remote system. Your program (the client) initiates an HTTP request to the z/OS jobs REST interface. If the interface determines that the request is valid, it returns the requested service.

After performing the service, the z/OS jobs REST interface creates an HTTP response.

If the request is successful, this response takes the form of an HTTP 200 response and, if applicable, a result set that is passed back to your program. Depending on which service was requested, the result set might be returned in a format that requires parsing by your program, for example, a JSON object.

In other cases, results might be returned in another format, such as plain text or binary data.

If the request is not successful, the response is a non-OK HTTP response code with details of the error provided in the form of a JSON object.

**Resource URLs** The URLs of the z/OS jobs REST interface have the format: `https://host:port/zosmf/restjobs/jobs?resource=[parameter]`

where `host` specifies the target system address and port `zosmfrestjobs` identifies the z/OS jobs REST interface resource. `resource` represents the resource, such as a job name and job ID, and optionally one or more parameters, to qualify the request.

**HTTP methods** The z/OS jobs REST interface provides the following HTTP methods:

- **GET:** Retrieves information about jobs running on the z/OS system.
- **PUT:** Updates job information on the z/OS system, or sets attributes and performs actions on jobs.
- **DELETE:** Removes jobs from the z/OS system.

**Supported HTTP versions** z/OS jobs REST interface supports requests in either of the following protocols:

- **HTTP/1.1**
- **HTTP/1.0**

**Content types** The data sent or returned by the HTTP methods has one of the following content types:

- Application/octet-stream ("Content-Type: application/octet-stream") is used for data sent or returned in an uninterpreted format, such as a job being submitted, or binary data or records obtained from a z/OS job spool file.
- JSON: ("Content-Type: application/json") is used for sent data and returned data.

**Error handling** For errors that occur during the processing of a request, the z/OS jobs REST interface returns an appropriate HTTP status code to the calling client.

- An error is indicated by a 4xx code or a 5xx code. For example, "HTTP/1.1 400 Bad Request" or "HTTP/1.1 500 Internal Server Error".

- In addition, the z/OS jobs REST interface returns a JSON ErrorReport document with information about the problem.

- You can use this information to diagnose the problem or provide it to IBM Customer Support, if required.

- The JSON ErrorReport document returned for HTTP protocol failures might also include additional messages and a stack trace.

**Error logging** An INFO level log message is issued when an HTTP error response is to be sent.

**Log messages** include the exception.

**Required authorizations** Generally, your user ID requires the same authorizations for using the z/OS jobs REST interface services as when you operate those services through a TSO/E session on the system. For example, submitting a job through the z/OS jobs REST interface requires that your user ID be authorized to run jobs on the system and be able to access any protected resources that the job might require.

- In addition, your user ID requires authorization to the WebSphere SAF profile prefix on the target z/OS system, as follows:
  - Access to the "WebSphere-SAF-profile-prefix".zUsrProfile profile in the EJBROLE class.
  - Access to the WebSphere-SAF-profile-prefix profile in the APPL class.

- Besides these authorizations, the following services require that your user ID be authorized to Common Information Model (CIM) server and permitted to the JES2/JES3 Jobs CIM provider.

**Usage considerations** Observe the following considerations when using the z/OS jobs REST interface services:

- The z/OS jobs REST interface services run as unprivileged programs on z/OS.
- As with any z/OSMF task, the z/OS jobs REST interface services compete for z/OSMF resources with users of the z/OSMF web browser interface. Thus, concurrent high usage of the z/OS jobs REST interface services can affect response time for users of the z/OSMF web browser interface.
- During periods of concurrent high usage of the z/OS jobs REST interface services, an application can experience connection failures, such as connection refused, connection timed out, or connection reset. In these cases, the application should try the request again. The number of retry attempts needed will depend on how much work is being requested of the server. It might be necessary for your installation to modify the workload and reduce the arrival rate of requests.

Additionally, some browser environments do not support all of the following HTTP headers or other features. For example, some browsers do not support the "Accept" header, such as HTML 4 or XHTML 1, or might block application from accessing response content having non-successful HTTP response status codes (4xx and 5xx). As a workaround, your application can use the following custom HTTP request headers:

**Requested-Method:** GET, PUT, and DELETE requests can be "tunneled" through a POST method using this custom HTTP header.

**Bypass-Status:** If set to true, all response status codes are set to 200, and the custom HTTP response header Actual-Status is included in the returned data. To determine the original status code, your application must check the Actual-Status header.

**Examples**

**GET method:** List the jobs for an owner, prefix, or job ID

You can use the GET method to list the jobs for an owner, prefix, or job ID.

The following shows the various formats of the URL for this request, depending on the data to be requested.


In the following example, the GET method is used to list the jobs that are owned by ACCT1 and have a prefix beginning with ACCT;

- **GET** list the jobs for a job

You can use the GET method to list the spool files for a batch job on z/OS.

The following shows the format of the URL for this request.

- `https://host:port/zosmf/restjobs/jobs/jobname/jobid/spoolfiles` where `jobname` identifies the job name and `jobid` for which the spool files are to be listed.

The following shows the format of the URL for this request.

**PUT method:** Submit a job

You can use the PUT method to submit a job to run on z/OS.

The following shows the format of the URL for this request.

- `https://host:port/zosmf/restjobs/jobs/jobname/jobid` where `jobname` identifies the job name and `jobid` for which the spool files are to be listed

**PUT method:** Change the class of a job

You can use the PUT method to change the class of a job on z/OS.

The following shows the format of the URL for this request.

- `https://host:port/zosmf/restjobs/jobs/jobname/jobid` where `jobname` identifies the job name and `jobid` for which the spool files are to be listed

**DELETE method:** Purge a job from the JES spool

You can use the DELETE method to purge a job from the JES spool.

The following shows the format of the URL for this request.

- `https://host:port/zosmf/restjobs/jobs/jobname/jobid` where `jobname` identifies the job name and `jobid` for which the spool files are to be listed

**NOTE:** Your user ID must be authorized to cancel the job on the system, which allows the user to delete the job SYSTSOUT data sets.