PBCore Structure

PBCore 2.1 is made up of 15 containers and 82 elements, and makes use of 49 XML attributes. Attributes are used to further qualify or describe the elements and their values. Not all attributes can be used to describe every element. This Handbook contains a description of each element, what contains them, what they contain, and a list of what attributes can be used to describe them.

Within a PBCore XML Document, the order and structure of the elements is determined by the XSD. Elements must be included in the correct order, or the XML document will not validate. Below is a listing of the correct order of subelements in PBCore:

- pbcoreDescriptionDocument
  - pbcoreAssetType
  - pbcoreAssetDate
  - pbcoreIdentifier
  - pbcoreTitle
  - pbcoreSubject
  - pbcoreDescription
  - pbcoreGenre
  - pbcoreRelation
    - pbcoreRelationType
    - pbcoreRelationIdentifier
  - pbcoreCoverage
    - coverage
    - coverageType
  - pbcoreAudienceLevel
  - pbcoreAudienceRating
  - pbcoreCreator
    - creator
    - creatorRole
  - pbcoreContributor
    - contributor
    - contributorRole
  - pbcorePublisher
    - publisher
    - publisherRole
  - pbcoreRightsSummary
    - rightsSummary
    - rightsLink
    - rightsEmbedded
  - pbcoreInstantiation
    - instantiationIdentifier
    - instantiationDate
    - instantiationDimensions
    - instantiationPhysical
    - instantiationDigital
• instantiationStandard
• instantiationLocation
• instantiationMediaType
• instantiationGenerations
• instantiationFileSize
• instantiationTimeStart
• instantiationDuration
• instantiationDataRate
• instantiationColors
• instantiationTracks
• instantiationChannelConfiguration
• instantiationLanguage
• instantiationAlternativeModes
• instantiationEssenceTrack
  • essenceTrackType
  • essenceTrackIdentifier
  • essenceTrackStandard
  • essenceTrackEncoding
  • essenceTrackDataRate
  • essenceTrackFrameRate
  • essenceTrackPlaybackSpeed
  • essenceTrackSamplingRate
  • essenceTrackBitDepth
  • essenceTrackFrameSize
  • essenceTrackAspectRatio
  • essenceTrackTimeStart
  • essenceTrackDuration
  • essenceTrackLanguage
  • essenceTrackAnnotation
  • essenceTrackExtension
• instantiationRelation
  • instantiationRelationType
  • instantiationRelationIdentifier
• instantiationRights
  • rightsSummary
  • rightsLink
  • rightsEmbedded
• instantiationAnnotation
• instantiationPart
• instantiationExtension
• pbcoreAnnotation
• pbcorePart
• pbcoreExtension
  • extensionWrap
    • extensionElement
    • extensionValue
There are three main ways of structuring a PBCore XML document. The most common way is to contain all elements within a pbcoreDescriptionDocument. This allows a user to describe the intellectual content of an asset using asset-level subelements, such as pbcoreAssetType, pbcoreTitle, and pbcoreCreator. A pbcoreDescriptionDocument is considered complete and valid if it only includes asset-level descriptive information; however, within a pbcoreDescriptionDocument, users can also use pbcoreInstantiation and its subelements to describe all instances of that asset (tapes, digital files, etc) within a single record.

Here is example of a pbcoreDescriptionDocument using only the minimum required elements for the document to be valid:

DESCRIPTION DOCUMENT
IDENTIFIER: 00001
   Source: PBCore Handbook
TITLE: Hamlet
DESCRIPTION: Filmed production of Shakespeare’s Hamlet

PBCore XML

<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<pbcoreDescriptionDocument xmlns="http://www.pbcore.org/PBCore/PBCoreNamespace.html"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.pbcore.org/PBCore/PBCoreNamespace.html
https://raw.githubusercontent.com/WGBH/PBCore_2.1/master/pbcore-2.1.xsd">
   <pbcoreIdentifier source="PBCore Handbook">00001</pbcoreIdentifier>
   <pbcoreTitle>Hamlet</pbcoreTitle>
   <pbcoreDescription>Filmed production of Shakespeare's Hamlet</pbcoreDescription>
</pbcoreDescriptionDocument>

Here is an example of a pbcoreDescriptionDocument with all descriptive asset-level elements filled out, as well as two associated instantiations:

DESCRIPTION DOCUMENT
ASSET TYPE: Episode
   Source: PBCore
ASSET DATE: 11-17-1970
   Date Type: broadcast
IDENTIFIER: 00001
   Source: PBCore Handbook
TITLE: Hamlet
   Title type: Episode
TITLE: ITV Sunday Night Theater
Title type: Series

TITLE: 3204
Title type: Episode Number

SUBJECT: Princes--Denmark--Drama
Source: Library of Congress Subject Headings
Ref: http://id.loc.gov/authorities/subjects/sh2008109991.html

DESCRIPTION: Filmed production of Shakespeare’s Hamlet

GENRE: Drama
Source: IMDB

RELATION
RELATION TYPE: Has Derivative
Source: PBCore
RELATION IDENTIFIER: 00038
Annotation: A two-disc audio set comprising the soundtrack of the production

COVERAGE
COVERAGE: Denmark
COVERAGE TYPE: Spatial

AUDIENCE LEVEL: General Audience
SOURCE: EBU Intended Audience Code

AUDIENCE RATING: N/A
Annotation: The program predates TV parental guidelines

CREATOR:
CREATOR: Wood, Peter, 1925-2016
Source: Library of Congress Name Authorities
Ref: http://id.loc.gov/authorities/names/n86143606.html
CREATOR ROLE: Director
Source: PBCore

CREATOR:
CREATOR: Shakespeare, William, 1564-1616
Source: Library of Congress Name Authorities
Ref: http://id.loc.gov/authorities/names/n78095332
CREATOR ROLE: Author
Source: PBCore

CONTRIBUTOR
CONTRIBUTOR: Chamberlain, Richard, 1935
Source: Library of Congress Name Authorities
Ref: http://id.loc.gov/authorities/names/n85158136
CONTRIBUTOR ROLE: Actor
Source: PBCore
Portrayal: Hamlet

PUBLISHER
PUBLISHER: Hallmark Hall of Fame Productions, Inc.

RIGHTS SUMMARY
RIGHTS SUMMARY: Copyright Chamberlain-LeMaire (U.K.) Limited and ATV Network Limited, 1970
INSTANTIATION
    INSTANTIATION IDENTIFIER: 422934074
    Source: OCLC Number
    INSTANTIATION DATE: 11-17-1970
    Date Type: created
    INSTANTIATION PHYSICAL: Film
    Source: PBCore
    INSTANTIATION LOCATION: UCLA Film and Television Archive
    INSTANTIATION MEDIA TYPE: Moving Image
    Source: PBCore
    INSTANTIATION GENERATIONS: Original
    Source: PBCore
    INSTANTIATION DURATION: 01:30:00
    INSTANTIATION COLORS: Color
    INSTANTIATION LANGUAGE: eng

INSTANTIATION
    INSTANTIATION IDENTIFIER: T:31586
    Source: Paley Center for Media Catalog
    INSTANTIATION DATE: 11-17-1970
    Date Type: created
    INSTANTIATION PHYSICAL: Open reel videotape
    Source: PBCore
    INSTANTIATION LOCATION: Paley Center for Media
    INSTANTIATION MEDIA TYPE: Moving Image
    Source: PBCore
    INSTANTIATION GENERATIONS: Copy
    Source: PBCore
    INSTANTIATION DURATION: 01:49:43
    INSTANTIATION COLORS: Black and white
    INSTANTIATION LANGUAGE: eng

ANNOTATION: Program initially broadcast in the UK as part of ITV Sunday Night Theater and in the United States as part of NBC’s Hallmark Hall of Fame

PBCore XML

<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<pbcoreDescriptionDocument
xmlns="http://www.pbcore.org/PBCore/PBCoreNamespace.html"
xmns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    <pbcoreAssetType source="PBCore">Episode</pbcoreAssetType>
    <pbcoreAssetDate dateType="broadcast">11-17-1970</pbcoreAssetDate>
    <pbcoreIdentifier source="PBCore Handbook">00001</pbcoreIdentifier>
    <pbcoreTitle titleType="Episode">Hamlet</pbcoreTitle>
    <pbcoreTitle titleType="Series">ITV Sunday Night Theater</pbcoreTitle>
    <pbcoreSubject
ref="http://id.loc.gov/authorities/subjects/sh2008109991.html"
source="Library of Congress Subject Headings">Princes--Denmark--Drama

</pbcoreDescriptionDocument>
Filmed production of Shakespeare's Hamlet

Drama

Has Derivative

A two-disc audio set comprising the soundtrack of the production

Denmark

Spatial

General Audience

The program predates TV parental guidelines

Wood, Peter, 1925-2016

Director

Shakespeare, William, 1564-1616

Author

Chamberlain, Richard, 1935

Actor

Hallmark Hall of Fame Productions, Inc.

Copyright Chamberlain-LeMaire (U.K.) Limited and ATV Network Limited, 1970

OCLC Number

11-17-1970

Film

UCLA Film and Television Archive

Moving Image

Original

01:30:00

Color

eng
These two documents represent two extremes, but each institution can determine the level of description and PBCore usage that works for their individual use case.

Individual pbcoreDescriptionDocuments can also be collected using the root element pbcoreCollection. When using pbcoreCollection as the root element of a pbcoreDocument, the hierarchy remains the same, but one or many pbcoreDescriptionDocuments are contained inside the pbcoreCollection element for serialization. Here is an example of a pbcoreCollection document containing three pbcoreDescriptionDocuments:

COLLECTION DOCUMENT

DESCRIPTION DOCUMENT
IDENTIFIER: 19993
Source: TGIF
TITLE: Sabrina the Teenage Witch
Title type: Series
DESCRIPTION: Fragment of a recorded episode of a television series about a teen witch and her wacky aunts

DESCRIPTION DOCUMENT
IDENTIFIER: 19994
Source: TGIF
TITLE: Boy Meets World
Title type: Series
DESCRIPTION: Fragment of a recorded episode of a television sitcom about a boy's everyday life
IDENTIFIER: 19996  
Source: TGIF  
TITLE: Sister, Sister  
Title type: Series  
DESCRIPTION: Fragment of a recorded episode from a television sitcom about twins separated at birth

PBCore XML

```xml
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<pbcoreCollection xmlns="http://www.pbcore.org/PBCore/PBCoreNamespace"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  <pbcoreDescriptionDocument>
    <pbcoreIdentifier source="TGIF">19993</pbcoreIdentifier>
    <pbcoreTitle titleType="Series">Sabrina the Teenage Witch</pbcoreTitle>
    <pbcoreDescription>Fragment of a recorded episode of a television series about a teen witch and her wacky aunts</pbcoreDescription>
  </pbcoreDescriptionDocument>
  <pbcoreDescriptionDocument>
    <pbcoreIdentifier source="TGIF">19994</pbcoreIdentifier>
    <pbcoreTitle titleType="Series">Boy Meets World</pbcoreTitle>
    <pbcoreDescription>Fragment of a recorded episode of a television sitcom about a boy’s everyday life</pbcoreDescription>
  </pbcoreDescriptionDocument>
  <pbcoreDescriptionDocument>
    <pbcoreIdentifier source="TGIF">19996</pbcoreIdentifier>
    <pbcoreTitle titleType="Series">Sister, Sister</pbcoreTitle>
    <pbcoreDescription>Fragment of a recorded episode from a television sitcom about twins separated at birth</pbcoreDescription>
  </pbcoreDescriptionDocument>
</pbcoreCollection>
```

The third way of structuring a PBCore document is to use pbcoreInstantiationDocument as the root element. If a pbcoreInstantiationDocument is used as the root element, only the Instantiation elements may appear inside the document. PBCoreInstantiationDocuments can be used to track physical information about archival collections for which little to no content information is available. They can also be used as a means of recording technical metadata about digital files in a collection.

A pbcoreInstantiationDocument is considered complete and valid if it includes an identifier and a location. InstantiationDocuments can also include complex multi-layered information through the use of the instantiationEssenceTrack container element, which describe the individual streams that comprise an instantiation, such as audio, video, timecode, etc. InstantiationEssenceTracks can also be used to describe instantiations within descriptionDocuments, but cannot form standalone PBCore documents.

Here is an example of a pbcoreInstantiationDocument using only the minimum required elements for the document to be valid:
INSTANTIATION DOCUMENT

INSTANTIATION IDENTIFIER: 00001
Source: PBCore Handbook
INSTANTIATION LOCATION: Library of Congress

PBCore XML

```xml
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<pbcoreInstantiationDocument
xmlns="http://www.pbcoring.org/PBCore/PBCoreNamespace.html"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.pbcoring.org/PBCore/PBCoreNamespace.html
https://raw.githubusercontent.com/WGBH/PBCore_2.1/master/pbcore-2.1.xsd">
  <instantiationIdentifier source="PBCore Handbook">00001</instantiationIdentifier>
  <instantiationLocation>Library of Congress</instantiationLocation>
</pbcoreInstantiationDocument>
```

Here is an example of a pbcoreInstantiationDocument fully describing a physical instance, with all applicable elements filled out.

INSTANTIATION DOCUMENT

INSTANTIATION IDENTIFIER: 00001
Source: PBCore Handbook
INSTANTIATION DATE: 12-27-1964
Date Type: created
INSTANTIATION DIMENSIONS: 4800
Units of Measure: ft
INSTANTIATION PHYSICAL: 2 inch videotape
Source: PBCore
INSTANTIATION STANDARD: NTSC
INSTANTIATION LOCATION: Library of Congress
INSTANTIATION MEDIA TYPE: Moving Image
Source: PBCore
INSTANTIATION GENERATIONS: Master
Source: PBCore
INSTANTIATION TIME START: 01:00:00
INSTANTIATION DURATION: 00:30:00
INSTANTIATION COLORS: Color
Source: PBCore
INSTANTIATION CHANNEL CONFIGURATION: video, audio, control, and timecode tracks
INSTANTIATION LANGUAGE: eng
INSTANTIATION RIGHTS:
  RIGHTS SUMMARY: Copyright unknown; no donor restrictions
Here is an example of a pbcoreInstantiationDocument that describes a digital file with technical metadata automatically generated by a file characterization tool (in this case, MediaInfo).

INSTANTIATION DOCUMENT

INSTANTIATION IDENTIFIER: barcode_152572_clip.mov  
Source: File Name  
INSTANTIATION DATE: 2018-02-26T19:14:19Z  
Date Type: file modification  
INSTANTIATION DIGITAL: video/mp4  
INSTANTIATION STANDARD: MPEG-4  
profile: QuickTime

INSTANTIATION LOCATION:  
/Users/rebecca_fraimow/Downloads/barcode_152572_clip.mov  
INSTANTIATION MEDIA TYPE: Moving Image  
INSTANTIATION FILE SIZE: 291475523  
Units of Measure: byte  
INSTANTIATION DURATION: 00:00:10:00  
INSTANTIATION DATA RATE: 23947472  
Units of Measure: bit/second
INSTANTIATION TRACKS: 2
INSTANTIATION CHANNEL CONFIGURATION: Track 2: 8 channels (L R C LFE Ls R Rs Rb)

INSTANTIATION ESSENCE TRACK
ESSENCE TRACK TYPE: Video
ESSENCE TRACK IDENTIFIER: 1
Source: ID
ESSENCE TRACK IDENTIFIER: 0
Source: StreamKindID (MediaInfo)
ESSENCE TRACK IDENTIFIER: 0
Source: StreamOrder (MediaInfo)
ESSENCE TRACK STANDARD: NTSC
ESSENCE TRACK ENCODING: YUV
Source: codecid
Ref: v210
Annotation: compression_mode: Lossless
ESSENCE TRACK DATA RATE: 223724851
Units of Measure: bit/second
ESSENCE TRACK FRAME RATE: 29.970
Annotation: rational_frame_rate: 30000/1001 interlacement: BFF
ESSENCE TRACK BIT DEPTH: 10
ESSENCE TRACK FRAME SIZE: 720x480
ESSENCE TRACK ASPECT RATIO: 1.333
ESSENCE TRACK TIME START: 01:00:01.135
Source: Container
ESSENCE TRACK DURATION: 00:00:10:00
ESSENCE TRACK LANGUAGE: eng

INSTANTIATION ESSENCE TRACK
ESSENCE TRACK TYPE: Audio
ESSENCE TRACK IDENTIFIER: 2
Source: ID
Annotation: default: Yes
ESSENCE TRACK IDENTIFIER: 0
Source: StreamKindID (MediaInfo)
ESSENCE TRACK IDENTIFIER: 1
Source: StreamOrder (MediaInfo)
ESSENCE TRACK ENCODING: PCM
Source: codecid
Ref: in24
Annotation: endianness: Little signedness: Signed
ESSENCE TRACK DATA RATE: 9216000
Units of Measure: bit/second
Annotation: CBR
ESSENCE TRACK SAMPLING RATE: 48000
Units of Measure: Hz
ESSENCE TRACK BIT DEPTH: 24
ESSENCE TRACK TIME START: 01:00:02.135
Source: Container
ESSENCE TRACK DURATION: 00:00:10.010
ESSENCE TRACK LANGUAGE: eng
INSTANTIATION ANNOTATION: 303
Annotation Type: FrameCount
INSTANTIATION ANNOTATION: Lav58.20.100
Annotation Type: Encoded_Application

PBCore XML

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- Generated at 2019-10-24T18:15:11Z by MediaInfoLib - v18.12 -->
<instantiationIdentifier source="File Name">barcode_152572_clip.mov</instantiationIdentifier>
<instantiationDate dateType="file modification">2018-02-26T19:14:19Z</instantiationDate>
<instantiationDigital>video/mp4</instantiationDigital>
<instantiationStandard profile="QuickTime">MPEG-4</instantiationStandard>
<instantiationLocation>/Users/rebecca_fraimow/Downloads/barcode_152572_clip.mov</instantiationLocation>
<instantiationMediaType>Moving Image</instantiationMediaType>
<instantiationFileSize unitsOfMeasure="byte">291475523</instantiationFileSize>
<instantiationDuration>00:00:10;00</instantiationDuration>
<instantiationDataRate unitsOfMeasure="bit/second">232947472</instantiationDataRate>
<instantiationTracks>2</instantiationTracks>
<instantiationChannelConfiguration>Track 2: 8 channels (L R C LFE Ls R Rls Rb), Track 2: 8 channels (L R C LFE Ls R Rls Rb)</instantiationChannelConfiguration>
<instantiationEssenceTrack>
<essenceTrackType>Video</essenceTrackType>
<essenceTrackIdentifier source="ID">1</essenceTrackIdentifier>
<essenceTrackIdentifier source="StreamKindID (MediaInfo)">0</essenceTrackIdentifier>
<essenceTrackIdentifier source="StreamOrder (MediaInfo)">0</essenceTrackIdentifier>
<essenceTrackStandard>NTSC</essenceTrackStandard>
<essenceTrackEncoding source="codecid" ref="v210" annotation="compression_mode:Lossless">YUV</essenceTrackEncoding>
<essenceTrackDataRate unitsOfMeasure="bit/second">223724851</essenceTrackDataRate>
<essenceTrackFrameRate annotation="rational_frame_rate:30000/1001 interlacement:BFF">29.970</essenceTrackFrameRate>
<essenceTrackBitDepth>10</essenceTrackBitDepth>
<essenceTrackFrameSize>720x486</essenceTrackFrameSize>
<essenceTrackAspectRatio>1.333</essenceTrackAspectRatio>
</instantiationEssenceTrack>
</pbcoreInstantiationDocument>
```
In addition to these three main forms of PBCore documents, the structure of PBCore can be extended through the use of the pbcorePart or instantiationPart elements. The element pbcorePart can be used within a pbcoreDescriptionDocument to repeat all asset-level elements for a more detailed description of different parts of the content. This structure is sometimes used when a single asset contains several discrete units of intellectual content – for example, an album that has several songs by different singers, an anthology show that contains several segments, or a compilation that includes multiple programs.

Although an asset may be divided into segments by pbcorePart, the pbcoreDescriptionDocument must still include all required elements (title, identifier with source, and description) for the asset as a whole in order to be valid. Each Part must also include these required elements, and all sub-elements must appear in the same order within a pbcorePart as within a pbcoreDescriptionDocument.

Here is an example of a pbcoreDescriptionDocument that uses pbcorePart to describe the different programs included in a single box set:
DESCRIPTION DOCUMENT

ASSET TYPE: Compilation
Source: PBCore
IDENTIFIER: 978-1-62789-267-4
Source: ISBN
IDENTIFIER: 123456
Source: WGBH Barcode
TITLE: Wild West
Title Type: Box Set
DESCRIPTION: They were "heroes" and rebels, but they were all epic personalities who took center stage in the creation of the mythic Wild West. This superb selection of documentaries and authentically reproduced memorabilia combine to present compelling portraits of the icons who risked everything in a dazzling new land of opportunity.
Source: Back of box
GENRE: Documentary
COVERAGE
  COVERAGE: American West
  COVERAGE TYPE: Spatial
COVERAGE
  COVERAGE: 19th Century
  COVERAGE TYPE: Temporal
CREATOR
  CREATOR: WGBH
  CREATOR ROLE: Producer
CREATOR
  CREATOR: Sharon Griberg
  CREATOR ROLE: Senior Producer
CREATOR
  CREATOR: Mark Samuels
  CREATOR ROLE: Executive Producer
  Source: PBCore
PUBLISHER
  PUBLISHER: PBS Distribution
  PUBLISHER ROLE: Distributor
  Source: PBCore
RIGHTS SUMMARY: AMERICAN EXPERIENCE is produced for PBS by WGBH Boston. Senior Producer: Sharon Griberg. Executive Producer: Mark Samels. Images Courtesy of: Alamy & Getty Images. Additional DVD materials and packaging copyright 2016 PBS Distribution. All rights reserved.
  Source: Back of box
INSTANTIATION
  INSTANTIATION IDENTIFIER: 123456
  Source: WGBH Barcode
  INSTANTIATION STANDARD: NTSC
  INSTANTIATION LOCATION: WGBH
INSTANTIATION MEDIA TYPE: Moving Image
    Source: PBCore
INSTANTIATION GENERATIONS: Copy: Access
    Source: PBCore
INSTANTIATION DURATION: 6:00:00
INSTANTIATION ALTERNATIVE MODES: English SDH Subtitles
INSTANTIATION ANNOTATION: DVD Box Set

PBCORE PART
ASSET TYPE: Program
    Source: PBCore
IDENTIFIER: 123456-1-BK
    Source: WGBH
TITLE: Billy the Kid
SUBJECT: Billy the Kid
DESCRIPTION: On April 28, 1881, just days from being hanged for murder, 21-year-old Henry McCarty, alias Billy the Kid, outfoxed his jailors and electrified the nation with the last in a long line of daring escapes. Just a few weeks later, he was finally gunned down by an ambitious sheriff, and the felling of one of the most notorious criminals of the age made headlines across the country.
    Source: American Experience website
CREATOR
    CREATOR: John Maggio
    CREATOR ROLE: Producer
CREATOR
    CREATOR: Michael Murphy
    CREATOR ROLE: Narrator

PBCORE PART
ASSET TYPE: Program
    Source: PBCore
IDENTIFIER: 123456-1-JJ
    Source: WGBH
TITLE: Jesse James
SUBJECT: Jesse James
DESCRIPTION: The legend of Jesse James is one of America’s most familiar myths – and one of its most wrong-headed. James, so the legend goes, was a Western outlaw, but in reality, he never went west. He has been called American’s own Robin Hood, yet he robbed both rich and poor, and was never seen to share his ill-gotten gains. He was known as a gunfighter – but his victims were almost always unarmed. Less heroic than brutal, James was a member of a vicious band of Missouri guerrillas during the Civil War, and sought vengeance for the Confederate defeat afterwards. In a life steeped in prolific violence and bloodshed, he met what was perhaps the most fitting end.
    Source: American Experience website
CREATOR
    CREATOR: Mark Zwonitzer
    CREATOR ROLE: Producer
CREATOR
In an era in which cold-blooded killers such as Jesse James and the Younger Brothers terrorized the American West, Butch Cassidy, the Sundance Kid and their Wild Bunch gang took a smart and methodical approach to bank and train robbery. In the 1890s, their thrilling exploits – robbing banks and trains and then seemingly vanishing into thin air – became front-page news and the basis of rumor and myth, captivating Americans from coast to coast.

Source: American Experience website

PBCore XML

```xml
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<pbcoreDescriptionDocument
xmlns="http://www.pbcore.org/PBCore/PBCoreNamespace.html"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.pbcore.org/PBCore/PBCoreNamespace.html
https://raw.githubusercontent.com/WGBH/PBCore_2.1/master/pbcore-2.1.xsd">
  <pbcoreAssetType source="PBCore">Compilation</pbcoreAssetType>
  <pbcoreIdentifier source="Barcode">123456</pbcoreIdentifier>
  <pbcoreTitle titleType="Box Set">Wild West</pbcoreTitle>
  <pbcoreDescription descriptionType="Item" source="Back of box">They were "heroes" and rebels, but they were all epic personalities who took center stage in the creation of the mythic Wild West. This superb selection of documentaries and authentically reproduced memorabilia combine to present compelling portraits of the icons who risked everything in a dazzling new land of opportunity. </pbcoreDescription>
  <pbcoreGenre>Documentary</pbcoreGenre>
  <pbcoreCoverage>
    <coverage>American West</coverage>
    <coverageType>Spatial</coverageType>
  </pbcoreCoverage>
  <pbcoreCoverage>
    <coverage>19th Century</coverage>
    <coverageType>Temporal</coverageType>
  </pbcoreCoverage>
</pbcoreDescriptionDocument>
```
On April 28, 1881, just days from being hanged for murder, 21-year-old Henry McCarty, alias Billy the Kid, outfoxed his jailors and electrified the nation with the last in a long line of daring escapes. Just a few weeks later, he was finally gunned down by an ambitious sheriff, and the felling of one of the most notorious criminals of the age made headlines across the country.
The legend of Jesse James is one of America’s most familiar myths – and one of its most wrong-headed. James, so the legend goes, was a Western outlaw, but in reality, he never went west. He has been called American’s own Robin Hood, yet he robbed both rich and poor, and was never seen to share his ill-gotten gains. He was known as a gunfighter – but his victims were almost always unarmed. Less heroic than brutal, James was a member of a vicious band of Missouri guerrillas during the Civil War, and sought vengeance for the Confederate defeat afterwards. In a life steeped in prolific violence and bloodshed, he met what was perhaps the most fitting end.

In an era in which cold-blooded killers such as Jesse James and the Younger Brothers terrorized the American West, Butch Cassidy, the Sundance Kid and their Wild Bunch gang took a smart and methodical approach to bank and train robbery. In the 1890s, their thrilling exploits – robbing banks and trains and then seemingly vanishing into thin air – became front-page news and the basis of rumor and myth, captivating Americans from coast to coast.
can be used for multi-part instantiations in which two or more discrete items may need to be described with individual technical metadata, such as a film that stretches over multiple reels, a CD set that contains several individual discs, or two video files that combine to form a multi-channel installation.

As with pbcorePart, the record must still include required subelements (identifier with source and location) for the instantiation as a whole in order be valid. Each instantiationPart must also include these required elements, and all sub-elements must appear in the same order within an instantiationPart as within an instantiation.

Here is an example of a pbcoreDescriptionDocument that uses instantiationPart to describe different DVDs within a single box set.

DESCRIPTION DOCUMENT

ASSET TYPE: Compilation
Source: PBCore
IDENTIFIER: 978-1-62789-267-4
Source: ISBN
IDENTIFIER: 123456
Source: WGBH Barcode
TITLE: Wild West
Title Type: Box Set
DESCRIPTION: They were "heroes" and rebels, but they were all epic personalities who took center stage in the creation of the mythic Wild West. This superb selection of documentaries and authentically reproduced memorabilia combine to present compelling portraits of the icons who risked everything in a dazzling new land of opportunity.
Source: Back of box
GENRE: Documentary
COVERAGE
  COVERAGE: American West
  COVERAGE TYPE: Spatial
COVERAGE
  COVERAGE: 19th Century
  COVERAGE TYPE: Temporal
CREATOR
  CREATOR: WGBH
  CREATOR ROLE: Producer
CREATOR
  CREATOR: Sharon Grimberg
  CREATOR ROLE: Senior Producer
CREATOR
  CREATOR: Mark Samuels
  CREATOR ROLE: Executive Producer
  Source: PBCore
PUBLISHER
They were "heroes" and rebels, but they were all epic personalities who took center stage in the creation of the mythic Wild West. This superb selection of documentaries and authentically reproduced memorabilia combine to present compelling portraits of the icons who risked everything in a dazzling new land of opportunity.

<?xml version="1.0" encoding="UTF-8" standalone="no"?>
  <pbcoreAssetType source="PBCore">Compilation</pbcoreAssetType>
  <pbcoreIdentifier source="Barcode">123456</pbcoreIdentifier>
  <pbcoreTitle titleType="Box Set">Wild West</pbcoreTitle>
  <pbcoreDescription descriptionType="Item" source="Back of box">They were "heroes" and rebels, but they were all epic personalities who took center stage in the creation of the mythic Wild West. This superb selection of documentaries and authentically reproduced memorabilia combine to present compelling portraits of the icons who risked everything in a dazzling new land of opportunity.</pbcoreDescription>
  <pbcoreCreator>
    <creator>WGBH</creator>
    <creatorRole>Producer</creatorRole>
  </pbcoreCreator>
</pbcoreDescriptionDocument>
As should by now be apparent, there is a lot of flexibility and variety in the structure of PBCore documents. Each institution or application using PBCore should consider implementing internal standards for the description of complex assets that suit their individual needs.