

A trait object has some specific lifetime `'1`, but it was used in a way that requires it to have a `'static` lifetime.

Example of erroneous code:

```
trait BooleanLike {}
trait Person {}

impl BooleanLike for bool {}

impl dyn Person {
    fn is_cool(&self) -> bool {
        // hey you, you're pretty cool
        true
    }
}

fn get_is_cool<'p>(person: &'p dyn Person) -> impl BooleanLike {
    // error: `person` has an anonymous lifetime ``p` but calling
    //      `print_cool_fn` introduces an implicit `static` lifetime
    //      requirement
    person.is_cool()
}
```

The trait object `person` in the function `get_is_cool`, while already being behind a reference with lifetime `'p`, also has its own implicit lifetime, `'2`.

Lifetime `'2` represents the data the trait object might hold inside, for example:

```
trait MyTrait {}

struct MyStruct<'a>(&'a i32);

impl<'a> MyTrait for MyStruct<'a> {}
```

With this scenario, if a trait object of `dyn MyTrait + '2` was made from `MyStruct<'a>`, `'a` must live as long, if not longer than `'2`. This allows the trait object's internal data to be accessed safely from any trait methods. This rule also goes for any lifetime any struct made into a trait object may have.

In the implementation for `dyn Person`, the `'2` lifetime representing the internal data was omitted, meaning that the compiler inferred the lifetime `'static`. As a result, the implementation's `is_cool` is inferred by the compiler to look like this:

```
# trait Person {}
#
# impl dyn Person {
fn is_cool<'a>(self: &'a (dyn Person + 'static)) -> bool {unimplemented!()}
# }
```

While the `get_is_cool` function is inferred to look like this:

```
# trait Person {}
# trait BooleanLike {}
#
fn get_is_cool<'p, R: BooleanLike>(person: &'p (dyn Person + 'p)) -> R {
    unimplemented!()
}
```

Which brings us to the core of the problem; the assignment of type `&'_ (dyn Person + '_)` to type `&'_ (dyn Person + 'static)` is impossible.

Fixing it is as simple as being generic over lifetime `'2`, as to prevent the compiler from inferring it as `'static`:

```
# trait Person {}
#
impl<'d> dyn Person + 'd { /* ... */ }

// This works too, and is more elegant:
//impl dyn Person + '_ { /* ... */ }
```

See the [\[Rust Reference on Trait Object Lifetime Bounds\]](#)[\[trait-objects\]](#) for more information on trait object lifetimes.