

Baishakhi Keyboard

Another salient feature of Baishakhi Linux is the inclusion of a new Bangla keyboard layout named “**Baishakhi**”. This is fully UNICODE 5.0 compatible and the layout being phonetic, it is very easy to type Bangla using this keyboard layout. It is expected that all levels of students and other native users who are more comfortable with Bangla language will be benefited by **Baishakhi Linux**.

The Baishakhi Keyboard Layout is available for Linux as well as for Windows.

Caution about Alt key usage: For typing in the characters at the Alt level, the right Alt key should be pressed.

The halant key (h): Conjugates are written with two consonants joined by halant. This has been kept at the English h key and marked as হ্ , signifying conjugation.

To install in Windows:

- ✓ Download the Baishakhi keyboard from <http://nltr.org>
- ✓ Unzip and run set up as directed.
- ✓ Install fonts from the listed ones as given in the site.
- ✓ Open Internet Explorer and click on Tools → Internet Options
- ✓ Click on Languages; If Bangla is not selected, click on Add, select Bangla [bn] and click OK
- ✓ Go to Start → Control Panel → Regional and Language Settings → Languages
Select “Install files for complex scripts and right to left languages” OR “Indic” as the case may be.

To use it :

- Right click on task bar (bottom panel)
- Go to Tool bars → Language bar. Select
A language icon (by default EN will appear on the right side of the bottom panel.
Toggle language with **Shift + Left Alt**

The Baishakhi Keyboard has been designed with the following salient features.

- It is Unicode 5.0 compatible.
Every keystroke generates the corresponding UTF-8 code according to the Unicode 5.0 standard.
- Unicode 5.0 recommends that, only one code should be generated with every keystroke. This recommendation has been respected in this keyboard layout. Consequently, this may

lead to small deviations from a some of the existing practices. These are being noted below:

- ◆ For আ, Alt A is to be pressed. Pressing A for অ followed by pressing a for া matra is not allowed.
- ◆ For ‘ref’ (as in কর্ম) Unicode 5.0 requires that the codes should be <code for ‘ra’ (র)> followed by <code for ‘halant’ (্)>. Accordingly, Baisakhi does not keep any single key for ‘ref’, as is the practice in Bangla typewriters.
- ◆ Similarly, for ‘ya-phala’ (as in ব্য), no single key has been kept since Unicode 5.0 requires that the code sequence should be <code for ‘ba’ (ব) > <code for halant > <code for ‘ya’ (য) >. Hence, for typing ব্য in the Baisakhi keyboard, one has to type <h><y>.

Thus, for ‘ref’ and ‘ya-phala’, Baisakhi needs 2 keystrokes instead of one. This trade off in favour of an additional key stroke is for strict adherence to Unicode 5.0 recommendations.

- Baisakhi is a 3-layer keyboard , with Normal, Shift and Alt modes, designed to accommodate the Bangla alphabets and signs. [Please read the note about the Alt key usage at the top of the page].
- The layout of the keys has been arranged through the following considerations:
 - ◆ The relative frequency of occurrence and co-occurrence of the alphabets and matras have been studied over multiple corpus.
 - ◆ The layout attempts to be mnemonic (easy to remember) for those, who are familiar with English QWERTY keyboards.
 - ◆ As far as possible, the Bangla alphabets have been kept at English key positions, having similar utterance. (For example, g for গ and G for ঘ). See the key map table.
 - ◆ Deviations from the above were necessary. These have been done, wherever required, keeping the frequency of usage in consideration. See the key map table.
- **Special keys:**

- ◆ **J and NJ (Top left corner, ` and ~ respectively, below Esc):** Unicode 5.0 specifies the use of two special codes for Zero-Width- Joiner (denoted J here) and Zero-Width Non Joiner (denoted NJ here).

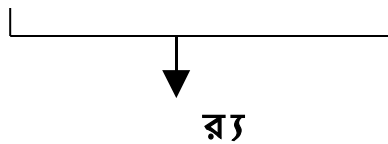
Use of Zero-Width-Joiner: There had been a persistent problem of writing ‘ra’ followed by ‘ya-phala’ as in **র্যাপার**. Normally, we would write it as <code for ‘ra’> <code for ‘halant’> <code for ‘ya’>. But it would have direct conflict with the code sequence for ‘ref’ as in **কার্য**.

To avoid this conflict, Unicode 5.0 prescribes the following code sequence for typing ‘ra’ followed by ‘ya-phala’.

<code for ‘ra’> <code for Zero-Width –Joiner ><code for ‘halant’ >< code for ‘ya’>.

Thus, the typing sequence to type **র্যাপার** would be

< র > <Z-W-J> < ্ > < য > < া > < প > < া > < র > =
র্যাপার



On the other hand, in order to type **কার্য**, we have to type

<ক><া><র>< ্ > < য > = **কার্য**

Use of Zero-Width-Non-Joiner: Sometimes, we need to write ‘halants’ explicitly to show that the implicit ‘a’ at the end of the consonant should not be pronounced. In this case the ‘halant’ is not a joiner of consonants for conjugates. The word **প্রাক্কথন** is an example case. To type such explicit halants, the Zero-Width-Non-Joiner key should be used as shown below.

ক্ক = <ক> < ্ > < NJ > <ক>

Thus,

প্রাক্কথন = <প>< ্ ><র><া><ক>< ্ >< NJ ><ক><থ><ন>

Similarly,

<ত>< ্ > < NJ ><ত> = **ত্‌ত**

<ত><্> <ত> = ত as in বিভ

- ◆ **The Nukta Key (Alt dot):** This is a new addition though this is not a symbol in Bangla alphabet set. In Bangla there is no alphabet corresponding to the pronunciation of Z. Similarly, the pronunciation of F as in Frame is not the same as ফ as in ফুল (flower). This phenomenon is visible in quite a few foreign loan words. Though Nukta is in use in many Indian languages, such as Hindi, it is not there in standard Bangla alphabets. To accommodate this aspect the Nukta key (Alt dot) has been incorporated in the Baisakhi keyboard.

Thus “zameen” can now be written as জ়মীন instead of জমীন as <জ><়.><ম><ী><ন>

- ◆ **Language Toggle :** Toggling between languages such as Bangla and English can be done through the Shift + Left Alt key press.

The Key Map Table



Baishakhi Layout

The not so intuitive mappings are shown in blue.

English Letter (Normal Mode)	English Letter (Shift Mode)	Bengali Letter (Normal Mode)	Bengali Letter (Shift Mode)	Bengali Letter (Alt Mode)	Comments
`	~	J	NJ		

1	!	শু	!		
2	@	৯	@		
3	#	৩	#		
4	\$	৪	\$,	
5	%	৫	%		
6	^	৬	^		
7	&	৭	&		
8	*	৮	*	৩	The "iswar" symbol ৩বিদ্যাসাগর মহাশয়
9	(৯	(
0)	০)		
-	-	-	-		
=	+	=	+		
a	A	া	ত্র	ত্র	
i	I	ি	ত্র	ত্র	
u	U	ু	ত্র	ত্র	
e	E	ে	ত্র	ত্র	
o	O	ো	ত্র	ত্র	
k	K	ক	খ		
g	G	গ	ঘ		
c	C	চ	ছ		
j	J	জ	ঝ		
t	T	ট	ঠ		
q	Q	ড	ঢ		Not intuitive
f	F	ভ	ফ	ৎ	Not intuitive
d	D	দ	ধ		
n	N	ন	ণ	ণ	
p	P	প	ফ		
b	B	ব	ভ		
m	M	ম	ঙ	ং	
y	Y	য	য়		
r	R	র	়	ঃ	

l	L	ল	।	ঈ	
s	S	স	শ	ষ	
x	X	ড	ঢ		
z	Z	ৈ	ৌ		
w	W	ী	ূ		
v	V	ৱ	ৱ		Assamese
/	?			ং	
h	H	্	হ	ঃ	Denoted as ⊕ on the keyboard
m	M			়	
.	>			়.	Nukta