Inland Revenue
Te Tari Taake

Inland Revenue

Build Pack: Income API

Date: 14/06/2024

Contents

1 Overview

1.1 This solution

Inland Revenue has a suite of digital services available for consumption by our service providers that supports efficient, electronic business interactions with Inland Revenue. The Income API described in this build pack document provides a mechanism for external partners to retrieve income data reported to Inland Revenue.

The PrePop operation on the Return Service exposes income data that is summarised by tax period. The Income API exposes this income data in an un-summarised form and with no alignment to tax periods.

Before continuing, please consult
www.ird.govt.nz/digital-service-providers/services-catalogue
for business-level context, use cases and links to relevant policy.
The information available here explains how to integrate with Inland Revenue's services.

1.2 Intended audience

Access to the API end point is restricted to the tax management service providers who have been on-boarded to the API (referred to throughout the remainder of this document as 'Digital Service Providers'). Access to the Income API is currently restricted to tax intermediaries (such as tax agents and bookkeepers) and to customers using software on their own behalf.

Access to the data is limited to parties with access to the customer's income tax account—this consists of customers acting on their own behalf and intermediaries who are linked to the customer's income tax account.

1.3 Related services

The following application programming interfaces (APIs) complement this Gateway Service. Instructions on where to find the build packs for these APIs can be found in section 3 of this document.
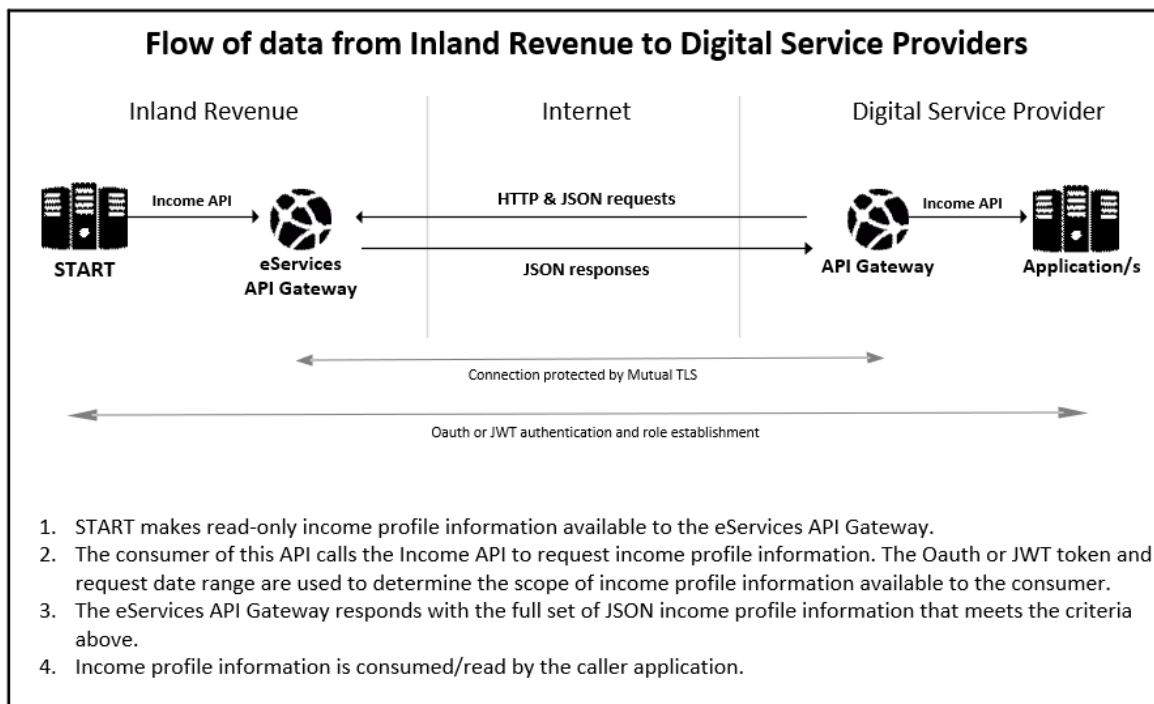
1.3.1 Identity and Access Services (required)

The Identity and Access Services (IAS) are used to authenticate access. Authentication tokens will need to be retrieved via IAS prior to making calls to this API.

2 Solution design

2.1 Architecture

Inland Revenue offers a suite of web applications that facilitate interactions via software packages. This API will be used by approved organisations to retrieve income information from Inland Revenue.

The diagram below illustrates the flow of data from Inland Revenue to the Digital Service Providers.

Flow of data from Inland Revenue to Digital Service Providers

1. START makes read-only income profile information available to the eServices API Gateway.
2. The consumer of this API calls the Income API to request income profile information. The Oauth or JWT token and request date range are used to determine the scope of income profile information available to the consumer.
3. The eServices API Gateway responds with the full set of JSON income profile information that meets the criteria above.
4. Income profile information is consumed/read by the caller application.

2.2 Messaging

This service supports the following message type:

- **POST:** Retrieves income information from Inland Revenue. Requires an IRD number, a 'from' date, and an optional 'to' date.

2.2.1 Income API

2.2.1.1 Request payload

Field	Requirement	Description
IRD	Required	The customer's IRD number. The caller can either be the owner of the IRD or an intermediary working on behalf of the client IRD.
StartDate	Required	This will filter to the date income was declared to Inland Revenue. This is not limited to when the intermediary access was granted. The call to the API will (authorisation permitting) return the above customer's income data with a date greater than or equal to this date. In most cases this will be the current tax period. ISO 8601 date format. Example: 2019-01-31
EndDate	Optional	The effective-to date. This is the end of the date range. This is optional, but if omitted then the end-date is assumed to be unbounded. If present, this date must be greater than the **StartDate**. May be useful as a form of pagination. ISO 8601 date format. Example: 2019-01-31

2.2.1.2 Response payload

Field	Requirement	Description
IncomeRequired	Required	Date that the income was recognised—the array is sequenced in ascending order by this date
IncomeType	Required	Income type will use the same set of values that is returned by the Return.PrePop operation. See table below
IncomeSource	Required	Identifies by name the employer or investment account from which the income has been earned
IncomeSourceID	Required	Identifies the employer or investment account from which the income has been earned. If this income source is unknown an empty string will be returned.
IncomeSourceIDType	Required	The type of identifier in the IncomeSourceID field

Field	Requirement	Description
Amount	Required	This is the gross amount of income
Deductions	Required	This is the amount deducted from the above income
StudentLoan	Optional	Student loan repayment amount
Donation	Optional	Amount of payroll donations
ExtinguishedDonation	Optional	Amount of extinguished tax credits for payroll donations
FamilyTaxCredit	Optional	Amount of Family tax credits received from Work and Income
EarningsNotLiableForACC	Optional	Amount of earnings not liable for ACC
ImputationCreditforDividend	Optional	Amount of imputation credits for dividend
RateYearEnd	Optional	The portfolio investment income rate as at year end
RateChanged	Optional	Whether the portfolio investment income rate has changed
SubsidyType	Optional	Government subsidy type

The income types that can be returned by **IncomeType** are listed as follows:

Income type	Display	MyIR display
ACC	Accident Compensation	ACC payment
ACC2006	Accident Compensation (2006)	ACC payment prior to 2006
ACCATC	ACC Attendant care	ACC attendant care payment
AIL	Approved Issuer Levy	Approved issuer levy
CAE	Casual Agricultural Employee	Casual agricultural employee
DIVIDN	Dividends	New Zealand dividends
DIVINT	Dividends treated as interest	Dividends treated as interest
EDW	Election Day Worker	Election day worker
ESS	Employee Share Scheme	Employee share scheme
EXCIMP	Excess Imputation Credits	Excess imputation credits
INCBEN	Income Tested Benefit	Work and income benefit
LOSCAR	Loss carried forward	Losses brought forward from previous years
LTCINC	LTC Income	LTC income
MAORI	Māori Authority	Māori authority
NONBUS	Non-business expense	Non-business expense

Inland Revenue
Te Tari Taake

Income type	Display	MyIR display
NRDIV	Non-resident dividends	Non-resident dividends received
NRINT	Non-resident interest	Non-resident interest received
NZINT	Interest	New Zealand interest received
PENSION	NZ Superannuation or Pension	New Zealand Superannuation or veteran's pension
PIE	Certificates (PIE)	Certificates (PIE)
PPL	Paid Parental Leave	Paid Parental Leave
PTRINC	Partnership Income	Partnership income
RESDSB	Reserve Scheme Withdrawal	Reserve Scheme Withdrawal
RESNRINT	Reserve scheme interest (non-resident)	Reserve scheme interest
RESNZINT	Reserve schemes interest (resident)	Reserve Scheme interest received
RESPYM	Reserve Scheme Deposit	Deposit made into reserve scheme
RESRED	Reserve Scheme Redeposit	Redeposit made into reserve scheme
RINGFWD	Residential rental deductions carried forward	Residential rental deductions carried forward
RINGLTC	LTC ring fencing rental losses	LTC ring fencing rental losses
RINGPRT	Partnership ring fencing rental losses	Partnership ring fencing rental losses
RLWT	RLWT Deducted	Residential Land Withholding Tax (RLWT) Credit
RND	R&D tax credit carry forward	R&D tax credit carry forward
ROYALT	Royalties	Royalties
SALWAGE	Salary / Wages	Salary and wages
SHRAIM	Shareholder-AIM Tax Credit	Shareholder-AIM Tax Credit
SHREMP	Shareholder-Employee Salary	Shareholder-employee salary
SLS215	Income Adjustment - SLS	Income adjustment - SLS
SLSALL	Student Allowance	Student allowance
TRST	Estate / Trust Income	Estate/trust income
WAGESUB	Net Wage Subsidy Income	Net wage subsidy income. NOTE: The amount included shows the net wage subsidy scheme (WSS) payments (payments less repayments) held by Inland Revenue—it does not include RSP. This will be available for all years.

Income type	Display	MyIR display
WT	Scheduler Payments	Scheduler payments

2.2.1.3 Bankruptcy

After October 2021, Inland Revenue will no longer issue new IRD numbers for bankrupt clients. When a client's bankruptcy is finalised, the existing income tax account will be closed (pre-adjudicated), and a new account will be opened (post-adjudicated). This will result in multiple income tax accounts for a single IRD number. Income information, however, is grouped by IRD number so there is no change to the Income API—information will be pulled back from both the pre and post adjudicated accounts.

2.2.1.4 Income profile error codes

Error Code	Description
EU6001	Unexpected error occurred
EV1020	Authentication failure means the token (JWT or OAuth) provided is not valid
EV1021	No OAuth or JWT token is present as an HTTP header
EV1022	Access is not permitted for the requester to perform this operation for the submitted identifier
EV1100	Invalid input parameters—please check documentation
EV1200	The number of records retrieved exceeds the maximum limit
EV2234	IR number failed check digit
EV2235	IR number not found

2.2.1.5 Income profile limit

Due to the potentially large amount of income information available for a customer, there is a limit to the number of records that will be returned—an error will be returned if the number of records exceeds 10,000. If this is the case, the income profile information will need to be filtered with an **EndDate**.

Inland Revenue
Te Tari Taake

2.3 Security

2.3.1 Information classification

The information exchanged via this API has an information classification of "**IN CONFIDENCE**". The following security standards therefore apply.

2.3.2 Transport layer security and certificates

Mutual Transport Layer Security (TLS) is implemented for this service. This requires the use of a publicly-issued X.509 certificate from one of the trusted certificate authorities. Please refer to the Identity and Access Services build pack for more details.

2.3.3 Ciphers

Inland Revenue currently supports TSL1.2 and TLS1.3. Please refer to Identity and Access Services build pack for supported ciphers.

2.3.4 Authentication options

This design uses JSON Web Tokens (JWT) or OAuth2.0 tokens and protocol to establish the calling party's identity. For this API, both JWT and OAuth2.0 methods require a myIR user to logon.

Refer to the Identity and Access Services build pack for more information.

2.3.4.1 OAuth

When using OAuth, the interaction with Inland Revenue is transacted under the identity of a myIR user. OAuth requires the presence of a myIR user, as this person must be available to supply their user ID, password and consent at run-time in order to be authenticated. OAuth is especially suited to cloud-based applications where the transacting parties are application users rather than providers.

HTTP headers intended for OAuth access services will be have the JWT prefixed with "Bearer ":

HTTP header	Example value
Authorization	Bearer {JWTAccessToken}

2.3.4.2 JWT

The alternative to OAuth is JWT, which does not require the presence of a myIR user. Authentication is based on the verification of a digital signature that (provably) belongs to a customer. In order to digitally sign their messages, the customer must acquire a digital certificate from a trusted certificate authority, or generate a self-signed certificate, and supply it to Inland Revenue during the on-boarding process. JWT is therefore appropriate when the following conditions apply:

- The interaction with Inland Revenue is conducted under the identity of an organisation, as opposed to a person AND
- The organisation has the technical and operational capability to securely obtain and manage digital certificates AND

- The organisation's interactions with Inland Revenue can occur in the absence of specific people due to staffing issues such as out-of-hours non-availability, staff turnover and absence from work.

These factors tend to limit the use JWT to larger corporations and public sector organisations. It is not suitable for cloud-based applications as it requires all application users to have their own digital certificates—this is administratively burdensome and requires these users to lodge their private keys with their application provider, which is insecure.

Gateway Services will use this token in the HTTP header of a message in the same manner that an OAuth token has been used, namely:

HTTP header	Example value
Authorization	{JWTAccessToken}

2.3.4.2.1.   startLogon

A myIR logon can be provided in order to use the myIR delegation model for identifying customers for whom account information should be retrieved. If the myIR logon is provided, then account information will only be shown for accounts the logon can access. If a myIR logon is not used, the field should be included with a value of null, and the subject will determine the account information shown.

2.3.4.2.2.   sub

A subject must be provided, which is the thumbprint of the signing certificate, and can be used to determine which account information should be retrieved. The subject will always be used to validate the signature of the JWT but will only be used for determining which account information to retrieve when a value for **startLogon** is not provided. The subject can be used for access when the subject is a tax preparer—account information will be returned for accounts currently linked to the tax preparer.

3 Additional development resources

3.1 End points

Current environment information for this service—including the end points for each environment—is available within the relevant Software Development Kit (SDK).

To access the SDK, do one of the following:

- Go to https://github.com/InlandRevenue and select this service
- Go to https://developerportal.ird.govt.nz and click the link to the SDK within the Gateway Service documentation (please register first).

3.2 OpenAPI specifications

An OpenAPI file allows for the description of the entire API, end points, operations on each end point, and operation parameters. The included .yaml file can be used along with an OpenAPI editor such as editor.swagger.io to view technical specifications for this operation and generate example client code.

To access the latest OpenAPI definition for this service, please do the following:

- Login to the developer portal at https://developerportal.ird.govt.nz (register first)
- Download and view the OpenAPI definition within the Gateway Service documentation.

4 Change log

This table lists all material changes that have been made to this build pack document since its release (most recent changes listed first). It does not encompass non-material changes, such as to formatting etc.

Date of change	Document section	Description
14/06/2024	2.3.2, 2.3.3	Removed details of supported certificate and ciphers from this document and replaced with the link to latest Identity and Access services build pack for the most current details
17/01/22	2.3.2	Field Added: SubsidyType
17/09/21		October 2021 release changes
	2.2.1.3	New section added – 'Bankruptcy'
	4	Glossary removed
	1.3	'Prerequisites' section removed and absorbed into new 'Security' section (2.3)
	1.3	'Related services' section added to build pack
	1.3.1	'Mutual Transport Layer security and certificates' section updated and moved into section 2.3.2
	1.3.2	'Authentication options' section modified and moved into section 2.4.4
	2.1	Diagram updated to include JWT
	2.2	Heading changed from 'Supported HTTP methods' to 'Messaging'
	2.6	Security section upgraded: • 'Information classification' section added • 'Transport layer security and certificates' updated • 'Ciphers' section added • 'Authentication options' section modified
	3	'End points and OpenAPI specifications' section renamed 'Additional development resources'
11/05/2021	2.3.2	New income type added to list: • WAGESUB Accompanying YAML file also updated
16/12/2020	2.3.2	Returnable income types updated to include: • RESDSB • RESPYM • RESRED • RINGFWD

Date of change	Document section	Description
		• SHRAIM Accompanying YAML file also updated
30/11/2020	2.3.2	Fields added: • RateYearEnd • RateChanged
29/09/2020	1.3.2	New section added – 'Authentication options'
06/08/2020	2.4.2.1	Typo corrected in value values field for 'alg'
16/07/2020	2.3.2	Added 8 additional fields • Accompanying YAML file also updated
10/06/2020	2.3.2	Description of IncomeSource updated • Accompanying YAML file also updated
	3	Entire section updated
	1.1	Added boxed text at end of section
24/04/2020	2.3.2	Added new income types: • RINGLTC • RINGPRT • RND
18/03/2020	3.1	Detailed end points removed – readers instead referred to https://www.ird.govt.nz/software-providers/
18/02/2020	2.3.3	Updated EV1025 and EV1021 to the R4 error code description
17/02/2020	2.4	Added JWT descriptions
	2.3.2	Updated the income types that can be returned to include RESNRINT and RESNZINT
11/02/2020		V1.0 released