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# How to Configure Hexadecimal Card Key

In BioStar versions before BioStar 2.6, the card key value was entered as decimal numbers in the smart card layout.

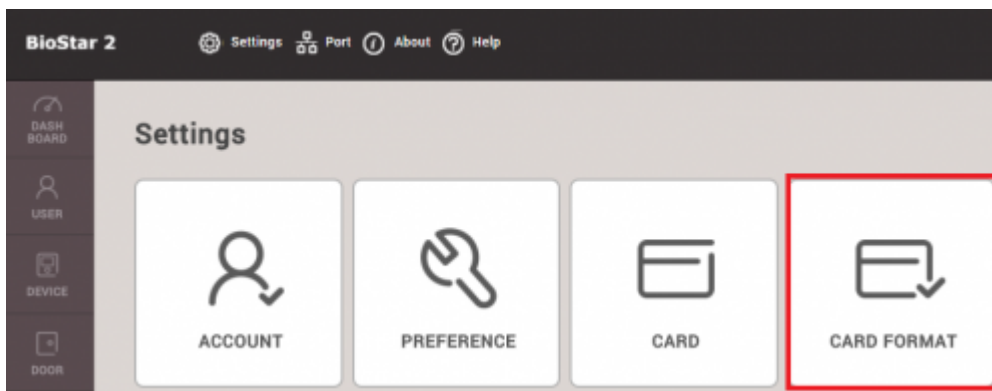
However the actual key value stored in the card was converted to an ASCII value.

This caused confusion when integrating existing solutions with BioStar 2 because the industry standard uses hexadecimal values for the card key.

Hence to allow easy integration, the card key configuration is now entered in hexadecimal form in BioStar 2.6.

## Configuring Card Key in Smart Card Layout

1. Log in to BioStar 2 with an administrator account with **Setting** configuration privileges.
2. Click **Settings**.
3. Click **CARD FORMAT**.



4. Click **Smart Card**.
5. Click **ADD SMART CARD**.
6. Enter a **Name** for the smart card layout.
7. Check **Primary Key**.
8. Enter a hexadecimal key in the **New Primary Key** textbox.
9. Repeat entering the key in the **Confirm New Primary Key** textbox.

### Possible key input ranges

Mifare: 6 byte range of 0 to FFFFFFFF

iClass: 8 byte range of 0 to FFFFFFFF

Desfire: 16 Byte range of 0 to FFFF FFFF FFFF FFFF FFFF FFFF FFFF FFFF

← Add New Smart Card

Information

Name  Secondary Key  Inactive

MIFARE ICLASS DESFire ICLASS Seos

Primary Key

Secondary Key

Start Block Index

The key values made with 2.5v or before need to be converted to HEX through the below before applying.

Converting Result : 35353535353535353535353535353535

\\

If an odd hexadecimal value is input 0 will be added in the beginning of the value.  
 If the max length is not filled, the key will be filled with FF automatically.  
 In example:  
 User enters "1230" > Result: 12 30 FF FF FF  
 User enters "AF0" > Result: 0A F0 FF FF FF FF

10. Check the **Secondary Key** to Active.

Secondary Key  Active

11. If you had no key configured on the card previously, check the **Secondary Key** and leave it blank.

If you previously configured the key value in lower versions of BioStar 2, you will have to convert the value to a hexadecimal number first. Use the Hex converter tool on the right to convert the value.

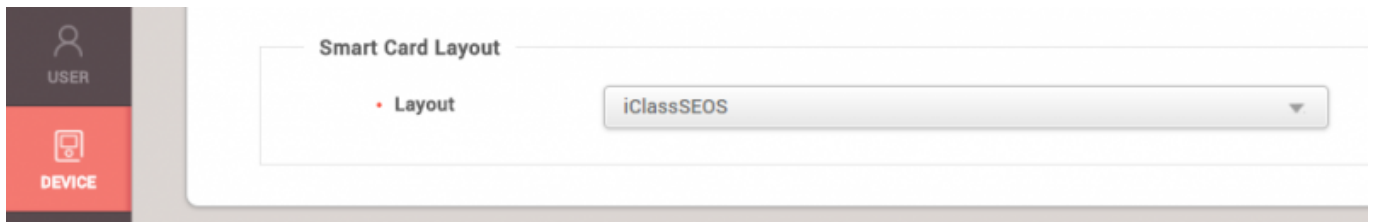
The key values made with 2.5v or before need to be converted to HEX through the below before applying.

Converting Result : 3531363435

12. Change the **Start Block Index** to configure where the layout will be written if it is required.

13. Change the **Template Count** if desired. Be wary of your card size.

14. Change the **Template size** if required.
15. Click **Apply**.
16. Go to the **DEVICE** menu.
17. Select your device.
18. Select your **Layout** in **Authentication > Smart Card Layout**. 19. Click **Apply**.



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