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# REQUIRE8 and PRESERVE8

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## 12.59 REQUIRE8 and PRESERVE8

The `REQUIRE8` and `PRESERVE8` directives specify that the current file requires or preserves eight-byte alignment of the stack.

### Syntax

```
REQUIRE8 {bool}
PRESERVE8 {bool}
```

where:

*bool*

is an optional Boolean constant, either `{TRUE}` or `{FALSE}` .

### Usage

Where required, if your code preserves eight-byte alignment of the stack, use `PRESERVE8` to set the `PRES8` build attribute on your file. If your code does not preserve eight-byte alignment of the stack, use `PRESERVE8 {FALSE}` to ensure that the `PRES8` build attribute is not set. Use `REQUIRE8` to set the `REQ8` build attribute. If there are multiple `REQUIRE8` or `PRESERVE8` directives in a file, the assembler uses the value of the last directive. The linker checks that any code that requires eight-byte alignment of the stack is only called, directly or indirectly, by code that preserves eight-byte alignment of the stack.

### Note

If you omit both `PRESERVE8` and `PRESERVE8 {FALSE}` , the assembler decides whether to set the `PRES8` build attribute or not, by examining instructions that modify the SP. ARM recommends that you specify `PRESERVE8` explicitly.

You can enable a warning by using the `--diag_warning 1546` option when invoking `armasm`.

- ALIAS (armasm\_dom1361290002014.htm)
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This gives you warnings like:

```
"test.s", line 37: Warning: A1546W: Stack pointer update potentially breaks 8 byte stack alignment
      37 00000044          STMFD    sp!, {r2,r3,lr}
```

## Examples

```
REQUIRE8
REQUIRE8      {TRUE}      ; equivalent to REQUIRE8
REQUIRE8      {FALSE}     ; equivalent to absence of REQUIRE8
PRESERVE8      {TRUE}      ; equivalent to PRESERVE8
PRESERVE8      {FALSE}     ; NOT exactly equivalent to absence of PRESERVE8
```

### Related reference

9.23 --diag\_warning=tag[tag,...] (armasm\_dom1361289825953.htm)

### Related information

Eight-byte Stack Alignment (<http://infocenter.arm.com/help/topic/com.arm.doc.faqs/ka4127.html>)