Oracle Data Block Binary Dumps: Tokens and Column Lengths

Single Byte Values

- Bytes from 0 to 199 represent tokens 0 to 199
- Bytes from 201 to 250 represent column lengths from 1 to 50. 200 is added to the length to get the correct byte
- 200 (or c8 in hexadecimal) does not appear to be used
- fa and fb bytes are used for column lengths above 50 and token values above 199 respectively
- fc through fe probably have special uses, but these have not been found
- ff is used to represent a null column. In this case, no column length value is used
- Trailing null columns of a row are not stored

Oracle Data Block Binary Dumps: Tokens and Column Lengths

Multi-byte Column Lengths

- Column lengths above 50 are represented by three bytes
- The first byte is fa, which tells Oracle that the next two bytes are a column length
- The next two bytes are the actual value of the column length
- Column lengths come before each column of actual data stored in the binary dump so that Oracle knows how many bytes following the length represent the data for that column

Oracle Data Block Binary Dumps: Tokens and Column Lengths

Multi-byte Tokens

- Token values above 199 are represented by three bytes
- The first byte is fb, which tells Oracle that the next two bytes are the value of a token
- The next two bytes are the actual value of the token

Oracle Data Block Binary Dumps: Tokens and Column Lengths

Binary Dump Representation	Decimal Value	Interpretation
00 – c7	0 - 199	Tokens from 0 to 199
c8	200	Not used
c9 – f9	201 - 250	Column lengths from 1 to 50, plus 200
fa - ff	n/a	Special cases
fa 00 33 – fa ff ff	n/a	Column lengths from 51 to 65535
fb 00 c8 – fb ff ff	n/a	Tokens from 200 to 65535
fc - fe	n/a	Unknown
ff	n/a	Null column