
Subject: [BUG] ArrayMap::Create<TT>: implicit downcast

Posted by [Shire](#) on Tue, 11 Oct 2011 18:54:53 GMT

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```
class ArrayMap
...
template <class TT>
TT& Create(const K& k)
{
    TT *q = new TT;
    B::key.Add(k);
    return B::value.Add(q);
}
```

This template method must create and add some derived object to container of base object pointers.

But B::value.Add() (which is Array<T>::Add()) returns T& and it cannot be downcasted to TT& implicitly.

Test case:

```
struct A { int a; };
struct B : A { int b; };
```

```
ArrayMap<int, A> map;
```

```
map.Create<A>(0).a; // ok
map.Create<B>(0).b; // error
```

Fix: replace last method line with

```
return static_cast<TT&>(B::value.Add(q));
```