

Design Document

Web based XACML Graphical User Interface Policy Editor

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Use Cases

Use Cases brief format

Title: Open (code editor)

Actor: Administrator

Description:

This use case begins when the Administrator wishes to open an existing XACML Policy through the code editor. The Administrator navigates to the code editor page through the use of the toolbar. They are then presented with a version option, a file option and a drop down menu to select the name of their chosen XML file. The file will be opened and displayed in the XACML code editor.

Title: Code editor

Actor: Administrator

Description:

This use case begins when the Administrator wishes to edit/create an XACML Policy. The Administrator navigates to the code editor page through the use of the toolbar. The Administrator is then presented with an XACML code editor where they can open, input and save their code. The code editor should provide content assist to the Administrator, it should allow drag and drop, cut and paste.

Title: Open (user interface)

Actor: Administrator

Description:

This use case begins when the Administrator wishes to open an existing XACML Policy through the user interface. The Administrator navigates to the user interface page through the use of the toolbar. The user is then presented with a version option, a file option to select the correct interface. A drop down menu will appear at the top of the correct interface, the drop down menu will be populated with a list of files for the user to choose from. The file will be opened and the appropriate files in the user interface will be populated.

Title: User Interface editor

Actors: Administrator

Description:

This use case begins when the Administrator wishes to edit/create an XACML file. The Administrator navigates to the user interface page through the use of the toolbar. The Administrator is presented with an XACML graphical editor where they select their version and file type. They are then presented with a corresponding interface for creating an XACML Policy. The user can then enter the name they want to save as and save the file.

Use Cases detailed format

Title: Open (code editor)

Actor: Administrator

Description:

This use case begins when the Administrator wishes to open an existing XACML Policy through the code editor. The Administrator navigates to the code editor page through the use of the toolbar. They are then presented with a version option, a file option and a drop down menu to select the name of their chosen XML file. The file will be opened and displayed in the XACML code editor.

Main Success Scenario:

1. The user chooses code editor from the menu.
2. The code editor page is displayed.
3. The user is presented with radio buttons to choose their version (version 2/version 3) and radio buttons to choose their file type (Policy/Request/Response).
4. The user chooses the file they wish to open from the drop down menu.
5. The file opens, they can then modify and save it.

Alternatives:

1. The user has not entered their version and file type. Repeat step 3.

Title: Code editor

Actor: Administrator

Description:

This use case begins when the Administrator wishes to edit/create an XACML Policy. The Administrator navigates to the code editor page through the use of the toolbar. The Administrator is then presented with an XACML code editor where they can open, input and save their code. The code editor should provide content assist to the Administrator, it should allow drag and drop, cut and paste.

Main Success Scenario:

1. The user chooses code editor from the menu.
2. The code editor page is displayed.
3. The user is presented with radio buttons to choose their version (version 2/version 3) and radio buttons to choose their file type (Policy/Request/Response).
4. The user enters the XACML code.
5. The user is asked to enter the filename they want to save.

Alternatives:

1. The user has not entered their version and file type. Repeat step 3.
2. The user has not entered the filename they want to save. Repeat step 5.

Title: Open (user interface)

Actor: Administrator

Description:

This use case begins when the Administrator wishes to open an existing XACML Policy through the user interface. The Administrator navigates to the user interface page through the use of the toolbar. The user is then presented with a version option, a file option to select the correct interface. A drop down menu will appear at the top of the correct interface, the drop down menu will be populated with a list of files for the user to choose from. The file will be opened and the appropriate files in the user interface will be populated.

Main Success Scenario:

1. The user chooses User Interface from the menu.
2. The user interface page is displayed.
3. The user is presented with radio buttons to choose their version (version 2/version 3) and radio buttons to choose their file type (Policy/Request/Response).
4. A user interface for creating an XML file is displayed based on the users selection.
5. A drop down box appears and is populated with a list of files.
6. The user chooses a file from the list.
7. The appropriate interface fields are populated with the data from the chosen file.

Alternatives:

1. The user has not selected their version and file type. Repeat step 3.
2. The user has not selected the file they wish to open. Repeat step 6.

Title: User Interface editor

Actors: Administrator

Description:

This use case begins when the Administrator wishes to create an XACML Policy. The Administrator navigates to the user interface page through the use of the toolbar. The Administrator is presented with an XACML graphical editor where they can select their version and file type. They are then presented with an interface for creating an XACML file. The user can then enter the name they want to save the file as and save.

Main Success Scenario:

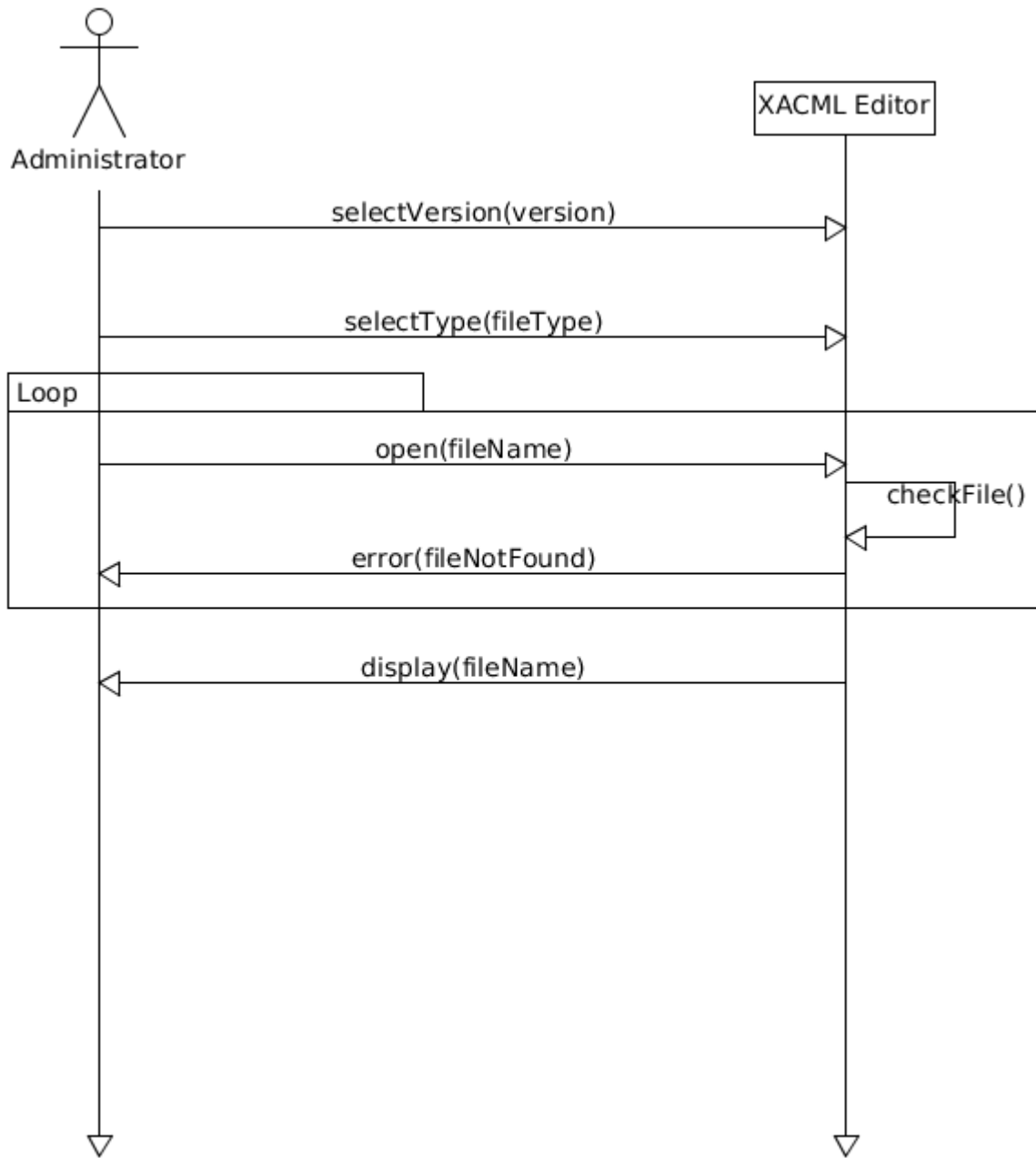
1. The user chooses User Interface from the menu.
2. The user interface page is displayed.
3. The user is presented with radio buttons to choose their version (version 2/version 3) and radio buttons to choose their file type (Policy/Request/Response).
4. A user interface for creating an XML file is displayed based on the users selection.
5. After completing their inputs the user is asked to enter the filename they wish to save as.

Alternatives:

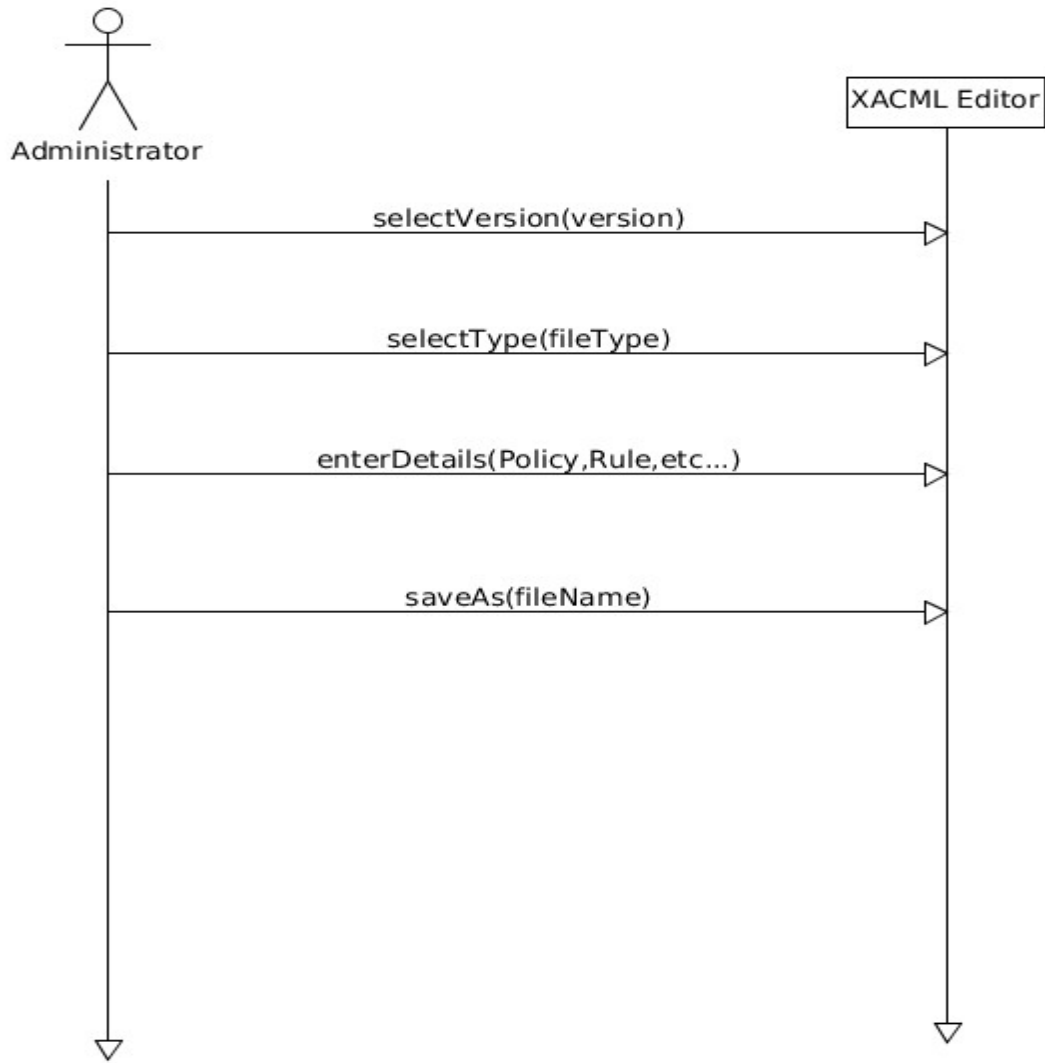
1. The user has not selected their version and file type. Repeat step 3.
2. The user has not entered the filename they wish to save. Repeat step 5.

System Sequence Diagrams

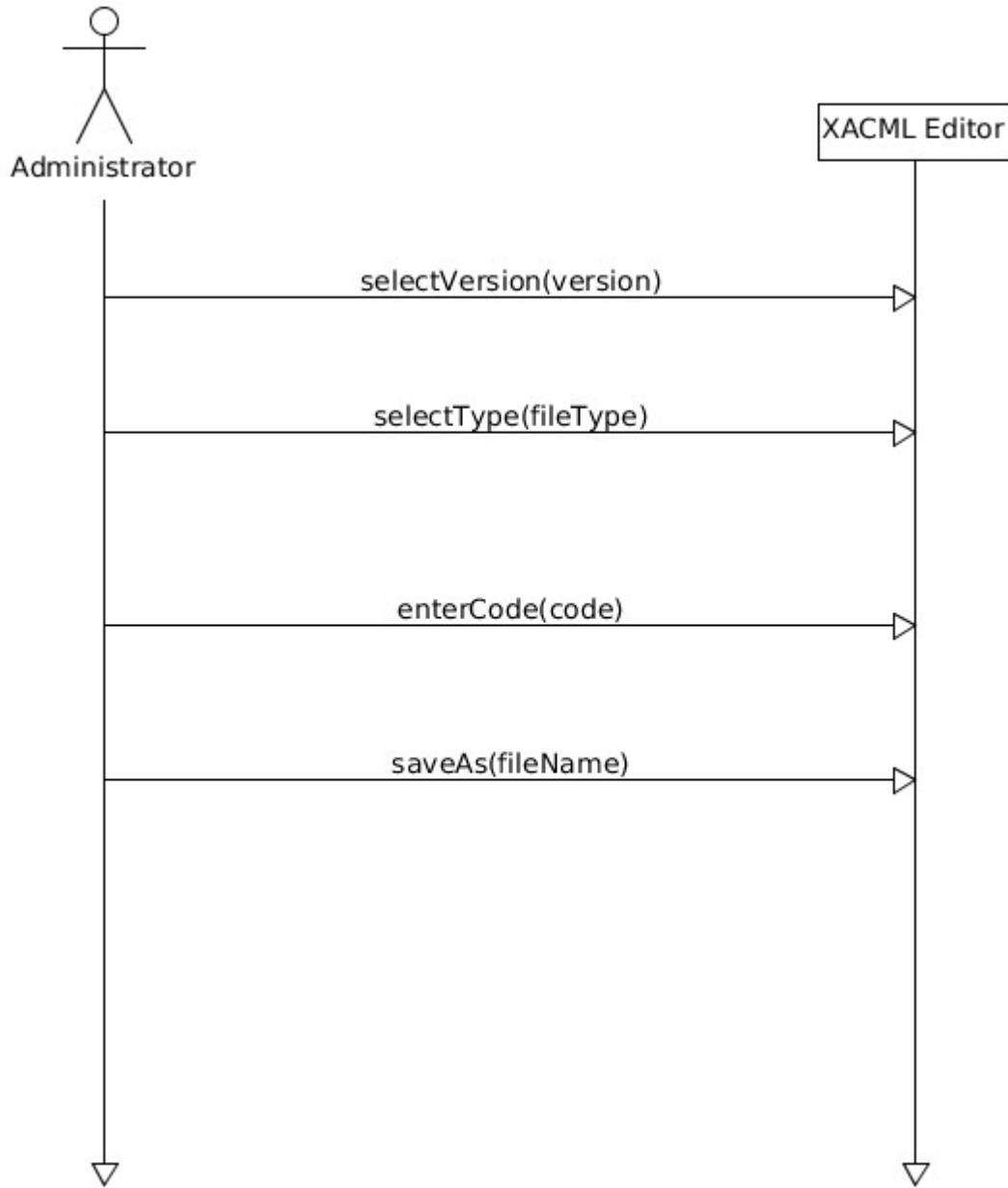
Open



User Interface

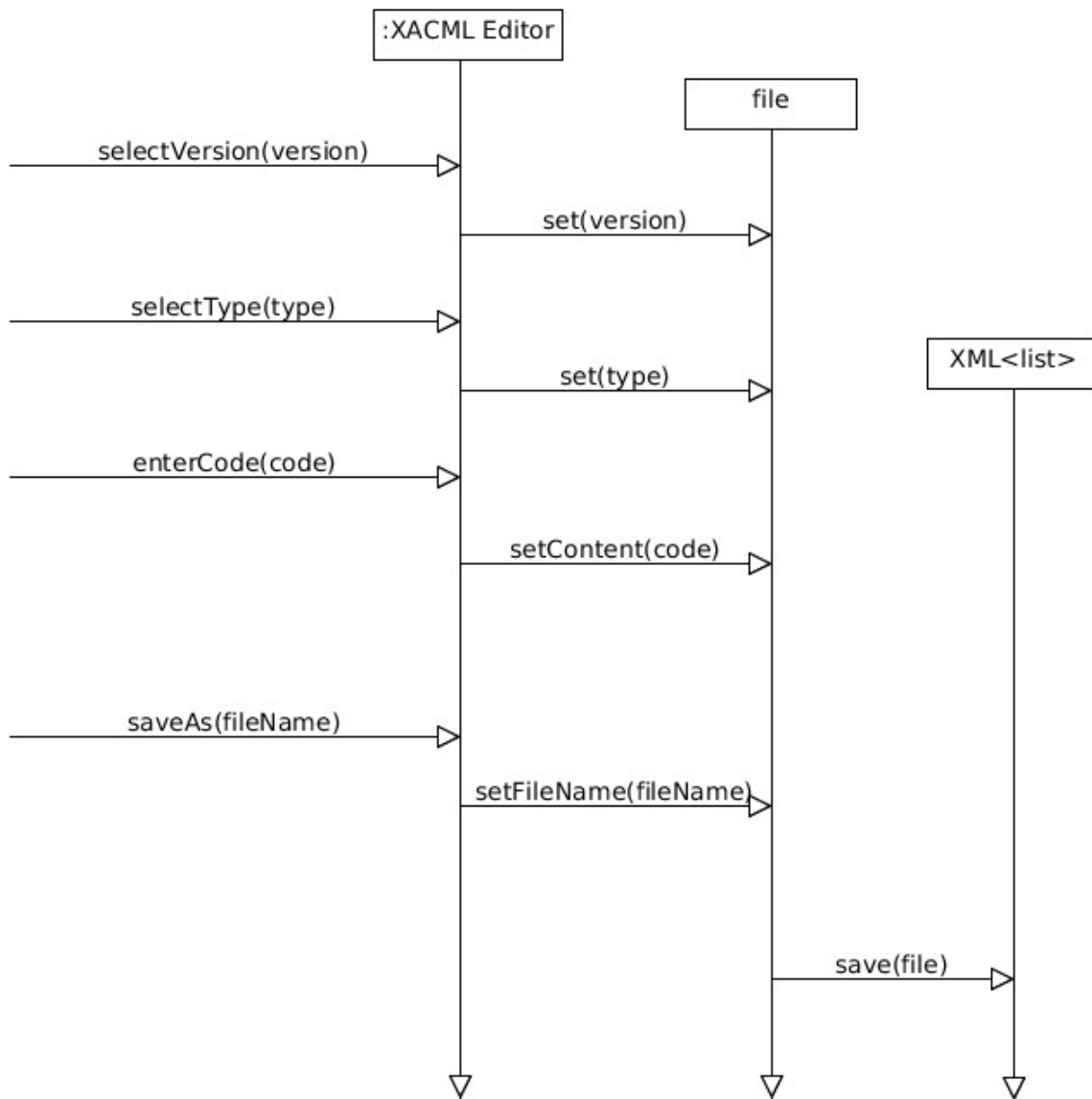


Code Editor

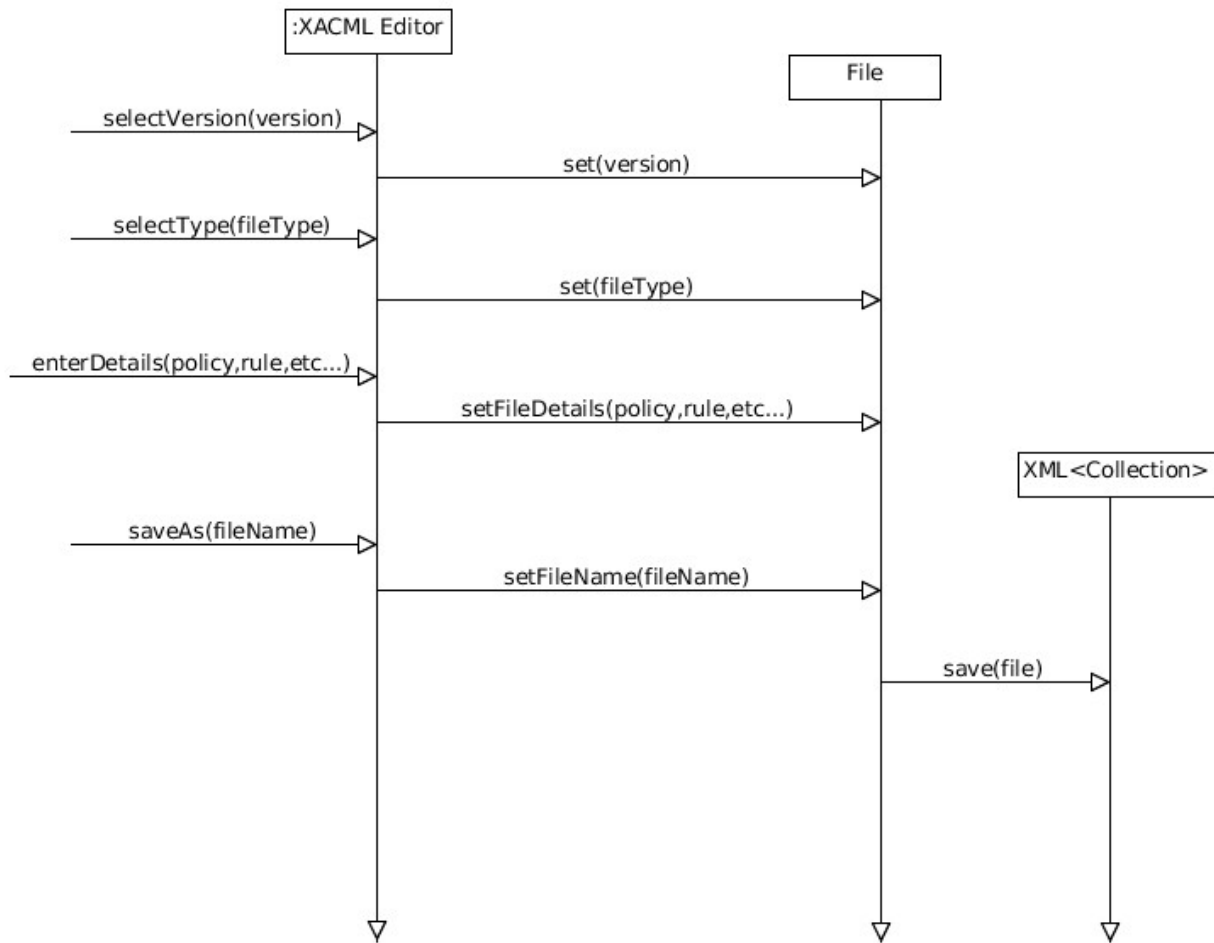


Sequence Diagrams

Code Editor



User Interface



User Interface

Policy Version 2 (In steps)

User Interface Code Editor

Policy

Open:

Policy id: Rule combining id:

Description:

— Rule

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

User Interface Code Editor

Policy

Open:

Policy id: Rule combining id:

Description:

Rule

Rule ID: Effect: Description:

— Subject

— Resource

— Action

— Condition

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

User Interface Code Editor

Policy

Open:

Policy id: Rule combining id:

Description:

Rule

Rule ID: Effect: Choose Effect Description:

Subject

Subject Match ID: Data type: Choose Data Type Value:

Subject Attribute Designator:

Attribute ID: Data Type: Choose Data Type

- Resource
- Action
- Condition

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

User Interface Code Editor

Policy

Open:

Policy id: Rule combining id:

Description:

Rule

Rule ID: Effect: Choose Effect Description:

Subject

Resource

Match ID: Data Type: Choose Data Type Value:

Resource Attribute Designator:

Attribute ID: Data Type: Choose Data Type

- Action
- Condition

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

User Interface Code Editor

Policy

Open:

Policy id: Rule combining id:

Description:

Rule

Rule ID: Effect: Description:

— Subject

— Resource

— Action

Match ID: Data Type: Value:

Action Attribute Designator:

Attribute ID: Data Type:

— Condition

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

User Interface Code Editor

Policy

Open:

Policy id: Rule combining id:

Description:

Rule

Rule ID: Effect: Description:

— Subject

— Resource

— Action

— Condition

Function ID: Attribute value Data Type:

Value:

— Function

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

Policy

Open:

- Policy: PolicyV2Test
- IIA001Policy(test)
- Descri: IIC012Policy(test)

Rule combining id:

— Rule

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

User Interface Code Editor

Policy

Open: IIA001Policy(test)

Policy id: urn:oasis:names:tc:xacml:2.0:conformance-test:IIA1:policy Rule combining id: urn:oasis:names:tc:xacml:1.0:rule-combining-algorithm:den

Description:

Policy for Conformance Test IIA001.

Rule

Rule ID: urn:oasis:names:tc:xacml:2.0:conformance-test:IIA1:rule Effect: Permit Description: Julius Hibbert can read or write Bart Simpson's medical record.

— Subject
— Resource
— Action
— Condition

Enter filename to save: IIA001Policy(test)

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

Request Version 2 (In Steps)

User Interface Code Editor

Request

Open:

— Subject
— Resource
— Action
— Environment

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

Request

Open:

Subject

Attribute ID: Data type: Choose Data Type Value:

Resource

Attribute ID: Data type: Choose Data Type Value:

Action

Attribute ID: Data type: Choose Data Type Value:

Environment

Attribute ID: Data type: Choose Data Type Value:

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

User Interface Code Editor

Request

Open: Open Populate

- Sub IIC001Request(test)
- Res IIB002Request(test)
- Act IID001Request(test)
- Env IIA001Request(test)

Enter filename to save: Save New

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

storage location

User Interface Code Editor

Request

Open: IIC001Request(test) Open Populate

Subject

| Attribute ID: | Data type: | Value: | Add | Clear |
|---|--|----------------------|------------------------------------|--------------------------------------|
| <input type="text"/> | Choose Data Type | <input type="text"/> | <input type="button" value="Add"/> | <input type="button" value="Clear"/> |
| urn:oasis:names:tc:xacml:1.0:subject:subject-id | http://www.w3.org/2001/XMLSchema#string | Julius Hibbert | | |
| urn:oasis:names:tc:xacml:2.0:conformance-test:age | http://www.w3.org/2001/XMLSchema#integer | 45 | | |

Resource

| Attribute ID: | Data type: | Value: | Add | Clear |
|---|---|--|------------------------------------|--------------------------------------|
| <input type="text"/> | Choose Data Type | <input type="text"/> | <input type="button" value="Add"/> | <input type="button" value="Clear"/> |
| urn:oasis:names:tc:xacml:1.0:resource:resource-id | http://www.w3.org/2001/XMLSchema#anyURI | http://medico.com/record/patient/BartSimpson | | |

Action

| Attribute ID: | Data type: | Value: | Add | Clear |
|---|---|----------------------|------------------------------------|--------------------------------------|
| <input type="text"/> | Choose Data Type | <input type="text"/> | <input type="button" value="Add"/> | <input type="button" value="Clear"/> |
| urn:oasis:names:tc:xacml:1.0:action:action-id | http://www.w3.org/2001/XMLSchema#string | read | | |

Environment

| Attribute ID: | Data type: | Value: | Add | Clear |
|--|--|----------------------|------------------------------------|--------------------------------------|
| <input type="text"/> | Choose Data Type | <input type="text"/> | <input type="button" value="Add"/> | <input type="button" value="Clear"/> |
| urn:oasis:names:tc:xacml:2.0:conformance-test:bart-simpson-age | http://www.w3.org/2001/XMLSchema#integer | 10 | | |

Enter filename to save: IIC001Request(test) Save New

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

storage location

Response Version 2 (In Steps)

User Interface Code Editor

Response

Open:

Decision Status Code value

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

User Interface Code Editor

Response

Open:

Decision Status Code value

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

(Note: A dropdown menu is open over the 'Open' field, listing: IIA002Response(test), IIA001Response(test), IIB002Response(test), IIB001Response(test))

User Interface Code Editor

Response

Open: IIA002Response(test)

Decision Permit Status Code value urn:oasis:names:tc:xacml:1.0:status:ok

Enter filename to save: IIA002Response(test)

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

Policy Version 3 (In Steps)

User Interface Code Editor

Policy

Open:

Policy ID: Rule combining ID:

Description:

— Target

— Rule

— Obligation Expressions

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

User Interface Code Editor

Policy

Open:

Policy ID: Rule combining ID:

Description:

Target

AnyOf

AllOf

Match ID: Data Type:

Value:

Designator ID: Designator Data Type:

Must be present: Category:

— Rule

— Obligation Expressions

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

User Interface Code Editor

Policy

Open:

Policy ID: Rule combining ID:

Description:

Target

Rule

Rule ID: Effect: Description:

Target
 Condition
 Obligation Expressions

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

User Interface Code Editor

Policy

Open:

Policy ID: Rule combining ID:

Description:

Target

Rule

Rule ID: Effect: Description:

Target

AnyOf

AllOf

Match ID: Data Type:

Value:

Designator ID: Designator Data Type:

Must be present: Category:

Condition
 Obligation Expressions

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

User Interface Code Editor

Policy

Open:

Policy ID: Rule combining ID:

Description:

Target

Rule

Rule ID: Effect: Description:

Condition

Function ID: Data Type:

Value:

Obligation Expressions

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

Apply

Function ID:

Apply

Function ID:

Designator ID: Designator Data Type:

Must be present: Category:

Apply

Function ID:

Attribute ID: Data Type:

Apply

Function ID:

- Attribute Designator

- Environment Attribute Designator

- Subject Attribute Designator

Attribute Id: Enter Data Type

User Interface Code Editor

Policy

Open:

Policy ID: Rule combining ID:

Description:

- Target

- Rule

Obligation Expressions

Obligation ID: FulFillOn:

Attribute Assignment Expressions

Attribute ID:

Attribute Expressions

Attribute ID: Data Type: Value:

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

User Interface Code Editor

Policy

Open:

Policy: Rule combining ID:

Description:

— Target

— Rule

— Obligation Expressions

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

Request Version 3 (In Steps)

User Interface Code Editor

Request

Open:

Return Policy ID List: Combined Decision:

— Attributes

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

User Interface Code Editor

Request

Open:

Return Policy ID List: Combined Decision:

Attributes

Category:

Attribute

IncludeInResult: AttributeId:

DataType: Choose Data Type: Value:

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

User Interface Code Editor

Request

Open:

Return: Version:

Attributes

Category:

Attribute

IncludeInResult: AttributeId:

DataType: Value:

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

Request

Open: IIIA001Request.xacml3(test)

Return Policy ID List: false Combined Decision: false

Attributes

Category

Attribute

IncludeInResult AttributeId

DataType Value

| | | | |
|--|-------|--|--|
| urn:oasis:names:tc:xacml:1.0:subject-category:access-subject | | | |
| urn:oasis:names:tc:xacml:1.0:subject:subject-id | false | http://www.w3.org/2001/XMLSchema#string | Julius Hibbert |
| urn:oasis:names:tc:xacml:2.0:conformance-test:age | false | http://www.w3.org/2001/XMLSchema#integer | 45 |
| urn:oasis:names:tc:xacml:3.0:attribute-category:resource | | | |
| urn:oasis:names:tc:xacml:1.0:resource:resource-id | false | http://www.w3.org/2001/XMLSchema#anyURI | http://medico.com/record/patient/BartSimpson |
| urn:oasis:names:tc:xacml:3.0:attribute-category:action | | | |
| urn:oasis:names:tc:xacml:1.0:action:action-id | false | http://www.w3.org/2001/XMLSchema#string | read |
| urn:oasis:names:tc:xacml:3.0:attribute-category:environment | | | |
| urn:oasis:names:tc:xacml:2.0:conformance-test:bart-simpson-age | false | http://www.w3.org/2001/XMLSchema#integer | 10 |

Enter filename to save: IIIA001Request.xacml3(

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

Response Version 3 (In Steps)

User Interface Code Editor

Response

Open:

Decision Status Code value

— Obligations

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

User Interface Code Editor

Response

Open:

Decision Status Code value

— Obligations

Obligation ID:

— Attribute Assignment

Attribute ID: Data Type: Value:

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

User Interface Code Editor

Response

Open:

Decision Status Code value

— Obligations

Enter filename to save:

Set XACML version: Version 2 Version 3

Set file type: Policy Requests Responses

Response

Open: IIIA001Response.xacml3(test)

Decision: Permit urn:oasis:names:tc:xacml:1.0:status:ok

Obligations

Obligation ID:

Attribute Assignment

Attribute ID: Data Type: Value:

urn:oasis:names:tc:xacml:2.0:conformance-test:IIIA001:obligation-1

| | | |
|---|---|-------------|
| urn:oasis:names:tc:xacml:2.0:conformance-test:IIIA001:assignment1 | http://www.w3.org/2001/XMLSchema#string | assignment1 |
|---|---|-------------|

| | | |
|---|---|-------------|
| urn:oasis:names:tc:xacml:2.0:conformance-test:IIIA001:assignment2 | http://www.w3.org/2001/XMLSchema#string | assignment2 |
|---|---|-------------|

urn:oasis:names:tc:xacml:2.0:conformance-test:IIIA001:obligation-2

| | | |
|---|---|-------------|
| urn:oasis:names:tc:xacml:2.0:conformance-test:IIIA001:assignment3 | http://www.w3.org/2001/XMLSchema#string | assignment3 |
|---|---|-------------|

| | | |
|---|---|-------------|
| urn:oasis:names:tc:xacml:2.0:conformance-test:IIIA001:assignment4 | http://www.w3.org/2001/XMLSchema#string | assignment4 |
|---|---|-------------|

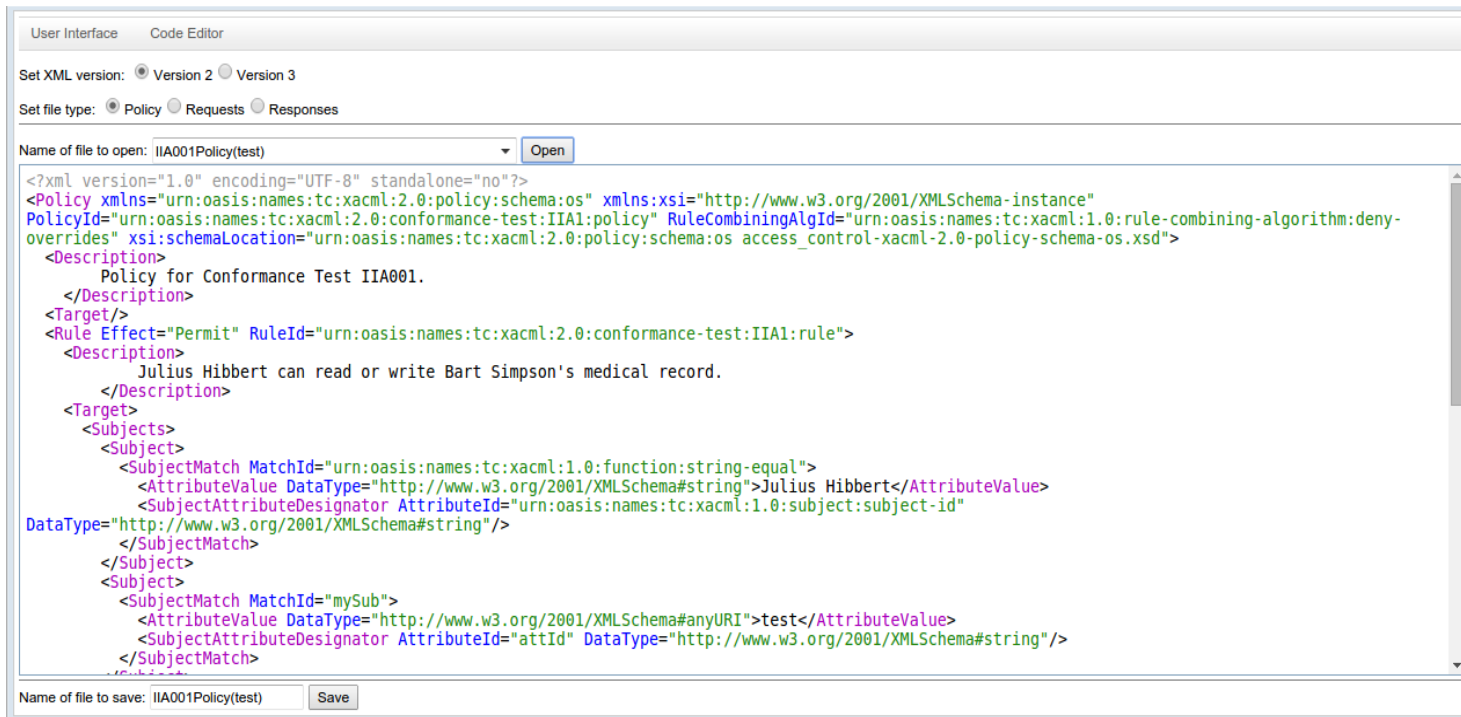
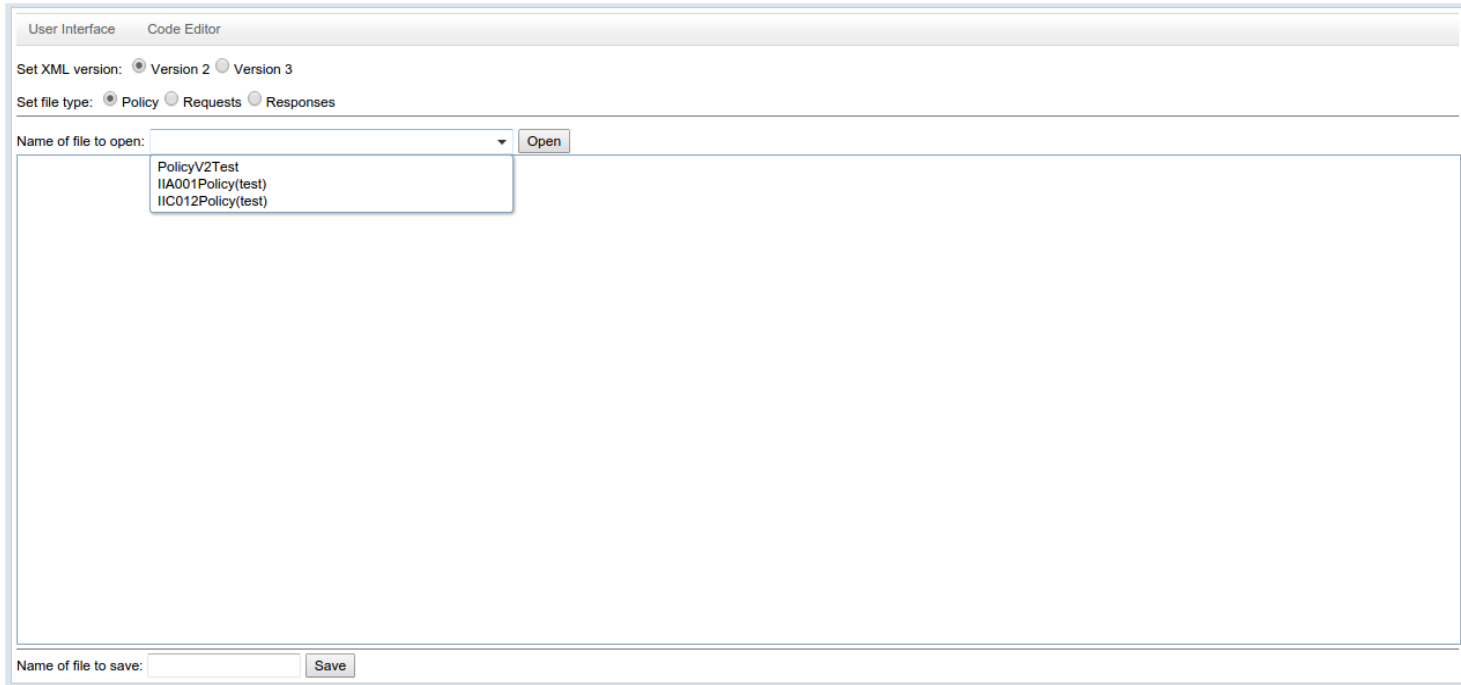
Enter filename to save: IIIA001Response.xacml

Set XACML version: Version 2 Version 3

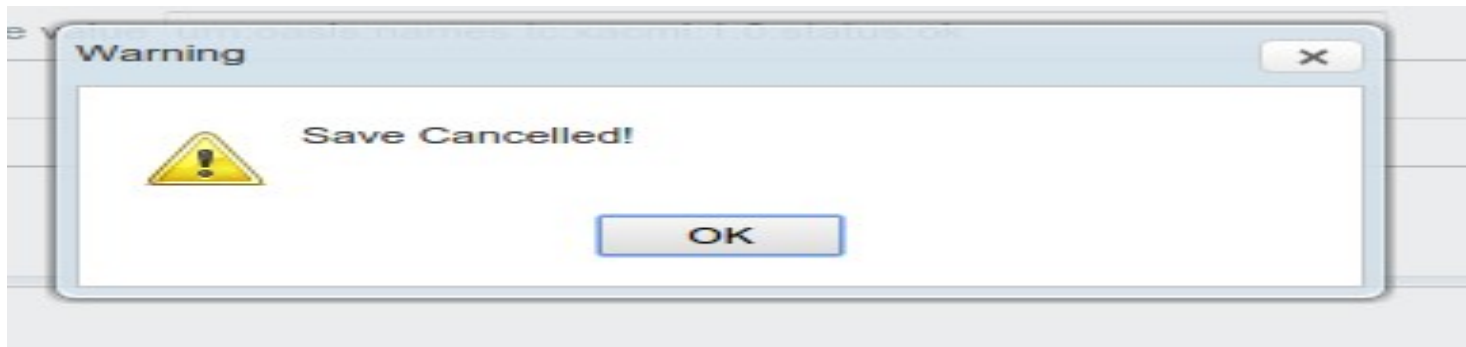
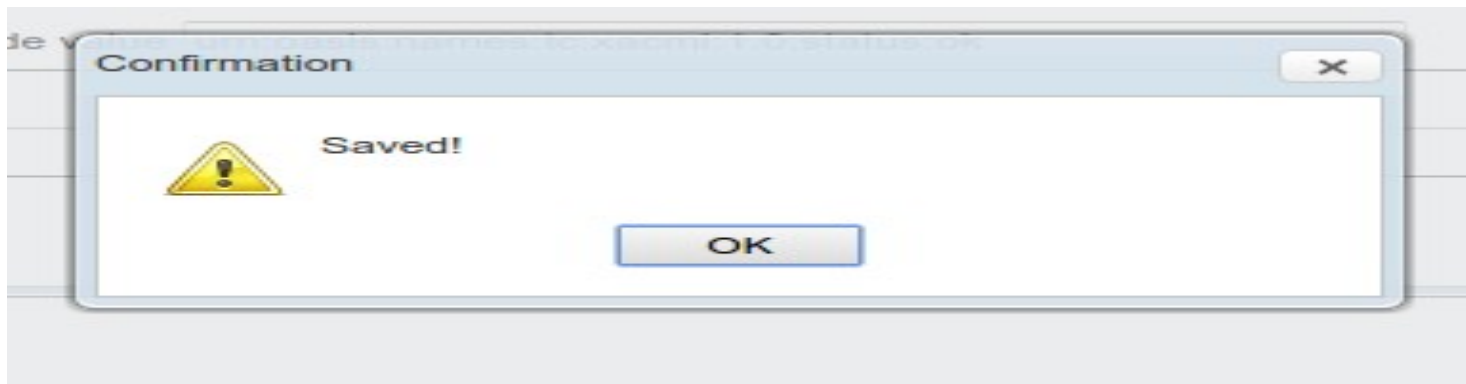
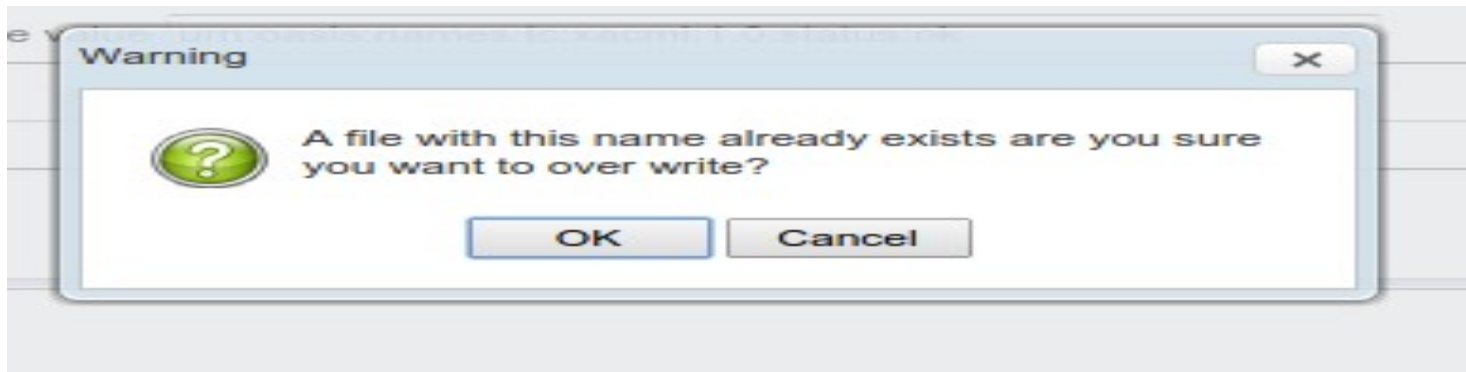
Set file type: Policy Requests Responses

storage location

Code Editor



Save Warning



Menu Warning

