

A ukulele is the central focus, positioned vertically. The background is a rich, textured green, overlaid with various tropical plants and flowers in shades of yellow, orange, and light green. The ukulele has a dark wood body with a prominent grain, a dark fretboard, and a light-colored soundhole. The text 'SESSION UKULELE' is centered over the instrument in a clean, white, sans-serif font.

# SESSION UKULELE

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# 1. Disclaimer

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## 2. Welcome to Session Ukulele

Thank you for purchasing Session Ukulele, a ukulele sample library powered by KONTAKT. This document will provide you with instructions and advice on how to use the library.

We hope that you will be truly inspired by using Session Ukulele.



## Document Conventions

In this document the following formatting is used to highlight useful information:

<i>Italics</i>	Indicates paths to locations on your hard disk or other storage devices.
<b>Bold</b>	Highlights important names, concepts, and software interface elements.
[Brackets]	References keys on a computer's keyboard.
▶	Single item instructions are represented by a bullet icon.
→	Results in procedures are represented by an arrow icon.

The following three icons represent different types of information:



The **light bulb** icon indicates a useful tip, suggestion, or interesting fact.



The **information** icon highlights important information that is essential for the given context.



The **warning** icon alerts you of serious issues and potential risks that require your full attention.

## 3. About Session Ukulele

Session Ukulele captures the sound of ukulele and charango instruments built by master luthiers in Hawaii and Bolivia. A total of 385 patterns and articulations were performed live by professional ukulele and charango player Martin Kursawe, including round robin variations, velocity layers, and multiple fret positions over the range of two octaves.

You can choose from the bright and cheerful tones of the soprano ukulele, the warmth and resonance of the tenor ukulele, and the lively and distinct character of the charango. The three instruments each offer two different instrument variants: the pattern instrument and the melody instrument. The pattern instrument lets you build ideas from playable strumming and picking patterns, while the melody instrument lets you craft your own melodies.

The loops and phrases are grouped into 89 song presets that make it easy to switch between patterns during a performance, with the engine automatically selecting the most natural sounding chord inversions. You can control patterns using keyswitches and play them on your MIDI keyboard. Patterns, voicings, and chord progressions can be exported as MIDI files using drag and drop into the DAW.

Three types of finger vibrato, sympathetic resonance, fret noises, and authentic articulation options let you create your own custom sound. You can choose from one dynamic and two condenser microphone setups, and use the doubling function to create a wide stereo image. In addition to custom EQ presets and compression, you can process the sound using delay, reverb, modulation, and lo-fi effects.

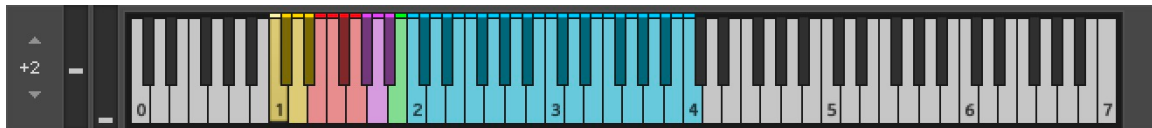
At the core of Session Ukulele is its revolutionary playback engine. You can seamlessly switch between different patterns and alter the dynamics in real-time, thus creating authentic musical performances. The integrated patterns can be played over a wide tempo range without compromising the sound quality. Since the timing and dynamics of the original performance have been preserved in every nuance, the instruments feel natural and organic.

## 4. Using Session Ukulele

Session Ukulele contains two different instrument variants, the Pattern instrument and the Melody instrument. While the Pattern instrument, **Session Ukulele.nki**, is designed for the convenient playback of patterns, the Melody instrument, **Session Ukulele (Melody).nki** allows you to play your own melodies and combine them with the included patterns within a single instrument.

The Session Ukulele instruments are designed to be played using a MIDI keyboard. The patterns are triggered and selected via MIDI keyswitches, allowing for fast arranging.

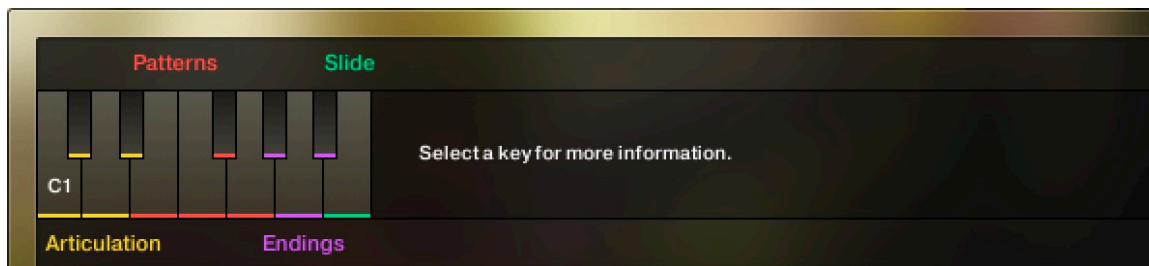
Patterns automatically synchronize to the tempo of your DAW and can be played at any tempo from 60 to 160 bpm while preserving the highest possible sound quality. Since the patterns are based on actual recordings by a professional studio musician, they sound best in the typical tempo range of a given musical style.



*KONTAKT's on-screen keyboard, presenting the current keyboard layout.*

On KONTAKT's on-screen keyboard, all relevant keys and key ranges are color-coded: keyswitches for melody articulations (yellow), patterns (red), endings (purple), and slide (green). Melodies or chords can be played in the blue key range.

**i** To view a detailed description of each key, you can open the Mapping Panel by clicking the small keyboard icon in the bottom right corner of the instrument.



*The Mapping panel, which presents a more detailed graphical overview of the keyboard layout.*

### Playing Melodies

After loading the Melody instrument up, you are presented with a melody section on the left and a pattern section on the right. If the melody section is selected, the instrument will play the notes you press instead of sequencing a pattern. This enables you to play your own melodies with Session Ukulele.



*Melody and pattern sections in the melody instrument.*

- To **change melody articulations**, use the keyswitches from C1 to D#1 to switch between open, muted, flageolet, and tremolo styles.
- The **Open articulation** is the most commonly used articulation: plucking individual strings with the fingers. To trigger hammer-ons and pull-offs, play overlapping notes from which the subsequent note is played with softer velocity than the initial note.
- The **Muted articulation** is created by resting the palm of the plucking hand on the strings, close to the bridge of the guitar while plucking the strings. Muted hammer-ons and pull-offs can be triggered in the same manner as open hammer-ons and pull-offs.
- The **Flageolet articulation** is also called harmonics. It is created by dividing the string into sections of equal length by lightly touching the string either exactly in the middle or at one third, fourth, fifth etc. of the string's length while plucking it at the same time. As a result, higher overtones are played instead of the original note.
- The **Tremolo articulation** is created by repeatedly plucking the strings. When playing overlapping notes, the instrument will create a continuous volume modulation. When playing notes without overlap, the tremolo samples are velocity-sensitive.
- To **change the fret position value** of the selected melody articulation, adjust its **Fret Pos** value. Choose higher values to have the instrument perform notes in higher fret positions on lower strings, resulting in a more mellow tone. You can control the fret position in real-time for all melody articulations combined with the MIDI CC#114.
- **Poly / Mono switch:** The monophonic mode creates smooth transitions between notes, which helps to create realistic sounding solo lines and riffs. The polyphonic mode enables you to play multiple notes at the same time. Use this mode only if you intend to play multiple notes at the same time. In both modes, you can use the sustain pedal just like on a piano.
- To **apply vibrato or pitch bend**, use the pitch and modulation wheels of your keyboard.
  - When playing patterns, the pitch wheel doubles as an **Impact** controller, modifying the velocity and accent intensity of performed patterns (for more information, refer to [Controlling the Dynamics of the Performance](#)).
  - Using the **Vibrato** drop-down menu, you can choose between three different vibrato styles, slow, medium, and fast.
  - The **Bend** drop-down menu offers the standard pitch bend mode (**All**), as well as a mode in which only specific notes (lowest, highest, softest, loudest, latest note) in a voicing are affected by the pitch bend. This enables the emulation of a specific playing technique by which only some of the played strings are bent and others, for example open strings, retain their original pitch.





You can switch between the different vibrato speeds via MIDI CC#112 and choose between different pitch bend modes via MIDI CC#113. For more information on MIDI controllers, refer to chapter [Further MIDI Controllers](#).



When playing adjacent open notes, hammer-on and pull-off samples are added automatically if the velocity of the following note is significantly softer than the one previously played. This works only for overlapping (legato) notes up to an interval of a minor third. Monophonic mode is recommended, but not required to use this feature.

## Combining Melodies and Patterns

The melody instrument provides two different modes, namely the **Melody** mode and the **Pattern** mode. By default, it is in **Melody** mode.

- To **switch from melody to pattern**, hold down one of the pattern keyswitches from E1 to G1 with your left hand, while playing notes with your right hand. The instrument will temporarily perform those notes as a pattern. If a pattern is in **Voicing** mode, triggering its keyswitch will cause the pattern to be played back using the notes contained in the voicing, transposed to the key of the note you play on the keyboard, and inverted to match the typical playing range of the respective instrument.
- To **switch back to melody**, release the pattern keyswitch with your left hand. If you still hold notes in your right hand at that moment, the instrument tries to sequence one more note that would have followed had you continued with the pattern playback. For example, if you release the pattern keyswitch shortly before the next downbeat while still holding notes with your right hand, the instrument will switch back to melody mode with one last note onto that downbeat.
- To **play patterns instead of melodies by default**: If you are mainly intending to use the melody instrument to play patterns, you can change the default mode from **Melody** to **Pattern** on the Playback page (refer to [The Playback Page](#)). When **Pattern** is selected as the default mode, holding down one of the **Melody** keyswitches (C1 to D#1) will engage the melody mode temporarily.



To achieve musically convincing results, it is advisable to use the instrument within your sequencer and to play along with its metronome.





The included pattern library is identical in the pattern instrument and the melody instrument, and the procedures to load, modify and play back patterns are similar. However, to accommodate the melody articulations, the number of pattern slots has been reduced from eight to four in the melody instrument.

## Pattern Selection and Playback

The following section describes the pattern instrument. While most of the information also applies to the melody instrument, refer to [Playing Melodies](#) and [Combining Melodies and Patterns](#) for detailed information about the features which are specific to the melody instrument.

- To **select a pattern**, press the corresponding keyswitch MIDI note or click on the pattern you wish to play.
- To **play a pattern**, play notes on your MIDI keyboard. After releasing the keys, playback will be stopped within a specified note duration (refer to Latch Mode in [The Playback Page](#)).
- To **end the playback at a precise point in time**, it is recommended to use the Bb1 keyswitch or one of the other **ending** keyswitches (refer to [Playing Dead Notes, Endings and Slides](#)).
- To **load a different pattern into a slot**, click on the magnifier icon in the current slot. This will open the Pattern Browser (refer to [The Pattern Browser](#)).
- To **load the next or previous pattern** of the pattern library, click on the little left or right arrow buttons in the current slot.
- To **remove a pattern (clear the slot)**, [Alt] + click on a slot.

 It is recommended to play notes or pattern changes briefly ahead of the beat and avoid overlapping notes to give the playback engine time to anticipate the transition. This way, the engine has enough time to add fret noises and the transition will sound more natural. As the performance is bound to the metronome of the sequencer, the timing of incoming MIDI events has no effect on the timing of the performance. For more information, read [Tips and Tricks](#).

 If available, **Chase Events** should be activated in your DAW settings. This will ensure that the engine gets proper note information on sequencer start or cycle jumps.

## Pattern Types

The playback engine creates patterns in different ways: some of the patterns are based on recorded performances, while others are based on sequenced single note samples (referred to as single note patterns below).

C1	1 Warm Fleet A	↑↓	◀ ▶	🔍
C#1	21 Gustavo A	-	-	-

*Pattern types, distinguished by different icons.*

- **Strumming Patterns:** Recorded loops based on a strumming performance are indicated by small up and down arrows next to their name. If you play more than one note, additional notes will be added on top of the originally recorded loop, which allows you to create voicings with up to six notes sounding at a time.
- **Arpeggio Patterns:** Arpeggio patterns based on single notes are indicated by a small staircase icon next to their name in the Pattern Browser. When playing arpeggio patterns, the playback engine analyzes the incoming chord and allocates the individual notes to different strings of the guitar. The more notes you press on the keyboard, the more sophisticated the resulting arpeggio pattern will sound. Therefore, playing up to six notes at a time can lead to interesting variations. Depending on the selected pattern, several notes of a voicing will be performed as hammer-ons and pull-offs.

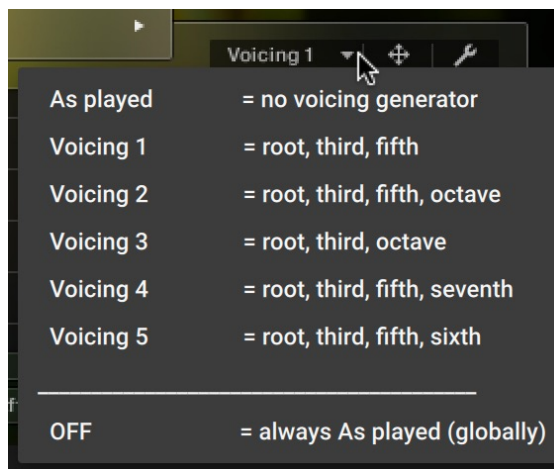
**i** The chord detection engine cannot successfully process overlapping notes since an overlap would technically mean that two different chords exist at the same time. To avoid overlaps, release a chord, or some of its notes, shortly before you play new notes.

**💡** When playing arpeggio patterns, you can trigger slides between different chords or voicings by playing the newly added keys with a very high velocity: the next suitable note will start with a slide if it is being played with a velocity greater than 110. To use slides when playing melodies, hold down the B1 keyswitch while playing melody notes.

## Voicings and As Played Mode

Strumming and Arpeggio patterns allow you to play a large variety of different chords and voicings. If you are less familiar with playing typical guitar voicings on a piano or keyboard, you can use the integrated voicing presets instead of playing your own voicings.

- **To activate the voicing generator**, select a pattern and choose the desired voicing 1–5 from the voicing drop-down menu, which is available for strummed and arpeggiated patterns.

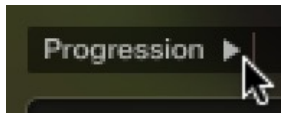


- **Press one single key** to hear the unaltered voicing.
- **Play chords or intervals** to adapt the selected voicing to incoming notes. For example, if a voicing contains a minor third, pressing a C major chord on the keyboard will turn all minor thirds into major thirds. You can adjust sevenths and other options in the same way.
- **To add additional notes to a voicing**, simply play them on the keyboard.
- **To deactivate preset voicings**, select As played in the voicing menu. This lets you play a virtually endless number of different voicings, chords, inversions, suspensions, top lines, bass lines etc. over the entire pitch range.
- **To permanently deactivate preset voicings** for all patterns and songs, select OFF from the voicing menu.

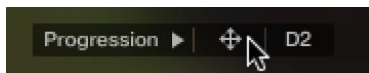
## MIDI Export and Chord Progressions

Session Ukulele lets you drag and drop voicings and entire chord progressions into your sequencer or DAW. Voicings can be dragged using the MIDI drag icon on the right-hand side of the user interface. Chord progressions can be dragged using the MIDI drag icon next to the Progression button on the left-hand side of the user interface.

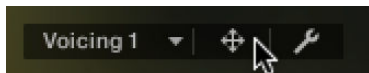
- **To play back the included chord progression of a pattern**, select the pattern and press the Progression Playback button.



- **To export the included chord progression into your DAW**, drag and drop the arrow icon next to the Progression button into your DAW.



- **To export the voicing of a selected pattern into your DAW**, drag and drop the arrow icon next to the Voicing menu into your DAW. If no voicing is selected, MIDI drag will be deactivated.



- **You can set the key** of voicings and chord progressions using the prelisten key field before dragging them.



Dragging a progression or voicing into your DAW will create a MIDI part with the notes contained in the progression or voicing, positioned slightly ahead of the beat to enable natural sounding transitions (refer to [Tips and Tricks](#)). Additionally, the MIDI part contains a keyswitch ensuring that the correct pattern is selected. Since the different MIDI notes of a pattern are now being sequenced by the DAW, it will be automatically switched to As Played mode. Now, you can transpose the MIDI notes to change the chords or harmony. Ensure to not transpose the keyswitch note, however. The original rhythmic structure is still being provided by the pattern and cannot be changed in the MIDI editor of the DAW.

**i** Since Session Ukulele is based on two-bar patterns, make sure to drag the MIDI loop onto an uneven bar number (bar 1, bar 3, bar 5, bar 17 etc.). Please note that loading a different pattern, changing the pattern tempo (half time, double time), or adjusting the length or the start shift in the pattern inspector will render the corresponding MIDI part incompatible. In this case, delete the old MIDI part and drag the pattern into your DAW again.

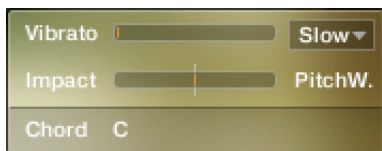
## Playing Dead Notes, Endings and Slides

In addition to the actual patterns, Session Ukulele provides a variety of endings, as well as slides and percussive sounds. The corresponding sets of keys are marked purple and green on the KONTAKT on-screen keyboard. The table below describes the functionality of each keyswitch for both the pattern instrument and the melody instrument:

	Pattern Instrument	Melody Instrument
G#1	Long ending	Slide up: End sounding notes with an upward slide. If there are no sounding notes, you will hear a regular slide. The speed of the slide depends on the incoming velocity.
A1	Slide down: End sounding notes with a downward slide. If there are no sounding notes, a long ending will be played and the slide will sound only when releasing the key.	Slide down: End sounding notes with a downward slide. If there are no sounding notes, you will hear a regular slide. The speed of the slide depends on the incoming velocity.
Bb1	Mute strings → Hit guitar body with knuckles → Slap strings with thumb	Mute strings → Hit guitar body with knuckles → Slap strings with thumb
B1	Pickup slide down	Slide modifier: Hold this key to start melody notes with a slide. The slide interval and direction depends on the previous note.

## Controlling the Dynamics of the Performance

The patterns included in Session Ukulele ignore the velocity information coming from your MIDI keyboard or DAW. Instead, you can continuously control the dynamics of the performance with the impact slider. As the melody instrument is velocity-sensitive while in melody mode, the pitch bend wheel doubles as a pitch bend controller when playing melodies.



*The Impact feature*

Use your MIDI keyboard's pitch wheel to control the Impact/pitch bend. It works as a bi-polar control to increase or decrease the playing intensity of the musician. The neutral default position is the center position which can also be recalled via [Cmd] + click.



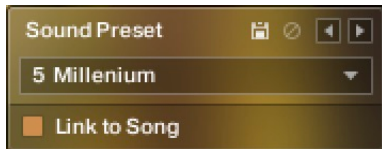
The Impact feature can be used to smoothen transitions between patterns with differing overall dynamics.



While the velocity coming from your keyboard doesn't affect the dynamics of the performance, you can use it to trigger slide transitions when playing patterns. Try playing notes with a velocity greater than 110, a slide transition will be added at the next suitable position.

## Loading and Saving Sound Presets

With Session Ukulele, you can easily customize the sound. Each sound preset includes all parameters of the **Effects** page as well as some of the parameters of the **Settings** page (refer to [The Effects Page](#) and [The Settings Page](#)). You can load sound presets from the Sound Preset drop-down menu in the top right corner of the instrument.



*The Sound Preset box in the top right corner of the instrument*

- To **load a factory or user sound preset**, either select a preset from the drop-down menu, or cycle through all presets by clicking the little left and right arrow buttons.
- To **save a new user sound preset**, enter a preset name into the text field and click on the floppy disk icon. This will store the current sound settings into a new user preset.
- To **overwrite a user sound preset**, first load it and then make changes on the Settings or Effects page. Then click the floppy disk icon without changing the preset name. If you change the preset name before saving a preset, a new sound preset will be created instead of overwriting the existing one.
- To **delete a user sound preset**, select it from the drop-down menu, then click the circular Delete button.
- **Linking sound presets to Song presets:** If the **Link to Song** switch is activated, selecting a song preset (refer to [The Song Browser](#)) will also load its corresponding sound preset. Deselect it to change songs without altering your ukulele and effects settings.

## Locking Parameters When Loading Snapshots or Songs

Normally, when you load snapshots or songs (refer to [The Song Browser](#)) of the instrument, all parameters will be set accordingly. Therefore, snapshots and songs are stored and recalled globally. To prevent the Playback parameters from being changed by loading snapshots or songs, click the lock icon on the Playback tab.



*If the Playback parameters are locked, they will not be changed by snapshots or songs.*

## Resetting the Round Robin Counter

To enhance the realism of Session Ukulele, the entire sample content employs a method which is called "Round Robin": Each sample was recorded multiple times and if the same pitch is being played with the same velocity multiple times in a row, Session Ukulele automatically alternates between those different recorded samples of a given pitch and velocity. These variations are called "Round Robins". The result is repetitions that sound less mechanical and more like a performance by a real musician, as the tone varies ever so slightly. As the instrument is automatically cycling through the different Round Robins, the performance will slightly differ each time you're playing it back in your sequencer.

While this is beneficial to the overall realism, you might find that a certain Round Robin sample matches the required phrase better than another. You can reset the Round Robin counter by sending continuous controller 3 (CC#3) to the instrument at the beginning of a song section. This way, you will be hearing the exact same samples every time the section is being played back.



When exporting/bouncing your song, placing a CC#3 value at the beginning of your arrangement will lead to a deterministic result: Each bounce will be using the exact same samples, rather than a random constellation of Round Robins.

## Defining the Downbeat after Signature Changes

Since there is no way for the instrument to recognize signature changes or insertions of half a bar etc., present in your DAW session, its pattern playback would get out of sync in those cases. To solve this problem, you can use the global transport offset feature to compensate for a change of signature or bar length during playback.

→ To define a global transport offset in ticks, send MIDI CC#111.

The value you send (ranging from 0 to 127) will be multiplied by 80 ticks and added as an offset to the host transport. 80 Ticks is the length of a 32th triplet, which is the greatest common divisor for all note values available in the instrument. Twelve 32th triplets equal a quarter note. Therefore, to insert half a 4/4th bar (i.e. shift the playback by two quarters or  $2 \times 12$  32th triplets), you would need to send MIDI CC#111 with value 24, etc.

The following table shows typical values needed for common offsets:

Offset	CC#111 value
No offset	0
One quarter	12
Two quarters	24
Three quarters	36
Four quarters (= one 4/4 bar)	48
Five quarters	60
Six quarters	72
Seven quarters	84
Two 4/4 bars (= no offset)	96
Minus one quarter	84
Minus two quarters	72
Minus three quarters	60
One eighth note	6
One eighth triplet	4

## Further MIDI Controllers

**CC#112:** Set Vibrato speed. You can change the setting for the Vibrato speed by sending a continuous MIDI controller event to Session Ukulele:

Offset	CC#112 Value
Slow	0–42
Medium	43–84
Fast	85–127

**CC#113:** Set Pitchbend Mode (only available in the "Melody" nki). In the melody instrument, you can change the Pitch Bend mode by sending a continuous MIDI controller event to Session Ukulele:

Pitchbend Mode	CC#113 Value
All: Bend all notes	0–21
Low: Bend lowest note only	22–42
High: Bend highest note only	43–63
Soft: Bend softest note only	64–84
Loud: Bend loudest note only	85–105
Last: Bend latest note only	106–127

**CC#114:** Set Fret Position for all melody articls (only available in the "Melody" nki). In the melody instrument, you can change the Fret Position of all Melody articulations sending a continuous MIDI controller event to Session Ukulele:

Fret position	CC#114 Value
0 (= Open Strings included)	0–9
1	10–19
2	20–29
3	30–39
4	40–49
5	50–59
6	60–127



## 5. Navigating Session Ukulele

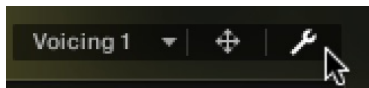
The following sections describe the different browsers and pages in Session Ukulele. These include the Pattern Inspector, Song Browser, Pattern Browser, as well as the Settings, Effects, and Playback pages.

### The Pattern Inspector

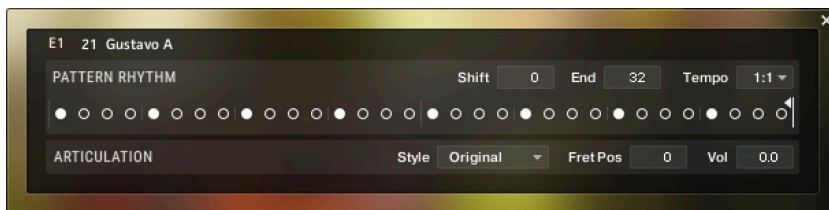
The Pattern Inspector provides access to various parameters that will modify the length, start position, volume, and tempo of any pattern. The values of the Pattern Inspector will always refer to the selected pattern. In other words, if you select a different pattern, the Pattern Inspector will adapt its content accordingly.

To **show or hide the Inspector Panel**:

- ▶ Click on the wrench icon button.



- The Pattern Inspector opens.



The Pattern Inspector contains the following settings and controls:

- **Shift:** Edit this value to shift the selected pattern's start (entry) position. Alternatively, you can drag the pattern's rhythm display left or right.
- **End:** Edit this value to reduce the selected pattern's length so that it will loop earlier. Alternatively, you can drag the terminating flag left or right.



You can use the End Step feature very creatively. For example, you can trim a 4/4 signature pattern by eight 16th snippets, so that it will perfectly fit a 3/4 signature. You can also trim any pattern to odd signatures, such as 5/8 or 7/8. Combined with the Start Shift feature, you have very powerful tools to create whole new patterns and feels (e.g., start-shift a constant eighths pattern from on-beats to off-beats, etc.). Be creative!

- **Tempo:** With the three tempo choices in the drop-down menu, you can switch the selected pattern's tempo from normal (1:1) to half time (1/2) or double time (x2). Please note that there is also a global time scaling feature on the Playback page (refer to [The Playback Page](#)). Its tempo factor will be multiplied by each pattern's individual tempo factor.



With slow host tempos, switching a pattern to half time may not work if the actual relative tempo falls below the limit of ca. 65 bpm.

- **Style** (available for Arpeggio patterns only): From this drop-down menu, you can select three different playing techniques: open, muted and flageolet. Choose **Original** to hear the pattern in its original state.
- **Fret Pos** (available for Arpeggio patterns only): Change this value to make the virtual ukulele player play in higher fret positions, which typically results in a more mellow tone.
- **Vol**: Change this value to adjust the volume of the selected pattern, ranging from -24 dB up to +24 dB in 0.1 dB increments.

## The Song Browser

In Session Ukulele, a song is a preset that contains up to eight related patterns along with a factory sound preset as well as some settings of the Playback page. The patterns contained in a song are loaded into the pattern slots.

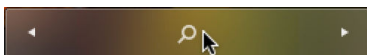


The Song browser

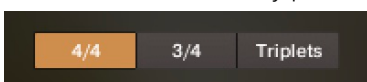
**i** If you want songs to apply their recommended sound settings, activate the **Link to Song** feature in the top right box. If you deactivate this feature, the current sound settings won't be changed when you load a song.

To **browse songs and then load a song**:

1. Click on the current song name; this will open the Song browser.



2. Use the attribute buttons at the top of the browser to filter the list of displayed songs. You can deselect all attributes by pressing [Alt] + clicking any button.



3. Clicking on the name of a song preset will play back an audio preview. Unlike pattern prelisten, the prelisten tempo of a song will not follow the host sequencer. Instead, the pattern will be played back at its recommended tempo.
4. To load a song, double-click its name or click on the tick button. If you wish to exit the Song browser without changing anything, click on the **X** button instead.



Alternatively, you can cycle through the included songs, without entering the Song browser, by clicking on the triangular arrows to the left and right of the current song name.

## The Pattern Browser

Since a preset song might not meet your exact needs, you might wish to change a slot's pattern, or load additional patterns into specific slots. Click on the magnifying glass icon right next to any pattern to open the Pattern Browser.




Clicking the magnifying glass icon will open the Pattern Browser.

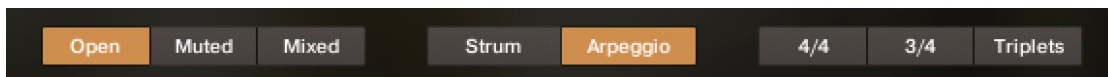


*The Pattern Browser*

The top area of the Pattern Browser holds a series of buttons that you can use to refine your search, including a Rhythm Search strip, which is a very powerful tool for finding patterns that match your custom rhythm. The body of the Pattern Browser contains a list of all patterns matching the current search criteria. If the list is too long to fit the screen, you can scroll through the list by dragging the scroll handle on the right up or down.

 The Rhythm Search strip is merely a tool to find pre-recorded patterns in the pattern library. It is technically impossible to create your own patterns by entering a certain rhythm, so, despite its look, the Rhythm Search strip should not be confused with a step sequencer.

- To **search a pattern by attributes** (and not by rhythm), make sure the Rhythm Search strip is cleared. If it is not, click the Clear button next to the strip. Then refine your search by selecting any of the attributes. If you want to bypass a category, deselect all attributes of that category. Consequently, you would need to deselect all attributes to display all patterns.



- To **search a pattern by attributes and rhythm**, first, select/deselect the desired attributes as described above. Then, enter the rhythm you are looking for into the Rhythm Search strip. With each new rhythm snippet that you enter, the pattern list will be refreshed in real-time, sorted by the similarity of the desired rhythm to the rhythm of all patterns available in the library, in descending order.



There is a powerful shortcut feature to quickly enter a repeating pattern into the Rhythm Search strip: enter the beginning of the pattern and then [Alt] + click on the position of the first repetition. Furthermore, if you [Alt] + click on the first snippet, all other snippets will be activated/deactivated.

- To **'tap in' a rhythm**: first press the Record button and hear the metronome count-in. Then start playing a rhythm on your MIDI keyboard or click on the 'Tap' button. You can start at any time, so you can also start with a pickup beat. After 2 bars the recording will automatically stop, and the search results will be listed.

The rhythm search algorithm is very powerful. It will compare the rhythm defined in the Rhythm Search strip not only to the rhythm of the other patterns from start but also from any possible shifted starting position. This way, patterns with specific start shift offsets might be revealed as musically matching-patterns which otherwise would simply be overlooked. If the perfect start shift offset is different from 0, the value is appended to the pattern name. Upon loading a pattern, that offset will automatically be applied and entered into the Pattern Inspector (refer to [The Pattern Inspector](#)). Also, the Rhythm Search algorithm will rate accents higher than non-accentuated snippets. So, if you're searching for accents following a certain rhythm, try entering the accents only.



If you cannot find the desired rhythm straight away, chances are that you can create that particular rhythm by separately searching for the first and second half of the rhythm of a desired pattern, loading the two halves into two different slots, and combining them during playback. Alternatively, you can load the same pattern into two different slots and adjust the Start Shift of one of them, in order to shift accents to the desired positions.

- To **search for patterns similar to the selected one**, you would need to search for patterns with a rhythm similar to the selected pattern's rhythm. Instead of entering and copying the rhythm manually, you can simply transfer the rhythm of the selected pattern into the Rhythm Search strip by clicking on the Similar button.



- This will start a search and put the selected pattern at the very top of the listed results, since that pattern matches its own rhythm a 100 percent, of course. Rhythmically similar patterns will be listed subsequently.
- To **play a preview of a pattern**, click on any of the listed patterns. This will also display the pattern's rhythm structure in the second strip. The preview playback will sync to the host tempo and transport position if the transport is running. However, only one selectable pitch can be previewed. Incoming MIDI notes will be ignored.
- To **stop the preview playback**, simply click on the playing pattern again or, if the host transport is running, stop it.
- To **change the preview chord**, select a pitch and a chord type in the top drop-down menus or value dragger.



- To **load a pattern**, simply double-click the pattern or click the tick button. (If you want to cancel the process, click the **X** button instead.)



- To **load a pattern to a different slot** than the currently selected one, choose one of the eight available pattern slots from the drop-down menu in the upper right corner. Confirm by clicking the tick button, or double-click the respective pattern.



- The selected pattern will now be loaded into the selected slot; a previous pattern of that slot will be replaced. The pattern browser will be closed.

## The Settings Page

Click on the **Settings** tab (at the bottom of the instrument) to display the Settings page. This page provides controls that you can use to adjust the sound of the instrument itself, whereas the Effects page provides effect for additional processing. This page is divided into several sections, each of which is described below.



- **Microphones:** Use the microphone selector to choose either the **Condenser (MS)**, **Condenser (AB)**, or **Dynamic (MS)** recording setup, providing different characters in sound and spatiality.
  - **Condenser (MS)** uses condenser microphones in a mid/side microphone configuration.
  - **Condenser (AB)** uses condenser microphones in a AB stereo configuration.
  - **Dynamic (MS)** uses dynamic microphones in a mid/side microphone configuration.
- **Doubling:** Activates Doubling mode, which plays back two independent recording takes routed to the left and right stereo channels.



If you prefer to use external effects instead of the Effects page, note that **Doubling** mode requires your external effects to be true-stereo in order to preserve the two independent recording takes. Alternatively, you can route the left and right stereo signals to independent instances of the same effect. If the signal collapses to mono when applying external effects, the signal path is not true-stereo.

- **Stereo Width:** Adjusts the width of the stereo image. At center position, the original width of the recording is used. When turning the control to the left, the stereo width decreases towards mono playback at minimum position. When turning the control to the right, the stereo width is enhanced, producing an extremely wide stereo image at maximum position.
- **Muted Notes - Decay:** Sets the decay time of muted melody notes and muted arpeggio patterns. To adjust the decay in real-time, right-click to assign a MIDI controller to this knob. This way, it is possible to emulate continuous progressions from very short notes to a gradually longer decay or vice versa.
- **Resonance - Amount:** Adjusts the amount of sympathetic resonance. Melodies and notes played with vibrato will especially benefit from this feature.
- **Noise - Frets:** Adjusts the level of fret noises, which are automatically added upon changing pitches. When playing melodies or pattern pitch changes, the instrument emulates fingering noises and the ringing of the section of the strings between the saddle and the left hand of the player.

- **Noise - Noise Floor:** Adjusts the intensity of the noise floor present in the signal. The noise floor is switched off while the instrument is not playing.
- **Tuning - Detune:** Adjusts the tuning of the instrument from **Precise** to **Sloppy**.



Moderate levels of noise floor, fret noises, and detune can help add realism and create a more tangible instrument sound. Note that some of the included effects may add additional noise, even if the noise control is turned all the way down.

## The Effects Page

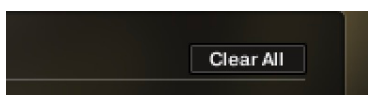
Clicking on the **Effects** tab (at the bottom of the instrument) will open a page where you can apply several studio effects to the signal.



*The Effects page*

The effects chain displays the currently loaded effects. Clicking an effect icon displays its settings in the inspector section below.

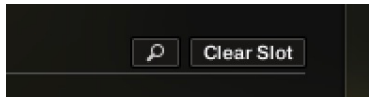
- To **change the order of the effects**, simply drag and drop the respective icon in the effects chain left or right.
- To **bypass an effect**, click the yellow square button next to its name.
- To **bypass the entire effects chain**, click on the yellow square to the left of the Effects page title. Note that the effects still require processing power, unless the effects chain is cleared.
- To **clear the entire effects chain**, click on the **Clear All** button in the upper right corner and confirm.



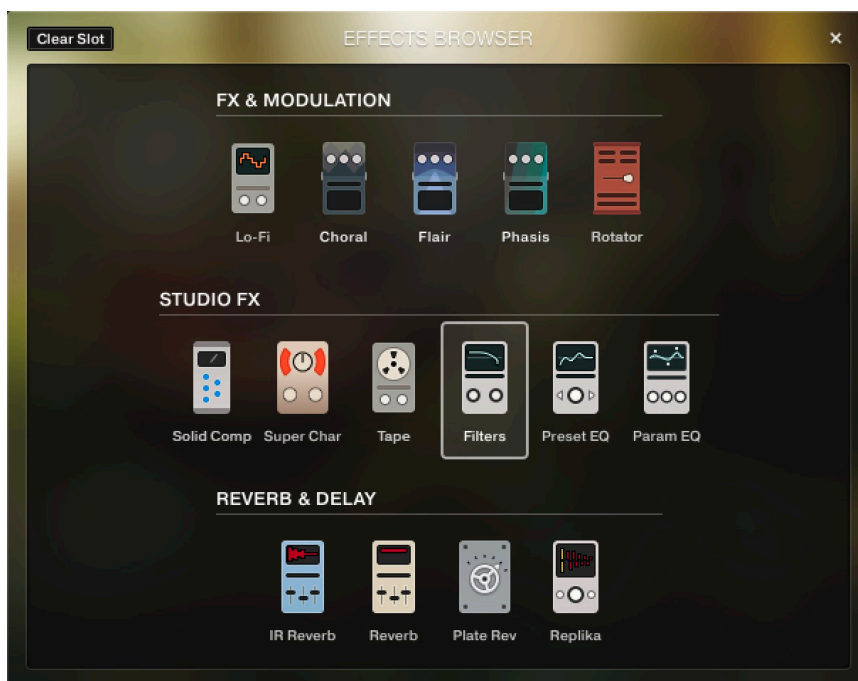


If you want to process the direct signal with external effects, you can save CPU resources by clearing the entire FX chain. Note that **Doubling** mode requires your external effects to be true-stereo in order to preserve the two independent recording takes.

- To **remove an effect**, click on the **Clear Slot** button on the right-hand side.



- To **load a different effect into the current slot**, click the magnifier icon next to the inspector heading or click the magnifier icon that appears when hovering the name of an effect slot. This will open the Effects browser that enables you to load an effect into the selected slot by clicking on it. This replaces the existing effect on the same slot.



*The Effects browser*

## The Playback Page

Clicking on the **Playback** tab (at the bottom of the instrument) will open the Playback page. This page contains settings that affect the way the patterns are played back. This page is divided into several sections, each of which is described below.

To exclude the playback settings from songs or snapshots, click the lock icon on the Playback tab at the bottom of the instrument (refer to [Locking Parameters When Loading Snapshots or Songs](#)).





The Playback Page


- **Humanize:** Use the Humanize knob to set the amount of quantization added to all patterns. In the right position, the timing of the original performance will remain unaltered. At the left position, the performance will be fully quantized.
- **Swing:** Use the Swing knob to set the amount of swing added to each pattern. You can select between a 16th note or a 8th note base via the switch below.
- **Feel:** Use the Feel control to shift accents in a pattern from the downbeat to the offbeat and vice versa. Make sure the correct time base is selected (16th or 8th notes).

**i** If the Swing or Feel knobs don't affect the playback, it is very likely that either a triplet pattern is selected, or the respective time base has to be changed from 16th to 8th notes.

- **Timing Shift:** Increase the offset for a laid back feel or decrease the offset to have the virtual ukulele play ahead of the beat.
- **Latch Mode:** After you have released all keys, the pattern playback will automatically stop within the note duration specified in the **Latch Mode** drop-down menu.

**💡** The slightly delayed stopping of the playback enables the engine to perform smooth transitions from one pitch to the next, even if the incoming MIDI notes are not played as a seamless legato performance. However, if you want to stop the performance at a specific position in the arrangement, e.g., to perform a break, it is advisable to trigger one of the "ending keys" (G#1, A1, Bb1) at the desired position.

- **Pattern Sync:** Use the drop-down menu to select one of two available sync modes.
  - **Sync to host:** With this mode selected, pattern playback will start in sync with your host sequencer. As Session Ukulele is based on two-bar patterns, make sure to start your song on bar one or any other uneven bar number (e.g. bar 3, bar 5, bar 17).
  - **Start on a key:** With this mode selected, pattern playback will start from the beginning as soon as the first note is being played, ignoring the current host playback position. As long as the playback does not get interrupted (according to the Latch mode setting), this shifted performance will be retained even if you subsequently play notes.
- **Default Mode (melody instrument):** In the melody instrument, you can combine melodic playing and pattern playback into one cohesive performance. When set to **Melody**, you can play melodies by default, and holding down a pattern keyswitch will temporarily trigger a pattern. When set to **Pattern**, the instrument will perform patterns by default, and holding down one of the melody keyswitches will temporarily allow you to play melodies (for more information, refer to [Combining Melodies and Patterns](#)).
- **Tempo:** Here, you can select between three tempo ratios 1/2 (half time), 1:1 (normal time), or x2 (double time), which will globally affect the pattern playback speed relative to the host tempo. Please note that there is also a local time scaling feature available for each pattern (refer to [The Pattern Inspector](#)). The individual patterns' tempo factors will each be multiplied by the global tempo factor.

 With slow host tempos, switching the global tempo to half time may not work if the actual relative tempo falls below the limit of around 65 bpm.

## 6. Tips and Tricks

Last, but not least, the developers would like to share a couple of tips to help you get the most out of Session Ukulele:

### Using the Melody Instrument to Enhance Pattern Playback

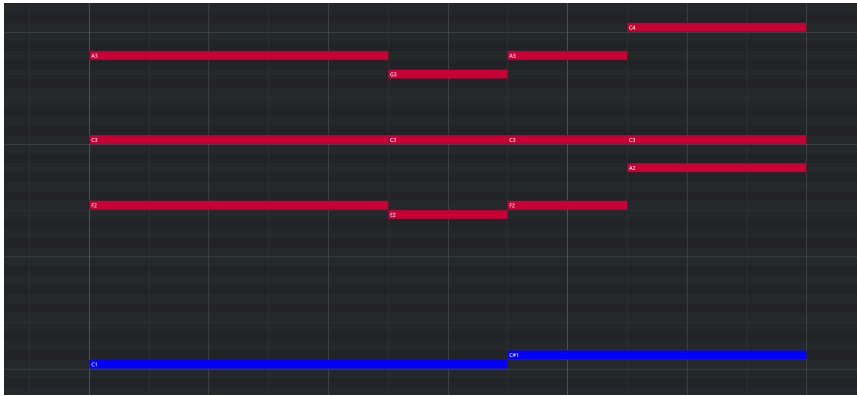
The melody feature makes it possible to add melodic fills to spice up an otherwise repetitive performance: Load the Melody.nki and switch the default mode on the Playback page to **Pattern**. Now, you can perform patterns just like in the regular instrument, but holding down a melody keyswitch will enable you to add monophonic or polyphonic fill-ins or variations to the pattern performance. The instrument will create smooth transitions between patterns and melody notes, if possible. If **As played** or **Off** is selected in the voicing drop-down menu, the voicing will be an exact representation of the incoming MIDI notes. This way, playback in melody mode and pattern mode will be based on the exact same notes, which helps create smooth transitions between patterns and melodies.

### Varying the Number of Played Notes in Arpeggio Patterns

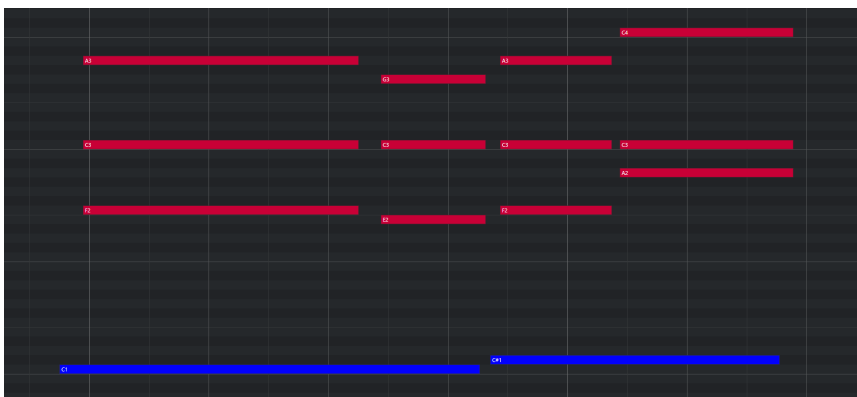
Most Arpeggio patterns contain a lot more variability than meets eye: Depending on the number of notes contained in a voicing, the rhythmic structure, as well as the distribution of the incoming notes varies significantly. To get a general idea of a pattern's possibilities, it is advisable to listen to its included voicings. For maximum flexibility, however, try deactivating the voicing feature by selecting **As played** in the voicing drop-down menu. Now, you can smoothly transition between the different variations of a pattern, simply by altering the number of notes you play simultaneously.

### Creating Natural Transitions between Chords

To create realistic sounding transitions between chords, do not quantize your keyboard performance. Instead, make sure that all chord and pattern changes are played as early as possible, up to a 32nd note ahead of the beat. This way, Session Ukulele can anticipate that a chord change or pattern change is about to take place and perform the transitions between patterns and chords in the most natural way. Depending on the chord progression, an appropriate fret noise is added automatically. These natural transitions would be impossible if you quantized your MIDI data. Don't worry about the timing, triggering the patterns before the beat will not make the performance sound out of time, as the timing is bound to the internal metronome of your sequencer. Also make sure that chords do not overlap, because an overlap would technically mean that two chords are played at the same point in time. Pattern keyswitches should be placed before chords.



*Bad: Quantized MIDI data will cause the chord changes to happen too late for the fret noises to be played back; this will not create realistic transitions.*



*Good: MIDI notes placed ahead of the quantized position will result in realistic sounding transitions. Note that the keyswitches are also triggered slightly before the actual chords.*

## Combining Patterns Creatively

We spent a lot of time making transitions between patterns and notes as smooth and natural as possible. Therefore, if you switch between patterns that have a similar playing style but different rhythms, the transitions will very likely sound as smooth as if the resulting rhythm would have actually been performed this way. So instead of sticking to a single repetitive pattern for a long time, you can enhance realism by switching back and forth between patterns to add variations here and there. In most cases, adding minor rhythmical changes at the end of the second bar does the trick.

## Creating Custom Groove Variations

If you'd like to add variations to spice up a pattern using the technique described above, you might find yourself in a situation where the beginning of a pattern contains the bit of rhythmical variation you'd like to use at the end of another pattern. You can move the variation into place by clicking the wrench button (refer to [The Pattern Inspector](#) for more information) to open the Pattern Inspector and shift the pattern to the desired position. Another way to get there is to use the **End Step** feature: shorten the pattern to e.g. 8 steps (two quarter notes). Although the resulting pattern will be very short and thus will sound pretty repetitive in itself, it will contain a predictable rhythm that you can use to add a variation to another pattern.

## Using Authentic Humanization

The **Humanize** knob on the Playback page does not simply add random offsets to approximate realism. Instead, it recreates the actual timing of the ukulele player when performing the patterns during the recording session. Even if subtle, the **Original** setting sounds more akin to a real ukulele player playing the instrument. Adding small amounts of **Shuffle**, slightly increasing the **Timing Shift**, and shifting the accentuation of patterns towards the downbeat or backbeat with the **Feel** control can greatly improve how the groove of the ukulele fits in with the other instruments of an arrangement.

## Using the Impact Slider as a Drama Controller

When moving towards a quiet passage in your song, move the impact slider to the left. As you approach the chorus, slowly move it to the right. If applied correctly, this makes the virtual musician play towards a certain musical event, e.g. the chorus or a break. You can also use the pitch wheel to smoothen the transition between patterns which are played at different volumes.

## Using Multiple Instruments Simultaneously

Instead of using just one single pattern at a time, try the following: Open two instances of Session Ukulele. While instance one plays the regular chord progression of the song in a low voicing, instance two plays only an empty fifth chord as a pedal point in a higher register. Combining several different instruments and/or patterns in this manner can really help to open up your arrangement. Try creative panning and/or doubling settings.

## Using Vibrato for Patterns

Adding vibrato can greatly enhance the musicality of the pattern playback, especially for arpeggio patterns and patterns which contain long, ringing notes and chords.

## Using the Advanced Pitch Bend and Vibrato Modes in Melody Mode

Bending, vibrato and especially unison notes created by playing a semitone interval and bending the lower note up is a technique that creates sustained melody notes with a more interesting texture than playing single note melodies without vibrato or pitch bend.

## Using Slide and Ending Keyswitches

To end single notes, chords or patterns with a slide or with the sound of damping the strings with the right hand, use the slide (G#, A) and ending keyswitches (Bb). This is great to add stops at specific points in time, but it can also help with creating interesting-sounding transitions between notes and patterns.

## 7. Credits

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**Project Management:** Simon Janssen, Grant Smith

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**Recording Engineer:** Jonas Roßner

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**Documentation:** Daniel Scholz, Simon Janssen, Jan Ola Korte

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