

## **Data distribution – Schemas – Log data**

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### **Project to establish the National Incomes Register**

## Version history

Version	Date	Description
1.0	12/06/2017	Document published.
1.01	31/08/2017	The Timestamps section in the General segment has been renamed as Dates and times. The processing of dates and times is clarified in the paragraph.
1.02	14/11/2017	Added an electronic signature: data group Signature (Signature) at the main level of a record.
		The xs:boolean data type was changed to the irtc:trueOrFalse (IRCommonTypes.xsd) data type.
		Clarified the interpretation rules of upper and lowercase characters in the General/Character set section.
		Added the namespace of the XML signature schema in the General/Schema section.
1.03	11/06/2018	Clarified the data returned in the User identifier (UserIdCode) element.
		Clarified the allowed character encoding for reference data under Character set.
1.04	26/09/2018	Specified in the section Dates and times that the example in the Finnish time zone concerns standard time: Example in the Finnish time zone (standard time, UTC+2)

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# 1 GENERAL

## 1.1 Schema

Log data is delivered from the Incomes Register using the **LogDataFromIR** schema.

The namespaces of the schema are as follows:

File name	Prefix	Namespace
	xmlns:xs	http://www.w3.org/2001/XMLSchema
LogDataFromIR.xsd	xmlns:ldfir	http://www.tulorekisteri.fi/2017/1/LogDataFromIR
LogDataTypes.xsd	xmlns:ldt	http://www.tulorekisteri.fi/2017/1/LogDataTypes
IRCommonTypes.xsd	xmlns:irct	http://www.tulorekisteri.fi/2017/1/IRCommonTypes
xmldsig-core-schema.xsd	xmlns:ds	http://www.w3.org/2000/09/xmldsig#

Empty elements are not allowed in the messages. If an element receives no value, it is left out of the message entirely. Empty character strings are also not allowed, i.e., the minimum length of all values is 1.

## 1.2 Character set

The schemas of the Incomes Register use UTF-8, which is the default character set of XML. The file must not contain the Byte Order Mark (BOM) character.

The following table presents the requirements for the conversion of special characters appearing in messages.

Character	Description	Presentation format as an entity
&	ampersand	&amp; conversion is mandatory
<	less than	&lt; conversion is mandatory
>	greater than	&gt; conversion is not mandatory, but conforms with best practices
'	apostrophe	&apos; conversion is not mandatory, but conforms with best practices
"	quotation mark	&quot; conversion is not mandatory, but conforms with best practices
--	double hyphen	This character must not appear in an XML file
/*	slash asterisk	This character must not appear in an XML file
&#	ampersand hash	This character must not appear in an XML file

A limited character set is allowed for **reference data**. The allowed characters for the reference data listed below are the numbers 0-9, the letters a-z and A-Z and the symbols " \_ " and "-".

- Record owner's record reference (DeliveryId)
- Payer's report reference (ReportId)
- Subscriber's primary subscription reference (MainSubscriptionId)
- Subscriber's secondary subscription reference (SubscriptionId)
- Sender's message reference (MessageId)

In the following data items, upper and lowercase characters are significant:

- Country codes in all data groups (for example, "DE" is interpreted to be a different code to "De").
- Customer IDs in all data groups (for example, "150172-999H" is interpreted to be a different ID to "150172-999h").

### 1.3 Dates and times

Dates (data type xs:date) must not include time zone information. Example of a date:

```
<StartDate>2017-05-11</StartDate>
```

Data elements containing times of day (data types xs:dateTime and xs:time) must include the time zone.

Example in the Finnish time zone (standard time, UTC+2):

```
<Timestamp>2017-05-11T08:00:00+02:00</Timestamp>
```

```
<Time>08:00:00+02:00</Time>
```

Example in UTC time (UTC+0):

```
<Timestamp>2017-05-11T6:00:00Z</Timestamp>
```

```
<Time>06:00:00Z</Time>
```

### 1.4 Document reading instructions

In the document diagrams, the 0 .. ∞ marking in the bottom right-hand corner of an element means that the element may appear several times or not at all. The 1 .. ∞ marking means that the element may appear several times, but it must always appear at least once. The mandatory elements are highlighted with a solid border line and voluntary elements with a dashed border line.

In the document tables, the mandatory or voluntary nature of the elements is depicted with the following markings:

V/M	Description
V	The element is always voluntary.

	Data groups or data items marked as voluntary are included in the selected record, if they contain data.
M	The element is always included if its "parent element" is included.

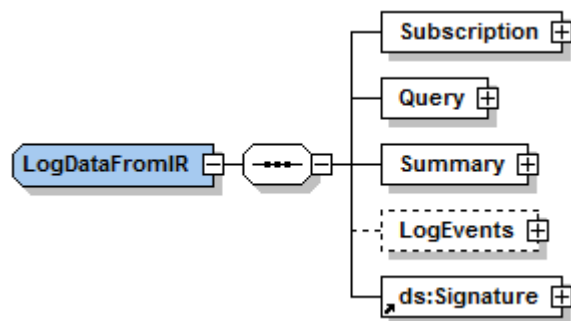
In some elements, messages use a limited range of values, i.e. codes. The value space of the codes, i.e., their possible values, are described in the "Codes" documents. This document uses the term "codes" to refer to the values presented in the codesets.



## 2 LOG DATA (LOGDATAFROMIR)

The general structure of a record containing log data distributed from the Incomes Register is as follows:

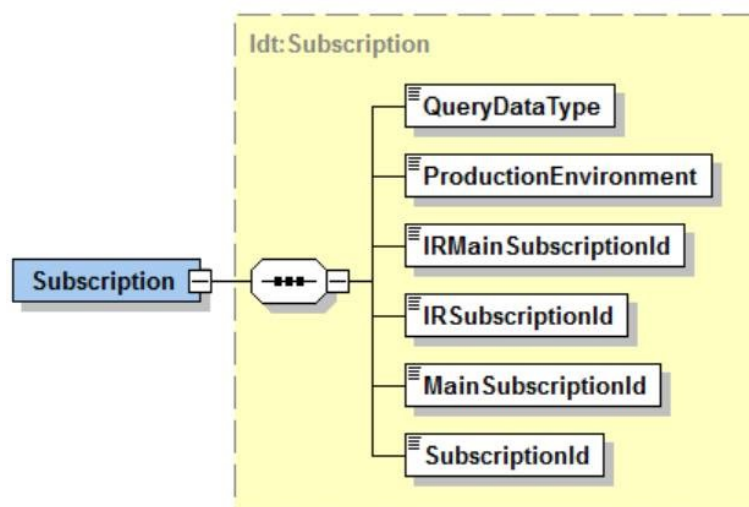
Data group name	Type	V/M
Record subscription details (Subscription)	Idt:Subscription	M
Query details (Query)	Idt:Query	M
Query summary data (Summary)	Idt:Summary	M
Log events (LogEvents)	Idt:LogEvents	V
Log event (LogEvent)	Idt:LogEvent	M
Log event targets (TargetItems)	Idt:TargetItems	V
Log event target (TargetItem)	Idt:TargetItem	M
Signature (Signature)	xsig:SignatureType	M

**Data group details:**

Data designation	Type	Allowed values	V/ M	Processing rule
Record subscription details (Subscription)	Idt:Subscription		M	This data group is used to distribute information related to a record subscription.
Query details (Query)	Idt:Query		M	This data group is used to distribute information related to a query.
Query summary data (Summary)	Idt:Summary		M	This data group is used to distribute summary information related to a query.
Log events (LogEvents)	Idt:LogEvents		V	This data group is used to distribute log events.
Signature (Signature)	xsig:SignatureType		M	The electronic signature of the record is delivered in this data group.



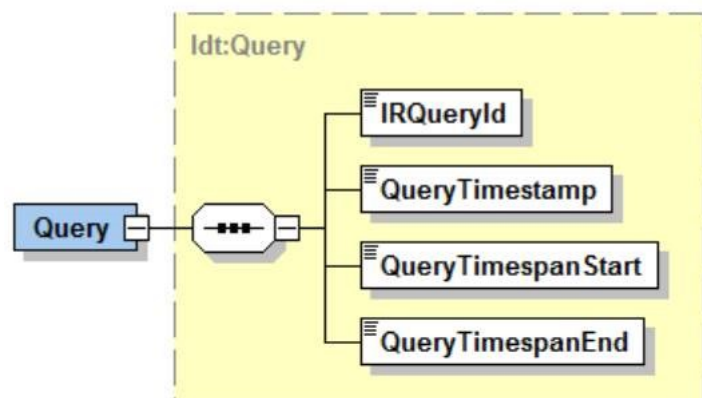
## 2.1 Record subscription details (Subscription)



### Data group details:

Data designation	Type	Allowed values	V/ M	Processing rule
Record subscription details (Subscription)	Idt:Subscription		M	This data group is used to distribute information related to a record subscription.
Record type (QueryDataType)	xs:int	Codes: QueryDataType and value 310 from it.	M	
Production environment (ProductionEnvironment)	irct:trueOrFalse	Codes: ProductionEnvironment	M	Information provided in a record subscription.
Incomes Register primary subscription reference (IRMainSubscriptionId)	irct:Guid		M	The Incomes Register primary subscription reference for the primary subscription based on which the record was queried.
Incomes Register secondary subscription reference (IRSubscriptionId)	irct:Guid		M	The Incomes Register secondary subscription reference for the secondary subscription based on which the record was queried.
Subscriber's primary subscription reference (MainSubscriptionId)	irct:String40		M	The subscriber's primary subscription reference for the primary subscription based on which the record was queried.
Subscriber's secondary subscription reference (SubscriptionId)	irct:String40		M	The subscriber's secondary subscription reference for the secondary subscription based on which the record was queried.

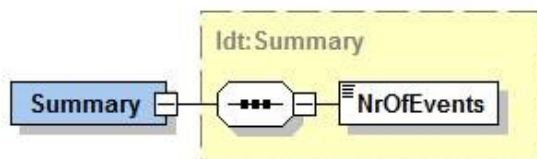
## 2.2 Query details (Query)



### Data group details:

Data designation	Type	Allowed values	V/ M	Processing rule
Query details (Query)	Idt:Query		M	This data group is used to distribute information related to a query.
Incomes Register query reference (IRQueryId)	irct:Guid		M	The reference assigned by the Incomes Register to the queried record. The reference uniquely identifies every record queried from the Incomes Register.
Query time (QueryTimestamp)	xs:dateTime		M	The date and time when the record was queried.
Start of the query time range for changes (QueryTimespanStart)	xs:dateTime		M	The record includes data changed since this date and time.
End of the query time range for changes (QueryTimespanEnd)	xs:dateTime		M	The record includes data changed up to this date and time.

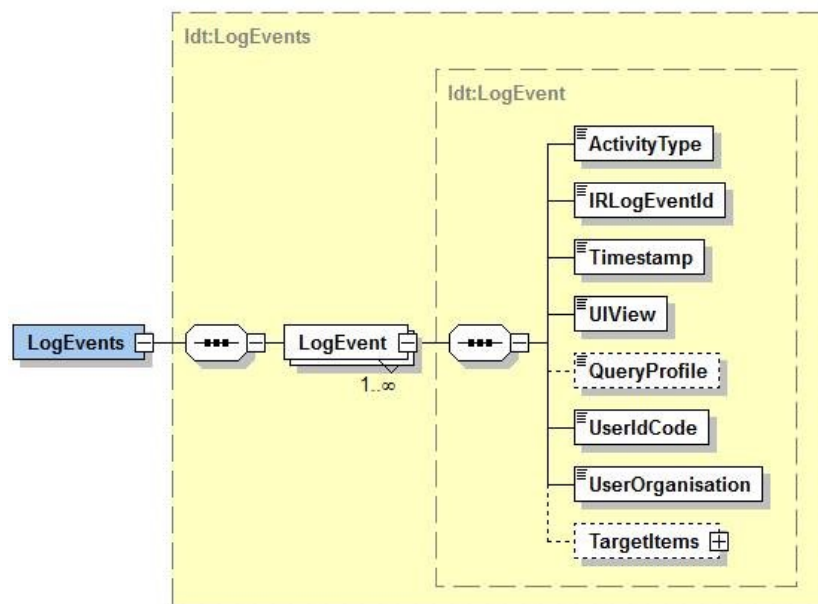
### 2.3 Query summary data (Summary)



#### Data group details:

Data designation	Type	Allowed values	V/ M	Processing rule
Query summary data (Summary)	Idt:Summary		M	This data group is used to distribute summary information related to a query.
The number of queried items (NrOfReports)	xs:int		M	The number of queried log events.

## 2.4 Log events (LogEvents)



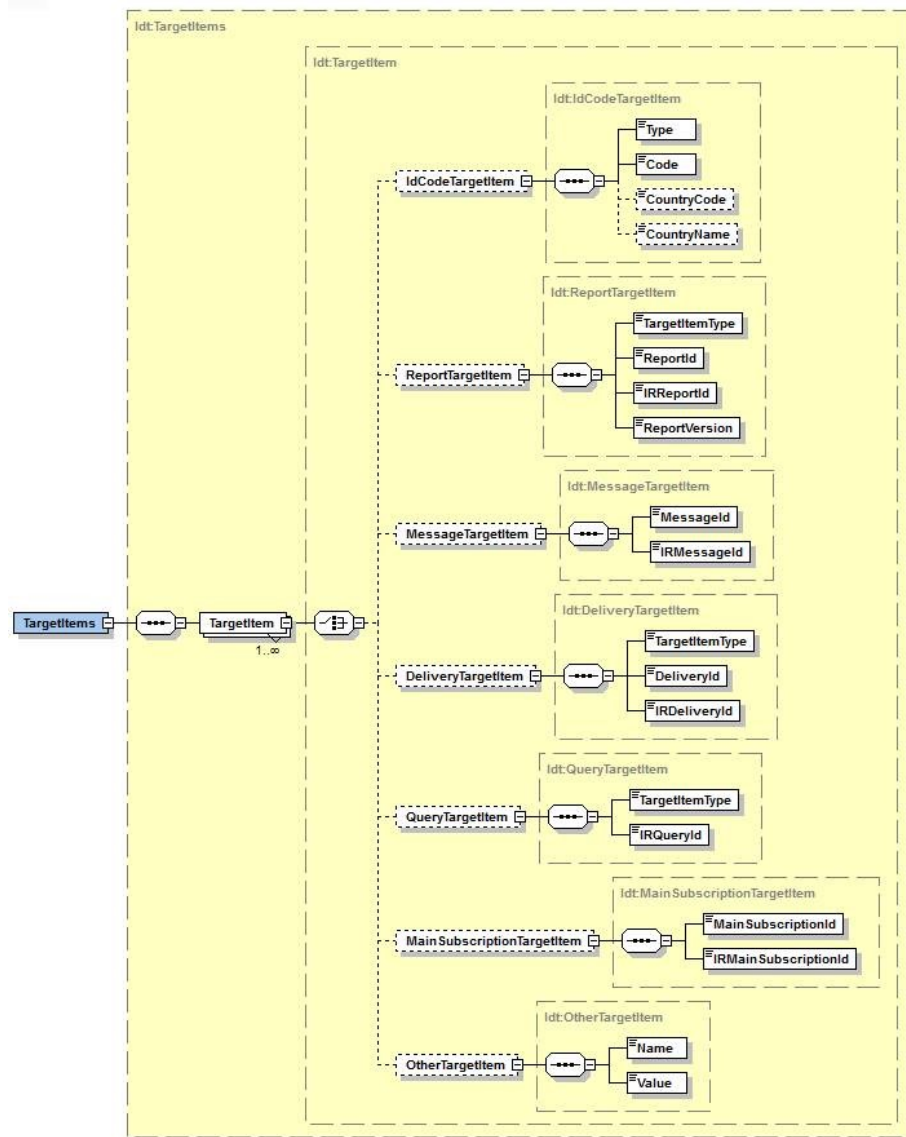
### Data group details:

Data designation	Type	Allowed values	V/ M	Processing rule
Log events (LogEvents)	Idt:LogEvents		V	
Log event (LogEvent)	Idt:LogEvent		M	There may be several log events.
Log event type (ActivityType)	xs:int	Codes: LogActivityType	M	An action taken by a user via the e-service, based on which the log event was created.
Incomes Register log event reference (IRLogEventId)	irct:Guid		M	A reference assigned by the Incomes Register to a log event. The reference uniquely identifies every log event saved in the Incomes Register.
Log event creation time (Timestamp)	xs:dateTime		M	The date and time when the log event was created in the Incomes Register.
E-service view (UIView)	irct:String30		M	The e-service view in which the actions based on which the log event was created were taken.
Data access profile (QueryProfile)	irct:String40		V	The data access profile of the e-service user related to the log event. The data access profile enables the deduction of which data the user has seen in

				the user interface, for example when viewing data.
User identifier (UserIdCode)	irct:String40		M	The user identifier of the user who took the action. This is the user identifier issued to the user in the Suomi.fi service (Personal Identification Number, Katso ID).
User's organisation (UserOrganisation)	irct:String30		M	The identifier of the organisation in the name of which the user took the action.
Log event targets (TargetItems)	ldt:TargetItems		V	



## 2.5 Log event targets (TargetItems)



**Data group details:**

Data designation	Type	Allowed values	V/ M	Processing rule
Log event targets (TargetItems)	Idt:TargetItems		V	
Log event target (TargetItem)	Idt:TargetItem		M	A log event can have more than one target. A log event target may be a customer, incomes payment report, message, a record submitted to the Incomes Register, a record distributed from the Incomes Register, a record subscription, or some other target.
Customer (IdCodeTargetItem)	Idt: IdCodeTargetItem		V	The identifier of the customer who was the subject of the log event action is delivered in this data group. The customer identifier is also delivered in this data group in connection with a search action, if the ID was used as a search criterion.
Customer identifier type (Type)	xs:int	Codes: IdType	M	
Customer identifier (Code)	irct:String30		M	
Country code of the identifier (CountryCode)	irct:String2	A two-character code in accordance with the ISO 3166 country codes. If the country is unknown, the value is "99".	V	
Country name (CountryName)	irct:String70		V	
Incomes payment report (ReportTargetItem)	Idt:ReportTargetItem		V	The identifying data of the incomes payment report that is the subject of the log event action is delivered in this data group.
Type of incomes payment report (TargetItemType)	xs:int	Codes: ReportType	M	
Payer's report reference (ReportId)	irct:String40		M	
Incomes Register report reference (IRReportId)	irct:Guid		M	
Report version number (ReportVersion)	xs:int		M	
Message (MessageTargetItem)	Idt:MessageTargetItem		V	The identifying data of the message that is the subject of the log event action is delivered in this data group.
Sender's message reference (MessageId)	irct:String40		M	
Incomes Register message reference (IRMessageId)	irct:Guid		M	
Record submitted to the Incomes Register	Idt:DeliveryTargetItem		V	The identifying data of the record submitted to the Incomes Register that is the

(DeliveryTargetItem)				subject of the log event action is delivered in this data group.
Record type (TargetItemType)	xs:int	Codes: DeliveryDataType	M	
Record owner's record reference (DeliveryId)	irct:String40		M	
Incomes Register record reference (IRDeliveryId)	irct:Guid		M	
Record queried from the Incomes Register (QueryTargetItem)	mfirt:QueryTargetItem		V	The identifying data of the record queried from the Incomes Register that is the subject of the log event action is delivered in this data group.
Record type (TargetItemType)	xs:int	Codes: QueryDataType	M	
Incomes Register query reference (IRQueryId)	irct:Guid		M	
Primary subscription (MainSubscriptionTargetItem)	ldt:MainSubscriptionTargetItem		V	The identifying data of the primary subscription that is the subject of the log event action is delivered in this data group.
Subscriber's primary subscription reference (MainSubscriptionId)	irct:String40		M	
Incomes Register primary subscription reference (IRMainSubscriptionId)	irct:Guid		M	
Other target (OtherTargetItem)	ldt:OtherTargetItem		V	This data group is used in the delivery of the search criteria of a search action, for example.
Target name (Name)	irct:String40		M	
Target value (Value)	irct:String200		M	

