

# AMELIA

IPsoft's Cognitive Agent

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## Amelia 3.7.47 Release Notes (Document Version 1.10)

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## Document History

Author	Version	Date	Comments	Final Approval?
IPsoft Research & Development	1.0	March 7, 2019	Added bug fixes and new functionality for 3.7.0, 3.7.1, 3.7.2, 3.7.3, 3.7.4, 3.7.5, 3.7.6, 3.7.8, 3.7.9, 3.7.10, 3.7.11 releases	Yes
IPsoft Research & Development	1.1	May 29, 2019	Added bug fixes and new functionality for 3.7.12, 3.7.13, 3.7.14, 3.7.15, 3.7.16, 3.7.17, 3.7.18, 3.7.19, 3.7.20, 3.7.21 releases	Yes
IPsoft Research & Development	1.2	June 28, 2019	Added bug fixes and new functionality for 3.7.22, 3.7.23, 3.7.24, and 3.7.25	Yes
IPsoft Research & Development	1.3	August 15, 2019	Added bug fixes and new functionality for 3.7.26, 3.7.27, 3.7.28, 3.7.29, 3.7.30, 3.7.31, 3.7.32, 3.7.33	Yes
IPsoft Research & Development	1.4	August 21, 2019	Added bug fixes and new functionality for 3.7.34, 3.7.35	Yes
IPsoft Research & Development	1.5	August 26, 2019	Added bug fixes and new functionality for 3.7.36	Yes
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IPsoft Research & Development	1.7	December 10, 2019	Added bug fixes and new functionality for 3.7.43, added details about AM3-7662 to section 2.4.1	Yes
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IPsoft Research & Development	1.9	February 28, 2020	Added bug fixes and new functionality for 3.7.46	Yes
IPsoft Research & Development	1.10	March 6, 2020	Added bug fixes and new functionality for 3.7.47	Yes

# 1. Overview

This document briefly lists and describes changes to Amelia as a result of the 3.7.x version releases. A detailed list of all new features and bug fixes are listed at the back of this document. In this section, changes are broken down by both user groups as well as minor release versions.

## 1.1 CHANGES BY IMPACTED USER GROUPS

---

### 1.1.1 Engineers

The following features impact Cognitive Implementation Engineers that build and integrate Amelia Experiences:

- [AM3-5406] – Added Amelia Journey Analytics
- [AM3-7150] - Add ability for BPN to suppress cancel on ask tasks
- [AM3-7786] - NLU intent tester improvements
- [AM3-6106] - Domain switching during conversations
- [AM3-3796] - Allow for style and speech annotation of Amelia utterances
- [AM3-7181] - Backjumps to handle conversation changes instead of stochastic BPNs
- [AM3-6131] - Pre-built Integration templates
- [AM3-7072] - Export entities in TSV format and bulk delete spanless entities
- [AM3-5939] - Allow plaintext or reader-friendly output of Training Corpus
- [AM3-6657] - Request lemma for multiple document types
- [AM3-5944] - Undeploy BPNs regardless of dependency order
- [AM3-6463] - Embed Amelia in Admin UI
- [AM3-7580] - Redesign BPN Properties Bar
- [AM3-7662] - JEXL Replaces SpEL in Response Pool Templates
- [AM3-6082] - Safari Support (v10)
- [AM3-6089] - Mozilla Firefox Support (v57 Quantum)
- [AM3-6117] - Microsoft Edge Support (v42.17134)
- [AM3-7731] - Allow script tasks to execute integration flows
- [AM3-7527] - Enhance the appearance of the annotation tool
- [AM3-8459] - Expose ExternalUID to be accessible through UserService
- [AM3-1720] - Agent search bar in the agent assign modal.
- [AM3-8210] - Enhance groovy code autocompletion
- [AM3-8425] - Scope entities to intents and contexts
- [AM3-8463] - NLU bulk import/export
- [AM3-8619] - Intent negation detection
- [AM3-8691] - Add option to ignore singular/plural in lookup-based custom entities
- [AM3-5720] - Add domain code/name to execution object

- [AM3-6353] - Expose name of the running BPN
- [AM3-8233] - Add ability to disable entities

### 1.1.2 Operations

The following features impact the Operations and Site Reliability Engineering (SRE) teams that monitor and maintain deployed Amelia instances:

- [AM3-2641] - Add ability for an end user to change their password.
- [AM3-6353] - Expose name of the running BPN
- [AM3-7899] – A conversation would drop if the rabbitmq node handling went down (addressed)
- [AM3-8056] - fix health check for amelia-admin-service
- [AM3-8381] - Improve performance
- [AM3-8459] - Expose ExternalUID to be accessible through UserService
- [AM3-9738] - Add conversation duration metric
- [AM3-9813] - Record / Export chats even if no user interaction
- [AM3-10570] - Add maximum BPN task executions per message configuration setting
- [AM3-10716] - Track last failed login on user for LDAP auth policies

### 1.1.3 Architects

The following changes impact the architects that are responsible for the overall platform architecture and components:

- [AM3-8381] - Improve performance
- [AM3-10179] - Update spring boot 2.1.6
- [AM3-10817] - Force/only enable TLS 1.2 in all spring boot endpoints

### 1.1.4 UX Design

The following features impact the UX designers that are focused on Amelia end users and their experiences:

- [AM3-4602] - Count dialog acts and lower-level subsystem responders as attempts for bpn:attempts and maximum consecutive attempts at ask tasks
- [AM3-7114] - Add "Cancel" and "Go back" dialog acts
- [AM3-7150] - Add ability for BPN to suppress cancel on ask tasks
- [AM3-6106] - Domain switching during conversations
- [AM3-3796] - Allow for style and speech annotation of Amelia utterances
- [AM3-7181] - Backjumps to handle conversation changes instead of stochastic BPNs
- [AM3-8425] - Scope entities to intents and contexts
- [AM3-8619] - Intent negation detection
- [AM3-8233] - Add ability to disable entities
- [AM3-8955] - Amelia has no speech annotation for <nospeak>
- [AM3-10678] - Enable Role entities for COMPOSITE datum type

## 1.2 HIGHLIGHTS BY MINOR RELEASE

---

### 1.2.1 Release 3.7.0

This release includes these highlights:

- [AM3-7150] - Add ability for BPN to suppress cancel on ask tasks
- [AM3-6106] - Domain switching during conversations
- [AM3-3796] - Allow for style and speech annotation of Amelia utterances
- [AM3-7181] - Backjumps to handle conversation changes instead of stochastic BPNs
- [AM3-6131] - Pre-built Integration templates
- [AM3-7072] - Export entities in TSV format and bulk delete spanless entities
- [AM3-5939] - Allow plaintext or reader-friendly output of Training Corpus
- [AM3-6657] - Request lemma for multiple document types
- [AM3-5944] - Undeploy BPNs regardless of dependency order
- [AM3-6463] - Embed Amelia in Admin UI
- [AM3-7580] - Redesign BPN Properties Bar
- [AM3-6082] - Safari Support (v10)
- [AM3-6089] - Mozilla Firefox Support (v57 Quantum)
- [AM3-6117] - Microsoft Edge Support (v42.17134)

### 1.2.2 Release 3.7.1

This release included no significant highlights. See Section 3 for all tickets.

### 1.2.3 Release 3.7.2

This release included no significant highlights. See Section 3 for all tickets.

### 1.2.4 Release 3.7.3

This release includes these highlights:

- [AM3-7662] - JEXL Replaces SpEL in Response Pool Templates

### 1.2.5 Release 3.7.4

This release includes these highlights:

- [AM3-7731] - Allow script tasks to execute integration flows

### 1.2.6 Release 3.7.5

This release included no significant highlights. See Section 3 for all tickets.

### 1.2.7 Release 3.7.6

This release included no significant highlights. See Section 3 for all tickets.

### 1.2.8 Release 3.7.7

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.9 Release 3.7.8

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.10 Release 3.7.9

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.11 Release 3.7.10

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.12 Release 3.7.11

- [AM3-7527] - Enhance the appearance of the annotation tool
- [AM3-8459] - Expose ExternalUID to be accessible through UserService

## 1.2.13 Release 3.7.12

- [AM3-1720] - Agent search bar in the agent assign modal.
- [AM3-8210] - Enhance groovy code autocompletion
- [AM3-8425] - Scope entities to intents and contexts
- [AM3-8463] - NLU bulk import/export

## 1.2.14 Release 3.7.13

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.15 Release 3.7.14

- [AM3-8619] - Intent negation detection
- [AM3-8691] - Add option to ignore singular/plural in lookup-based custom entities

## 1.2.16 Release 3.7.15

- [AM3-8536] - Allow to pull response pools from script tasks

## 1.2.17 Release 3.7.16

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.18 Release 3.7.17

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.19 Release 3.7.18

- [AM3-5720] - Add domain code/name to execution object
- [AM3-6353] - Expose name of the running BPN
- [AM3-8233] - Add ability to disable entities

## 1.2.20 Release 3.7.19

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.21 Release 3.7.20

- [AM3-9738] - Add conversation duration metric

## 1.2.22 Release 3.7.21

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.23 Release 3.7.22

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.24 Release 3.7.23

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.25 Release 3.7.24

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.26 Release 3.7.25

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.27 Release 3.7.26

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.28 Release 3.7.27

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.29 Release 3.7.28

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.30 Release 3.7.29

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.31 Release 3.7.30

- [AM3-10570] - Add maximum BPN task executions per message configuration setting

## 1.2.32 Release 3.7.31

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.33 Release 3.7.32

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.34 Release 3.7.33

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.35 Release 3.7.34

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.36 Release 3.7.35

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.37 Release 3.7.36

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.38 Release 3.7.37

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.39 Release 3.7.38

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.40 Release 3.7.39

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.41 Release 3.7.40

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.42 Release 3.7.41

This release included no significant highlights. See Section 3 for all tickets.

## 1.2.43 Release 3.7.42

- [AM3-11784] - Restore passing variables from parent BPN to pre-escalate BPN

## 1.2.44 Release 3.7.43

- [AM3-11777] - Allow annotations to be exported and imported
- [AM3-11858] - Use authority to restrict the option for enabling a domain for anonymous access
- [AM3-11859] - Use authority to limit availability of Auto FAQ Transducer and Semnet Configuration in Semantic Memory
- [AM3-11940] - Password Reset Modal for password that is expired from login page
- [AM3-11964] - Ability to change password expired
- [AM3-11967] - Dropdown list for choosing Custom parser feature

## 1.2.45 Release 3.7.44

- [AM3-11798] - Show UI revision names in Current Revisions table
- [AM3-12012] - Add new methods to Content pack script services to check existence of assets
- [AM3-12039] - Allow to execute specific scripts in content pack installation
- [AM3-12165] - Look for faq's in domain hierarchy and also add faq's and remove faq's from content pack
- [AM3-12167] - Add property to allow Run the Workflow command for Anonymous users

## 1.2.46 Release 3.7.45

- [AM3-12281] - Deployment of the new version of existing integration is not possible

## 1.2.47 Release 3.7.46

- [AM3-10936] - In the user edit screen, can the concurrency and other escalation fields be editable by domain admins/supervisors?
- [AM3-12269] - Allow agents & agent supervisors assigned to multiple queues to log into one or more - but not all - assigned queues
- [AM3-12394] - Pass Name entity when filled to copilot for anonymous domain

## 1.2.48 Release 3.7.47

This release included no significant highlights. See Section 3 for all tickets.

## 2. Enhancement Details

This section provides more detailed descriptions and/or tutorials for selected New Features and Bug Fixes.

### 2.1 RELEASE 3.7.0

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#### 2.1.1 [AM3-7150] - Add ability for BPN to suppress cancel on Ask tasks

A new Ask task setting, Allow cancel dialog act, defines how Amelia acts if the user response is a cancel dialog act. If set to yes, if the user responds with the word cancel or similar cancel dialogue act, Amelia will stop processing the user response. If no, Amelia will handle the user response if the user responds with a cancel dialogue act. Yes is the default.

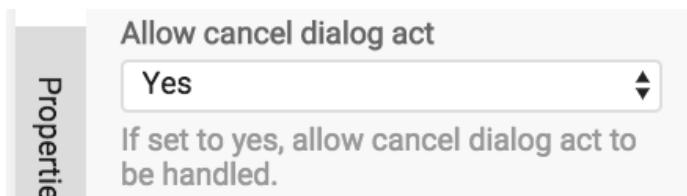


Figure 1. Allow Cancel Dialog Act Setting for Ask Task

#### 2.1.2 [AM3-6106] - Domain Switching

In some cases, Amelia is configured with multiple domains to handle multiple possible conversation topics. One domain might be configured for insurance quotes and another domain to handle credit card applications. Amelia can switch between these topics and their domains as a conversation unfolds.

The Predict workspace link, available by clicking the Amelia Trainer link on the left side of Amelia's administration pages, provides insight into which domains are triggered by different utterances.

In addition to creating domains and populating them with data, Ask tasks within a BPN must have their Allow domain switch property set to Yes.

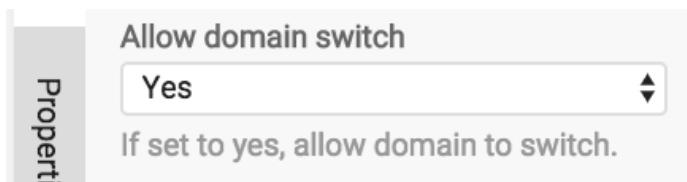


Figure 2. Allow Intent Switch Setting for Ask Task

#### 2.1.3 [AM3-7072] - Export entities in TSV format and bulk delete spanless entities

Utterances used for spanless entities can be exported in tab-separated value (TSV) format, as well as deleted in bulk. The list of utterances at the bottom right of an entity workspace also includes the ability to filter dynamically all utterances with a word or phrase and/or a value.

The screenshot shows the Entity Settings page for the 'roomType' entity. At the top, there are navigation links: Entity Settings, Amelia, Amelia Trainer, Entities, Edit Entity, Intents, Entities (which is underlined), Annotate, Predict, and Dashboard. On the right side, there are buttons for Save, Undo, Delete, Add Entities, Train, and Predict.

**Entity Settings**

**roomType**

spanless entity for reserveARoom

Spanless [?](#)

Code [?](#)

roomType

**AMELIA ASKS** 1 Question | See all [»](#)

What kind of room would you like?

**USER SAYS** 153 Examples | Collapse [▼](#)

User Utterance	Type
room	double
<input checked="" type="checkbox"/> need to have multiple beds in the room	double
<input checked="" type="checkbox"/> Need two queens so that I can spread out in the hotel room.	double
<input type="checkbox"/> please give us 2 beds in the room	double
<input checked="" type="checkbox"/> possibly give us a room with two big beds	double
<input type="checkbox"/> reserve the larger room with more than one bed	double

[Delete](#) [Export All Utterances](#) [Page 4 of 5](#)

**Upload spanless entity utterances**  
Format: TSV. Max Size: 2Mb

Drag and Drop your file in this area or [Browse](#) your computer

Figure 3. Filter, Delete, Export All Entity Utterances

## 2.1.4 [AM3-5939] - Allow plaintext or reader-friendly output of Training Corpus

Utterances used for annotation can be exported in tab-separated value (TSV) format from the Annotate workspace. Click the Amelia Trainer link on the left side of Amelia's administration pages then click Annotate. The Annotate workspace appears. Select a file with the 1. Load/Learn workspace. The 2. Annotate workspace will appear. Next to the file name under the step navigation links click the download icon to display the TSV export format option.

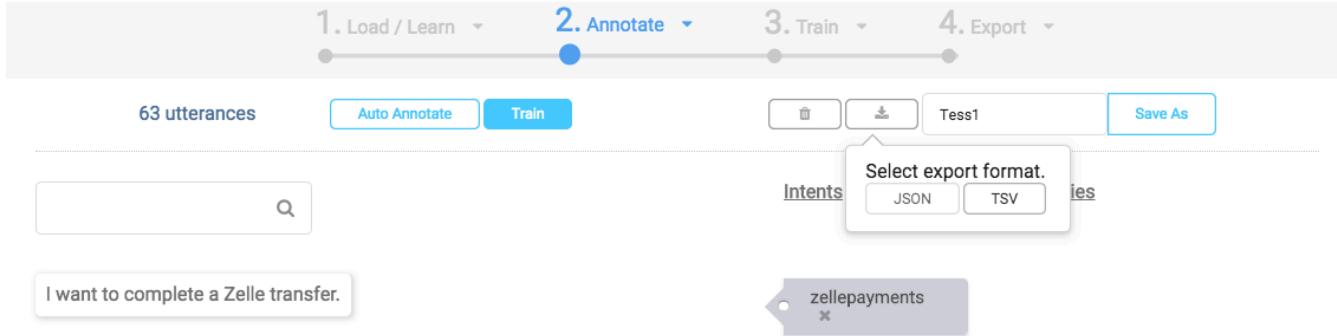


Figure 4. Export Utterances in TSV Format

The ability to export in TSV format allows non-technical people to work with utterances then import them back into Amelia with the 1. Load/Learn workspace.

## 2.1.5 [AM3-6463] - Embed Amelia in Admin UI

The top right corner of Amelia's administration workspace includes a basic instance of Amelia to test functionality without or before use the default chat interface or custom user interface. Click the circle to display a chat interface.

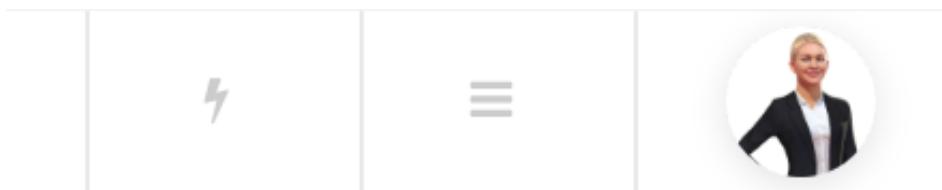


Figure 5. Amelia Flyout Circular Icon to Display Chat Interface

The chat interface has all the features of the default chat interface and custom user interface, for example, the ability to select a domain, refresh the conversation, and change the conversation language. The chat interface is described in the Amelia Basics section of the BPN Getting Started Guide at [docs.ipsoft.com](http://docs.ipsoft.com).

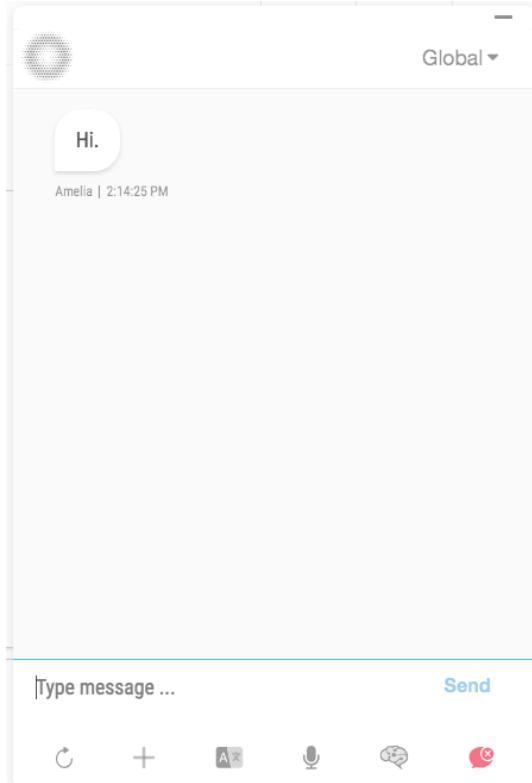


Figure 6. Amelia Chat Interface in the Administration Pages

## 2.1.6 [AM3-6657] - Request task uploads multiple document types

The Request task now can upload a variety of resource file types, for example, PDF and XLS and CSV. To specify which file types are allowed for upload, the syntax is:

```
request [a] resource[s] with extension <comma separated list of extensions> [identified by <variable_name>] and store into|to <bucket_name>
```

For example, this Resource task allows uploads of PDF, XLS, and CSV file formats:

```
request resources with extension pdf, xls, csv and store into images
```

Table 1. Syntax Examples for Multiple File Uploads

Syntax Element	Description
resource_type	A type of resource(s) to upload. There are several supported resource types: audio - wav, mp3, ac3, ogg binary - any file extension document - doc, docx, odt, pdf, rtf, ps, eps excel - xls, xlsx html - html, htm, xhtml image - jpeg, jpg, png, gif, tif, tiff, svg, emf, bmp, wmf, ps, eps office - xls, xlsx, ods, doc, docx, odt, rtf, pps, ppt, ppsx, pptx, key presentation - pps, ppt, ppsx, pptx, key

Syntax Element	Description
	spreadsheet - xls, xlsx, ods text - txt, csv, md, rtf video - mov, mpeg, mpg, mp4, ogv, ogg, m4v, 3gp, flv word - doc, docx
bucket_name	A name of the bucket where resource(s) will be stored
variable_name	A variable name to store information pertaining to the uploaded resources for future use. Whether or not a variable name is provided, the uploaded resource information will be stored in a variable named uploaded_resources

## 2.1.1 [AM3-7181] - Backjumps to handle conversation changes instead of stochastic BPNs

Until this version of Amelia software, stochastic BPNs have been used to manage jumps in a conversation when users changed the subject. Stochastic BPNs had multiple paths to handle multiple possible jumps for a topic.

With Amelia 3.7, the dynamic functionality of stochastic BPNs has been transferred to Ask tasks. These tasks can be set to handle jumps caused when users change a conversation topic. Amelia evaluates all Ask tasks as a conversation progresses and decides which Ask task is appropriate based on the latest user utterance. This approach avoids unpredictability caused using spread activation logic to determine landing points in a BPN.

The ability to jump around a BPN is defined with three backjump settings for Ask tasks. The settings determine whether or not a jump can be made from an Ask task, to an Ask task, and the overall strategy for Amelia to use when determining how to handle conversation changes. The stochastic BPN type is no longer available.

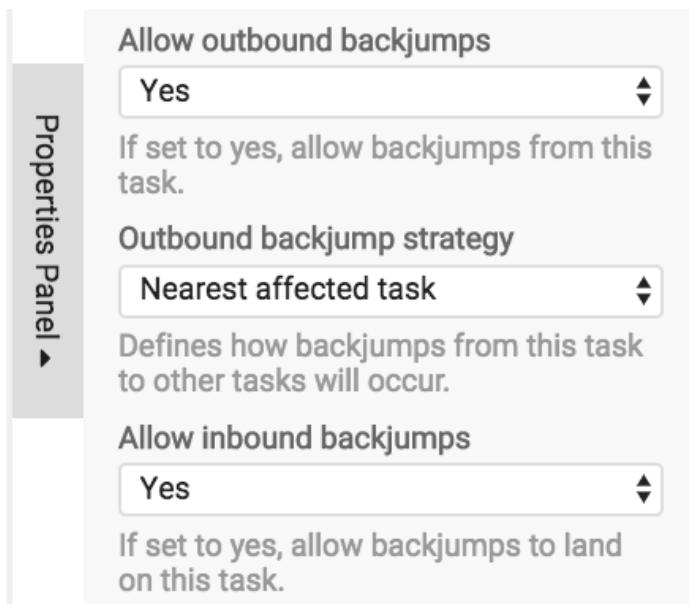


Figure 7. Ask Task Backjump Property Settings

Table 2. Ask Task Backjump Property Setting Definitions

Ask Task Property	Description
Allow outbound backjumps	If set to Yes, this property indicates backjumps from this task will always be allowed. Yes is the default.
Outbound backjump strategy	Backjumping is a search for an Ask task whose slot was modified by the user's response to the current Ask task. Two search strategies accommodate the most common use cases: <b>Nearest affected task</b> – searches for the nearest modified (affected) task in the execution path. <b>Farthest affected task</b> – searches for the farthest modified (affected) task in the execution path. Unlike the stochastic BPN algorithm in earlier versions of Amelia, these algorithms perform searches intra and inter-process. Nearest affected task is the default.
Allow inbound backjumps	If set to Yes, this property indicates backjumps landing on this task will always be allowed. Yes is the default.

## 2.1.2 [AM3-3796] - Allow for style and speech annotation of Amelia utterances

A new tool can annotate the style and speech of Amelia's utterances, for example, highlighting with bold a part of an utterance or changing the pitch. This feature applies to BPN Say and Ask tasks, response pools, entities, and Answer FAQs.

### OPEN THE ANNOTATION EDITOR

With an Ask or Say task, double-click the task to open, highlight a portion of text, and then right mouse-click to open the annotation editor. For Ask tasks, the double quote marks cannot be annotated, only content in between.

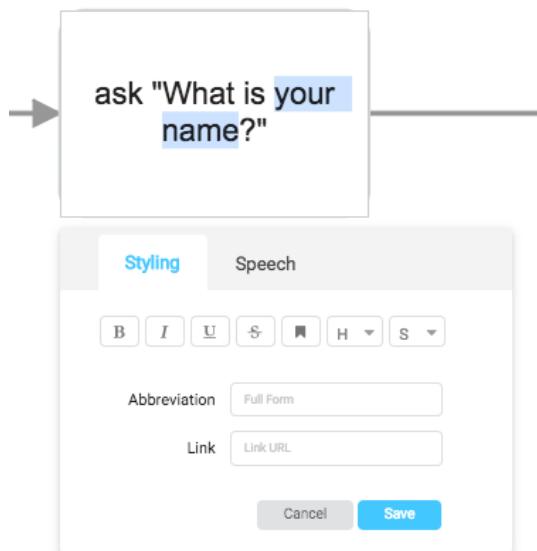


Figure 8. Annotation Editor for Amelia Utterances

For the Styling tab, the top row buttons and dropdown lists allow only one selection. The Abbreviation and Link fields accept text.

For the Speech tab, each option accepts the appropriate value range. Speech supports the SAPI standard.

Click the Save button to save any Styling or Speech annotations. The highlighted text will have a colored background when the task is in edit mode.

#### EDIT AN ANNOTATION

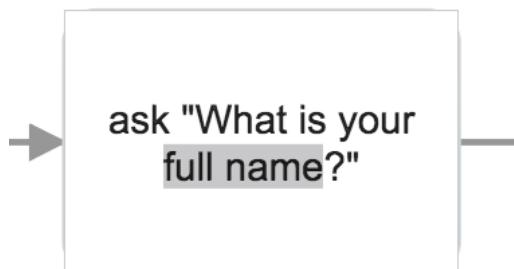


Figure 9. Highlighted Annotation for Amelia Utterance

To edit an annotation, open the task to edit then right mouse-click over the highlighted annotation and select Edit Annotation from the popup menu.

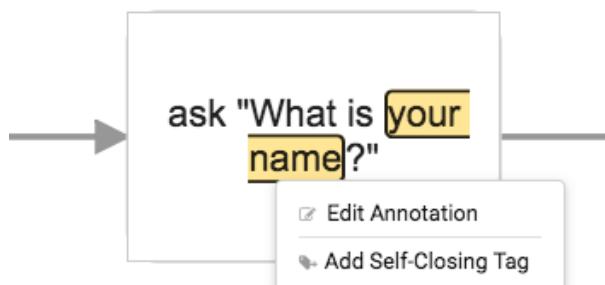


Figure 10. Edit a Highlighted Annotation for Amelia Utterance

To add a single line break or horizontal rule, place the cursor at a spot then right mouse-click to display those options in the Styling tab. In this example, the cursor is immediately after the r in the word your.

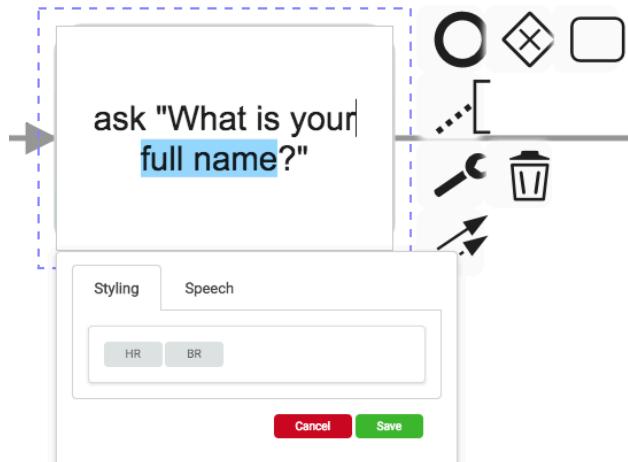


Figure 11. Add Line Break or Horizontal Rule to Amelia Utterance

The annotation process for Ask tasks applies to Say tasks, response pools, and Answer FAQs.

## ANNOTATION EDITOR INTERFACES

The annotation editor includes a Styling tab and Speech tab.

### [Styling Tab](#)

The Styling tab controls the visual display of Amelia's chat utterances.

Table 3. Styling Tab Elements for Selected Text

Styling Element	Description	Single or Multiple Select
Top Row Buttons		
B	Apply bold/strong style	Multiple selections possible
I	Apply italics style	
U	Apply underscore style	
Strikethrough	Apply strikethrough style	
M	Apply markup style	
Top Row Drop Down Lists		
Heading Level		Single selection only
H1	Apply Heading 1 style	
H2	Apply Heading 2 style	
H3	Apply Heading 3 style	

Styling Element	Description	Single or Multiple Select
H4	Apply Heading 4 style	
H5	Apply Heading 5 style	
H6	Apply Heading 6 style	
Vertical Position		Single selection only
Subscript	Apply subscript style	
Superscript	Apply superscript style	
Text Fields		
Abbreviation		N/A
Link		N/A

### Speech Tab

The Speech tab controls how Amelia speaks an utterance when in a conversation. Click the Speech tab to display then hover the mouse over the first two entries, Volume and Rate, and scroll the mouse to display all settings.

Table 4. Speech Tab Elements (SAPI Standard)

Annotation	Type	Description	Attributes
E	Voice state control	The Emph tag instructs the voice to emphasize a word or section of text. The Emph tag cannot be empty.	NA
S	Voice state control	The Spell tag forces the voice to spell out all text, rather than using its default word and sentence breaking rules, normalization rules, and so forth. All characters should be expanded to corresponding words (including punctuation, numbers, and so forth). The Spell tag cannot be empty.	NA
Volume	Voice state control	The Volume tag controls the volume of a voice. The tag can be empty, in which case it applies to all subsequent text, or it can have content, in which case it only applies to that content.	The Volume tag has one required attribute: Level. The value of this attribute should be an integer between 0 and 100. Values outside of this range will be truncated.
Rate	Voice state control	The Rate tag controls the rate of a voice. The tag can be empty, in which case it applies to all subsequent text, or it can have	The Rate tag has two attributes, Speed and AbsSpeed, one of which must be present. The value of both

Annotation	Type	Description	Attributes
		content, in which case it only applies to that content.	of these attributes should be an integer between -10 and 10. Values outside of this range may be truncated by the engine (but are not truncated by SAPI). The AbsSpeed attribute controls the absolute rate of the voice, so a value of 10 always corresponds to a value of 10, a value of 5 always corresponds to a value of 5. The Speed attribute controls the relative rate of the voice. The absolute value is found by adding each Speed to the current absolute value.
Pitch	Voice state control	The Pitch tag controls the pitch of a voice. The tag can be empty, in which case it applies to all subsequent text, or it can have content, in which case it only applies to that content.	The Pitch tag has two attributes, Middle and AbsMiddle, one of which must be present. The value of both of these attributes should be an integer between -10 and 10. Values outside of this range may be truncated by the engine (but are not truncated by SAPI). The AbsMiddle attribute controls the absolute pitch of the voice, so a value of 10 always corresponds to a value of 10, a value of 5 always corresponds to a value of 5. The Middle attribute controls the relative pitch of the voice. The absolute value is found by adding each Middle to the current absolute value
Emph	Voice state control	The Emph tag instructs the voice to emphasize a word or section of text. The Emph tag cannot be empty.	NA
Spell	Voice state control	The Spell tag forces the voice to spell out all text, rather than using its default word and sentence breaking rules, normalization rules, and so forth. All characters should be expanded to corresponding words (including punctuation, numbers, and so forth). The Spell tag cannot be empty.	NA
Silence	Direct item insertion tags	The Silence tag inserts a specified number of milliseconds of silence into the output audio stream. This tag must be empty, and must have one attribute, Msec.	Msec

Annotation	Type	Description	Attributes
Pron	Direct item insertion tags	The Pron tag inserts a specified pronunciation. The voice will process the sequence of phonemes exactly as they are specified. This tag can be empty, or it can have content. If it does have content, it will be interpreted as providing the pronunciation for the enclosed text. That is, the enclosed text will not be processed as it normally would be.	The Pron tag has one attribute, Sym, whose value is a string of white space separated phonemes.
Bookmark	Direct item insertion tags	The Bookmark tag inserts a bookmark event into the output audio stream. Use this event to signal the application when the audio corresponding to the text at the Bookmark tag has been reached. The Bookmark tag must be empty.	The Bookmark tag has one attribute, Mark, whose value is a string. This value can then be used to differentiate between bookmark events (each of which will contain the string value from their corresponding tag).
PartOfSp	Voice context control tags	The PartOfSp tag provides the voice with the part of speech of the enclosed word(s). Use this tag to enable the voice to pronounce a word with multiple pronunciations correctly depending on its part of speech. The PartOfSp tag cannot be empty.	The PartOfSp tag has one attribute, Part, which takes a string corresponding to a SAPI part of speech as its attribute. Only SAPI defined parts of speech are supported - "Unknown", "Noun", "Verb", "Modifier", "Function", "Interjection".
Context	Voice context control tags	The Context tag provides the voice with information which the voice may then use to determine how to normalize special items, like dates, numbers, and currency. Use this tag to enable the voice to distinguish between confusable date formats (see the example, below). The Context tag cannot be empty.	The Context tag has one attribute, Id, which takes a string corresponding to the context of the enclosed text. Several contexts are defined by SAPI and are more likely to be recognized by SAPI compliant voices, but any string may be used. See documentation for a particular voice for more details.
Voice	Voice Selection Tags	The tag can be empty, in which case it changes the voice for all subsequent text, or it can have content, in which case it only changes the voice for that content.	The Voice tag selects a voice based on its attributes, Age, Gender, Language, Name, Vendor, and VendorPreferred.
Lang	Voice Selection Tags	The Lang tag selects a voice based solely on its Language attribute. The tag can be empty, in which case it changes the voice for all subsequent text; or it can have content, in which case it only changes the voice for that content.	The Lang tag has one attribute, LangId. This attribute should be a LANGID, such as 409 (U.S. English) or 411 (Japanese). Note that these numbers are hexadecimal, but without the typical "0x".

## 2.1.3 [AM3-7580] - Redesign BPN Properties Bar

The BPN workspace, available in the Process Knowledge administration page, has redesigned the top navigation used to perform tasks with a BPN, for example, to import or export BPNs and view past versions.

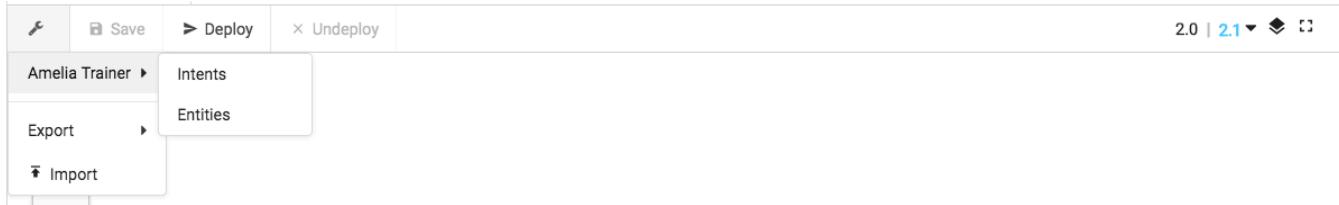


Figure 12. Redesigned BPN Properties Bar

Table 5. Redesigned BPN Top Navigation Elements

BPN Editor Top Navigation Tabs	Description
Save	Click to save the open BPN workspace
Deploy	Approve BPN and load into Amelia's system for processing and evaluation
Undeploy	Remove the BPN from Amelia's memory. Any dependent sub-flow BPNs will be undeployed at the same time as the main BPN.
Settings (🔧)	
Amelia Trainer > Intents	Click to open a popup window to create and manage intents
Amelia Trainer > Entities	Click to open a popup window to create and manage entities
Export	Export the open BPN workspace as an XML .bpmn file or PDF
Import	Import saved BPN files in XML .bpmn file format
Right Side Icons (with Properties Panel toggled closed)	
1.0 ▼	Click to select a version of the BPN to display in the workspace.
◆	Click to display a popup with versions of the BPN to manage.
☒	Click to display the BPN workspace full screen. Press ESC key to return to normal viewing mode.

## 2.1.4 [AM3-5944] - Undeploy BPNs regardless of dependency order

When the Undeploy button is clicked on the BPN top navigation properties bar, the BPN and any dependent sub-flow BPNs will be undeployed at the same time as the main BPN.

## 2.1.5 [AM3-6131] - Pre-built Integration Templates

Amelia's ability to integrate with third party systems includes the creation and use of templates which can be used to create integration flows. Templates can reduce implementation time and errors.

Integration templates are part of the Integrations Home workspace found by clicking the Integrations link on the left side navigation of Amelia's administration pages.

To create a template, click the Templates link at the top right of the Integrations Home workspace then click the plus (+) sign on the page that appears with a list of existing templates. The New Integration Template workspace appears.

The screenshot shows the 'New Integration Template' workspace. At the top, there is a breadcrumb navigation: New Integration Template > Amelia > Integrations > Templates > New Template. Below the breadcrumb, there is a header with tabs: Integrations Home, Integrations Status, **Templates**, Flows, Clusters, Hosts, Assets, Property Sets, Service Deploy, and Requests. To the right of the tabs are three buttons: Cancel, Save, and Create Flow.

The main area is divided into two sections:

- New Revision:** This section contains fields for:
  - Name\*: A text input field.
  - Flow Context\*: A text input field.
  - Description\*: A text input field.
  - Assets: A dropdown menu currently set to 'Assets'.
  - Upload icon: A note stating 'Format: PNG/JPG/JPEG, Max Size: 2Mb' and a 'Add New' button.
- Flow Properties:** This section is titled 'Flow Properties' and contains a table with columns: S.No, Property Name, Description, and Actions. There is also a '+' button to add new rows. Below the table are sections for 'Runtime Input Variables' and 'Runtime Output Variables'.

Figure 13. New Integration Template Workspace

Table 6. New Integration Template Workspace Elements

Element	Description
Name	Required. Type the name of the integration template.
Flow Context	Required. Type or copy/paste Camel code used for integration.
Description	Required. Type a short description of the purpose of the template.

Element	Description
Assets	Select any pre-existing assets.
Upload Icon	Click the Add New button to upload an icon to represent the template. Icons must be in PNG, JPG, or JPEG format and less than 2MB in file size.
Flow Properties	Click the heading to display options. Click the plus (+) icon to create a new flow property and specify the Property Name and a Description.
Runtime Input Variables	Click the heading to display options. Click the plus (+) icon to create new runtime input variables and specify the Property Name and a Description.
Runtime Output Variables	Click the heading to display options. Click the plus (+) icon to create new runtime output variables and specify the Property Name and a Description.

To create an integration flow from an existing template, from the Templates workspace click the stacked three dots at the top right of a template list and select Create Flow from the popup.

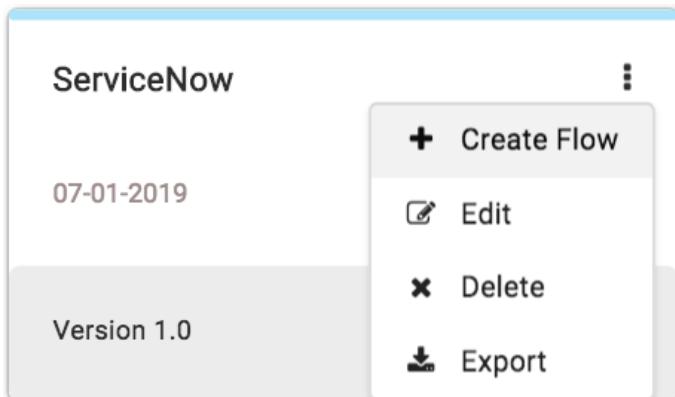
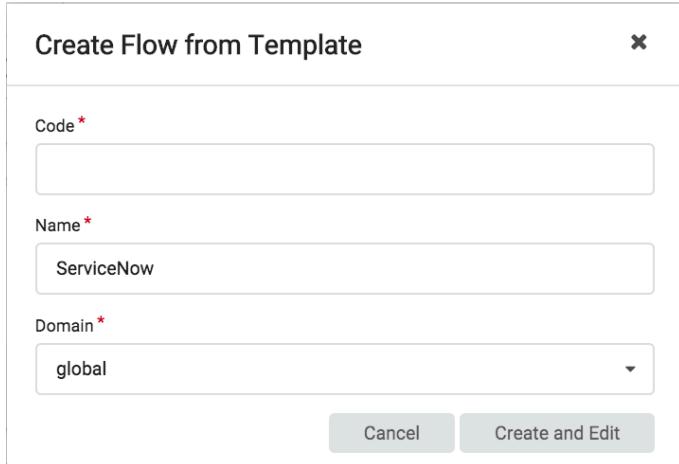


Figure 14. Create Flow from Existing Template

The Create Flow from Template popup appears. Type a unique Code for the flow, edit the Name if appropriate, and select a Domain. Click Create and Edit to save the new flow then display the Edit Integration Flow workspace with data from the integration template.



The screenshot shows a modal dialog titled "Create Flow from Template". It contains fields for "Code\*" (empty), "Name\*" (ServiceNow), and "Domain\*" (global). At the bottom are "Cancel" and "Create and Edit" buttons.

Figure 15. Create Flow from Template Popup

Integration flows also can be converted to templates. In the Flow editor, click the Save icon to display a dropdown list. Select the Save as Template option. Flow data will appear in a New Integration Template form with some values pre-filled. Type in Name and enter other data to complete the template.

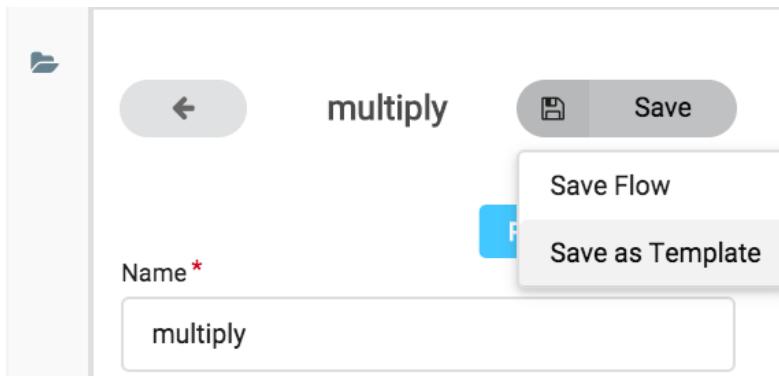


Figure 16. Save as Template Dropdown

## 2.2 RELEASE 3.7.1

This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.3 RELEASE 3.7.2

This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.4 RELEASE 3.7.3

### 2.4.1 [AM3-7662] - JEXL Replaces SpEL in Response Pool Templates

As of this release, the variable name syntax for response pool templates has changed to \${variable\_name}. The scripting language has changed to JEXL (Java Expression Language) from SpEL (Spring Expression Language).

## 2.5 RELEASE 3.7.4

### 2.5.1 [AM3-7731] - Allow script tasks to execute integration flows

The `IntegrationService` service provides integration flow related operations to BPN Script tasks and libraries. Often a `Run the Integration Flow` task is followed by a `Script` task used to parse output from the preceding task. The Integration Service allows a `Script` task to interact with integration flows directly and adapt data, in some cases without any limitations of a BPN task.

#### METHODS

The `IntegrationService` has two methods, one with access to all variables in the current BPN context and a second method that can be passed one or more variables in a Groovy `HashMap` object.

```
runSynchronously(String flowName)  
void runSynchronously(@NotNull String flowName)
```

Runs the specified integration flow automatically, building the context from all variables in the current execution to the integration flow.

Once the integration flow execution is complete, the resulting variables will automatically overwrite the ones found in the current execution.

#### NOTE

Depending on the number of variables held in the current process instance, this method will be slow.

Table 7. `runSynchronously` Parameters/Definitions

Parameter	Definition
<code>flowName</code>	Name of the integration flow

```
Map<String, Object> runSynchronously(String flowName, Map<String, Object> context)  
void runSynchronously(@NotNull String flowName)
```

Runs the specified integration flow, solely using the specified context as input, and returning the integration flow execution outcome in a map without automatically overwriting process instance variable(s).

Returns the integration flow execution outcome.

**NOTE**

This operation is significantly faster when the current process instance handles a large number of variables (more than 10).

Table 8. Map<String, Object> runSynchronously Parameters/Definitions

Parameter	Definition
flowName	Name of the integration flow
context	Context for the integration flow execution

## EXAMPLES

To call the `integrationService` with only the flow name and no context:

```
integrationService.runSynchronously('multiply')
```

This example might include Camel code in the flow that sets a property `result` and JavaScript to use the Camel `exchange` method to return a value available within the BPN context for tasks to use:

```
<setProperty propertyName="result">
    <javaScript>var result=exchange.getProperty('x')*2;result</javaScript>
</setProperty>
```

In this example, `runSynchronously` calls the flow and passes a Groovy `HashMap` with a single value. The result is assigned to a single variable `sum` which is available within the BPN context for tasks to use:

```
def outgoingVariable = execution.getVariable('response');

def outgoingVariableMap = new HashMap();
outgoingVariableMap.put('x', outgoingVariable)

def incomingVariableMap = integrationService.runSynchronously('multiply', outgoingVariableMap)

execution.setVariable('sum', incomingVariableMap.get('result'));
```

## 2.6 RELEASE 3.7.5

This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.7 RELEASE 3.7.6

This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.8 RELEASE 3.7.7

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.9 RELEASE 3.7.8

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.10 RELEASE 3.7.9

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### **2.10.1 [AM3-8380] - Add prevent BPNs from being learned**

The `amelia.bpn.learning.record` property has been added to the `application.properties` file. When set to `true`, Amelia will learn and update a BPN as the result of watching an escalation. When set to `false`, Amelia will not record the utterances and steps from an escalation. The default setting is `true`.

In addition, the `amelia.bpn.learning.save` property in the `application.properties` file controls whether or not Amelia's changes to a BPN due to watching an escalation is saved. When set to `true`, the BPN will be updated as a new version. When set to `false`, Amelia's changes will not be saved. The default is `true`.

## 2.11 RELEASE 3.7.10

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.12 RELEASE 3.7.11

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### **2.12.1 [AM3-8459] - Expose ExternalUID to be accessible through UserService**

The external user identifier in a user access record is available to BPN Script tasks with the `UserService`. This value is found by clicking the System Settings link on the left side of Amelia's administration pages then clicking Users to display the list of users. Click the notepad icon to edit a user record.

The `UserService` provides a number of user data which maps to data on individual user edit pages.

Table 9. Available `UserService` Data

Name	Data type	Accessor	Mutator
<code>userId</code>	String	<code>userId()</code>	N/A (defaults to null)
<code>anonymous</code>	boolean	<code>anonymous()</code>	N/A (defaults to false)

Name	Data type	Accessor	Mutator
firstName	String	firstName()	firstName(String s)
lastName	String	lastName()	lastName(String s)
email	String	email()	email(String s)
externalUid	String	externalUid()	N/A (defaults to null)
attributes	Map<String, String>	attributes()	attributes(Map<String, String> m)

Use code similar to this to retrieve user data as a Groovy map object then extract the externalUid value:

```
def currentUser = userService.getUser()
def extUID = currentUser.externalUid
execution.setVariable('extUID', extUID)
```

## 2.13 RELEASE 3.7.12

---

### 2.13.1 [AM3-1720] - Agent search bar in the agent assign modal.

Supervisors assign escalated conversation with the Conversations page by clicking the  Assign button to the far right of a conversation listing. The Assign Conversation popup will appear. Type a partial name in the new search bar, at the top left of the list of names, to display the agent name to assign the conversation.

To close the popup, click the white X at the top right corner above the popup.

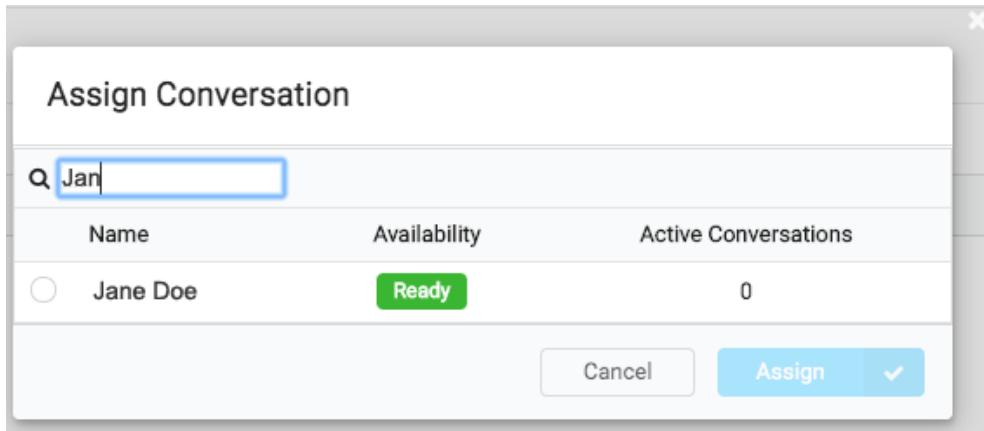


Figure 17. Search Bar in Agent Escalation Popup

### 2.13.2 [AM3-8210] - Enhance groovy code autocomplete

The autocomplete feature in the editor for Script tasks has been enhanced with additional functionality:

- Displays the name of the available BPN scripting service names.
- Displays methods and fields (static or not) from existing scripting services.
- Displays methods and fields associated with an object, when it is possible to get hold of its declaration.

This feature appears while coding in the script editor. Pause while typing a BPN scripting service name, for example, and a dropdown list with service names will appear.

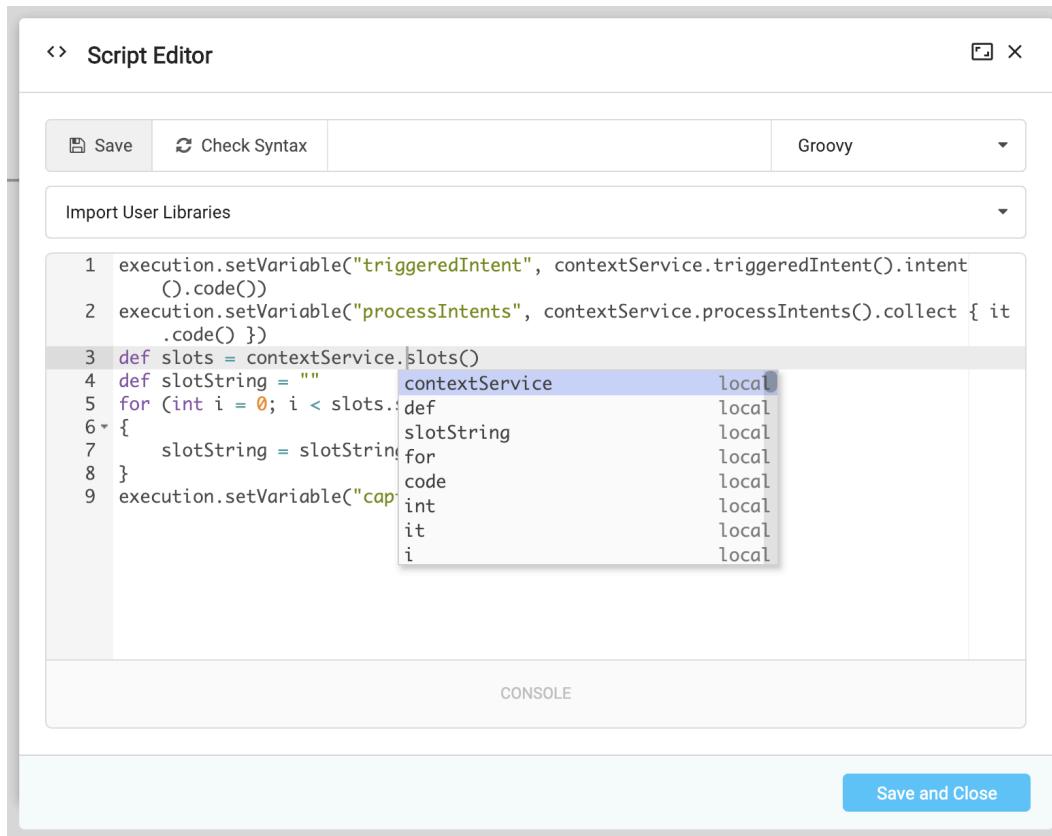


Figure 18. Enhanced Groovy Code Autocompletion Feature

This autocompletion feature requires changing the package name when calling Conversation Service methods in releases 3.7.12 and above.

When migrating from 3.7.x versions below 3.7.12 to version 3.7.12 and above, to call the `getTranscriptUtterances` and `escalateInfo` methods directly or with a wildcard, the Conversation Service package name in Script tasks and the Script Library scripts must be updated to change the `scripting` element of the package name to `script`.

#### Releases prior to 3.7.12:

```
import net.ipsoft.ameliaav3.bpn.scripting.service.conversation.*  
import net.ipsoft.ameliaav3.bpn.scripting.service.conversation.getTranscriptUtterances()  
import net.ipsoft.ameliaav3.bpn.scripting.service.conversation.escalateInfo()
```

#### Releases 3.7.12 and above:

```
import net.ipsoft.ameliaav3.bpn.script.service.conversation.*  
import net.ipsoft.ameliaav3.bpn.script.service.conversation.getTranscriptUtterances()  
import net.ipsoft.ameliaav3.bpn.script.service.conversation.escalateInfo()
```

### 2.13.1 [AM3-8425] - Scope entities to intents and contexts

Entities can be scoped to one or more intents as well as the current BPN process context. When scoped to a context, the instance of the entity will be visible only in the process context in which it is extracted. Subsequent executions of the same process will not make the entity visible. When an entity is scoped to an intent, the entity will be extracted only in process contexts associated with the intent and may be visible to other contexts.

When an entity is scoped to both contexts and an intent, the entity will be extracted only when the intent is triggered and visible only in the original process context where it is extracted.

Scoping an entity to an intent limits its extraction to these cases:

- The intent for the current context
- The entity is present in an utterance triggering the intent
- The entity is explicitly asked for by Amelia, for example, with an Ask task

The entity will be visible in other contexts but can only be extract when the intent is triggered.

Scoping an entity to a process context is useful in situations where the user might provide multiple answers to a single question, for example, ordering a pizza. Limiting the details of each pizza ordered to the process of ordering each pizza, allows for multiple pizzas to be ordered with different sizes, ingredients, and other details.

While it appears scoping entities to specific intents and/or contexts is good practice, the more scoped entities the more Amelia's ability to extract each entity. Some entities might benefit from being extracted and preserved throughout a conversation. For example, marital status, age, and name are unlikely to change in a conversation. If many names, ages, and similar data are mentioned in a conversation, however, scoping those entities to a context and/or intent makes sense.

These guidelines take advantage of scoping an entity:

- Scope low precision entities, for example, spanless entities trained without negative examples and built-in entities, in particular, types like Decimal or Integer.
- Scope generic or potentially ambiguous entities. For example, the difference between, "I'm Theresa May" and "05/01/2019" or "Ticket # 2011" and "01/01/2011". Specialize with entity roles to limit extraction to valid cases.
- Ask confirm questions for unscoped entities before using them in processes.

Scoping is done with either the Entity detail workspace or Intent detail workspace. Adding an intent scope in the Entity workspace, for example, automatically updates the Intent definition and workspace when viewed.

Scoping an entity to a context is set in the Entity workspace.

### book\_room\_dates

Save changes Revert changes Entity active Delete

Last modified 12/14/2018, 12:42:57 PM by Jane Doe

LP\_Stabilization\_book\_room: Room dates (have child entities).  
 Scope to intents  Scope to context  Spanless  Role  Allow overlap

Scoping intents [?](#)  
travelAndBookingFAQ [x](#)

Code <a href="#">?</a>	Datum type <a href="#">?</a>
book_room_dates	DATE <a href="#">x</a>

Role name	Description
check_in_date	LP_Stabilization_book_room: Hotel room check in date
check_out_date	LP_Stabilization Entity: Hotel room check out date

+ Add child role

Entity Settings [?](#)

Date Type  
 Default [x](#)

Blacklist regex  
Regular expression used to filter out invalid dates

AMELIA ASKS [1 Question | See all](#)

What are the dates you want a room?

Figure 19. Entity with Scoped Intents

### travelAndBookingFAQ

Save changes Revert changes Intent active Delete

Last modified 12/14/2018, 12:42:57 PM by Jane Doe

Add a description...  
Scoped entities...  
book\_room\_dates [x](#)

When intent is identified...	Execute the process...	When returning to the root context after this intent, execute the process...
Execute Process <a href="#">x</a>	travelAndBookingFAQ <a href="#">x</a>	e.g. "workflow_xyz" <a href="#">x</a>

On switching to a new intent, this intent becomes...	When resuming this intent, Amelia...	asks...
Suspended <a href="#">x</a>	Automatically <a href="#">x</a>	e.g. "Would you like to resume...?" <a href="#">x</a>

When cancelling this intent, Amelia...	asks...
Automatically <a href="#">x</a>	e.g. "Would you like to cancel...?" <a href="#">x</a>

When the utterance triggering this intent is negated (e.g. 'Do not set an alarm')...  
Proceed as usual [x](#)

The user wants to...  
e.g. "reset a password"

Intent keywords and phrases...  
cwt [x](#) travel [x](#) cwt website [x](#) website [x](#) booking [x](#)

USER SAYS [17 Utterances | See all](#)

unable to open travel portal

Use intent grammar...  
Select an intent grammar

Figure 20. Intent with Scoped Entities

### 2.13.2 [AM3-8463] - NLU bulk import/export

All intents, entities, classifiers, grammars, and NLU settings for a specific domain can be exported as a single file to be imported through the same process.

To export or import, in the Amelia Admin workspace, click Amelia Trainer on the left side then click the Dashboard link that appears. On the right edge of the Dashboard workspace, click the Import/Export tab to display the tab panel. Select what NLU elements to include in an export. Or import an NLU file saved earlier.

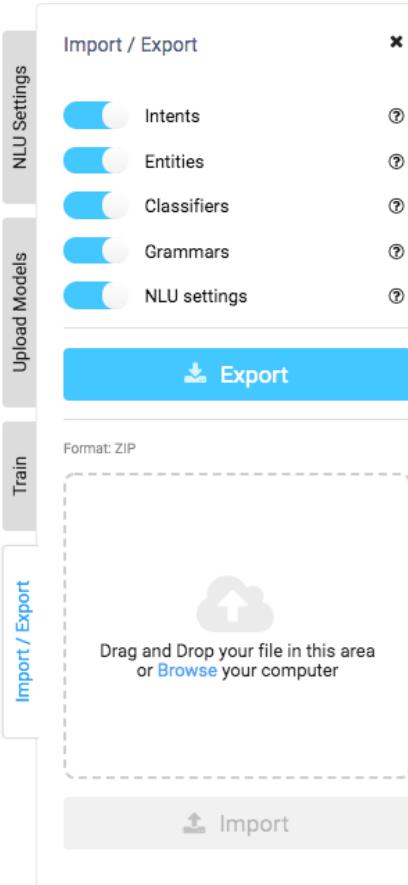


Figure 21. Bulk Import/Export NLU Data

### 2.14 RELEASE 3.7.13

This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.15 RELEASE 3.7.14

### 2.15.1 [AM3-8691] - Add option to ignore singular/plural in lookup-based custom entities

When a Custom\_Datum type is selected for an entity, the Custom Entity Settings panel includes the ability to normalize (lemmatize) nouns, converting any plural instances of a noun to the singular form. For example, the plural noun apples would be normalized to apple. This avoids the need to add plural and singular forms or nouns. It is applied to input utterances as well as the input dictionary.

This feature currently is implemented only for the English language using the WordNet normalizer.

The screenshot shows the 'crustType' entity settings in the Amelia interface. At the top, there are buttons for 'Save changes', 'Revert changes', 'Entity active' (green), and 'Delete'. Below this, a description field says 'Add a description of your entity here...' and a timestamp indicates it was last modified on 5/20/2019 at 11:23:51 AM by Jane Doe. The entity code is 'crustType' and its datum type is 'CUSTOM\_DATUM'. A 'Custom Entity Settings' section contains fields for 'Custom entity type' (set to 'Lookup Table') and 'Lookup strategy' (set to 'Exact Match'). Under 'Advanced options', the 'Extract/Normalize' dropdown is set to 'Extract and Normalize'. A tooltip for this setting explains: 'Normalize/lemmatize nouns to their base forms (e.g. "apples" -> "apple", "strawberries" -> "strawberry")'. The 'Fallback strategy' is set to 'Original'. In the 'Preprocessors' section, 'Lowercase' and 'Normalize Unicode' are selected, and a 'Lemmatize Nouns' toggle switch is turned on. The 'Lookup Table Entries' section lists three entries: 'Crispy Thin' (inputs: 'crispy thin', 'thin and crispy', 'crispy and thin', 'thin crust', 'thin and crispy crust'), 'Cauliflower' (inputs: 'cauliflower crust', 'gluten-free crust', 'gluten free crust'), and 'Original Hand-Tossed' (inputs: 'original hand-tossed', 'original hand tossed', 'hand tossed', 'hand-tossed', 'original crust'). A blue button '+ Add an entry' is at the bottom of the list, and a 'Delete entries' button is at the very bottom.

Figure 22. Lemmatize Nouns Setting Converts Plural Nouns to Singular Form

### 2.15.1 [AM3-8619] - Intent negation detection

Amelia now recognizes utterances that would negate the detection of an intent, for example, “I’m not trying to cancel my account,” “My card is not missing,” “My card wasn’t stolen,” and “Don’t deactivate my account.” In these cases, Amelia will return to listening for an intent from the user, for example, “I’m trying to cancel my account,” “My card is missing,” “My card was stolen,” and “Deactivate my account.”

In the intent Settings workspace, a new setting has been created, When the utterance triggering this intent is negated. The Intent Settings workspace is found in the Amelia administration pages by clicking the Amelia Trainer link then the Intents link then selecting an existing intent or creating a new one.

The options are to Ignore intent, Proceed as usual (default), and Execute alternative intent. Selecting Execute alternative intent displays a dropdown list of intents.



Figure 23. Setting to Handle Intent Negation Utterances

## 2.16 RELEASE 3.7.15

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### 2.16.1 [AM3-8536] - Allow to pull response pools from script tasks

Response pool content can be retrieved within a BPN Script task with the `getResponsePool` method.

```
String getResponsePool(String groupCode, String responsePoolCode)
```

The method obtains a response pool evaluated template with the response pool group code and response pool code defined for the template. Both are set by clicking the Amelia Trainer link on the left side of Amelia’s administration pages then clicking the first then second Response Pool links.

Table 10. `getResponsePool` Method Parameters

Parameter	Description
groupCode	A response pool group code
responsePoolCode	A response pool code

## 2.17 RELEASE 3.7.16

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.18 RELEASE 3.7.17

This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.19 RELEASE 3.7.18

### 2.19.1 [AM3-5720] - Add domain code/name to execution object

In a BPN Script task, the `execution.domainCode()` method returns the code of the domain where the BPN process. The `execution.domainName()` method returns the domain name. This Groovy code in a Script task followed by a Say task with the variables  `${code}` and  `${name}` will display the BPN name with a run the workflow command in a conversation with Amelia or as part of a larger BPN.

```
code = execution.domainCode()  
name = execution.domainName()  
  
execution.setVariable("code", code)  
execution.setVariable("name", name)
```

### 2.19.2 [AM3-6353] - Expose name of the running BPN

In a BPN Script task, the `execution.modelName()` method returns the name of the currently running BPN. This Groovy code in a Script task followed by a Say task with the variable  `${name}` will display the BPN name with a run the workflow command in a conversation with Amelia or as part of a larger BPN.

```
name = execution.modelName()  
  
execution.setVariable("name", name)
```

### 2.19.3 [AM3-8233] - Add ability to disable entities

Earlier versions of Amelia included the ability to toggle intents as active or inactive. In this release, entities can be toggled as active or inactive. The Entity Active button is located at the top right of the entity workspace. Click the button to activate or deactivate the entity.



Figure 24. Default Entity Active Button



Figure 25. Entity Status Button Toggled to Entity Inactive

## 2.20 RELEASE 3.7.19

This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.21 RELEASE 3.7.20

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### **2.21.1 [AM3-9738] - Add conversation duration metric**

A conversation duration metric has been added for Grafana and other external systems to gain visibility into how Amelia performs.

Table 11. Conversation Duration Metric Details

Name	Type	Published By	Additional Tags	Description
conversations.duration	Timer	amelia-engine-service	domain	Duration of conversation (created to finished)

## 2.22 RELEASE 3.7.21

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.23 RELEASE 3.7.22

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.24 RELEASE 3.7.23

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.25 RELEASE 3.7.24

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.26 RELEASE 3.7.25

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.27 RELEASE 3.7.26

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.28 RELEASE 3.7.27

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.29 RELEASE 3.7.28

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.30 RELEASE 3.7.29

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.31 RELEASE 3.7.30

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### **2.31.1 [AM3-10570] - Add maximum BPN task executions per message configuration setting**

The `amelia.bpn.execution.max.tasks.per.message` property has been added to the `application.properties` file. This property sets the maximum number of executions per message in a BPN, to prevent BPNs that loop infinitely. The default setting is 200.

## 2.32 RELEASE 3.7.31

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.33 RELEASE 3.7.32

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.34 RELEASE 3.7.33

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.35 RELEASE 3.7.34

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.36 RELEASE 3.7.35

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.37 RELEASE 3.7.36

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.38 RELEASE 3.7.37

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.39 RELEASE 3.7.38

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.40 RELEASE 3.7.39

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.41 RELEASE 3.7.40

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.42 RELEASE 3.7.41

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 2.43 RELEASE 3.7.42

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### **2.43.1 [AM3-11784] - Restore passing variables from parent BPN to pre-escalate BPN**

With this release, the ability to pass variables from a parent BPN to a pre-escalate BPN has been restored.

## 2.44 RELEASE 3.7.43

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### 2.44.1 [AM3-11777] - Allow annotations to be exported and imported

Since the utterance annotations add an added value to an existing target, API endpoints have been added to export and import utterance annotations.

#### BPN TARGETS

[Export BPN \(Say and Ask task\) utterance annotations](#)

```
■ GET: /getAnnotationSystemInstance/bpn/{bpnModelRevisionId}  
■ GET: /getAnnotationSystemInstance/bpn/{bpnModelRevisionId}/{taskDefinitionId}
```

[Import BPN \(Say and Ask task\) utterance annotations](#)

```
■ POST: /importAnnotationSystemInstance/bpn
```

Expects an object `BpnAnnotationSystemInstance` with populated values described below in a model.

#### NON-BPN TARGETS

These include

- Slot Question
- Intent - Answer FAQ
- Response Pool Entry

[Export non-BPN utterance annotations](#)

```
■ GET: /getAnnotationSystemInstance/{utteranceId}/{utteranceAnnotationParentType}
```

[Import non-BPN utterance annotations](#)

```
■ POST: /importAnnotationSystemInstance
```

Expects an object `AnnotationSystemInstance` with populated values described below in a model.

#### MODELS

These models show the data structures expected for the APIs used to import or export annotations.

`BpnAnnotationSystemInstance`

```
■ UUID bpnRevisionId  
■ List<AnnotationSystemInstance> annotations
```

`AnnotationSystemInstance`

```
■ UtteranceAnnotationParentType parentType  
■ String targetId
```

### List<UtteranceAnnotation> tagInstances

#### UtteranceAnnotation

```
UUID utteranceAnnotationId  
  
String name  
  
Long start  
  
Long end  
  
Long insertSequence  
  
BpnModelRevisionTask bpnModelRevisionTask  
  
SlotQuestion slotQuestion  
  
ResponsePoolEntry responsePoolEntry  
  
IntentResponse intentResponse  
  
List<UtteranceAnnotationAttribute> attributes
```

#### UtteranceAnnotationAttribute

```
UUID utteranceAnnotationId  
  
String name  
  
Long start  
  
Long end  
  
Long insertSequence  
  
BpnModelRevisionTask bpnModelRevisionTask  
  
SlotQuestion slotQuestion  
  
ResponsePoolEntry responsePoolEntry  
  
IntentResponse intentResponse  
  
List<UtteranceAnnotationAttribute> attributes
```

## 2.44.2 [AM3-11858] - Use authority to restrict enabling a domain for anonymous access

Two new authorities have been added to refine access to the domain edit workspace. This workspace is available by clicking the System Settings link on the left side of Amelia's administration pages then clicking the Domains link and either creating a new domain or selecting a domain to edit.

- The Domain Switching, Anonymous, 1Desk, and 1Rpa sections on the domain edit page requires global AUTHORITY\_ADMIN\_DOMAIN\_EDIT permission to view, as changes to those properties can impact more than just the domain currently being edited. API calls to edit a domain will ignore changes to those fields if the user making the call does not have the permission assigned globally.
- The new AUTHORITY\_ADMIN\_DOMAIN\_EDIT\_AVATAR\_VOICE authority displays the Voice text field in the Avatar section of the domain edit workspace. This authority can be limited to a selected domain or assigned globally.
- The new AUTHORITY\_ADMIN\_DOMAIN\_EDIT\_TRANSLATION authority displays the Translation section in the domain edit workspace. This authority can be limited to a selected domain or assigned globally.

Existing Roles and User Groups have these two new authorities added for users with the AUTHORITY\_ADMIN\_DOMAIN\_EDIT authority.

- If needed, one or both these new authorities will need to be removed manually to limit access to the Avatar Voice text field and/or Translation section of the domain edit workspace.
- If a user with an existing role or user group is limited to specific domains, and has the AUTHORITY\_ADMIN\_DOMAIN\_EDIT authority, they will not see the Domain Switching, Anonymous, 1Desk, and 1Rpa sections of the domain edit workspace. Global access for existing users is required to see these sections.

New Roles and User Groups will need to add these new authorities to grant access to the Voice text field in the Avatar section and/or Translation section of the Domain Edit workspace. The AUTHORITY\_ADMIN\_DOMAIN\_EDIT authority also is needed to provide access to the domain edit workspace.

The API will make changes to these sections and fields if the user has the appropriate authorities. Otherwise, any API changes to these sections and fields will be ignored.

#### **2.44.3 [AM3-11859] - Use authority to limit availability of Auto FAQ Transducer and Semnet Configuration**

A new authority, AUTHORITY\_ADMIN\_SEMNET\_TRANSDUCER\_EDIT, has been added to limit access to the Auto FAQ Transducer workspace in Amelia's administration pages. The new authority also allows submitting a document to this workspace.

Existing Roles and User Groups have this new authority added for users with the AUTHORITY\_ADMIN\_SEMNET\_CONFIG authority. This new authority will need to be removed manually to limit access to the Auto FAQ Transducer workspace.

New Roles and User Groups will need to add the new authority to grant access to the Auto FAQ Transducer workspace, in addition to the AUTHORITY\_ADMIN\_SEMNET\_CONFIG authority which provides access to the other Semnet functionality.

#### **2.44.4 [AM3-11940] - Password Reset Modal for expired password from login page**

When attempting to login using an account with an expired password, the login screen will display a Reset Password button. Clicking the button displays a popup to allow the user to change their expired password. Their email address, current password, and new password are required for the popup.

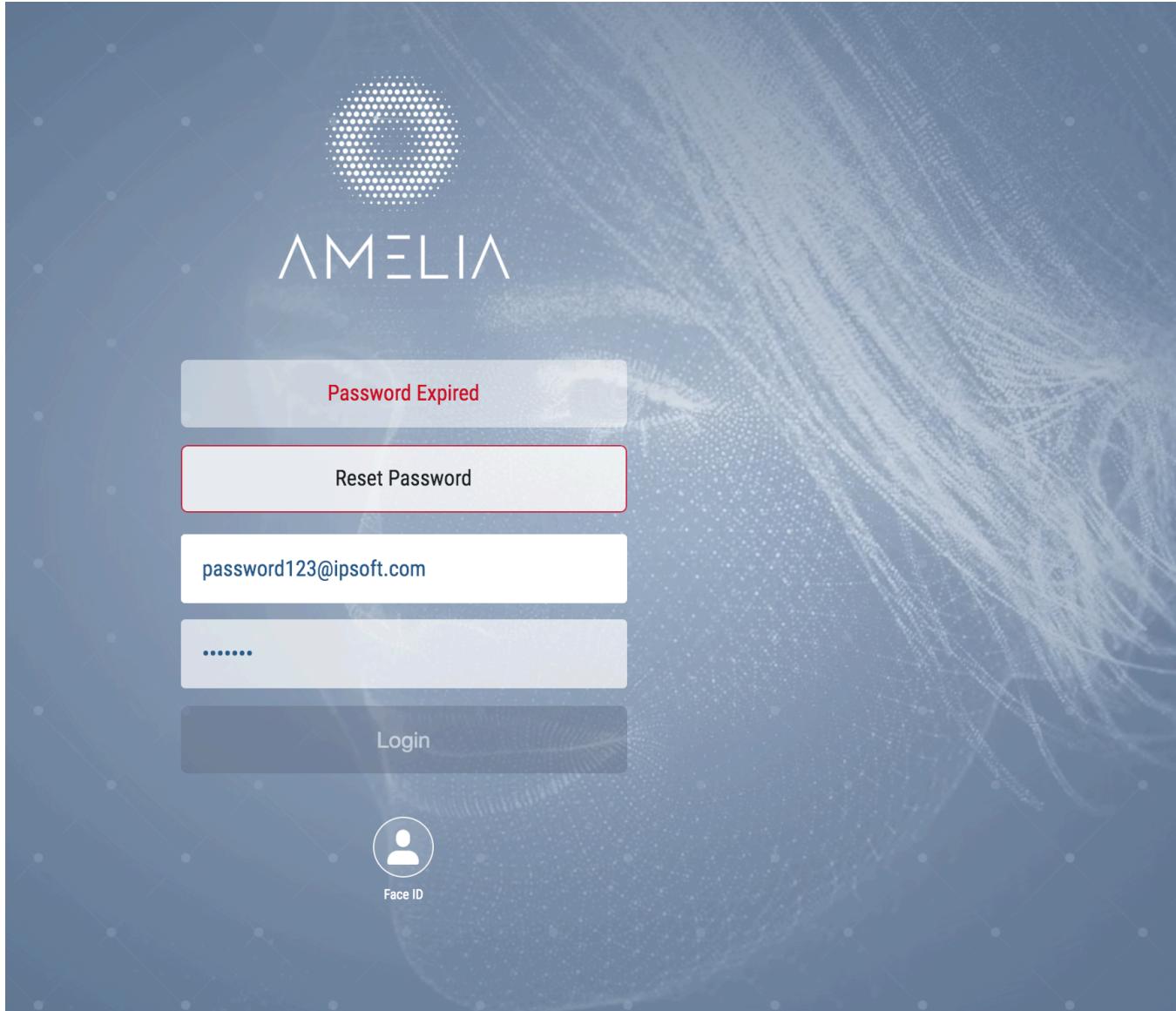


Figure 26. Password Expired Screen with Reset Password Button

Your password has expired. Please enter your email, current password, and choose a new password.

Email

Current Password

New Password

Confirm New Password

Figure 27. Password Expired Modal

#### 2.44.5 [AM3-11967] - Dropdown list for choosing Custom parser feature

The Feature Editor includes a dropdown list of feature options for custom extractors, replacing a text field that required typing feature options. The Feature Editor is part of the Train tab panel on the right side of the Dashboard workspace. On Amelia's administration pages, click the Amelia Trainer link on the left side then click Dashboard to display the workspace and the Train tab on the right edge.

On the Train tab panel, when a model is selected and training options appear, toggle the Enable feature editor option to display the Open feature editor button. Click the Open feature editor button to display the Model Feature Editor popup. Click the Add Feature link to display a blank feature edit form. Select Custom from the Extractor dropdown list. Below the Extractor dropdown list a Feature 1 and Feature 2 dropdown lists appears with options.

Feature options are described in detail at <https://docs.ipsoft.com>. Search for Feature Extraction.

Table 12. Feature 1/Feature 2 Options for Custom Extractor

Option	Description	Examples
Dep	Head label in syntactic dependency parse	nsubj, root, nummod, dobj
Form	Original text of token	John, ran, 3, miles
Lemma	Base form of token	John, run, 3, mile
NamedEntity	Real-world object, persons, locations, organizations, products, etc., that can be denoted with a proper name	New York City, Queen Elizabeth, Apple iPhone
Pos	Part of Speech tag (language-specific)	NNP, VBD, CD, NNS

**NOTE**

On earlier Amelia versions, the Caps and Char option also appear. These have been removed.

## 2.45 RELEASE 3.7.44

### 2.45.1 [AM3-11798] - Show UI revision names in Current Revisions table

The Current Revisions table for a UI bundle includes a new column to display the revision name of a bundle. The revision name can be used to identify the purpose or difference between revisions.

A revision name is set by changing the Revision Name field in the New Revision panel on a UI bundle edit page. For new bundles, click the New Bundle button in the list workspace to display the edit workspace and then type a name in the Revision Name field for a new bundle.

UI bundles are found by clicking the System Settings link on the left side of Amelia's administration pages then clicking the UI Bundles link to display the bundles list workspace. Click the  pencil icon to the left of a UI bundle entry to display the edit workspace for the bundle.

### 2.45.2 [AM3-12012] - Add new methods to content pack script services to check existence of assets

New methods have been added for scripts used by content packs. For example, these methods check if an asset included in a content pack already exists prior to installation of Amelia, to prevent overwriting existing assets during content pack installation, upgrades, and so on.

Table 13. Script Services and Methods Available to Content Pack Scripts

Script Service	Method Example	Description
bpnService	boolean greetingBpnExists(domainCode)	Checks if a Greeting BPN associated with a domain.
cmService	boolean cmBucketExists(domainCode, bucketName)	Checks that a CM bucket exists.
	boolean cmResourceExists(domainCode, bucketName, resourceName)	Checks that a CM resource exists.
integrationService	boolean integrationClusterExists(clusterName)	Checks if an integration cluster exists.
	boolean integrationHostExists(hostName, port)	Checks if an integration host exists.
	boolean integrationFlowExists(domainCode, integrationFlowCode)	Checks if an integration flow exists.
	boolean integrationPropertySetExists(domainCode, name)	Checks if an integration property set exists.
	boolean integrationAssetExists(domainCode, name)	Checks if an integration flow binary asset exists.
scriptLibraryService	boolean scriptLibraryExists(domainCode, name)	Checks if a script library exists.
	boolean scriptLibraryExists(domainCode, name, language)	Checks if a script library exists.
tabularService	replaceTabularData(domainCode, path, tableName)	Replaces existing tabular data.
	boolean tabularDataExists(domainCode, fileName)	Checks whether a tabular data exists by the name in the domain provided.
trainerService	boolean entityExists(domainCode, entityCode)	Checks if an entity exists.
	boolean intentExists(domainCode, intentCode)	Checks if an intent exists.

### 2.45.3 [AM3-12039] - Allow execution of specific scripts during content pack installation

Amelia installation of content packs can include specific scripts to run instead of all default scripts. Users can select which scripts to run.

The `manifest.json` file stored in the root folder of the content pack jar file defines assets and scripts to run during installation. Definitions are JSON format. Scripts can run during installation, configuration, processing of resources, after installation, or during an uninstall. Scripts are stored in the `scripts` folder in the jar file.

Available JSON script keys are `preinstall`, `installer`, `config`, `processResources`, `postInstall`, `uninstall`, `preUninstall`, `postUninstall`, `configUninstall`, `preUpdate`, `update`, `postUpdate`, `configUpdate`, `updater`, and `uninstaller`.

#### NOTE

Scripts defined in the `manifest.json` file are executed instead of default scripts defined in the content pack. For example, a script defined for the `installer` JSON key will run instead of any default scripts specified for the `installer` in the content pack.

```
{
  "name": "Test installer",
  "version": "1.0.0",
  "author": "IPsoft, Inc.",
  "description": "A short description",
  "licenseKeyRequired": false,
  "appVersion": "3.7.0",

  "assets": [
    {
      "type": "bpn",
      "path": "assets/bpn/check_installer.bpmn"
    }
  ],
  "scripts": {

    "installer": [
      "scripts/installer.groovy"
    ],

    "preInstall": [],

    "config": [],

    "processResources": [
      "scripts/install.groovy",
      "scripts/uninstall.groovy"
    ],
  }
}
```

A new method, `ContentPackService.update(Map<String, String> config, Map<String, byte[]> assets, Map<String, Object> context)` has been added for content pack scripts to execute in the new `preUpdate`, `configUpdate`, `update`, and `postUpdate` sections of the `manifest.json` file.

- All `ContentPackService.install`, `ContentPackService.update`, and `ContentPackService.uninstall` methods return `Map<String, String>` execution result. The execution result can be populated via `executionResult` variable in scripts.
- Added new `scripts` sections in the `manifest.json` file: `installer`, `updater`, and `uninstaller`. If a section is not empty, the default one by one script execution will be skipped and the script(s) from the new section will be executed.
- Scripts from `installer`, `updater`, and `uninstaller` sections have access to `scriptExecutor` which can execute as a single script as all scripts in a specific phase.
- Execution parameters also can be passed in `scriptExecutor` methods. The parameters are accessible via `executionParams` variable in executing scripts.

All changes are backward compatible.

Table 14. New Script Service and Method Available in Content Pack Scripts

Script Service	Method Example	Description
installedService	<code>boolean contentPackInstalled(domainCode, name)</code>	Checks whether a content pack installed.
	<code>ContentPackInstallationModel getInstalledContentPack(domainCode, name)</code>	Gets an installed content pack library.

#### **2.45.4 [AM3-12165] - Looks for FAQs in domain hierarchy and also add FAQs and remove FAQs from content pack**

Updated content pack script capability includes the ability for the installation, upgrade, and other process scripts to search for FAQs across domains, as well as the ability to add or remove FAQs.

#### **2.45.5 [AM3-12167] - Add property to allow Run the Workflow command for Anonymous users**

For test purposes in non-production environments, it is possible to allow anonymous users to test BPNs, intents, and other elements using the `run the workflow` command in a chat with Amelia. An application property must be set and the domain used for testing must be configured to allow anonymous users and allow use of the `run the workflow` command.

To enable this feature for testing, set this property to true in the `application.properties` file:

```
amelia.user.anonymous.run-the-workflow.enabled = true
```

Next, start the Amelia application then open the detail page for the domain used for testing. Click the checkbox next to `Allow 'run the workflow'?` in the Basics panel. Then scroll down to the Anonymous Access panel and click the checkboxes next to `Allow Anonymous?` and `Allow Anonymous View?` in the panel.

Domains are configured by clicking the Systems Settings link on the left side of Amelia's administration pages then clicking the Domains link to display the workspace. Search for or create a domain in the workspace to view a domain detail page.

## 2.46 RELEASE 3.7.45

### 2.46.1 [AM3-12281] - Deployment of the new version of existing integration is not possible

This release fixes a bug that happened when an integration flow had the same name as another flow several generations apart in the domain hierarchy of an Amelia instance.

## 2.47 RELEASE 3.7.46

### 2.47.1 [AM3-10936] - In the user edit screen, can the concurrency and other escalation fields be editable by domain admins/supervisors?

Users have a Default Max Concurrent Chats value. With this release, Escalation Teams also can set a level for each user. If the user has Max Agent Active Chats value assigned at the Escalation Team level, the user default value will be ignored and the maximum value from those teams will be chosen.

The Escalation Teams edit form includes a Max Agent Active Chats field in the Team Members panel at the bottom of the form, in the Existing block. To the right of each name is an empty field where a number can be typed or click a stepper control to increase or decrease the number.

The screenshot shows a table row within an 'Existing' section of an edit form. The columns are labeled 'Domain', 'Name', 'Email', and 'Max Agent Active Chats'. The 'Max Agent Active Chats' column contains an information icon (i). Below the table, there is a row for a specific user: 'MaxTest', 'Jane Doe', 'j@doe.com'. To the right of the email address is a numeric input field containing '1', with up and down arrows for adjustment, and a clear button with an 'x'.

Figure 28. Max Agent Active Chats Field in Escalation Team Edit Form

The Escalation Team workspace is available by clicking the System Settings link on the left side of Amelia's administration pages then clicking the Escalation Team link to display a list of teams. Click the icon to the left of a team name to edit or click the New Escalation Team button at the top right to create a new team.

### 2.47.1 [AM3-12269] - Allow agents & agent supervisors assigned to multiple queues to log into one or more - but not all - assigned queues

Agents and Supervisors assigned to multiple queues can silence escalation messages from selected queues. Supervisors also can silence escalation messages for agents assigned to a queue. Settings remain until they are turned off manually.

To silence escalation messages from selected queues, click the at the top right of Amelia's administration pages then click Supervisors from the navigation popup that appears. On the Agent Supervisor page, click the Show Queue Summary Only slider to display only information about queues. To the left of a queue name, click the slider to display agent information for the queue. Agents for the queues display below the list of queues.

To silence all escalation messages for the selected queue, click the checkbox in the Silence column to the right of the queue name.

To silence escalation messages only for one or more agents assigned to the selected queue, click the checkbox in the Silence column to the right of the agent name.

The screenshot shows the Agent Supervisor interface with the following sections:

- Queue Summary:** A table with columns: Queue, Code, Silence, Current Conversations, Ready Agents, Busy Agents, Away Agents, Offline Agents, Silent Agents, Total Conversations, SLA Violations, Abandoned, Max Concurrent, Avg Answer Speed, Max Answer Speed, Avg Handle Time, and Max Handle Time. It lists two queues: BQueue (bq) and global-queue (globalqueue). The global-queue row has a checked checkbox in the Silence column.
- Agent Summary:** A table with columns: Agent, Status, Silence, Duration, Allowed, Current, Total, Abandoned, Max Concurrent, Answer Avg, Answer Max, Handle Avg, and Handle Max. It lists an agent named Jane Doe who is OFFLINE. The Silence column for Jane Doe also has a checked checkbox.

Figure 29. Single Escalation Queue Silenced

Clicking more than one slider displays agents assigned to the selected queues. A button appears in the Silence column in the row with information about each agent.

The screenshot shows the Agent Supervisor interface with the following sections:

- Queue Summary:** A table identical to Figure 29, listing BQueue and global-queue. Both rows have checked checkboxes in the Silence column.
- Agent Summary:** A table identical to Figure 29, listing Jane Doe as OFFLINE. The Silence column for Jane Doe has a button labeled "1 of 2 Silent".

Figure 30. Multiple Escalation Queues Silenced

For agents assigned to the selected queues, click the button in the Silence column to display a popup with the queues. Click the checkbox in the popup Silence column to select or deselect receipt of escalation messages for the queue.

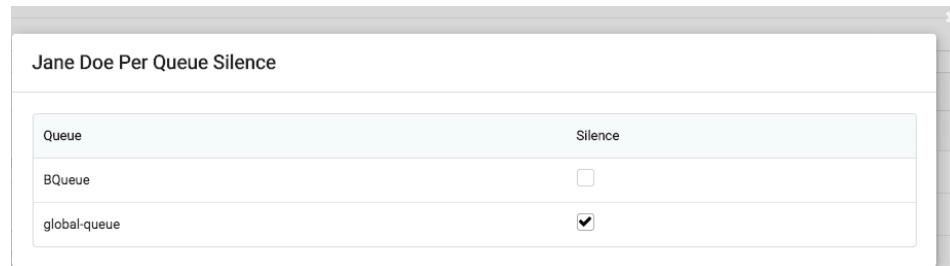


Figure 31. Popup to Silence Multiple Escalation Queues for Agent

## 2.47.2 [AM3-12394] - Pass Name entity when filled to copilot for anonymous domain

A BPN Script task can be used to update the user name displayed within a conversation where the user is not logged in and, therefore, has Anonymous displayed as their name. If the anonymous user provides their name or email address, the Script task can capture these values and update the conversation area.

`updateConversationUserName(String firstName, String lastName)`

Updates the name in the conversation flow, from Anonymous to the firstName and lastName values captured by Amelia in the course of the conversation.

```
userService.updateConversationName("Jane", "Doe");
```

`updateConversationEmail(String email)`

Updates the anonymous user email address using the email provided by the anonymous user in the conversation.

```
userService.updateConversationEmail(jane@doe.com)
```

### NOTE

These methods have no effect on the user name and email address for logged in users.

## 2.48 RELEASE 3.7.47

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This release added no significant functionality changes and, as a result, there are no enhancement details for this release. Please see Section 3 for the complete list of changes in this release.

## 3. List of All Changes

This section provides a detailed list of all new features and bug fixes.

### 3.1 RELEASE 3.7.0

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#### 3.1.1 Bug Fixes (3.7.0)

- [AM3-3280] - Spanish: Email entity not working for some cases
- [AM3-3099] - Currency Datum type does not capture values properly - Royal DSM V3
- [AM3-2859] - The UI for "Create New User" performs Cancel operation instead of Save operation when hit Enter key.
- [AM3-5825] - "Tomorrow at midnight" fails
- [AM3-5826] - "Last night" isn't parsed at all
- [AM3-5787] - Date range errors
- [AM3-4572] - Odd BPN Workflow Behavior
- [AM3-5158] - Fixing minor eslint complaint
- [AM3-5263] - Correction ENT Time - adjustments on time
- [AM3-5320] - Freemarker fails to render with null variable
- [AM3-5335] - Toggling Design View to Source View on Integration Framework fail
- [AM3-5382] - AIML object migration doesn't handle file changes well
- [AM3-5612] - Improve Phone Entity - Norwegian
- [AM3-5626] - Stochastic BPN fails every 2nd time
- [AM3-5645] - Improve Phone Entity - Danish
- [AM3-5909] - Semnet tests have a hardcoded sleep
- [AM3-6158] - Determine practical limits of ELMo inputs, instate restrictions
- [AM3-6436] - Export grammar file throws exception
- [AM3-6447] - amelia-admin-service exits at the start: bean not found  
ConversationDurationSummaryService
- [AM3-6509] - Indeterministic test: QuantityServiceDateRangeSystemTest
- [AM3-6512] - Manage grammars from multiple domains.
- [AM3-6563] - Blacklist date patterns from extraction
- [AM3-6625] - Agent view chat input slightly off
- [AM3-6648] - Address Semnet Javascript issues
- [AM3-6658] - PDF Parser for QG only reads last paragraph
- [AM3-6670] - Intent classifier trainer label utterance mismatch
- [AM3-6688] - Refactor AutoFaqGenerate code and support other document formats
- [AM3-6711] - More failing date system tests in the evening
- [AM3-6728] - Configurable word wrapping in chat v3

- [AM3-6731] - chat button with same value cannot be distinguished
- [AM3-6809] - Fix User UI responsiveness
- [AM3-6865] - Fixing frame view of amelia chatbox
- [AM3-6873] - Numeral time with hours and seconds isn't supported
- [AM3-6877] - Grammar deletion should have a confirmation modal
- [AM3-6879] - Extract out reusable code from ProcessDetailComponent.js and combine it with UtteranceAnnotatorParentHome.js
- [AM3-6915] - Annotation Framework - Intent Popup Even When Intent Already Exists
- [AM3-6926] - UI builds sometimes require an external .npmrc file
- [AM3-6949] - AutoTrainingService fails with NPE
- [AM3-6951] - Webpack needs babel polyfill for Internet Explorer 11
- [AM3-6952] - Clarifying QA - utterance to be lemmatised
- [AM3-6953] - Forgotten dep-file borks unit tests at build server
- [AM3-6958] - Updating integration flow from template does not update reference
- [AM3-6963] - Webpack Babel polyfill for USER UI - Internet Explorer
- [AM3-6995] - remove event listener - react-amelia-dialog
- [AM3-6996] - Improved support for decimal and integer datums
- [AM3-6997] - Question-Generation - Issues
- [AM3-7020] - Unable to upload FAQ spreadsheet to Semnet
- [AM3-7025] - Improve document parser for question generator
- [AM3-7046] - Duplicated response pool entries after importing XML
- [AM3-7073] - Duplicate groovy resources failing build
- [AM3-7080] - Fixing CSS order for production bundle after new webpack update
- [AM3-7093] - Wrong intent models used first from domain hierarchy
- [AM3-7095] - Fixing text alignment for the Mind 3D chatbot
- [AM3-7116] - Add ability to cancel the current context
- [AM3-7122] - Fixing issue broken application after logout
- [AM3-7155] - ask for the slot issue
- [AM3-7168] - Finnish and Dutch don't boot after DiscriminativePhrasesExtractor added language support
- [AM3-7200] - Eslint plugin - Prettier-plugin doesn't work
- [AM3-7205] - Duplicate NormalizerResourceManager causes Engine not to boot when Spanish is installed
- [AM3-7249] - Fix domain selection icon on production
- [AM3-7264] - Amelia hotspot not starting conversation
- [AM3-7276] - Add current domain access check in humanization api
- [AM3-7279] - Tabular Data: upload file does not work due to Babel error
- [AM3-7313] - Race condition in interconnect
- [AM3-7315] - Exported model stats - Different label than UI
- [AM3-7332] - Submitting empty property documentation triggers constraint error
- [AM3-7353] - Question-Generation - Parse issues
- [AM3-7355] - Ignoring the failing tests from DateNormalizerFiTest
- [AM3-7356] - Response pool export does not work when any group selected

- [AM3-7366] - Merge common grammars from multiple files
- [AM3-7368] - Fix broken groovyDeleteTransientVariable system test
- [AM3-7372] - Finnish SocialTalk grammar was accidentally replaced with Italian file
- [AM3-7373] - German Address tagger failing due to EmailTagger throwing exceptions
- [AM3-7374] - EmailTagger throws exceptions when sentence has a contraction
- [AM3-7394] - introjs library tutorial error
- [AM3-7406] - Remove deprecated EntityArrays in lang3.text.translate
- [AM3-7411] - Mutually exclusive button is not de-selectable for some annotations
- [AM3-7412] - Add grammar type bindings
- [AM3-7421] - amelia Tutorial - tooltip icon being cut off
- [AM3-7439] - Verify if Custom Datum functions as expected for Japanese LP
- [AM3-7479] - Remove border when editing the name of a task in BPN editor
- [AM3-7485] - Debug window in amelia mind, does not show log messages
- [AM3-7486] - Context Domain Switch bug resolution
- [AM3-7503] - Slot question annotation editor UI regressions
- [AM3-7515] - Going back dialog act handling fails on choice handler tasks
- [AM3-7522] - Avoid potential NPE in CQA matching
- [AM3-7528] - Domain switching changes for Remote Services for Core and Java sdk
- [AM3-7557] - Fixing integration response breaking Amelia dialog
- [AM3-7562] - Annotation link color is odd
- [AM3-7567] - Scrolling on the integration flow/template tiles loads the tiles of all the pages
- [AM3-7594] - Domain level CQA triggering for all utterance.
- [AM3-7624] - Variables populated after create FQT task present lemma issue
- [AM3-7643] - testPresentTask\$PresentTemplate() should use system resource
- [AM3-7644] - When interconnect completes a context it does not confirm/resume parent
- [AM3-7648] - Same item presented twice generates JS error in UI on replay
- [AM3-7669] - UI error when PDF is sent from present task
- [AM3-7673] - Regression while presenting videos due to incorrect request URL
- [AM3-7674] - Do not create learning process if an agent pick up event has not been received
- [AM3-7687] - Current Domain is not getting picked in-case of Bpn chaining.
- [AM3-7702] - Date entity returns results for role entity children
- [AM3-7704] - Task validation does not accept multiple EL expressions
- [AM3-7712] - Set tasks must not be annotatable
- [AM3-7742] - CQA and BPN appear to respond at same time.
- [AM3-7745] - Reverting mistaken UI commit

### 3.1.2 New Features (3.7.0)

- [AM3-484] - Logout/Login links for anonymous users
- [AM3-2438] - Need the ability to delete one humanization resource in the UI
- [AM3-2973] - Allow "run the workflow <wf\_name>" to be disabled for a domain
- [AM3-3025] - Enable the test case to validate Ordinal Range Formatters after the relevant bug ticket is resolved
- [AM3-3796] - Allow for style and speech annotation of Amelia utterances

- [AM3-4473] - Allow widget tasks to send integration messages
- [AM3-4491] - Auto Intent Slot learning: Annotating intents and slots during the course of an escalation
- [AM3-4533] - Create New Grammar button
- [AM3-5944] - Undeploy BPNs regardless of dependency order
- [AM3-4672] - Show progress bar while tabular service file is being uploaded
- [AM3-4677] - Allow table name to be defined independently from the name of the uploaded file
- [AM3-4734] - Implementation of Annotation Tool (UI)
- [AM3-4758] - Annotation Tool editor basic functions
- [AM3-5018] - Allow resource URLs to be copied to the clipboard
- [AM3-5054] - Person Datum Extracts/Captures Title and Name Suffix
- [AM3-5195] - Annotation Tool: Event Handling
- [AM3-5196] - Add annotation tool support to slot questions
- [AM3-5207] - Allow to define entity/slot questions in BPN to allow for entity re-use, slot questions based on datum types
- [AM3-5279] - Modify existing OutboundMessageProcessors to transform outputs
- [AM3-5280] - Allow native UI to display HTML
- [AM3-5281] - Add automated JS test coverage
- [AM3-5311] - Incorporating Continuous Training of Sem-Net FAQ : Training FAQs from Chat
- [AM3-5389] - Deleted Scripts appearing (and undeletable) in UI
- [AM3-5397] - Shift SemNet Document Indexing from Engine Side to Admin Side
- [AM3-5406] - Amelia Journey Analytics
- [AM3-5464] - Provide ability to give individual users the ability to manage individual bundles
- [AM3-5567] - Page title notifications for agents
- [AM3-5597] - Add the ability to remove a particular transient variable
- [AM3-5632] - Entity extraction batch processing
- [AM3-5655] - Simple right click without selection show pop up context menu in current active annotation
- [AM3-5704] - Upgrade Webpack 2 -> 3 -> 4 and optimize the production building time
- [AM3-5711] - Feature Request: Expiration Date Datum Type
- [AM3-5746] - FastText Based Language Detection
- [AM3-5761] - SemNet: Automatic FAQ Transducer
- [AM3-5774] - Make UI pull variable values instead of receiving large objects via BpnExecutionEvents
- [AM3-5780] - Improve CQA choice matching
- [AM3-5828] - Add ability to update table
- [AM3-5872] - Digress upon entity modification
- [AM3-5899] - Clean copy/paste chat history formatting from builtin/Core UI
- [AM3-5939] - Allow plaintext or reader-friendly output of Training Corpus
- [AM3-5976] - Toggle for ELMo case sensitivity
- [AM3-6015] - In the Intent Space, add additional data like "Last Updated", "Updated By"
- [AM3-6082] - Safari Support (v10)
- [AM3-6089] - Mozilla Firefox Support (v57 Quantum)
- [AM3-6117] - Microsoft Edge Support (v42.17134)
- [AM3-6106] - Domain Switching

- [AM3-6131] - Pre-built Integration templates
- [AM3-6174] - UIUX Integration Test - Change Domain
- [AM3-6340] - Improve batch processing performance
- [AM3-6359] - Add whitelist for coreference mention processor
- [AM3-6392] - Build a NLU Test Pipeline
- [AM3-6396] - Auto-trainable trie/FSA-based intent detection
- [AM3-6412] - Update amelia-uiux-test framework to 1.0.1 for Domain UI changes
- [AM3-6440] - OnAvailable should be determined by intelligent non-idle session evaluation for agent, Ås Amelia
- [AM3-6465] - Refactor Login Page
- [AM3-6484] - Update Java Client to support utterance annotation changes
- [AM3-6493] - Exclusivity of Composite Entity Fields Request
- [AM3-6494] - Nested Composite Entities Request
- [AM3-6557] - Amelia dispatch should find most relevant (Skillset + Client + OnAvailable) expert to handle task.
- [AM3-6567] - Create CQA Test Pipeline
- [AM3-6611] - Make Annotation Highlighting safe for multiple instances.
- [AM3-6613] - Front-end changes: Make UI pull variables using Variable summary API
- [AM3-6621] - 1Desk integration phase 2
- [AM3-6626] - Make Amelia 'dot' a shared component
- [AM3-6629] - Add System test for variable summary API
- [AM3-6640] - Port Question Generation Project Within Amelia v3 Repository
- [AM3-6642] - Allow dynamically learned BPN model revision to be removed
- [AM3-6650] - Error while creating a self closing tag at position n and (n-1)
- [AM3-6657] - Request lemma for multiple document types
- [AM3-6674] - Provide warnings about common training data issues
- [AM3-6681] - Provide a UI option to replace the file held by a Tabular Data object
- [AM3-6689] - Journey Analytics Improvements
- [AM3-6784] - Integrate multi-lingual CQA
- [AM3-6786] - CQA: Detect the user's clarification given generic terms specified in the chat
- [AM3-6789] - Add 1Desk client code to conversation events
- [AM3-6829] - Enable new eslint rules for admin and user UI
- [AM3-6842] - Realistic Integration Flows in Integration Tests
- [AM3-6866] - Pre-Built integrations UI
- [AM3-6897] - Journey Analytics System test and Front test
- [AM3-6902] - issue with duckling taking future date, not past date
- [AM3-6913] - ELMo training time default parameters
- [AM3-6937] - Allow say tasks to use response pools
- [AM3-6938] - Allow ask tasks to use response pools
- [AM3-6939] - Update Integration Flows from a template update
- [AM3-6974] - Prevent the creation of annotations partially covering EL expressions
- [AM3-6976] - Apply annotations to EL expressions
- [AM3-6988] - Pull extracted slots to the Mind view debug panel - Back-end change

- [AM3-7005] - Implement interrupt for classifier training
- [AM3-7008] - Show Last Modified User and Date in intents and entities
- [AM3-7015] - Support parameters when building admin navigation integration messages
- [AM3-7017] - Pull variable summaries for the specific process instance
- [AM3-7032] - Add mvn test execution to amelia-user-ui pom.xml
- [AM3-7040] - Ability to go back in a conversation
- [AM3-7041] - Add annotation tool support to the new ask task syntax
- [AM3-7070] - Template import/export
- [AM3-7072] - Export entities in TSV format and bulk delete spanless entities
- [AM3-7074] - Add support for Tabular Data download to Java Client
- [AM3-7089] - New icon for observe Mind 3D
- [AM3-7105] - Change UX of enabling and disabling intents
- [AM3-7108] - Intent bulk tester UI
- [AM3-7110] - Fix failing JS test case - UAPH\_annotate\_text\_attribute.test.js
- [AM3-7114] - Add "Cancel" and "Go back" dialog acts
- [AM3-7120] - Restrict stochastic BPN search to only jump to tasks in visited paths
- [AM3-7128] - Add system test for Tabular Data download
- [AM3-7135] - Only consider variables from root scope of automata execution
- [AM3-7141] - When downloading TSV documents, preserve tab for unannotated keys (negatives)
- [AM3-7144] - Improve date extraction logic for time and date/time ranges
- [AM3-7150] - Add ability for BPN to suppress cancel on ask tasks
- [AM3-7151] - Improve dialog act and problem classifiers
- [AM3-7174] - Ability to force deploy/undeploy when servers down
- [AM3-7177] - Dependency Based Question Generation
- [AM3-7181] - Backjumps to handle conversation changes instead of stochastic BPNs
- [AM3-7185] - Allow variables in FQT subject
- [AM3-7186] - Create Integration Template from Flow
- [AM3-7189] - Allow attaching CM resources to FQT
- [AM3-7191] - Integration Templates & Flow Icon Changes
- [AM3-7198] - Rule-based unit datum extraction
- [AM3-7207] - React-hot-reload and HMR (hot module replacement) configuration for webpack
- [AM3-7222] - Allow backend to tell the UI/client to switch conversations
- [AM3-7223] - Refactoring - avoid to use getElementByld on React
- [AM3-7226] - Change wording on NLU settings to align with Predict tab
- [AM3-7250] - Configurable Semnet
- [AM3-7253] - Enabling Domain classification based on similarity score
- [AM3-7254] - Ability to generate launchers to not have to run Amelia through IntelliJ
- [AM3-7286] - Date/Authority feedback
- [AM3-7289] - Flow from Template Throws Exception on original template
- [AM3-7320] - Suppress backjumping if the inbound message was from a form input
- [AM3-7330] - Cascade deletion of "jumped\_to" BPN process instance upon conversation deletion
- [AM3-7339] - Configurable domain switch.
- [AM3-7362] - Tabular Data: Add stricter validations to ensure uploaded file complies with RFC 4180

- [AM3-7371] - Add the "Train" tab to the Dashboard view in Amelia
- [AM3-7387] - Allow backjumps to find the farthest affected task
- [AM3-7390] - Rename template to flow properties
- [AM3-7391] - Meta Classifier and Meta Tagger as Default Algorithms for Model Training
- [AM3-7392] - Add role entity button within entity potentially confusing
- [AM3-7426] - Add "at least one of" group type to composite entities
- [AM3-7427] - Composite entity enhancements
- [AM3-7465] - Publish User Activity Events
- [AM3-7470] - Simplify tabular custom entity creation
- [AM3-7492] - Create FQT verbose mode
- [AM3-7513] - Property documentation panels on Flow View
- [AM3-7532] - Amelia dot should blink on receiving a pushed conversation
- [AM3-7542] - Make CQA context concatenation configurable
- [AM3-7580] - Redesign BPN Properties Bar
- [AM3-7592] - Auto generate multiple FAQs from excel sheet
- [AM3-7605] - Entity inheritance from parent domains
- [AM3-7606] - Upgrade to spring boot 2.1.2
- [AM3-7637] - Allow slots specified outside the process to be seen by `slot:isPresent()`
- [AM3-7675] - Allow the use of the "response:" prefix on edges off of slot-based ask tasks
- [AM3-7690] - Direct escalation from problem classifier
- [AM3-7697] - Amelia login. Stop Amelia after completed and them show looping visual effect
- [AM3-7701] - Implement CQA as a sticky responder
- [AM3-7744] - Currency datum improvements

## 3.2 RELEASE 3.7.1

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### 3.2.1 Bug Fixes (3.7.1)

- [AM3-3708] - Maximum Consecutive Attempts with Dialog Acts Not Escalating as Expected
- [AM3-5852] - Ask Task Maximum Consecutive Attempts Escalations Unexpected Behavior
- [AM3-7722] - Fix conversation summary batch job
- [AM3-7746] - AIML files take 2+ minutes to process
- [AM3-7750] - Integer Range Not Working When Only Start OR End Value Provided
- [AM3-7784] - Allow CQA only when ask slot is absent
- [AM3-7814] - BPN backjump should happen regardless of sentence type
- [AM3-7825] - Amelia interprets everything besides yes as no for confirm continue and cancel questions
- [AM3-7826] - Fixing BPN method conflicting with enlist common UI

### 3.2.2 New Features (3.7.1)

- [AM3-4602] - Count dialog acts and lower-level subsystem responders as attempts for bpn:attempts and maximum consecutive attempts at ask tasks
- [AM3-7172] - Expiration date Datum type Expansion
- [AM3-7436] - Front-end: Pull extracted entities to the Mind view debug panel

- [AM3-7504] - Remove stochastic BPN
- [AM3-7563] - Add model counts to BPN model tree folders
- [AM3-7725] - Add calibration option to meta classifier

## 3.3 RELEASE 3.7.2

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### 3.3.1 Bug Fixes (3.7.2)

- [AM3-6444] - Semantic Memory debug section renders below the visible screen on Firefox
- [AM3-7429] - Internet Explorer not loading - only admin-ui
- [AM3-7430] - Internet Explorer and Edge have css issues
- [AM3-7482] - Remove default Camunda properties from widget task property editor
- [AM3-7791] - Default unit setting in range datum type entities not working
- [AM3-7798] - Handle low utterance count case for meta classifier
- [AM3-7808] - REST API "Get ScriptModel by domain and name" not working
- [AM3-7841] - Fix migration that deletes stochastic BPN models
- [AM3-7893] - Core UI Performance Issue
- [AM3-7897] - Anonymous users do not have a default conversation domain
- [AM3-7906] - Fix CDB migration 061

### 3.3.2 New Features (3.7.2)

- [AM3-2784] - Request task followed by present task fails when it includes "identified by" in request task
- [AM3-6752] - Whitelist PDF editing Groovy libraries
- [AM3-7438] - Do not allow text to bleed past task edges
- [AM3-7710] - Allow "slot:" service prefix to be used in confirmation questions

## 3.4 RELEASE 3.7.3

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### 3.4.1 Bug Fixes (3.7.3)

- [AM3-6740] - Failures of tests in CurrencyUnitNormalizerSvTest\$CurrencyNormalizerSvValidTest
- [AM3-7894] - Slot not moving its state to Modified upon value update when Backjumping
- [AM3-7945] - Date entity value not using future date when duration is also mentioned
- [AM3-7951] - Flows with dynamic SSL components fail

### 3.4.2 New Features (3.7.3)

- [AM3-7623] - Present issue BPN designer
- [AM3-7662] - JEXL Replaces SpEL in Response Pool Templates
- [AM3-7939] - Look up Profile-specific beans in DomainProfileRegistry

## 3.5 RELEASE 3.7.4

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### 3.5.1 Bug Fixes (3.7.4)

- [AM3-7773] - Response pool page - no pagination
- [AM3-7948] - Annotation Tool: reusable component can only annotate one span at a time
- [AM3-7966] - Add Future Date assumption type for Date entity
- [AM3-7990] - Deleted template from a flow can cause list view to fail

### 3.5.2 New Features (3.7.4)

- [AM3-3193] - Make Available the User Channel for Each Conversation
- [AM3-7631] - Allow BPN graphs to be manipulated at script tasks
- [AM3-7731] - Allow script tasks to execute integration flows
- [AM3-7972] - Add additional conversation events for e2e
- [AM3-7991] - Creating Style API for BPN Templates
- [AM3-7995] - Adjust the “Diagnosis” tab

## 3.6 RELEASE 3.7.5

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### 3.6.1 Bug Fixes (3.7.5)

- [AM3-7678] - Annotation-Tool - input loses context once you annotate
- [AM3-7756] - Present task does not display PDF files
- [AM3-7851] - Regression presenting PDF file
- [AM3-7899] - A conversation will drop if the rabbitmq node handling it goes down
- [AM3-8042] - Fix minor styling issues chatbox

### 3.6.2 New Features (3.7.5)

- [AM3-7926] - Respect spaces and new lines when displaying content from a diagnosis message
- [AM3-8087] - Include current context ID in conversation events

## 3.7 RELEASE 3.7.6

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### 3.7.1 Bug Fixes (3.7.6)

- [AM3-7449] - Admin Audit Log Incorrect
- [AM3-7518] - Fix Last Login Date
- [AM3-7974] - Metrics Are Sanitized When the Domain settings “Anonymize User” Is Not Checked
- [AM3-8134] - IntentStartedConversationEvent not sent on domain switch

### 3.7.2 New Features (3.7.6)

- [AM3-2641] - Add ability for an end user to change their password.
- [AM3-5197] - Add annotation tool support for response pool templates
- [AM3-6929] - Handle annotations of variables in BPN say/ask task, response pool entry

- [AM3-7239] - Syntax check of edge expressions using response:, slot:, and ctx:
- [AM3-7741] - Add controller support to annotate response pool templates
- [AM3-7831] - Intent verbose mode while conversation

## 3.8 RELEASE 3.7.7

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### 3.8.1 Bug Fixes (3.7.7)

- [AM3-8099] - Agents see hint text and buttons from user conversation in agent chat window
- [AM3-8158] - TabularDataModel should receive delimiter and text qualifier from KDB model[AM3-8179]
  - Evaluation of expressions resulting in non-string value fails when executed through annotation tool
- [AM3-8208] - Buttons appearing in User chat window from different conversation

## 3.9 RELEASE 3.7.8

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### 3.9.1 Bug Fixes (3.7.8)

- [AM3-7878] - Context switching increases counter for escalation
- [AM3-7910] - Tokenizer fails to parse multiple concatenated emails/URLs
- [AM3-7912] - Support normalizing articles (a/an) for duration, age
- [AM3-7959] - When model server cache size is exceeded out of open files
- [AM3-8017] - Encrypt the file being uploaded to tabular data service
- [AM3-8056] - fix health check for amelia-admin-service
- [AM3-8135] - Handle cancel dialog act outside of BPNs
- [AM3-8221] - Prevent administrative injection into response pools and restrict access to auth systems in admin UI to RBAC admins
- [AM3-8226] - Unable to import the classifier model which works and deployed in another Amelia instance
- [AM3-8244] - Slots / Grammars that contains dot or special characters in the implementation can not be updated anymore as the validation rules are changed
- [AM3-8252] - Error retrieving conversation summary
- [AM3-8275] - Can't observe a conversation that had a domain switch
- [AM3-8276] - When observing a conversation with InboundAutomataExecutionLogMessages the echo'd version is blank
- [AM3-8286] - Brain3D satisfaction score and styling issues
- [AM3-8288] - CoNLLUSentenceAnalysisConverter does not properly set the nodeSet name when adding NER nodesets

### 3.9.2 New Features (3.7.8)

- [AM3-7409] - Make OutboundPresentMessage return messageText from a response pool
- [AM3-7488] - Statically generate all conversation flows from a BPN model
- [AM3-7500] - Polish Integration Framework
- [AM3-7786] - NLU intent tester improvements

- [AM3-8053] - Add more utterances to the yes/no answer polarity
- [AM3-8096] - Auto increment the sequence number during the creation of response pool entries
- [AM3-8107] - Allow disabling of sending of debug messages to observer and agent views
- [AM3-8131] - Upgrade to latest avatar
- [AM3-8170] - Investigate converting to consistent hash exchange
- [AM3-8204] - Person Datum Type Needs Improvement
- [AM3-8207] - Can't log in when Amelia is embedded Core 3.7 +
- [AM3-8209] - Change icon for ambiguity utterances
- [AM3-8223] - FAQ events should return Faq answer field
- [AM3-8246] - Send intentId info into 1Desk
- [AM3-8274] - Add the removed new grammar button

## 3.10 RELEASE 3.7.9

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### 3.10.1 Bug Fixes (3.7.9)

- [AM3-7682] - Secure input revealed when bpn has a problem
- [AM3-8016] - Fix DateNormalizerTest testExtractNormalizeWithDateAssumptionType test
- [AM3-8268] - Currency Entity Populated by 1Banks
- [AM3-8295] - Domain switching not working
- [AM3-8297] - Can't retrieve summary for some conversations
- [AM3-8323] - The configuration property "amelia.bpn.learning.save" is ineffective
- [AM3-8331] - Fixing preview container style for 3d mind view
- [AM3-8340] - Missing YEAR\_MONTH formatter configuration
- [AM3-8349] - Some language packs have response pools that throw exception
- [AM3-8357] - YearMonthNormalizer is missing a null check
- [AM3-8360] - Integration Framework breaks the UI after select certain flows
- [AM3-8386] - Japanese currency failing

### 3.10.2 New Features (3.7.9)

- [AM3-5132] - Add continuation process option to intent
- [AM3-6763] - ELMo in Language Pack
- [AM3-7298] - Add complete context lemma to BPN
- [AM3-8091] - Add more examples for 'cancel' dialog act
- [AM3-8277] - Update system models
- [AM3-8304] - Add mute button for framed view
- [AM3-8306] - Do not allow other subsystems to respond if the slot associated with the current task was pre-filled
- [AM3-8354] - Remove LogicNet
- [AM3-8358] - Remove Episodic Memory Subsystem
- [AM3-8364] - Always set camel ids in JSON, remove them in XML[AM3-8379] - Adding the ability to send Message To AmeliaChat
- [AM3-8380] - Add configuration property to prevent BPNs from being learned

## 3.11 RELEASE 3.7.10

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### 3.11.1 Bug Fixes (3.7.10)

- [AM3-8350] - Some street address tests failing in Dutch
- [AM3-8361] - Danish Entities from Organization Gazetteer no longer recognized
- [AM3-8384] - In-Domain Threshold becomes inverted every time you save
- [AM3-8395] - FAQ out-of-vocabulary issue
- [AM3-8423] - Fixing 3D Amelia Brain Mindview

## 3.12 RELEASE 3.7.11

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### 3.12.1 Bug Fixes (3.7.11)

- [AM3-3066] - Port unit tests instead of having big corpus test for grammars
- [AM3-6539] - Bug when saving valid Camel XML to Integration Framework
- [AM3-8279] - Custom UI should not render the text of present messages
- [AM3-8290] - Enable support of multipart upload property changed
- [AM3-8335] - Quantity regression in Spanish
- [AM3-8390] - User mind view layout brakes after open debug panel and resize
- [AM3-8392] - Error happens on Process memory view after Agent picks up a conversation
- [AM3-8430] - Dropdown ui change
- [AM3-8431] - Fixing Bug related with Implement new design to BPN Annotation
- [AM3-8455] - Language Packs not starting up due to change in module name
- [AM3-8467] - Remove task marker options from BPN task toolbox
- [AM3-8477] - IDs being stripped from bean tags
- [AM3-8512] - Pushed conversation to user with Amelia does not start
- [AM3-8520] - Fixing brain issue after escalate

### 3.12.2 New Features (3.7.11)

- [AM3-7527] - Enhance the appearance of the annotation tool
- [AM3-8092] - Support for “Neither + Intent” for CQA
- [AM3-8136] - Buttons Should not trigger CQA
- [AM3-8433] - Auto-training bug fixes and improvements
- [AM3-8438] - Classifier model bulk import/export
- [AM3-8459] - Expose ExternalUID to be accessible through UserService
- [AM3-8462] - Upgrade to spring boot 2.1.3
- [AM3-8465] - Annotation Tool - Regression - only css

## 3.13 RELEASE 3.7.12

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### 3.13.1 Bug Fixes (3.7.12)

- [AM3-8479] - Buenos Dias handled differently depending on capitalization
- [AM3-8482] - Fix ELMo training code in amelia-data-en\_us
- [AM3-8492] - Improve person named entity tagger
- [AM3-8495] - Fix failing date-related system tests
- [AM3-8520] - Fixing brain issue after escalate
- [AM3-8531] - Prevent multiple notifications for same SLA warning
- [AM3-8533] - User screen goes blank when the agent picks up an escalated conversation and utters
- [AM3-8534] - BPN list in intent editor shows duplicate entries
- [AM3-8554] - Observing conversation with domain switch restarts conversation
- [AM3-8562] - WordNet lemmatizer hangs on long inputs
- [AM3-8563] - RabbitMQ interconnect exchanges not being created automatically
- [AM3-8565] - Remove jsx warning error
- [AM3-8570] - Fix LazyInit exception when assigning agents to escalated conversation
- [AM3-8589] - OutboundReplayFinishedMessage should only go to session that requested replay

### 3.13.2 New Features (3.7.12)

- [AM3-1720] - Agent search bar in the agent assign modal.
- [AM3-5817] - Improvements to the Swedish dialog act classifier
- [AM3-6078] - Integrate Language Detection Library with Domain Switching Capabilities
- [AM3-6492] - Improve heuristics for selecting overlapping entities
- [AM3-7693] - Support normalizing articles ('a'/'an') to numbers
- [AM3-7930] - Need DATE TYPE in DATE RANGE datum type
- [AM3-8210] - Enhance groovy code autocompletion
- [AM3-8381] - Improve performance
- [AM3-8425] - Scope entities to intents and contexts
- [AM3-8463] - NLU bulk import/export
- [AM3-8491] - Make arrow head sizes consistent while validating BPN models
- [AM3-8597] - Upgrade Tensorflow to 1.13
- [AM3-8599] - Publish integration conversation events

## 3.14 RELEASE 3.7.13

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### 3.14.1 Bug Fixes (3.7.13)

- [AM3-4616] - German Social talk grammar not hitting response pool despite the same wording of grammar and entered sentence
- [AM3-7308] - Delete intent and right arrow breaks on intent screen
- [AM3-8027] - Remove invalid characters from training data
- [AM3-8070] - Annotation Tool: Text highlighting overlapping colors are too close to distinguish

- [AM3-8343] - Multiple pop-ups of an active chat to multiple agents
- [AM3-8480] - Improve detection of misunderstandings
- [AM3-8538] - BPN is not rendering on the agent side after escalation
- [AM3-8596] - YEAR\_MONTH datum not available from Add Entity UI
- [AM3-8604] - Fix Integration Framework sidebar layout
- [AM3-8612] - Two newline characters are being appended to slot question after it's added
- [AM3-8631] - Agent view does not display process being learned
- [AM3-8634] - NPE when train some DNN models
- [AM3-8637] - Pickup is not setting correct channel in join request
- [AM3-8658] - Currency Entity being filled by user wanting to "schedule a payment"
- [AM3-8667] - Minor process memory issue
- [AM3-8668] - BPN fixing autofocus for deterministic
- [AM3-8670] - Migrations conflict

### 3.14.2 New Features (3.7.13)

- [AM3-6614] - Do not send variables with Task completed event
- [AM3-7130] - Add Refresh in Dashboard
- [AM3-7204] - Add ability to train OOD without having to train Intent Classifier
- [AM3-8640] - Don't notify when the same agent joins a conversation again
- [AM3-8654] - Make a/an quantity normalization configurable
- [AM3-8660] - Add you/your to trie auto training stopwords

## 3.15 RELEASE 3.7.14

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### 3.15.1 Bug Fixes (3.7.14)

- [AM3-8010] - Time Range Adding an Hour to End Time Value
- [AM3-8655] - Fix broken dialogue generation system test
- [AM3-8657] - US\_ZIPCODE entity breaking on question mark
- [AM3-8662] - Conversation/JA summary changes for domain
- [AM3-8681] - DNN Tagger trainer UI is broken
- [AM3-8688] - Intent bulk tester supports ELMo models
- [AM3-8731] - Avoid error when logging slot instance for composite entity/range entity ask task
- [AM3-8735] - Tabular Data: Incorrect HTTP Status Code when validation failed
- [AM3-8736] - Tabular Data export lacks correct delimiter/qualifier
- [AM3-8737] - Incoming conversation message queues are not recreated on Rabbit MQ restart

### 3.15.2 New Features (3.7.14)

- [AM3-8121] - Add ELMo support for French language pack
- [AM3-8291] - Add Java SDK support to BPN dialog generation
- [AM3-8619] - Intent negation detection
- [AM3-8665] - Currency Entity not filled by XX.XX
- [AM3-8687] - Integration Flow Internal Properties disappearance

- [AM3-8691] - Add option to ignore singular/plural in lookup-based custom entities

## 3.16 RELEASE 3.7.15

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### 3.16.1 Bug Fixes (3.7.15)

- [AM3-3266] - Personal Speech Act Misses
- [AM3-3337] - German: some built-in classifier data needs complete update / rework
- [AM3-5244] - Fix Amelia Classification of Selected Swedish Utterances
- [AM3-5451] - Once a script library is included in a script library revision is can never be deleted
- [AM3-7774] - Prevent automatic response pool modification upon release upgrade
- [AM3-8408] - Cannot deploy BPN when using tabularDataService function on say lemma/task.
- [AM3-8522] - Allow response pool entry locale to be changed
- [AM3-8561] - Annotation Editor Button Functions are Unclear, Minor UI Issues
- [AM3-8662] - Conversation/JA summary changes for domain
- [AM3-8722] - Entity Not Captured when Using Scope to Entity
- [AM3-8723] - Tabular Data: Source file with trailing delimiter fails to import
- [AM3-8744] - Update French NER w/ ELMo
- [AM3-8761] - Internal response pool group description should not be editable
- [AM3-8769] - Backport spring boot 2.1 upgrade and messaging improvements
- [AM3-8781] - Enhancing BPN to handle conversation-switching and rendering
- [AM3-8784] - Fix fallback intent migration
- [AM3-8815] - Update and refactor revision numbers
- [AM3-8822] - Add no-op coref annotator
- [AM3-8844] - Amelia ready message not being sent when conversation resumed from interconnect
- [AM3-8847] - Regression - unable to create new entities

### 3.16.2 New Features (3.7.15)

- [AM3-7875] - Document BPN tasks that use response pools
- [AM3-8536] - Allow to pull response pools from script tasks
- [AM3-8603] - Static dialogue generation tool does not activate response pools tags
- [AM3-8635] - Whitelist it in the Application Config - enable decode 64 on Amelia script
- [AM3-8728] - Improve Accuracy of FAQ Engine
- [AM3-8831] - Restrict Conversations summary access to domain specific.

## 3.17 RELEASE 3.7.16

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### 3.17.1 Bug Fixes (3.7.16)

- [AM3-7352] - Execution variables aren't case sensitive
- [AM3-7879] - Cursor misplacement while adding slot questions in Firefox
- [AM3-8758] - BPN annotation disappears after save and deploy
- [AM3-8892] - Learning BPN is breaking when there is an existing BPN

### 3.17.2 New Features (3.7.16)

- [AM3-4839] - Show warnings on escalation queue & team save
- [AM3-7895] - Entity Negation in middle of sentence
- [AM3-8742] - New API to support downloading FAQ pairs added via UI as a FAQ file.
- [AM3-8836] - NLU performance improvements

## 3.18 RELEASE 3.7.17

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### 3.18.1 Bug Fixes (3.7.17)

- [AM3-3261] - German Tokenizer miss-classified the period after numbers
- [AM3-3265] - Some sentences with just numbers are not recognized by number classifier
- [AM3-3275] - Question Type Classifier Misses
- [AM3-3284] - Sentence Segmenteer Failures
- [AM3-5504] - slot:isInteger does not recognize text values
- [AM3-7159] - remove null additional attributes in SAML data for SSO
- [AM3-7869] - Entering a “Less than” character in a BPN task annotated in the past clears all text after it
- [AM3-8142] - NO WARNINGs when removing scripts from Script Library in global domain if they’re used by any BPNs in other domains.
- [AM3-8621] - More Date test system test failures
- [AM3-8753] - Amelia answers with 4 IDK sentences from response pool of another language
- [AM3-8789] - Integration flow with specific properties are not opening after core upgrade.
- [AM3-8826] - Delete more than two pages worth of entities does not work
- [AM3-8849] - NLU evaluation framework improvement
- [AM3-8928] - Negated intents not recognized when CQA is active
- [AM3-8955] - Amelia has no speech annotation for <nospeak>
- [AM3-8969] - Integration Flows can have no encryption key if property set is only change on a .0 release
- [AM3-8977] - Amelia BPN after execution cannot be unset
- [AM3-8987] - Add unique constraint on entity normalizers, remove duplicates
- [AM3-8994] - Response Pool null pointer exception for user with administrator role
- [AM3-8999] - Annotation Tool UI (Styling) does not accommodate new meta tags
- [AM3-9001] - Annotation Tool fails to render tags with multiple attributes in the same visual order
- [AM3-9016] - Extra space is added to URL when trying to encode special characters
- [AM3-9043] - Iframe requiring login prompt, ignoring domain code
- [AM3-9067] - Stop serializing attributes map on outbound messages
- [AM3-9083] - Fix eslint issue in import tabular data reducer
- [AM3-9143] - French NER doesn’t depend on Elmo in settings

### 3.18.2 New Features (3.7.17)

- [AM3-3243] - German - Additional Sentence Classifier Data
- [AM3-4240] - Present task should play videos only in full screen
- [AM3-6000] - French LP support for EQA
- [AM3-7519] - Tabular Data only shows created date not updated date

- [AM3-8556] - Allow to check activated response pool tags from edge notations
- [AM3-8786] - Create/update response pool profile when the inbound message indicates profile change
- [AM3-8840] - Assign amelia.engine.pod.instance automatically if not configured
- [AM3-8900] - Ability to handle conversation switching thought Chatbox iFrame
- [AM3-8924] - Learn Create FQT Tasks in BPN
- [AM3-8948] - Implement owner and requester options on Create FQT from agent
- [AM3-8951] - Improve intent evaluation performance
- [AM3-8989] - Add link to 1Desk pickup page from active conversations
- [AM3-9000] - Annotation Tool: Add the anchor tag attribute “target”

## 3.19 RELEASE 3.7.18

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### 3.19.1 Bug Fixes (3.7.18)

- [AM3-7133] - Not able to log the entire conversation with Amelia
- [AM3-7730] - Airport datum no longer normalizing
- [AM3-8779] - Update Cancel DA Dataset
- [AM3-8830] - Utterance with nope without Prometheus is not hitting answer polarity
- [AM3-8871] - Annotation framework, issues with ampersand in utterance
- [AM3-8992] - Built-in Country Datum type not picking up certain countries
- [AM3-9097] - Unable to import response pools
- [AM3-9098] - Person with hyphenated name detects improperly
- [AM3-9118] - Country Datum Type Not Captured With Question Mark
- [AM3-9120] - Global default for UI bundle is not being set
- [AM3-9182] - Missing NoopFormatterConfig bean prevents AdminWeb from starting on French
- [AM3-9187] - Ensemble model not calibrating classifier confidence scores
- [AM3-9189] - Confidence Weighted Classifier fails to upload in admin web and through SDK
- [AM3-9197] - Integration Service: Store past deployments for prod/dr
- [AM3-9224] - Annotation Tool: For each annotation, store unique id instead of name to database
- [AM3-9260] - Annotation input Left Key arrow triggers text
- [AM3-9271] - Remove Redis from admin service
- [AM3-9285] - Cannot add intent utterances
- [AM3-9324] - Amelia sends wrong entities in FQT
- [AM3-9325] - Amelia doesn't auto-deploy learned knowledge in some cases
- [AM3-9422] - Metrics Fixes
- [AM3-9461] - Handle invalid models in model server
- [AM3-9475] - Normalizer resources not loaded in LPs
- [AM3-9482] - Avoid entity caching issues when normalizing custom entities

### 3.19.2 New Features (3.7.18)

- [AM3-5720] - Add domain code/name to execution object
- [AM3-5990] - Add annotation tool support to Intents - Answer FAQ
- [AM3-6353] - Expose name of the running BPN

- [AM3-6369] - Replace hard delete with soft delete for AIML
- [AM3-7301] - Create a UI for the validation
- [AM3-7591] - Add controller support to annotate Intents - Answer FAQ
- [AM3-8145] - Display edge expression and task name without going into edit mode
- [AM3-8233] - Add ability to disable entities
- [AM3-8805] - Add revision number to script library tree
- [AM3-8949] - Determine if the user is coming from a specific channel within BPN
- [AM3-9084] - Add support for features that can have multiple values on a single DepNode
- [AM3-9086] - Expand Syntactic Bigrams with Relation to support Semantic labels
- [AM3-9112] - Allow attaching FQT to new conversation and providing an initial intent and entities
- [AM3-9185] - Expose application metrics to Prometheus and elk if configured
- [AM3-9205] - Add MapExtractor and MultiValueExtractor UI for training
- [AM3-9236] - Add revision number to script library tree
- [AM3-9237] - Add support for French decimal tagger
- [AM3-9280] - Expand Syntactic/Semantic Bigrams with Relation to support Different Extractors for each node
- [AM3-9281] - Add Symantic/Syntactic Bigram with Relation for Intents
- [AM3-9302] - Allow graph builder to build partial graphs
- [AM3-9315] - Remove auto-set hostname and install from metrics
- [AM3-9317] - Entities spinner should reset after error has been viewed
- [AM3-9440] - Dutch Currency BPN system tests failing
- [AM3-9450] - Make L7 or L4 GRPC load balancing configurable
- [AM3-9457] - Show who made deploy/undeploy request in UI
- [AM3-9463] - Lettuce metrics should use label not prefix for redis name
- [AM3-9467] - Don't reuse existing entities in BPN learning unless question matches
- [AM3-9470] - Add disableAutoExecution attribute to created fqt while escalated
- [AM3-9516] - Feature to rename AIML files in admin UI

## 3.20 RELEASE 3.7.19

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### 3.20.1 Bug Fixes (3.7.19)

- [AM3-2266] - Non-unique key-value pairs in lemma dictionaries
- [AM3-4731] - Opening a BPN sometimes has nothing visible
- [AM3-7433] - Custom regex does not work in intent/goal grammars
- [AM3-7787] - County and City Datum types lowercase values in say task even with Formatter
- [AM3-7789] - Temperature Datum Entity does not convert back to Imperial correctly using Formatter
- [AM3-7967] - Unable to delete export transcripts from metric tab
- [AM3-8568] - Annotation framework popups close intermittently
- [AM3-8843] - Predict UI no longer displays intent scores below the intent threshold
- [AM3-9077] - RegEx Module Incorrectly Evaluate Apostrophe in Utterance
- [AM3-9339] - A user with "Default User Authentication Policy" fails to login if there's an External Uid set in the user profile

- [AM3-9345] - Account Service - Message dropped on recovery WARN
- [AM3-9371] - notes key returning null on bundle object
- [AM3-9413] - No authentication system
- [AM3-9521] - JSON object has changed in Amelia
- [AM3-9523] - JSON string cannot be set as outputVariable
- [AM3-9541] - Profile specific beans in DomainProfileRegistry do not work with multi-language
- [AM3-9554] - Amelia integration designer fails with duplicate ids
- [AM3-9585] - Automata execution steps are printed in Amelia Chat window when user only approves automata via IPlearning
- [AM3-9598] - Warning erroneously displayed while deploying certain BPN Present tasks
- [AM3-9648] - Annotation - Input - Highlight changes position
- [AM3-9652] - Cannot train intent model with repeated utterances in the same Intent
- [AM3-9684] - Process variables are becoming 'null' at unexpected intervals once it's being used

### 3.20.2 New Features (3.7.19)

- [AM3-3896] - Check references to BPN task elements in parent domains
- [AM3-7608] - Domain switching improvements for configuration, CQA, prediction, testing
- [AM3-7986] - Add punctuation/whitespace filter preprocessor to custom entities
- [AM3-8647] - Rest Execution API for integration flows outside of conversations (core)
- [AM3-9423] - Merge Map and MultiValue extractors
- [AM3-9527] - Create new Amelia admin page to edit a BPN model revision
- [AM3-9529] - Save newly learned BPN model under the respective conversation ID
- [AM3-9530] - Integration grpc crypto should respect host name override
- [AM3-9543] - Add escalation metadata to learned BPN model revision
- [AM3-9597] - Allow BPN similarity algorithms to be configured per language

## 3.21 RELEASE 3.7.20

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### 3.21.1 Bug Fixes (3.7.20)

- [AM3-9725] - Process messages from asynchronous backend processes on same engine

### 3.21.2 New Features (3.7.20)

- [AM3-9738] - Add conversation duration metric

## 3.22 RELEASE 3.7.21

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### 3.22.1 Bug Fixes (3.7.21)

- [AM3-8296] - Annotated response pool entries cannot be edited
- [AM3-9176] - Entering a "Less than" character in a BPN task annotated in the past clears all text after it
- [AM3-9651] - WAITING\_REPLY response pool cannot be disabled
- [AM3-9784] - Fixing dropdown issue on the login page

- [AM3-9786] - Executing Process after login from the URL parameter

### 3.22.2 New Features (3.7.21)

- [AM3-9452] - Allow for system/domain configuration for triggering intents via button responses
- [AM3-9498] - Add slot references to classifier model revisions
- [AM3-9637] - Persistent key-value store for integration flows
- [AM3-9691] - Response pool entry- annotation input - pressing enter trigger error
- [AM3-9743] - Add API to manually install content packs
- [AM3-9797] - SAML for external auth data, return multiple value if multiple value are given in the SAML response

## 3.23 RELEASE 3.7.22

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### 3.23.1 Bug Fixes (3.7.22)

- [AM3-6934] - Scroll in Property Panel for Ask Task Does Not Show All Properties
- [AM3-9834] - Semnet document delete/remove document not working.
- [AM3-9861] - Fix precondition issue with map and multi value extractors
- [AM3-9863] - Intents linked to entity grammars cause runtime exception during intent processing
- [AM3-9924] - NPE From Coref

### 3.23.2 New Features (3.7.22)

- [AM3-5998] - Finnish LP Support for EQA
- [AM3-9862] - Add Extended Named Entities and Predicate Functions for Japanese Parser
- [AM3-9876] - Move NLU import/export services to a separate module

## 3.24 RELEASE 3.7.23

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### 3.24.1 Bug Fixes (3.7.23)

- [AM3-3767] - Optimize Tabular Data query
- [AM3-9965] - Spanless entity empty labels are ignored during predictions

## 3.25 RELEASE 3.7.24

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### 3.25.1 Bug Fixes (3.7.24)

- [AM3-3673] - Allow manual selection of MIME type with "non-standard" filename extension
- [AM3-6596] - "hej då/ hejdå" (goodbye) is triggering the greeting response pool
- [AM3-9068] - Widget Helper regression/refactor
- [AM3-9079] - Total handle time being miscalculated
- [AM3-9885] - CleanupConversationsJob is very slow in large environments
- [AM3-9928] - Retrain Spanish dialog act classifier to limit scope of PAUSE

- [AM3-10075] - Tabular Data: String column is inaccurately identified as Double during import with certain data inputs
- [AM3-10103] - camel-xml-json flows can bring down integration service
- [AM3-10104] - Domain summary cleanup is not working
- [AM3-10117] - tabular data not able to override explicitly changed metadata causing parsing exception in engine logs
- [AM3-10125] - Marking summaries dirty takes longer than the time to calculate the summary
- [AM3-10136] - Conversation attribute cache is not purging entries
- [AM3-10155] - Tabular Data: Disallow forced invalidation of cached content
- [AM3-10161] - Tabular Data: UI does not account for slow loading and saving times for big files

### 3.25.2 New Features (3.7.24)

- [AM3-8265] - Sandbox response pool JEXL engine
- [AM3-8521] - Escalate if response pool was not found
- [AM3-9408] - Integration Service: initial number of listeners is now 10 listeners
- [AM3-9762] - Make process graph matching and merging algorithms generic
- [AM3-10025] - Improve French PSA classifier
- [AM3-10044] - Move the logic to install integration flows to a shared module
- [AM3-10141] - Save Conversation ID on MessageAnalysis (sooner)
- [AM3-10179] - Update spring boot 2.1.6
- [AM3-10195] - Add support for more Japanese classifier training features

## 3.26 RELEASE 3.7.25

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### 3.26.1 Bug Fixes (3.7.25)

- [AM3-10222] - Issue evaluating EL in custom properties used in voice integration

### 3.26.2 New Features (3.7.25)

- [AM3-10214] - Add index to escalation.conversation\_id

## 3.27 RELEASE 3.7.26

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### 3.27.1 Bug Fixes (3.7.26)

- [AM3-8317] - Improve Japanese currency parsing
- [AM3-8426] - Spanish LP: Escalation token to be translated as per locale setting
- [AM3-8810] - Admin Service - Invalid ID format Error
- [AM3-9773] - Use domain heirarchy to provide AIML response
- [AM3-9855] - Built In Datum Types for Spanish Not Provided Results
- [AM3-10011] - Built In Date Entity not working for Spanish Language Pack
- [AM3-10013] - Built in Date\_Time\_Range not working for Spanish Language Pack
- [AM3-10215] - Tabular Data: Do not retry loading invalid tabular data files to cache

- [AM3-10233] - Logout/Login loop occurs when using immediate Auth System
- [AM3-10235] - The file name issue in present lemma after download
- [AM3-10237] - Issues in Bulk Intent Prediction in Evaluate
- [AM3-10240] - UserID should be set on Session when available
- [AM3-10253] - Wrong INIpService bean wired in DefaultFeatureTestingService
- [AM3-10268] - Upgrade IPsoft Process Graph dependency
- [AM3-10280] - Create fqt not working
- [AM3-10281] - After deleting a property set a new one with the same name cannot be created
- [AM3-10283] - Predict, Annotate, other Admin Web services broken from prior update
- [AM3-10294] - SessionTimeoutModal actions do not work on user-interface
- [AM3-10326] - levenshteinDistance NPE

### 3.27.2 New Features (3.7.26)

- [AM3-5474] - Fail BPN execution if changes to the timezone are detected
- [AM3-9424] - Create Prefecture datum type for Japan addresses
- [AM3-9478] - Trigger the Intent
- [AM3-9919] - Put client csrfToken on httpSessionCheck for comparison and validation
- [AM3-9973] - Support for 1RPA 2.1.4 bot execution from Amelia
- [AM3-10229] - Allow INIpService to be overridden in language packs
- [AM3-10282] - Copilot: gRPC passing of messages to/from Recommendation engine

## 3.28 RELEASE 3.7.27

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### 3.28.1 Bug Fixes (3.7.27)

- [AM3-2794] - response:fuzzy and response:levenshteinDistance not functioning
- [AM3-9502] - Annotation Tool: Increase the maximum allowed length of attribute values
- [AM3-9914] - Currency tagger picks up invalid overlapping spans of text
- [AM3-9923] - Description is Misspelled in Integration Editor "Discription"
- [AM3-10064] - Semnet Configuration setting value to 1 not working in some settings
- [AM3-10323] - Integration flow with specific properties are not opening after core upgrade (again).
- [AM3-10331] - Auto-generate SlotQuestion IDs
- [AM3-10350] - Session Timeouts do not respect configuration
- [AM3-10392] - Ensure that the deletion of tabular data and its metadata takes place in a single transaction
- [AM3-10405] - Label cardinality explosion in exported metrics
- [AM3-10409] - Add si to boolean normalizer for Spanish
- [AM3-10410] - Ontological currency extractor fails during normalization
- [AM3-10417] - Changes in Tabular Data linked to Entities don't take effect after upgrade to 3.7.26
- [AM3-10418] - Date time range is populating future date when past date is required
- [AM3-10423] - Spanish currency issues
- [AM3-10424] - admin-service health check shows down
- [AM3-10430] - When deleting a grammar, an unintended one is deleted

- [AM3-10437] - Ordinals not working in Spanish
- [AM3-10440] - Admin service grpc service does not work with TLS
- [AM3-10441] - Fix validation errors in contentPackInstallerDeployment system test
- [AM3-10445] - Invalid SQL in lucene model repositories

### 3.28.2 New Features (3.7.27)

- [AM3-9679] - 1Store Amelia single sign-on integration
- [AM3-9764] - Add content pack library as a dependency
- [AM3-9813] - Record / Export chats even if no user interaction

## 3.29 RELEASE 3.7.28

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### 3.29.1 Bug Fixes (3.7.28)

- [AM3-9709] - Getting bad request on static dialogue generation with response pools and tags
- [AM3-10176] - BPN Annotation text being cut off
- [AM3-10333] - Stabilize ArbitraryBpnMergingServiceTest.testMergeDynamicFamily\$WithGateways
- [AM3-10431] - Amelia ranks the BPN Sub-System down when a gateway at the start of the next BPN cannot be evaluated, causing the another responder to take over in the current BPN
- [AM3-10460] - WebSocket messages no longer keep session alive

### 3.29.2 New Features (3.7.28)

- [AM3-2911] - Pass validation in case of a recursion when a BPN workflow calls itself

## 3.30 RELEASE 3.7.29

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### 3.30.1 Bug Fixes (3.7.29)

- [AM3-9744] - BPN model that references itself cannot be undeployed
- [AM3-9996] - Amelia DATE\_RANGE performs poorly
- [AM3-10463] - Attach file no longer works with create FQT

### 3.30.2 New Features (3.7.29)

- [AM3-10429] - Allow override of agent's name when picking up escalations through gateways

## 3.31 RELEASE 3.7.30

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### 3.31.1 Bug Fixes (3.7.30)

- [AM3-5120] - BPN is assigned at a domain level and doesn't remove deleted BPN from the domain level
- [AM3-8510] - Continuation process not called when user decides not to continue with previous intent
- [AM3-10328] - Tabular Data does not work as expected with Dates for Gt, Gte, Lt, and Lte
- [AM3-10383] - Harden integration service startup against flow partial failures

- [AM3-10473] - Direct match doesn't work for FAQs generated by QG module
- [AM3-10503] - Slot and Goal grammar parser not overridable for language packs
- [AM3-10513] - Session listeners not working
- [AM3-10538] - Some Multi Value NLP Features are not generated correctly
- [AM3-10554] - Fix Japanese Grammar Config in Admin Service RPM
- [AM3-10572] - Some Japanese V2 Grammars don't load in V3

### 3.31.2 New Features (3.7.30)

- [AM3-8026] - Create a way to prevent an End User to "run the workflow"
- [AM3-8508] - Enhance BPN Complete Context Lemma
- [AM3-9940] - Copilot: Notepad Admin backend
- [AM3-10261] - Amelia 3.7.16 BPN: Code completion doesn't work in full screen mode
- [AM3-10482] - Allow backjumps and go-back to be disabled
- [AM3-10484] - Annotation Tool: Provide support for dropdown options
- [AM3-10491] - Add metrics for dirty duration summaries
- [AM3-10534] - Make /apollo/sso without tg a valid request
- [AM3-10539] - Remove duplicate indexes from CDB
- [AM3-10558] - Create a new method to add an integration flow asset in content packs
- [AM3-10570] - Add maximum BPN task executions per message configuration setting

## 3.32 RELEASE 3.7.31

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### 3.32.1 Bug Fixes (3.7.31)

- [AM3-7059] - Japanese PERSON datum slot fails to return firstName or lastName 2
- [AM3-10576] - Make Boolean datum functional in Japanese LP
- [AM3-10580] - Make PHONE NUMBER datum type handle 11 digit mobile numbers without hyphens
- [AM3-10587] - Intent trainer displays error, but continues training, status doesn't update
- [AM3-10588] - Notification banner styling
- [AM3-10595] - Japanese Date datum does not recognize 明日 (tomorrow) and 今日 (today) and 8月31 日 format anymore

### 3.32.2 New Features (3.7.31)

- [AM3-9355] - Delegate currency extraction to Duckling for Spanish
- [AM3-10309] - Adjust BPN timeouts on integration flows in designer
- [AM3-10584] - Remove warning log message if response pool entries were not found for the locale

## 3.33 RELEASE 3.7.32

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### 3.33.1 Bug Fixes (3.7.32)

- [AM3-9943] - admin-service duplicate entry for key 'PRIMARY'
- [AM3-10582] - Improve Person datum's extraction capabilities

- [AM3-10604] - Notes in BPN covers task
- [AM3-10658] - Answering はい (yes) fills STREET\_ADDRESS and POSTAL\_CODE slots that should not be filled
- [AM3-10675] - 1Desk content pack installation status to be shown in BPN
- [AM3-10676] - automatic /api/nlu/test/list request cases immediate logout
- [AM3-10677] - Fill one set of address entities only on ask for the slot
- [AM3-10684] - Predict UI doesn't work when global has a slot
- [AM3-10696] - Elicited entities are not showing in the Debug window's Entities tab
- [AM3-10710] - Annotation Tool/save file confirmation missing
- [AM3-10712] - How to get intent score with Java client SDK
- [AM3-10713] - Send the value determined for allowIntentDetectionInFormInput back via InboundUserUtteranceMessage
- [AM3-10716] - Track last failed login on user for LDAP auth policies
- [AM3-10718] - JSON Export shows false entity prediction score
- [AM3-10725] - Fix Fuzzy response behavior

### 3.33.2 New Features (3.7.32)

- [AM3-5218] - Allow Intent Switching Inside Pre-Escalate BPNs
- [AM3-10186] - Add definition ID of newly created "Create FQT" task to OutboundFqtCreatedMessage
- [AM3-10565] - Add audit trails for BPN entities
- [AM3-10605] - Copilot: Remove name, add created/modified to snippets
- [AM3-10666] - log begin and end of flow requests in container
- [AM3-10705] - Service for CoPilot to Pass Variables to frontend

## 3.34 RELEASE 3.7.33

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### 3.34.1 Bug Fixes (3.7.33)

- [AM3-10678] - Enable Role entities for COMPOSITE datum type
- [AM3-10704] - AIML Inheritance Issue
- [AM3-10758] - Japanese CURRENCY datum does not parse 百, 千 and 万
- [AM3-10768] - Unify Predict API with conversation behavior for composite entities
- [AM3-10811] - Intent/Entity Prediction details in Java SDK and JSON Export

### 3.34.2 New Features (3.7.33)

- [AM3-10754] - Make ALL conversations available for training in Annotation Framework's Learn module
- [AM3-10817] - Force/only enable TLS 1.2 in all spring boot endpoints

## 3.35 RELEASE 3.7.34

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### 3.35.1 Bug Fixes (3.7.34)

- [AM3-9789] - Metrics calculations can fail in case of many distinct BPNs running in a given time period

- [AM3-10736] - Spanish LP - DATE\_TIME\_RANGE entity not passing tests
- [AM3-10831] - UpdateHourlyConversationSummariesJob metrics job fails if process and folder are deleted while conversation is running
- [AM3-10834] - Issue while selecting conversations in the Annotation framework

### 3.35.2 New Features (3.7.34)

- [AM3-10797] - Make Ask task hint text dynamic
- [AM3-10827] - Allow disabling select features that can change behavior when migrating to 3.7
- [AM3-10844] - Allow to redeploy integration flows during content pack installation

## 3.36 RELEASE 3.7.35

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### 3.36.1 Bug Fixes (3.7.35)

- [AM3-10871] - CDB sql migration fails in multi-pod environments

## 3.37 RELEASE 3.7.36

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### 3.37.1 Bug Fixes (3.7.36)

- [AM3-8743] - Change System generated BPN createdby and modifiedby name from agent's name
- [AM3-10420] - Present lemma failing due to default Response Pool
- [AM3-10735] - Spanish LP - Volume entity not passing EDDIE
- [AM3-10805] - Domain and Domain ID are empty when exporting metrics in JSON format
- [AM3-10861] - Unsupported dialog act label: ACK
- [AM3-10876] - Unable to escalate from intent triggered from pre-escalation
- [AM3-10887] - Postal code built-in entity is no longer being extracted
- [AM3-10891] - New Features still turned on after 3.7.35 implementation
- [AM3-10892] - CITY datum type does not work for common names of cities

## 3.38 RELEASE 3.7.37

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### 3.38.1 Bug Fixes (3.7.37)

- [AM3-10479] - Unable to deploy and undeploy Integration Flow
- [AM3-10938] - Jexl Builder cannot set strict
- [AM3-10958] - Answering はい (yes) fills PREFECTURE slots that should not be filled
- [AM3-10973] - Display cleaner sentences in FAQ transducer
- [AM3-11011] - Spanish Quantity Normalizer NPE

### 3.38.2 New Features (3.7.37)

- [AM3-10843] - Implement offline install of manually downloaded content packs
- [AM3-10929] - Support for Outgoing and Incoming variables to and from 1RPA
- [AM3-10937] - Integration Service - property for case insensitive certificates

## 3.39 RELEASE 3.7.38

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### 3.39.1 Bug Fixes (3.7.38)

- [AM3-9925] - Ordinal Entity Type is not working
- [AM3-10361] - Utterances with higher intent scores not firing while lower scoring utterances fire
- [AM3-10767] - Mindview Blank in Internet Explorer (IE) 11
- [AM3-10860] - Currency Entity Filled with Value from Date
- [AM3-10911] - Transfer button greying out
- [AM3-10956] - Ask for the slot PHONE\_NUMBER fills POSTAL\_CODE entity as well
- [AM3-11043] - Users with invalid email addresses can no longer authenticate
- [AM3-11091] - Resource Manager dependency not included in admin-web RPM
- [AM3-11093] - Race Condition making Grammar Parsers when using Lemmatizing Parser
- [AM3-11104] - IntegrationRequestContextModel status is confusing
- [AM3-11164] - Reset focus id for non-slot based Ask task
- [AM3-11080] - Escalated conversations disappear in accordion view
- [AM3-11085] - French Response Pool not triggered although expected
- [AM3-11199] - Auto undeploy state can lead to incorrect submissions
- [AM3-11282] - null value in SAML Attributes caused Redis issue

### 3.39.2 New Features (3.7.38)

- [AM3-8468] - Classifier model bulk import/export API support java client support
- [AM3-11079] - Use duckling for duration extraction

## 3.40 RELEASE 3.7.39

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### 3.40.1 Bug Fixes (3.7.39)

- [AM3-11170] - Semnet document doesn't work
- [AM3-11293] - Fix StartDate test for Composite Date Range SystemTest
- [AM3-11315] - Cannot upload non-English locale AIML files to global domain
- [AM3-11357] - Corpus import by domainId broken
- [AM3-11375] - Domain switching not working

### 3.40.2 New Features (3.7.39)

- [AM3-11014] - BPNs remain highlighted after deselecting
- [AM3-11115] - Additional Datum Types for French Language Pack
- [AM3-11159] - Amelia Integration Service giving exception

## 3.41 RELEASE 3.7.40

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### 3.41.1 Bug Fixes (3.7.40)

- [AM3-10177] - BPN info boxes don't disappear by themselves

- [AM3-10702] - After replacing a file in Tabular data the row count is not updated
- [AM3-11185] - Conversations remain open or weeks+ and conversations not showing up in Metrics
- [AM3-11308] - TRIE classifier stop words are not localized
- [AM3-11430] - Agent View - X to close conversation Inconsistencies
- [AM3-11432] - Reset Conversation Button Causes Agent's to lose the chat in Accordion
- [AM3-11436] - Agent Accordion View - Conversation disappears in chat when user closes

### 3.41.2 New Features (3.7.40)

- [AM3-11108] - Add ability to pass external assets and uninstall content packs
- [AM3-11117] - View and install content packs from 1Store
- [AM3-11141] - Integer Range and Ordinal Range not working.
- [AM3-11286] - Ability to pass dynamic values under "Example" of edge expression
- [AM3-11388] - French DurationRange needs unit specified at both start and end

## 3.42 RELEASE 3.7.41

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### 3.42.1 Bug Fixes (3.7.41)

- [AM3-11186] - Run the Workflow BPN task not working for anonymous users
- [AM3-11278] - Unable to create/change response pool
- [AM3-11330] - AIML Text Edit erases edits after each http session check
- [AM3-11403] - Deadlocks, batch errors and huge number of threads
- [AM3-11542] - Language Specific Grammar Parser doesn't work on grammar update
- [AM3-11559] - Fix migration script
- [AM3-11643] - Norwegian Entailment Classifiers missing

### 3.42.2 New Features (3.7.41)

- [AM3-11405] - Close SNOW case if no agent has picked it up but keep track of it
- [AM3-11411] - Option to show or not show 1RPA Bot status messages in Amelia
- [AM3-10978] - Add a new icon for Admin 1Store section
- [AM3-11569] - Add delete methods in content pack script services
- [AM3-11570] - Encrypt all content pack related information entered by user
- [AM3-11589] - URL Parameter Token Based Authorization
- [AM3-11635] - Allow swapping of training parsers for non-syntaxnet parsing

## 3.43 RELEASE 3.7.42

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### 3.43.1 Bug Fixes (3.7.42)

- [AM3-9538] - Unable to Import Response pools to UAT (xml)
- [AM3-10288] - NLU/DateRange extractor not picking up "starting" and "ending"
- [AM3-11707] - When make date form blank, screen become blank in metrics export window.
- [AM3-11708] - The number of pop ups increase in Contents Manager
- [AM3-11724] - Fix potential NPE while getting agent session in conversation close handler

- [AM3-11784] - Restore passing variables from parent BPN to pre-escalate BPN

### 3.43.2 New Features (3.7.42)

- [AM3-11731] - Allow passing of domain to normalizers
- [AM3-11801] - FAQ appends question mark even if Japanese question mark exists

## 3.44 RELEASE 3.7.43

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### 3.44.1 Bug Fixes (3.7.43)

- [AM3-10949] - Some Spanish system tests depend on what date they are run
- [AM3-11633] - XSS in BPN editor screen
- [AM3-11749] - Danish postal code not recognized
- [AM3-11773] - newline (\n) works in UI but not over amelia-rest-gateway
- [AM3-11782] - Implement a service to support import and export of utterance annotations
- [AM3-11839] - For Japanese, Amelia should not add periods to the end of say task utterances
- [AM3-11853] - Person entity excited by the word "password"
- [AM3-11898] - Manual integration deployment shows misleading status
- [AM3-11983] - Fixing bug in SemnetLuceneModelRepository
- [AM3-11990] - Create FQT verbose field missing

### 3.44.2 New Features (3.7.43)

- [AM3-11777] - Allow annotations to be exported and imported
- [AM3-11780] - Use response pools where it makes sense in LP AIML files
- [AM3-11858] - Use authority to restrict the option for enabling a domain for anonymous access
- [AM3-11859] - Use authority to limit availability of Auto FAQ Transducer and Semnet Configuration in Semantic Memory
- [AM3-11895] - Allow more swapping of training parsers for non-English languages
- [AM3-11940] - Password Reset Modal for password that is expired from login page
- [AM3-11959] - Add encryption key for Content pack integration flow deployment
- [AM3-11964] - Ability to change password expired
- [AM3-11967] - Dropdown list for choosing Custom parser feature
- [AM3-11982] - Copy SpaceAfter in CoNLLUSentenceAnalysisConverter

## 3.45 RELEASE 3.7.44

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### 3.45.1 Bug Fixes (3.7.44)

- [AM3-9340] - Tabular Data "Replace File" doesn't work
- [AM3-11735] - Amelia incorrectly thinks a flow should not be undeployed
- [AM3-11591] - Bpn task name extension is case sensitive
- [AM3-11816] - Amelia Tab Data Sort is not working
- [AM3-11935] - Add Varsågod to Core LP Swedish
- [AM3-12005] - Japanese system tests still expect dot

- [AM3-12025] - All numeric datum type take in account the article "Un" as number 1
- [AM3-12029] - no way to display currency in French in a proper format
- [AM3-12055] - FAQ appends period even if Japanese period or exclamation mark exists
- [AM3-12063] - Change login and othe password forms to be post
- [AM3-12068] - answer Polarity classifier is poor in French, need to be retrain with better utterances
- [AM3-12092] - Semnet Document FAQ cluster Issue
- [AM3-12129] - BPN fails to escalate with an escalate task when invoked via InboundBpnKickOffMessage
- [AM3-12147] - Save TF models to non-hardcoded temporary file
- [AM3-12185] - MultiValue Extractor does not work with Collocation
- [AM3-12197] - Fix issue with loading humanization resource files

### 3.45.2 New Features (3.7.44)

- [AM3-8116] - Allow to remove dash « - » between words
- [AM3-8117] - Apostrophe “ ’ ” remover
- [AM3-8119] - Normalize determinant (ex. : ‘les’ -> {le})
- [AM3-11381] - Social Talk grammars of non-English languages can't be viewed/edited
- [AM3-11719] - Enable French Sentiment Classifier
- [AM3-11798] - Show UI revision names in Current Revisions table
- [AM3-12012] - Add new methods to Content pack script services to check existence of assets
- [AM3-12016] - Allow to manually install content pack with the same version
- [AM3-12039] - Allow to execute specific scripts in content pack installation
- [AM3-12041] - MultiValueExtractor fails if SRL ngram is > 2
- [AM3-12096] - Improve PWSecurity Logging
- [AM3-12123] - Support Bulk NLU support with override policy in content pack
- [AM3-12165] - Looks for faq's in domain hierarchy and also add faq's and remove faq's from content pack
- [AM3-12167] - Add property to allow Run the Workflow command for Anonymous users

## 3.46 RELEASE 3.7.45

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### 3.46.1 Bug Fixes (3.7.45)

- [AM3-9073] - Reliability of the responder for imperative statements (UnknownProblemDefaultResponder)
- [AM3-9136] - Amelia Trainer silently fails with model names that contain a hyphen/dash
- [AM3-10257] - Intent Name vs. Intent Code confusion is causing issues when training/validating.
- [AM3-10828] - Analytic Memory should be removed from Mind view in default chat UI
- [AM3-10841] - Comma can't be selected in stop word preprocessor
- [AM3-10981] - BPN becomes blank in UI if not used for some time
- [AM3-11896] - Character limit issue on the Team member of the Escalation Team UI prohibits function of removing users
- [AM3-11912] - CQA does not trigger when intent name has spaces
- [AM3-12038] - Email with a Capitalized domain doesn't get extracted

- [AM3-12051] - some dialogAct behave poorly in French : need to retrain the classifier with the fix
- [AM3-12184] - Semnet bugfixes and system fixes
- [AM3-12236] - slot:fuzzy multiple edge match causes escalation even if edge matches exactly
- [AM3-12281] - Deployment of the new version of existing integration is not possible

### 3.46.2 New Features (3.7.45)

- [AM3-10838] - Auto-deploy OOD model with Intent Model deployment
- [AM3-12252] - Remove unnecessary datum type list in Annotation UI

## 3.47 RELEASE 3.7.46

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### 3.47.1 Bug Fixes (3.7.46)

- [AM3-8794] - French EQ: Negative emotion not detected
- [AM3-9060] - Amelia doesn't escalate with low EQ measurement
- [AM3-9322] - Training DNN models fail when evaluating on labels that did not appear in training set
- [AM3-10467] - US\_STATE Datum only captures North Carolina when the following utterance is said "I want to know how many employees in Georgia and North Carolina"
- [AM3-11331] - Social talk/AIML Norwegian LP is still English
- [AM3-11800] - Ask and Ask For the Slot behave differently with social responders
- [AM3-12124] - BPN error not triggering DiagnosisMessageFromAmelia message
- [AM3-12196] - URL variables not available in Cust UI when greeting intent is defined on domain
- [AM3-12293] - "Sais-tu" is not normalized to infinitive form
- [AM3-12318] - User uttering "I have been waiting a long time" should not trigger Amelia to Pause
- [AM3-12341] - Unstable Dutch AIML system test
- [AM3-12342] - German Address capitalization issue breaks BPN system test
- [AM3-12343] - Duplicate matchers for Swedish AIML breaks system test
- [AM3-12344] - Spanish Airport system tests have broken with recent AirportNormalizer changes
- [AM3-12364] - A domain can be obtained by unauthorized users
- [AM3-12402] - Imprecise isJson check in API blocks TSV training from having numerical labels
- [AM3-12433] - The wrong Semnet Analyzer is used for LPs during Indexing
- [AM3-12520] - French currency\_range and percentage\_range are not active

### 3.47.2 New Features (3.7.46)

- [AM3-10936] - In the user edit screen, can the concurrency and other escalation fields be editable by domain admins/supervisors?
- [AM3-12269] - Allow agents & agent supervisors assigned to multiple queues to log into one or more - but not all - assigned queues
- [AM3-12387] - Allow Semnet FAQ Responder to be overridden with different implementations for non-English languages
- [AM3-12394] - Pass Name entity when filled to CoPilot for anonymous domain

## 3.48 RELEASE 3.7.47

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### 3.48.1 Bug Fixes (3.7.47)

- [AM3-11829] - Running the Dialog Walker tool it kills the host
- [AM3-12380] - SSH component - <https://camel.apache.org/components/latest/ssh-component.html>
- [AM3-12487] - Process Variables cannot be viewed in the Mind View after the BPN has been executed, even in the same conversation
- [AM3-12500] - Scroll button in the scripts is not visible for the Windows users on all the browsers
- [AM3-12595] - Training fails for DNN classifier with explicit validation set
- [AM3-12593] - Don't use Unicode Normalization in Japanese for Custom Entity

## 4. Component Versions

This section provides a detailed list of the version numbers for each component included in this release.

Component	Version	Changed?
Custom User Interface (UI)	5.18.7	
RabbitMQ	3.7.21	
HAproxy	1.7.8	
Percona	5.7.27	
Java JDK	JDK 171	
Redis/Redis-Sentinel	5.0.5	
AV Gateway	1.0.4	Yes
Syntaxnet	1.0.3	
Duckling	3.7.7	

## 5. Amelia 3.7.x System Architecture

This diagram reflects the current architecture of the Amelia software system.

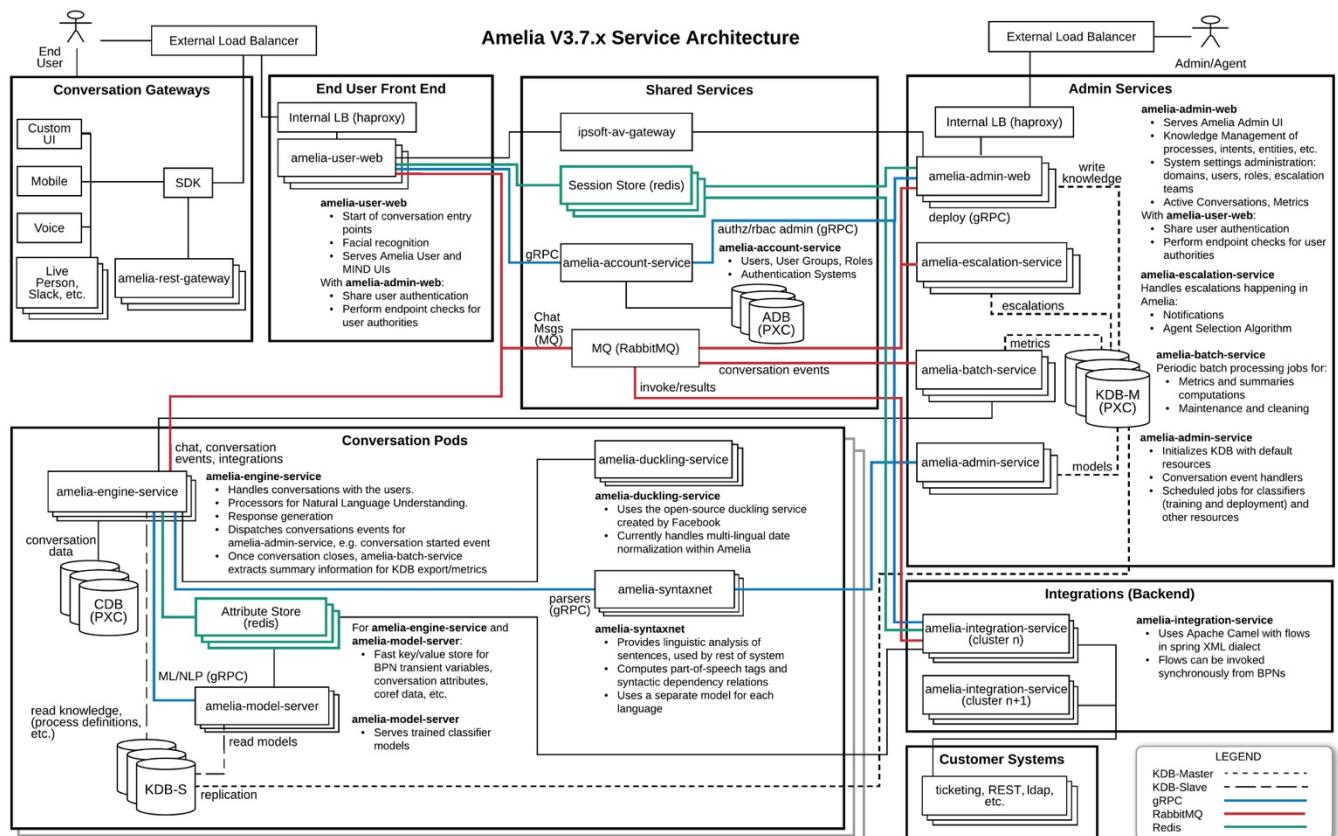


Figure 32. Amelia 3.7.x System Architecture

# 6. Glossary

This table describes common terms used in these release notes.

**Table 15. Glossary of Terms**

Term	Definition
AIML	Artificial Intelligence Markup Language (AIML) is an XML dialect used by natural language software agents. Elements marked up with AIML tell agents what to say in different situations and, in some cases, how to say their response.
API	Application Programming Interface is a set of subroutines, data structures, communication protocols, and other tools used to build software. An API provides the building blocks used by programmers to build software applications.
Business Process Network (BPN)	Defines process-based interactions between Amelia and a user, for example, unlocking an account or resetting a password.
Classifier Model	A data set Amelia creates with intents, entities, utterances, and other data to understand conversation used to describe a topic. Algorithms process the input data to evaluate the importance and weight of words and phrases in the data set.
CMS	Content Management System is one or more software programs used to create, manage, and publish digital content.
CQA	Clarifying Question Answer (CQA) is the ability for Amelia to determine potential confusion within utterances and ask questions to clarify the user intent in the utterance.
CSV	Comma Separated Values is a text file where row data is separated (delimited) with commas.
DNN	A Deep Neural Network (DNN) Is an artificial neural network that mimics the complex neural networks in animal and human brains. DNNs have multiple layers between input and output with each layer evaluating utterances for words and the relationships between words.
ELMo	Embeddings from Language Model (ELMo) is a Natural Language Processing (NLP) model used to evaluate utterances to determine the meaning of a single word based on words around it. For example, the word bank has different meanings in the utterances, “The bank down the street was robbed” and “We had a picnic on the bank of the river.” The words robbed and river indicate the word bank has a different meaning in each sentence.
Entity	Data collected to complete an intent goal, for example, a date of birth for a loan application.
EQA	Elaborate Question Answering (EQA) involves asking dynamic follow-up questions for more information when an utterance doesn’t converge on an intent.
FQT	Fully Qualified Task, a task that has been evaluated as acceptable to be processed to resolution.
HMR	Hot Module Replacement is a feature of webpack software module bundler to allow modules to be exchanged, added, or removed while a software application runs.
Intent	The user’s goal, for example, to qualify for an auto loan. The goal requires a process to complete.
JEXL	Java Expression Language is library to provide dynamic scripting features in applications and frameworks written in the Java programming language.

Term	Definition
JSON	JavaScript Object Notation is a text data storage standard that uses name (key):value pairs to organize data in an ordered list easily processed by many programming languages.
LP	Language Pack, software that when installed provide Amelia with the ability to speak a specific language.
MIME	MIME (Multi-Purpose Internet Mail Extensions) is an extension of the original Internet e-mail protocol to let people exchange different kinds of data files on the Internet, for example, audio, video, images, application programs, and other kinds, as well as the ASCII text handled in the original protocol.
Negative Utterances	An unlabeled training utterance, negatives help Amelia learn the difference between tasks and knowledge she is trained on and things she is not. They help Amelia understand words that are similar but have different unrelated meanings than utterances used to trigger the intent goal and Amelia's processes.
NER	Named Entity Recognition is part of extracting information to locate named entity mentions in unstructured text then classify the entities into categories, for example, person names, organizations, and date/time expressions.
NLP	Natural Language Processing (NLP) mixes computer science, information engineering, and artificial intelligence to program computers to analyze and understand natural human language, the unconstructed casual way people talk.
NPE	NullPointerException is a Java RuntimeException. In Java, a special null value can be assigned to an object reference. A NullPointerException is thrown when an application attempts to use an object reference that has the null value.
PSA	The Personal Speech Act (PSA) is a classifier used to identify insults and compliments.
SAML	Security Assertion Markup Language (SAML) is an open standard used to exchange authentication and authorization data between an identity provider and a service provider. SAML is an XML-based markup language.
SpEL	Spring Express Language is a programming language that supports querying and manipulating an object graph at runtime.
SSL	Secure Sockets Layer is a security technology to establish an encrypted link between a web server and web browsers.
TLS	Transport Layer Security (TLS), and its now-deprecated predecessor, Secure Sockets Layer (SSL), are cryptographic protocols designed to provide communications security over a computer network. Websites use TLS to secure all communications between their servers and web browsers.
TSV	Tab Separated Values is a text file where row data is separated (delimited) with tabs.
Utterance	Words that represent a natural language sentence, for example, "I want to reset my password." A variety of possible utterances a person might say in a conversation are used to train Amelia.