

Inland Revenue

## Build pack: Employment service

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## 1 Overview

### 1.1 This solution

Inland Revenue (IR) has a suite of digital services available for consumption by our service providers that support efficient, electronic business interactions with IR. The Employment service described in this build pack document forms part of a suite of Gateway Services.

This is a stand-alone document intended to provide the technical details required to support the end-to-end onboarding of Gateway Services. It describes the architecture of the technical solution, schemas, endpoints, sample payloads to use in non-production environments, and also its interaction with other build packs that cover different aspects of Gateway Services. The associated onboarding documents describe the end-to-end business level solution, of which this build pack forms part.

### 1.2 Intended audience

The solution outlined in this document is intended to be used by technical and development staff. It describes the technical interactions, including responses, provided by the Employment service.

The reader is assumed to have a suitable level of technical knowledge in order to understand the information provided. A range of technical terms and abbreviations are used throughout this document, and while most of these will be understood by the intended readers, a [glossary](#) is provided at the end.

### 1.3 Supported onboarding services

Before using this build pack, ensure the relevant onboarding pack has been consulted to provide business level context.

The following IR onboarding pack is supported by this build pack:

- Employment Activities (EA) via Gateway Services.

### 1.4 Related build packs

The following IR build packs complement this one:

#### 1.4.1 Identity and Access services build pack

The Identity and Access (IAS) services build pack describes the operations provided under Identity and Access services, which is another part of the Gateway Services suite. These services are used to authenticate access.

This Employment service build pack was written using information from version 1.5 of the Identity and Access services build pack.

### 1.4.2 Return service build pack

The Return service build pack describes the operations provided under the Return web service, which forms part of the Gateway Services suite. The operations offered to employers by this service include the ability to request the status or a copy of a previously-filed return, request a prepopulated return, file a new return and request the next filing obligation.

This Employment service build pack was written using information from version 0.8 of the Return service build pack.

## 1.5 Prerequisites

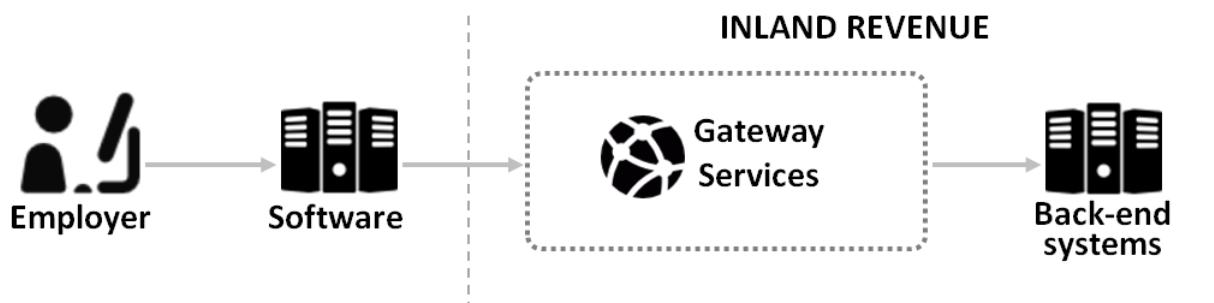
Party	Requirement	Description
<b>Inland Revenue</b>	Provide the IR public certificate for mutual TLS.	Inland Revenue's public X.509 certificate to support TLS will be provided as part of connectivity testing.
<b>Service provider</b>	Acquire a X.509 certificate from a competent authority for the Test and Production environments.	This is required for secure authentication with IR.

## 2 Solution design

### 2.1 Architecture

Inland Revenue is offering a suite of SOAP-based services in order to facilitate interactions with IR via software packages. The Gateway Services suite will be used by approved software vendors to facilitate everything from registration activities, filing returns, making payments and other service offerings in order to allow customers to interact with IR.

The diagram below illustrates the flow of data from the customer to Inland Revenue.



The WSDLs for the Gateway Services define an 'any' XML request and response structure, which then relies on a group of XSDs to define the data structure of those requests and responses. Each request and response type will define a lower, 'wrapper' element.

Any malformed XML will be rejected by the Gateway Services prior to any schema validation.

## 2.2 Service scope

The following operations are provided for the Employment service:

- **Create:** This operation will allow for the creation of an employer/employee relationship, as well as the submission of KS1/KS10 information.
- **Update:** This operation will allow for the updating of an employee/employer relationship, as well as for opting out of KiwiSaver.
- **Terminate:** This operation will be used for the termination (end dating) of an employee/employer relationship.
- **RetrieveList:** This operation can be used to retrieve a list of current employees linked to the requesting employer.

## 2.3 Messaging

All SOAP messages require a SOAP header containing **To:** and **Action:** parameters, as well as a SOAP body containing a structured XML payload.

The Gateway Services allow the consumption of any structured XML payload but will be validated against the IR-published XSDs.

This is a late binding validation, performed after authentication has been reviewed. The message structure of these services is a simple request/response. The XML request will be checked for well-formed XML before the schema validation. Responses to these requests will be in XML format as well and will be defined in the same schemas that define the requests.

Any XML submissions in the SOAP body that do not meet the provided schemas will not be accepted by the Gateway Services. Incorrect namespaces will also fail validation against the published schemas.

### Example SOAP request structure

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
  xmlns:ret="https://services.ird.govt.nz/GWS/Employment/"
  xmlns:emp="https://services.ird.govt.nz/GWS/Employment/:types/CreateRequest"
  xmlns:a="http://www.w3.org/2005/08/addressing">
  <soap:Header>
    <a:To>https://services.ird.govt.nz/Gateway/GWS/Employment </a:To>
    <a:Action>https://services.ird.govt.nz/GWS/Employment/Employment/someOperation<
    /a:Action>
  </soap:Header>
  <soap:Body>
    <emp:Create>
      <emp:CreateRequestMsg>
        <cre:CreateRequestWrapper>
          <emp1:createRequest>
            <...request fields...>
          </emp1:createRequest>
        </cre:CreateRequestWrapper>
      </emp:CreateRequestMsg>
    </emp:Create>
  </soap:Body>
</soap:Envelope>
```

## Example SOAP response structure

```
<s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <s:Header>
    <a:Action s:mustUnderstand="1">
      https://services.ird.govt.nz/GWS/Employment/Employment/CreateResponse
    </a:Action>
  </s:Header>
  <s:Body>
    <CreateResponse xmlns="https://services.ird.govt.nz/GWS/Employment/">
      <CreateResult
xmlns:b=https://services.ird.govt.nz/GWS/Employment/:types/CreateResponse
xmlns:i="http://www.w3.org/2001/XMLSchema-instance">
        <b:CreateResponseWrapper>
          <employmentResponse xmlns="urn:www.ird.govt.nz/GWS:types/Common.v1">
            <statusMessage>
              <statusCode>0</statusCode>
              <errorMessage/>
            </statusMessage>
          </employmentResponse >
        </b:CreateResponseWrapper>
      </CreateResult>
    </CreateResponse>
  </s:Body>
</s:Envelope>
```

## 2.4 Security

An OAuth token is required in the HTTP header and can be acquired via an IAS call. Users will authenticate using their IR Online Services credentials.

Any authorisation for using the Gateway Services will reflect the permissions set in Online Services—Gateway Services permissions will never exceed those granted in Online Services. For example, if a user does not have administrative permissions on the employer in Online Services, they will not be able to create, update or terminate employment via Gateway Services either.

The Gateway Services use an HTTP transport layer, with HTTP1.1 transport protocol supported.

The Gateway Services also use the SOAP version 1.2 protocol.

The SOAP service contract is published using WSDL version 1.1.

Transport layer encryption is mandatory and uses the TLS version 1.2 specification. The use of any version of SSL or versions of TLS prior to TLS 1.2 is prohibited.

NZISM expects the following ciphers and key strengths to be used, noting that TLS must use SHA-2:

<b>Encryption:</b>	Advanced Encryption Standard (AES)	FIPS 197	256-bit key
<b>Hashing:</b>	Secure Hash Algorithm (SHA)	FIPS 180-3	SHA-256

When mutual TLS is used, there is no requirement for the service provider to provide IP addresses that IR will use to perform IP filtering.

### 3 Operations

**IMPORTANT:** *The schemas listed in this section are subject to change. For the authoritative definitions, please refer to the information provided on the Software Developers Liaison Unit website:*

<http://www.ird.govt.nz/software-developers/gateway-services-gws.html>

The structures of all Gateway Service operations are intended to produce the most efficient requests and responses. Any common structures and fields will be used across many schemas and tax types through an intentional inheritance method. The section below describes the structure of each operation and the scenarios in which certain fields will be used in XML requests and responses.

This section contains schema aliases:

- Cmn: Common.xsd
- Emp: Employment.xsd

The response structure for all employment requests will use the two default service response fields: **statusCode** and **errorMessage**. The identifier for this XML is **employmentResponse** in the Employment namespace.

For example:

```
<employmentResponse xmlns="urn:www.ird.govt.nz/GWS:types/Employment">
  <statusMessage xmlns="urn:www.ird.govt.nz/GWS:types/Common.v1">
    <statusCode>0</statusCode>
    <errorMessage>Success</errorMessage>
  </statusMessage>
</employmentResponse>
```

All operations for the Employment service will contain two standard header fields: **softwareProviderData** and **identifier**.

For example:

```
<cmn:softwareProviderData>
  <cmn:softwareProvider>Software1</cmn:softwareProvider>
  <cmn:softwarePlatform>Software1Package</cmn:softwarePlatform>
  <cmn:softwareRelease>v1</cmn:softwareRelease>
</cmn:softwareProviderData>

<cmn:identifier IdentifierValueType="IRD">012345678</cmn:identifier>
```

Field	Description
<b>softwareProvider</b>	The company who developed the software
<b>softwarePlatform</b>	The software package that is making the request
<b>softwareRelease</b>	The version of the software package
<b>IdentifierValueType</b>	The ID type being submitted. This can be IRD, NZBN or ACCID. The value submitted for this field should contain only digits, with no dashes.



Proper use:

- All softwareProviderData fields will need to be the same as that which is provided to Inland Revenue at the time of onboarding
- The identifier is that of the tax payer on whose behalf the operations are being performed.

Example scenario:

- Third party with IRD 898989898 submits for client IRD 121212121
  - Third party calls /Employment/Create/ with  
 <cmn:identifier IdentifierValueType="IRD">121212121</cmn:identifier>

### 3.1 Create

*Create* enables an employer to submit information to IR in regard to a new employee; employee IRD number, employee name, EMS name, tax code, employment start date, employment finish date, employee date of birth, employee contact details, KS1 KiwiSaver enrolment information.

NOTE: If an employee meets the legislative requirements to opt out of KiwiSaver and wishes to do so and the employer has not yet notified IR of this new employee, then:

- A *Create* request must be submitted AND
- An *Update* request must also be submitted, including the following fields:
  - optedOut
  - employeeBankAccountNumber
  - accountHolderName
  - optedOutSignatureDate

```
<emp1:createRequest>
  <emp1:header/>
  <emp1:createBody>
    <emp1:employeeIRD></emp1:employeeIRD>
    <emp1:employeeName>
      <com:personalTitle></com:personalTitle>
      <com:nameFirst></com:nameFirst>
      <com:nameSurname></com:nameSurname>
      <com:nameMiddle></com:nameMiddle>
    </emp1:employeeName>
    <emp1:employeeNameOnEILine></emp1:employeeNameOnEILine>
    <!--1 to 4 repetitions-->
    <emp1:taxCode></emp1:taxCode>
    <emp1:employmentStartDate></emp1:employmentStartDate>
    <emp1:employmentFinishDate></emp1:employmentFinishDate>
    <emp1:employeeDateOfBirth></emp1:employeeDateOfBirth>
    <emp1:employeeAddress>
      <com:streetAddress>
        <com:streetNumber></com:streetNumber>
        <com:streetName></com:streetName>
      </com:streetAddress>
      <!--Optional:-->
      <com:unit>
        <com:type></com:type>
        <com:number></com:number>
      </com:unit>
      <com:townCity></com:townCity>
      <com:postCode></com:postCode>
```

```

    <com:country>NZ</com:country>
  </emp1:employeeAddress>
  <emp1:employeeEmailAddress></emp1:employeeEmailAddress>
  <emp1:employeeMobilePhoneNumber>
    <com:phoneType></com:phoneType>
    <com:country></com:country>
    <com:areaCode></com:areaCode>
    <com:number></com:number>
    <!--Optional:-->
    <com:extension></com:extension>
  </emp1:employeeMobilePhoneNumber>
  <!--Optional:-->
  <emp1:employeeDayPhoneNumber>
    <com:phoneType></com:phoneType>
    <com:country></com:country>
    <com:areaCode></com:areaCode>
    <com:number></com:number>
    <!--Optional:-->
    <com:extension>?</com:extension>
  </emp1:employeeDayPhoneNumber>
  <emp1:kiwiSaverStatus></emp1:kiwiSaverStatus>
  <emp1:employeeKiwiSaverEligibility></emp1:employeeKiwiSaverEligibility>
</emp1:createBody>
</emp1:createRequest>

```

Field	Required	Description
<b>employeeIRD</b>	Required	If the employee doesn't have an IRD number, enter all zeros
<b>employeeName</b>	Required	Full employee name Title (optional), First Name (mandatory), Middle Name (optional), Surname (mandatory)
<b>employeeNameOnEILine</b>	Required	This is the 20-character name provided on the EI return
<b>taxCode</b>	Required	Multiple tax codes can be added in one submission
<b>employmentStartDate</b>	Optional	Format: YYYY-MM-DD
<b>employmentFinishDate</b>	Optional	If future Finish Date is known, place here and future termination will not be needed
<b>employeeDateOfBirth</b>	Optional	Format: YYYY-MM-DD
<b>employeeAddress</b>	Optional	Open address to allow for foreign addresses
<b>employeeEmailAddress</b>	Optional	Employee email address
<b>employeeMobilePhoneNumber</b>	Optional	Standard mobile field
<b>employeeDayPhoneNumber</b>	Optional	Standard phone field
<b>kiwiSaverStatus</b>	Required	Employee KiwiSaver status: <ul style="list-style-type: none"> <li>• AK for Active KiwiSaver</li> <li>• CH for contribution holiday</li> <li>• OT for opted out</li> <li>• NM for non-member</li> <li>• NK for not eligible for KiwiSaver</li> </ul>

Field	Required	Description
<b>employeeKiwiSaverEligibility</b>	Optional	Either NE for New Employee or EE Existing Employee

### 3.2 Update

#### IMPORTANT NOTE:

When the Update operation is carried out, it completely replaces ALL the existing information on the employment relationship.

This means that where data has previously been supplied for a field, a subsequent Update with no data for that same field will result in the data being overwritten (removed).

For example, employee address information previously supplied would be overwritten if a subsequent Update operation updating that employee's tax code did not include address information.

Therefore any data previously provided to IR for a field will need to be included in all subsequent Update operations for it to be retained.

#### For example:

If employee IRD 123-456-789 already has tax code M SL and tax code STC needs to be added. An update will need to include both M SL and STC.

```
<emp1:updateRequest>
  <emp1:header/>
  <emp1:employeeIdentifier>
    <emp1:employeeIRD></emp1:employeeIRD>
    <emp1:employeeNameOnEILine></emp1:employeeNameOnEILine>
    <!--Optional:-->
    <emp1:employeeDateOfBirth></emp1:employeeDateOfBirth>
    <!--Optional:-->
    <emp1:employmentStartDate></emp1:employmentStartDate>
  </emp1:employeeIdentifier>
  <emp1:updateBody>
    <emp1:employeeIRD></emp1:employeeIRD>
    <emp1:employeeName>
      <com:personalTitle></com:personalTitle>
      <com:nameFirst></com:nameFirst>
      <com:nameSurname></com:nameSurname>
      <com:nameMiddle></com:nameMiddle>
    </emp1:employeeName>
    <emp1:employeeNameOnEILine></emp1:employeeNameOnEILine>
    <emp1:employmentStartDate></emp1:employmentStartDate>
    <!--Optional:-->
    <emp1:employeeDateOfBirth></emp1:employeeDateOfBirth>
    <!--1 to 4 repetitions:-->
    <emp1:taxCode></emp1:taxCode>
    <!--Optional:-->
    <emp1:employeeAddress>
      <com:streetAddress>
        <com:streetNumber></com:streetNumber>
        <com:streetName></com:streetName>
      </com:streetAddress>
```

```

    <!--Optional:-->
    <com:unit>
      <com:type></com:type>
      <com:number></com:number>
    </com:unit>
    <com:townCity></com:townCity>
    <com:postCode></com:postCode>
    <com:country>NZL</com:country>
  </emp1:employeeAddress>
  <!--Optional:-->
  <emp1:employeeEmailAddress>?</emp1:employeeEmailAddress>
  <!--Optional:-->
  <emp1:employeeMobilePhoneNumber>
    <com:phoneType></com:phoneType>
    <com:country></com:country>
    <com:areaCode></com:areaCode>
    <com:number></com:number>
    <!--Optional:-->
    <com:extension></com:extension>
  </emp1:employeeMobilePhoneNumber>
  <!--Optional:-->
  <emp1:employeeDayPhoneNumber>
    <com:phoneType></com:phoneType>
    <com:country></com:country>
    <com:areaCode></com:areaCode>
    <com:number></com:number>
    <!--Optional:-->
    <com:extension></com:extension>
  </emp1:employeeDayPhoneNumber>
  <emp1:kiwiSaverStatus></emp1:kiwiSaverStatus>
  <!--Optional:-->
  <emp1:employeeKiwiSaverEligibility></emp1:employeeKiwiSaverEligibility>
  <!--Optional:-->
  <emp1:optedOut></emp1:optedOut>
  <!--Optional:-->
  <emp1:employeeBankAccountNumber>
    <!--You have a CHOICE of the next 2 items at this level-->
    <com:nzBankStandard>
      <com:bank></com:bank>
      <com:branch></com:branch>
      <com:account></com:account>
      <com:suffix></com:suffix>
    </com:nzBankStandard>
    <com:nzBankCreditUnion>
      <com:bank></com:bank>
      <com:branch></com:branch>
      <com:account></com:account>
      <com:suffix></com:suffix>
    <!--Optional:-->
    <com:referenceNumber></com:referenceNumber>
  </com:nzBankCreditUnion>
  </emp1:employeeBankAccountNumber>
  <!--Optional:-->
  <emp1:accountHolderName>
    <com:personalTitle></com:personalTitle>
    <com:nameFirst></com:nameFirst>
    <com:nameSurname></com:nameSurname>
  </emp1:accountHolderName>
  <!--Optional:-->
  <emp1:optedOutSignatureDate></emp1:optedOutSignatureDate>
  <emp1:validRelationship></emp1:validRelationship>
</emp1:updateBody>
</emp1:updateRequest>

```

Field	Required	Description
<b>employeeIdentifier</b>	Required	Four fields (employeeIRD, employeeNameOnEILine, employeeDateOfBirth, employmentStartDate) used to identify the record which is to be updated.
<b>employeeIRD</b>	Required	If the employee doesn't have an IRD number, enter all zeros
<b>employeeName</b>	Required	Full employee name Title (optional), First Name (mandatory), Middle Name (optional), Surname (mandatory)
<b>employeeNameOnEILine</b>	Required	This is the 20 character name provided that is on the EI return
<b>employmentStartDate</b>	Optional	Format: YYYY-MM-DD
<b>employeeDateOfBirth</b>	Optional	Format: YYYY-MM-DD
<b>taxCode</b>	Optional	Multiple tax codes can be added in one submission
<b>employeeAddress</b>	Optional	Open address to allow for foreign addresses
<b>employeeEmailAddress</b>	Optional	employee email address for KS form
<b>employeeMobilePhoneNumber</b>	Optional	Standard mobile field for KS form
<b>employeeDayPhoneNumber</b>	Optional	Standard phone field for KS form
<b>kiwiSaverStatus</b>	Required	Employee KiwiSaver status: <ul style="list-style-type: none"> <li>• AK for Active KiwiSaver</li> <li>• CH for contribution holiday</li> <li>• OT for opted out</li> <li>• NM for non-member</li> <li>• NK for not eligible</li> </ul>
<b>employeeKiwiSaverEligibility</b>	Optional	Either NE for New Employee or EE for Existing Employee
<b>optedOut</b>	Optional	Opt out boolean
<b>employeeBankAccountNumber</b>	Optional	Only required for KiwiSaver opt out
<b>accountHolderName</b>	Optional	Standard Name Field for KS form
<b>optedOutSignatureDate</b>	Optional	Standard Date Field for KS form
<b>validRelationship</b>	Required	Indicates the validity of this employment relationship. If the record was created on accident, it must be invalidated

### 3.3 Terminate

*Terminate* enables an employer to submit information to IR in regard to a departing employee; employee IRD number, employee name, employee date of birth, employee end date.

Once a termination date is known:

```
<emp1:terminateRequest>
  <emp1:header/>
  <emp1:employeeIdentifier>
    <emp1:employeeIRD></emp1:employeeIRD>
    <emp1:employeeNameOnEILine></emp1:employeeNameOnEILine>
    <emp1:employeeDateOfBirth></emp1:employeeDateOfBirth>
    <emp1:employmentStartDate></emp1:employmentStartDate>
  </emp1:employeeIdentifier>
  <emp1:terminateBody>
    <emp1:employmentFinishDate></emp1:employmentFinishDate>
  </emp1:terminateBody>
</emp1:terminateRequest>
```

Field	Required	Description
<b>employeeIdentifier</b>	Required	Four fields (employeeIRD, employeeNameOnEILine, employeeDateOfBirth, employmentStartDate) used to identify the record which is to be updated.
<b>employmentFinishDate</b>	Required	Format: YYYY-MM-DD

### 3.4 RetrieveList

This can be used to retrieve a full list of current employees (by not including an employee IRD number in the request) or retrieve one individual employee.

#### 3.4.1 Request

```
<emp1:retrieveListRequest>
  <emp1:header> ... </emp1:header>
  <emp1:retrieveListBody>
    <emp1:employeeIRD></emp1:employeeIRD>
  </emp1:retrieveListBody>
</emp1:retrieveListRequest>
```

Field	Required	Description
<b>employeeIRD</b>	Optional	Enter an employee's IRD number to retrieve only records for that employee. Omitting this field will request every employee linked to the Employer identified in the header.

### 3.4.2 Response

```
<emp1:retrieveListResponse>
  <statusMessage xmlns="urn:www.ird.govt.nz/GWS:types/Common.v1">
    <statusCode></statusCode>
    <errorMessage></errorMessage>
  </statusMessage>
  <responseBody>
    <emp1:listReponse>
      <emp1:employee>
        <emp1:employeeIRD></emp1:employeeIRD>
        <emp1:employeeName></emp1:employeeName>
        <emp1:employeeNameOnEILine> </emp1:employeeNameOnEILine>
        <emp1:taxCode></emp1:taxCode>
        <emp1:employeeDateOfBirth></emp1:employeeDateOfBirth>
        <emp1:employmentStartDate></emp1:employmentStartDate>
        <emp1:employmentFinishDate></emp1:employmentFinishDate>
      </emp1:employee>
      <emp1:employee>
        <emp1:employeeIRD></emp1:employeeIRD>
        <emp1:employeeName></emp1:employeeName>
        <emp1:employeeNameOnEILine></emp1:employeeNameOnEILine>
        <emp1:taxCode></emp1:taxCode>
        <emp1:employeeDateOfBirth></emp1:employeeDateOfBirth>
        <emp1:employmentStartDate></emp1:employmentStartDate>
        <emp1:employmentFinishDate></emp1:employmentFinishDate>
      </emp1:employee>
      <emp1:employee>
        <emp1:employeeIRD></emp1:employeeIRD>
        <emp1:employeeName></emp1:employeeName>
        <emp1:employeeNameOnEILine></emp1:employeeNameOnEILine>
        <emp1:taxCode></emp1:taxCode>
        <emp1:employeeDateOfBirth></emp1:employeeDateOfBirth>
        <emp1:employmentStartDate></emp1:employmentStartDate>
        <emp1:employmentFinishDate></emp1:employmentFinishDate>
      </emp1:employee>
    </emp1:listResponse>
  </emp1:responseBody>
</emp1:retrieveListResponse>
```

Field	Required	Description
<b>employeeIRD</b>	Required	If the employee doesn't have an IRD number, enter all zeros
<b>employeeName</b>	Required	Full employee name Title (optional), First Name (mandatory), Middle Name (optional), Surname (mandatory)
<b>employeeNameOnEILine</b>	Required	This is the 20 character name provided that is on the EI return
<b>taxCode</b>	Optional	Multiple tax codes can be added in one Response
<b>employeeDateOfBirth</b>	Optional	Format: YYYY-MM-DD
<b>employmentStartDate</b>	Optional	Format: YYYY-MM-DD
<b>employmentFinishDate</b>	Optional	Format: YYYY-MM-DD

## 4 End points, schemas and WSDLs

**IMPORTANT:** *The end points, schemas and WSDLs listed here are subject to change. For the authoritative definitions, please refer to the information provided on the Software Developers Liaison Unit website:*

<http://www.ird.govt.nz/software-developers/gateway-services-gws.html>

### 4.1 End points

The end points for the Digital Test Environment XZT are as follows:

#### **Authentication**

- <https://q.services.ird.govt.nz:443>

#### **Gateway Services**

- <https://xzt.services.ird.govt.nz:4046/gateway/gws/employment/>

The end points for the Digital Test Environment XZS are as follows:

#### **Authentication**

- <https://q.services.ird.govt.nz:443>

#### **Gateway Services**

- <https://xzs.services.ird.govt.nz:4046/gateway/gws/employment/>

The end points for production are as follows:

#### **Authentication**

- <https://services.ird.govt.nz:443>

#### **Gateway Services**

- <https://services.ird.govt.nz:4046/gateway/gws/employment/>

### 4.2 End points

The end points for the Digital Test Environment are as follows:

#### **Authentication**

- <https://q.services.ird.govt.nz:443>

#### **Gateway Services**

- <https://xzt.services.ird.govt.nz:4046>

### 4.3 Schemas

The Employment service imports a common.xsd which has some data types specific to Inland Revenue. This common.xsd will be used in other gateway services outside of the /Employment/ namespace so it must be kept up-to-date, without numerous redundant versions remaining.



#### 4.4 WSDLs

The Employment Gateway Service has one WSDL, which has a target namespace of <https://services.ird.govt.nz/GWS/Employment> and can be found at

<https://services.ird.govt.nz/GWS/Employment?singleWSDL>.

All WSDL messages follow this naming convention:

Employment\_<operation>\_InputMessage or Employment\_<operation>\_OutputMessage.

```
<wsdl:portType name="Employment">
  <wsdl:operation name="Create">
  <wsdl:operation name="Update">
  <wsdl:operation name="Terminate">
  <wsdl:operation name="RetrieveList">
<wsdl:service name=" Employment">
```

For easier WSDL consumption, the <xs:any> structure has been replaced with a reference to the corresponding element in the Employment.xsd. This will allow any tools that consume the WSDL to automatically pull in the data structures from the XSD. To use this, ensure the WSDL provided by IR is in the same directory as Common.xsd and Employment.xsd.

Note: The WSDL hosted at the endpoint above will not contain these XSD references, only the static WSDL provided to you manually.

## 5 Responses

The response message from the Gateway Services always includes a status code and status message that will describe how successfully the gateway service call was carried out. Following the status message will be the responseBody, which will return the operations response.

### 5.1 Response codes

Standard codes	Standard message	Description
<b>-1</b>	An unknown error has occurred	This error will be logged by the Gateway Services and evaluated the next business day.
<b>0</b>	Success	This resembles a successful web service call.
<b>1</b>	Authentication failure	Authentication failure means the token provided is not a valid token.
<b>2</b>	Missing authentication token(s)	No oAuth token in HTTP header.
<b>3</b>	Unauthorised access	The logon making the call does not have access to make the request on behalf of the client or agency.
<b>5</b>	Unauthorised vendor	The vendor provided is not authorised to use these suite of services.
<b>20</b>	Unrecognised XML request	The XML submitted is not recognisable and no schema can be determined.
<b>21</b>	XML request failed validation	The XML structure did not meet the definition laid out by the schemas published by Inland Revenue.
<b>100</b>	Could not extract data from xml payload	The XML structure passes schema validation but the data is not valid.
<b>101</b>	The provided information did not match with any employment relationship.	The employment relationship that is attempting to be changed does not exist.
<b>102</b>	The provided information was not specific enough to match with a single employment relationship.	For employment relationships that have minimal data. Provided data must match current records.
<b>103</b>	The provided IRD Number was invalid	The provided IRD Number was invalid
<b>104</b>	The specified account has no employees	The specified account has no employees.
<b>105</b>	The specified employer IRD could not be linked to an EMP account	The specified employer IRD could not be linked to a EMP account.
<b>106</b>	A relationship between this account and employee IRD already exists	A relationship between this account and employee IRD already exists

## 6 Processing flows

The following use cases show sequences of Gateway Services operations that *could* be used to achieve a specific business outcome. They do not comprise a comprehensive list of all required business outcomes, nor are they prescriptive or intended to inhibit software innovation in any way.

Additional information on use cases is available in the associated onboarding packs.

### 6.1 Use cases

#### 6.1.1 Create and Update (new employee/KiwiSaver details)

##### Scenario 1:

1. The user wishes to submit Employee Details information for a new employee.
2. The user generates an Employee Details form, and fills out all the fields, including the KS1 enrolment fields.
3. Once the form is ready to submit, the user attempts to send the request.
4. Upon receipt of the request, the Employment service 'Create' operation is invoked.

##### Scenario 2:

1. The user wishes to submit KiwiSaver enrolment information for recently joined employee as this was accidentally overlooked when they submitted their original employee details.
2. The user generates an Employee Details form, and fills out the required fields.
3. Once the form is ready to submit, the user attempts to send the request.
4. Upon receipt of the request, the Employment service 'Update' operation is invoked.

##### Scenario 3:

1. The user wishes to submit KiwiSaver opt out information for a recently joined employee.
2. The user generates an Employee Details form, and fills out the required fields.
3. Upon receipt of the request, the Employment service 'Update' operation is invoked.

#### 6.1.2 Update an employer/employee relationship

##### Scenario 1:

1. The user wishes to submit changed information for an employee, for example a change in tax code, correction to a Start date etc.
2. The user generates an Employee Details form, and fills out the required fields.
3. Upon receipt of the request, the Employment service 'Update' operation is invoked.

#### 6.1.3 Terminate an employer/employee relationship

##### Scenario 1:

1. The user wishes to submit information for a departed/departing employee.
2. The user generates an Employee Details form, and fills out the remaining form fields.
3. Upon receipt of the request, the Employment service 'Terminate' operation is invoked.

#### 6.1.4 Retrieve employer/employee relationship data

##### **Scenario 1:**

1. The user wishes retrieve employer/employee data that they have previously submitted for an employer.
2. The user runs RetrieveList to retrieve the data.
3. The user may choose to use the retrieved data to then submit changed information for one or more of the employees (using Update) or submit information for a departed/departing employee (using Terminate).

#### 6.1.5 Update and Create to reinstate an incorrectly terminated relationship

##### **Scenario 1:**

1. The user has incorrectly terminated an employment relationship.
2. The user generates an Employee Details form, and submits a value of 0 in the validRelationship field.
3. Upon receipt of the request, the Employment service 'Update' operation is invoked and the relationship is invalidated.
4. The user then submits Employee Details information for that employee.
5. The user generates an Employee Details form, and fills out all the fields, including the KS1 enrolment fields.
6. Once the form is ready to submit, the user attempts to send the request.
7. Upon receipt of the request, the Employment service 'Create' operation is invoked (and this recreates the employer/employee relationship).

## 7 Appendix A—Sample payloads

### 7.1 Create request

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:empl="https://services.ird.govt.nz/GWS/Employment/"
xmlns:cre="https://services.ird.govt.nz/GWS/Employment/:types/CreateRequest"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <soap:Header>
    <a:To>http://localhost/Webservices/Gateway/GWS/Employment</a:To>
    <a:Action>https://services.ird.govt.nz/GWS/Employment/Employment/Create</a:Action>
  </soap:Header>
  <soap:Body>
    <empl:Create>
      <empl:CreateRequestMsg>
        <cre:CreateRequestWrapper>
          <!--You may enter ANY elements at this point-->
          <emp:createRequest
            xmlns:emp="urn:www.ird.govt.nz/GWS:types/Employment"
            xmlns:cmn="urn:www.ird.govt.nz/GWS:types/Common.v1">
            <emp:header>
              <cmn:softwareProviderData>
                <cmn:softwareProvider>softwareProvider</cmn:softwareProvider>
                <cmn:softwarePlatform>softwarePlatform</cmn:softwarePlatform>
                <cmn:softwareRelease>v1</cmn:softwareRelease>
              </cmn:softwareProviderData>
              <cmn:identifier IdentifierValueType="ACCIRD">123009916</cmn:identifier>
            </emp:header>
            <emp:createBody>
              <emp:employeeIRD>951753820</emp:employeeIRD>
              <emp:employeeName>
                <cmn:nameTitle>Mr.</cmn:nameTitle>
                <cmn:nameFirst>Jackie</cmn:nameFirst>
                <cmn:nameSurname>Sparrow</cmn:nameSurname>
              </emp:employeeName>
              <emp:employeeNameOnEILine>Charlotte</emp:employeeNameOnEILine>
              <emp:taxCodes>
                <emp:taxCode>MSL</emp:taxCode>
                <emp:taxCode>CAE</emp:taxCode>
              </emp:taxCodes>
              <emp:employmentStartDate>2017-03-24</emp:employmentStartDate>
              <emp:employeeDateOfBirth>1986-07-25</emp:employeeDateOfBirth>
              <emp:kiwiSaverStatus>NM</emp:kiwiSaverStatus>
            </emp:createBody>
          </emp:createRequest>
        </cre:CreateRequestWrapper>
      </empl:CreateRequestMsg>
    </empl:Create>
  </soap:Body>
</soap:Envelope>
```

### 7.2 Update request

```
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
xmlns:empl="https://services.ird.govt.nz/GWS/Employment/"
xmlns:upd="https://services.ird.govt.nz/GWS/Employment/:types/UpdateRequest"
xmlns:a="http://www.w3.org/2005/08/addressing">
  <soap:Header>
    <a:To>http://localhost/Webservices/Gateway/GWS/Employment</a:To>
    <a:Action>https://services.ird.govt.nz/GWS/Employment/Employment/Update</a:Action>
  </soap:Header>
  <soap:Body>
    <empl:Update>
      <empl:UpdateRequestMsg>
        <upd:UpdateRequestWrapper>
          <!--You may enter ANY elements at this point-->
          <emp:updateRequest
            xmlns:emp="urn:www.ird.govt.nz/GWS:types/Employment"
            xmlns:cmn="urn:www.ird.govt.nz/GWS:types/Common.v1">
            <emp:header>
              <cmn:softwareProviderData>
```

```

        <cmn:softwareProvider>Provider</cmn:softwareProvider>
        <cmn:softwarePlatform>Platform</cmn:softwarePlatform>
        <cmn:softwareRelease>Release</cmn:softwareRelease>
      </cmn:softwareProviderData>
      <cmn:identifier IdentifierValueType="ACCIRD">123009916</cmn:identifier>
    </emp:header>
    <emp:employeeIdentifier>
      <emp:employeeIRD>951753820</emp:employeeIRD>

    <emp:employeeNameOnEILine>MCharlesPatrickJames</emp:employeeNameOnEILine>
      <emp:employeeDateOfBirth>1986-07-21</emp:employeeDateOfBirth>
      <emp:employmentStartDate>2017-03-22</emp:employmentStartDate>
    </emp:employeeIdentifier>
    <emp:updateBody>
      <emp:employeeIRD>951753820</emp:employeeIRD>
      <emp:employeeName>
        <cmn:nameTitle>Lord</cmn:nameTitle>
        <cmn:nameFirst>Charles</cmn:nameFirst>
        <cmn:nameSurname>James</cmn:nameSurname>
        <cmn:nameMiddle>Patrick</cmn:nameMiddle>
      </emp:employeeName>

    <emp:employeeNameOnEILine>MCharlesPatrickJames</emp:employeeNameOnEILine>
      <emp:employmentStartDate>2017-03-22</emp:employmentStartDate>
      <emp:employeeDateOfBirth>1986-07-21</emp:employeeDateOfBirth>
      <emp:taxCodes>
        <emp:taxCode>ESS</emp:taxCode>
        <emp:taxCode>SSL</emp:taxCode>
      </emp:taxCodes>
      <emp:kiwiSaverStatus>NM</emp:kiwiSaverStatus>
      <emp:validRelationship>1</emp:validRelationship>
    </emp:updateBody>
  </emp:updateRequest>
</upd:UpdateRequestWrapper>
</empl:UpdateRequestMsg>
</empl:Update>
</soap:Body>
</soap:Envelope>

```

### 7.3 Terminate request

```

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
  xmlns:empl="https://services.ird.govt.nz/GWS/Employment/"
  xmlns:ter="https://services.ird.govt.nz/GWS/Employment/:types/TerminateRequest"
  xmlns:a="http://www.w3.org/2005/08/addressing">
  <soap:Header>
    <a:To>http://localhost/Webservices/Gateway/GWS/Employment</a:To>
    <a:Action>https://services.ird.govt.nz/GWS/Employment/Employment/Terminate</a:Action>
  </soap:Header>
  <soap:Body>
    <empl:Terminate>
      <empl:TerminateRequestMsg>
        <ter:TerminateRequestWrapper>
          <!--You may enter ANY elements at this point-->
          <emp:terminateRequest
            xmlns:emp="urn:www.ird.govt.nz/GWS:types/Employment"
            xmlns:cmn="urn:www.ird.govt.nz/GWS:types/Common.v1">
            <emp:header>
              <cmn:softwareProviderData>
                <cmn:softwareProvider>Provider</cmn:softwareProvider>
                <cmn:softwarePlatform>Platform</cmn:softwarePlatform>
                <cmn:softwareRelease>Release</cmn:softwareRelease>
              </cmn:softwareProviderData>
              <cmn:identifier IdentifierValueType="ACCIRD">123009916</cmn:identifier>
            </emp:header>
            <emp:employeeIdentifier>
              <emp:employeeIRD>951753820</emp:employeeIRD>
              <emp:employeeNameOnEILine>MCharlesPatrickJames</emp:employeeNameOnEILine>
              <emp:employeeDateOfBirth>1986-07-21</emp:employeeDateOfBirth>
              <emp:employmentStartDate>2017-03-22</emp:employmentStartDate>
            </emp:employeeIdentifier>
            <emp:terminateBody>
              <emp:employmentFinishDate>2017-09-05</emp:employmentFinishDate>
            </emp:terminateBody>
          </emp:terminateRequest>
        </ter:TerminateRequestWrapper>

```

```

    </empl:TerminateRequestMsg>
  </empl:Terminate>
</soap:Body>
</soap:Envelope>

```

## 7.4 Employment response

```

<employmentResponse xmlns="urn:www.ird.govt.nz/GWS:types/Employment"
  <statusMessage xmlns="urn:www.ird.govt.nz/GWS:types/Common.v1">
    <statusCode>0</statusCode>
    <errorMessage>Success</errorMessage/>
  </statusMessage>
</employmentResponse>

```

## 7.5 RetrieveList

```

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope"
  xmlns:emp="https://services.ird.govt.nz/GWS/Employment/"
  xmlns:ret="https://services.ird.govt.nz/GWS/Employment/:types/RetrieveListRequest"
  xmlns:a="http://www.w3.org/2005/08/addressing">
  <soap:Header>
    <a:To>http://localhost/Webservices/Gateway/GWS/Employment</a:To>
    <a:Action>https://services.ird.govt.nz/GWS/Employment/Employment/RetrieveList</a:Action>
  </soap:Header>
  <soap:Body>
    <emp:RetrieveList>
      <emp:RetrieveListRequestMsg>
        <ret:RetrieveListRequestWrapper>
          <!--You may enter ANY elements at this point-->
          <empl:retrieveListRequest
            xmlns:empl="urn:www.ird.govt.nz/GWS:types/Employment"
            xmlns:cmn="urn:www.ird.govt.nz/GWS:types/Common.v1">
            <empl:header>
              <cmn:softwareProviderData>
                <cmn:softwareProvider>Provider</cmn:softwareProvider>
                <cmn:softwarePlatform>Platform</cmn:softwarePlatform>
                <cmn:softwareRelease>Release</cmn:softwareRelease>
              </cmn:softwareProviderData>
              <cmn:identifier IdentifierValueType="ACCIRD">123009916</cmn:identifier>
            </empl:header>
          </empl:retrieveListRequest>
        </ret:RetrieveListRequestWrapper>
      </emp:RetrieveListRequestMsg>
    </emp:RetrieveList>
  </soap:Body>
</soap:Envelope>

```

## 8 Appendix B—Glossary

Acronym/term	Definition
Activity statement	Formally known as the Statement of Activity—the name for the data that is filed for AIM.
AIM	Accounting Income Method—a method that businesses can use for reporting and paying provisional income tax. Participating businesses are required to file a Statement Of Activity.
Authentication	The process that verifies the identity of the party attempting to access IR.
Authorisation	The process of determining whether a party is entitled to perform the function or access a resource.
EA	Employment Activities—umbrella term for employment activities performed using the Return service (submission of Employment Information) and/or Employment service (submission of Employee Details) operations
ED	Employee Details—data submitted by an employer to IR relating to new, existing, or departing employees that is submitted via the Employment service.
EI	Employment Information— data submitted by an employer relating to deductions made for their employees for a paydate.
eServices	START’s authenticated customer-facing portal.
Gateway	START’s web services gateway.
GST	Goods and Services Tax.
GWS	GateWay Services—the brand name for the suite of web services that IR is providing. The Employment Service is a Gateway Service.
HTTP(S)	Hyper Text Transmission Protocol (Secure)—the protocol by which web browsers and servers interact with each other. When implemented over TLS1.2 HTTP becomes HTTPS.
IAMS	Identity and Access Management—a logical component that performs authentication and authorisation. Physically it is a set of discrete hardware and software products, plug-ins and protocols. Usually implemented as separate External IAMS (XIAMS) and Internal IAMS.
IP	Internet Protocol—the principal communication protocol in the Internet protocol suite for relaying datagrams across networks.
NZISM	NZ Information Security Manual—the security standards and best practices for Government agencies. Maintained by the NZ Government Communications Security Bureau (GCSB).
OAuth2	An HTTPS based protocol for authorising access to a resource, currently at version 2.
SOAP	Simple Object Access Protocol—a set of standards for specifying web services. Gateway Services uses SOAP version 1.2.
SSL	Secure Sockets Layer certificates—used to establish an encrypted connection between a browser or user’s computer and a service or website.
START	Simplified Taxation and Revenue Technology—IR’s new core tax processing application. It is an implementation of the GenTax product



Acronym/term	Definition
	from FAST Enterprises.
Statement of Activity	See Activity Statement
TLS1.2	Transport Layer Security version 1.2—the protocol that is observed between adjacent servers for encrypting the data that they exchange. Prior versions of TLS and all versions of SSL have been compromised and are superseded by TLS1.2.
URL	Universal Resource Locator—also known as a web address.
WSDL	Web Service Definition Language—an XML definition of a web service interface.
XIAMS	External IAMS—an instance of IAMS that authenticates and authorises access by external parties, i.e. customers, trading partners etc. as opposed to internal parties such as staff.
XML	Extensible Markup Language—a language used to define a set of rules used for encoding documents in a format that can be read by humans and machines.
XSD	XML Schema Definition—the current standard schema language for all XML data and documents.

## 9 Appendix C—Change log

This table lists all changes that have been made to this build pack document since the release of v1.0.

Version	Date of change	Document section	Description
<b>1.0</b>	17/10/17	3.2	Updated wording to better highlight that previously submitted data will be overwritten if not included in subsequent Update operations.
	17/10/17	New section 6.1.5 added	Use case describing how to reinstate an incorrectly terminated employer/employee relationship