

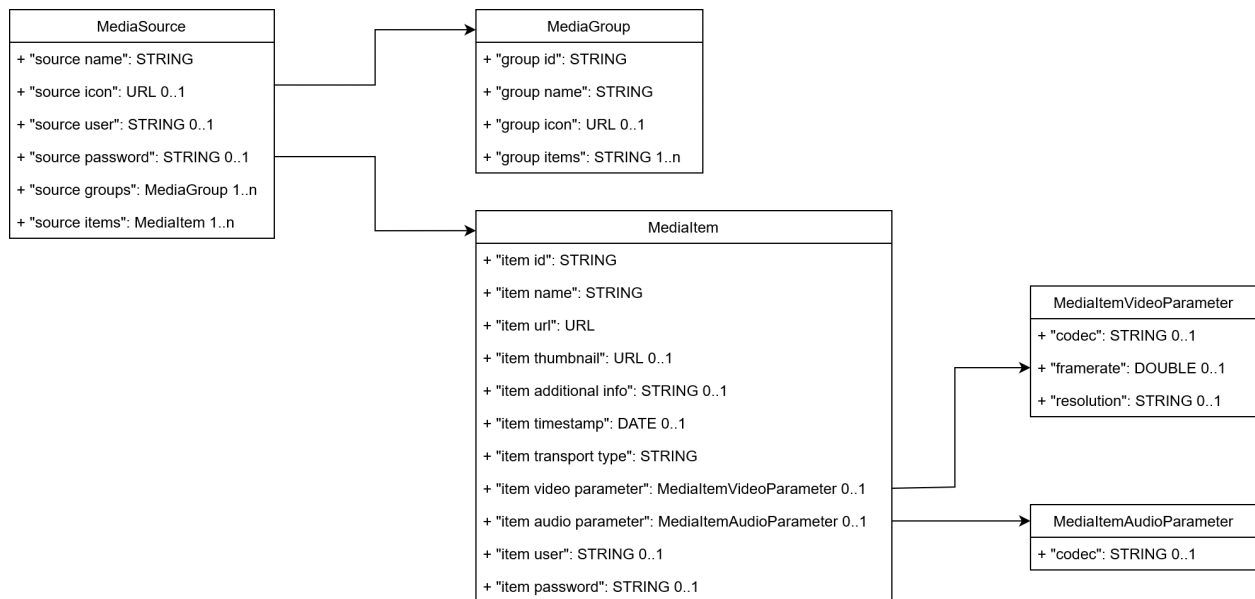
iRZ MPEG-H Player: Media Source

The iRZ MPEG-H player uses Media Sources for flexible organization of the MediaItems. A MediaSource describes all necessary information/metadata for each included MediaItem, so that the White Label app can present this information/metadata to the user. The format of the MediaSource definition allows very flexible structuring of the MediaItems in MediaGroups (categories).

The MediaSource structure

A MediaSource will be defined in JSON object (https://www.w3schools.com/js/js_json_intro.asp)

Following UML diagram shows the content of a MediaSource:



The MediaSource first contains common information about the MediaSource itself:

- MediaSource name
 - Textual representation of the media which will be presented to the User
 - JSON key: "source name"
 - JSON value type: string
 - Multiplicity: 1 (mandatory)
- MediaSource icon
 - WLA will use this URL to present an icon of a MediaSource to the User together with the MediaSource name

- JSON key: "source icon"
 - JSON value type: URL string
 - Multiplicity: 0..1 (optional)
- MediaSource user
 - WLA will use this user name to get access to the content and thumbnails of this source
 - JSON key: "source user"
 - JSON value type: string
 - Multiplicity: 0..1 (optional)
- MediaSource password
 - WLA will use this password to get access to the content and thumbnails of this source
 - JSON key: "source password"
 - JSON value type: string
 - Multiplicity: 0..1 (optional)
- MediaSource items
 - List of associated MediaItems
 - JSON key: "source items"
 - JSON value type: array of MediaItems
 - Multiplicity: 1..n (array)
- MediaSource Groups
 - List of defined MediaGroups
 - JSON key: "source groups"
 - JSON value type: array of MediaGroups
 - Multiplicity: 1..n (array)

Each MediaItem describes all metadata required for an item:

- MediaItem id
 - Unique identifier of an Item in a MediaSource. This id will be used in MediaSource Group object to refer to a corresponding MediaSource Item.
 - JSON key: "item id"
 - JSON value type: string
 - Multiplicity: 1 (mandatory)
- MediaItem name
 - Short description of the MediaItem
 - JSON key: "item name"
 - JSON value type: string
 - Multiplicity: 1 (mandatory)
- MediaItem URL
 - Location of the MediaSource Item, path to MP4, TS, DASH or HLS file/manifest
 - NOTE: The URL shall contain an absolute path
 - NOTE: The URL can address a complete different location/server than where the associated MediaSource is located
 - JSON key: "item url"
 - JSON value type: URL string

- Multiplicity: 1 (mandatory)
- MediaItem thumbnail
 - Location of the thumbnail for the MediaSource Item
 - NOTE: The URL shall contain an absolute path
 - JSON key: "item thumbnail"
 - JSON value type: URL string
 - Multiplicity: 0..1 (optional)
- MediaItem additional info
 - Additional info about the MediaSource Item
 - JSON key: "item additional info"
 - JSON value type: string
 - Multiplicity: 0..1 (optional)
- MediaItem timestamp (optional) [Date String]
 - The timestamp stating when the content was last time generated. This also includes change of the corresponding thumbnail
 - Will be used by the WLA to re-sync the cached thumbnails or cached media items
 - JSON key: "item timestamp"
 - JSON value type: date string
 - NOTE: required format → "yyyy-MM-ddTHH:mm:ssZ"
 - Multiplicity: 0..1 (optional)
- MediaItem transport type
 - Transport Type of the MediaSource Item
 - JSON key: "item transport type"
 - JSON value type: string
 - Multiplicity: 0..1 (optional)
- MediaItem video parameter
 - Defines parameter for the video track
 - [mandatory] to set if content contains video track or [optional] to set if content contains only audio track
 - JSON key: "item video parameter"
 - JSON value type: MediaItemVideoParameter
 - MediaItem video codec (optional) [String]
 - JSON key: "codec"
 - JSON value type: string
 - Multiplicity: 0..1 (optional)
 - MediaItem video framerate
 - The video frame rate of the MediaSource Item. This is required by the White Label app to start the video playback with the right video frame rate
 - Value "-1.0" means unknown video frame rate. The playback will be started with system default video frame rate
 - JSON key: "framerate"
 - JSON value type: double
 - Multiplicity: 0..1 (optional)

- MediaItem video resolution
 - Resolution of the video as a string representation
 - Will be used by the White Label app for visual indication of different video resolution modes (SD, HD, 4K, 8K, ...)
 - If MediaItem video resolution isn't set, an empty picture is set for the video resolution of the MediaSource Item
 - JSON key: "resolution"
 - JSON value type: string
 - Currently only following options are available: "HD", "SD", "4K", "8K"
 - Multiplicity: 0..1 (optional)
 - Multiplicity: 0..1 (optional)
- MediaItem audio parameter (optional)
 - Defines parameter for the audio track
 - JSON key: "item audio parameter"
 - JSON value type: MediaItemAudioParameter
 - MediaItem audio codec (optional) [String]
 - JSON key: "codec"
 - JSON value type: string
 - Multiplicity: 0..1 (optional)
 - Multiplicity: 0..1 (optional)
- MediaItem user
 - WLA will use this user name to get access to the item and its thumbnail
 - JSON key: "item user"
 - JSON value type: string
 - Multiplicity: 0..1 (optional)
- MediaItem password
 - WLA will use this password to get access to the item and its thumbnail
 - JSON key: "item password"
 - JSON value type: string
 - Multiplicity: 0..1 (optional)

To allow very flexible structuring of the previous defined MediaItems the MediaSource contains a list of MediaGroups with following metadata for each MediaGroup:

- MediaGroup id
 - Unique identifier of a MediaSource Group in a MediaSource
 - JSON key: "group id"
 - JSON value type: string
 - Multiplicity: 1 (mandatory)
- MediaGroup name
 - Short description of the MediaGroup
 - JSON key: "group name"
 - JSON value type: string
 - Multiplicity: 1 (mandatory)
- MediaGroup icon

- Location of an icon for the MediaGroup
- JSON key: "group icon"
- JSON value type: URL string
- Multiplicity: 0..1 (optional)
- MediaGroup items
 - a list of the the associated MediaItems (id's)
 - JSON key: "group items"
 - JSON value type: array of strings
 - Multiplicity: 1..n (at least one)

MediaSource example

JSON example:

```
[{
  "source name": "wla demo content",
  "source icon": "<<http or https URL to the media source icon, e.g.
https://YourWebSpace.com/media_source.jpeg>>",
  "source groups": [
    {
      "group id": "0",
      "group name": "group 0 (all items)",
      "group icon": "",
      "group items": ["0", "1", "2"]
    },
    {
      "group id": "1",
      "group name": "group 1 (only item 2)",
      "group icon": "",
      "group items": ["2"]
    }
  ],
  "source items": [
    {
      "item id": "0",
      "item name": "item 0",
      "item url": "<<http or https URL to the item 0, e.g.
https://YourWebSpace.com/item0.mp4>>",
      "item thumbnail": "<<http or https URL to the thumbnail of the
item 0, e.g. https://YourWebSpace.com/item0.png>>",
      "item additional info": "some info about item 0",
      "item timestamp": "2021-09-28T11:38:03Z",
      "item transport type": "MP4",
      "item video parameter": {
        "codec": "H.264",
        "framerate": "50",
        "resolution": "HD"
      },
      "item audio parameter": {
        "codec": "MPEG-H"
      }
    }
  ]
},
```

```

    {
      "item id": "1",
      "item name": "item 1",
      "item url": "<<http or https URL to the item 1, e.g.
https://YourWebSpace.com/item1.mp4>>",
      "item thumbnail": "<<http or https URL to the thumbnail of the
item 1, e.g. https://YourWebSpace.com/item1.png>>",
      "item additional info": "",
      "item timestamp": "2021-09-28T11:38:03Z",
      "item transport type": "MP4",
      "item video parameter": {
        "codec": "H.264",
        "framerate": "50",
        "resolution": "SD"
      },
      "item audio parameter": {
        "codec": "MPEG-H"
      }
    },
    {
      "item id": "2",
      "item name": "item 2",
      "item url": "<<http or https URL to the item 2, e.g.
https://YourWebSpace.com/item2.mp4>>",
      "item thumbnail": "<<http or https URL to the thumbnail of the
item 2, e.g. https://YourWebSpace.com/item2.png>>",
      "item additional info": "",
      "item timestamp": "2021-09-28T11:38:04Z",
      "item transport type": "MP4",
      "item video parameter": {
        "codec": "",
        "framerate": "50",
        "resolution": "4K"
      },
      "item audio parameter": {
        "codec": ""
      }
    }
  ]
}

```

JSON minimal example (only mandatory parts):

```

[
  {
    "source name": "wla demo content",
    "source groups": [
      {
        "group id": "0",
        "group name": "group 0 (all items)",
        "group items": ["0", "1", "2"]
      },
      {
        "group id": "1",
        "group name": "group 1 (only item 2)",

```

```
        "group items": ["2"]
    },
    "source items": [
        {
            "item id": "0",
            "item name": "item 0",
            "item url": "<<http or https URL to the item 0, e.g.
https://YourWebSpace.com/item0.mp4>>"
        },
        {
            "item id": "1",
            "item name": "item 1",
            "item url": "<<http or https URL to the item 1, e.g.
https://YourWebSpace.com/item1.mp4>>"
        },
        {
            "item id": "2",
            "item name": "item 2",
            "item url": "<<http or https URL to the item 2, e.g.
https://YourWebSpace.com/item2.mp4>>"
        }
    ]
}]
```