

Pathogens in Chado

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WTSI Pathogen Genomics

- 50+ pathogen genomes,
- Both bacterial and eukaryotic,
- Many of them actively curated.

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Tools

- Curators use Artemis,
- Data available through new GeneDB web site (to launch in the first half of 2009),
- Public read-only database (db.genedb.org).

Demo

(if the demo gods are willing)

Artemis

GeneDB

Hibernate mapping

- Hibernate is a popular Java ORM framework,
- We've developed a mapping for Chado.

Hibernate mapping

- Feature hierarchy represented using single-table inheritance,

```
@Entity
@Inheritance(strategy = InheritanceType.SINGLE_TABLE)
@DiscriminatorColumn(name = "type_id")
@Table(name = "feature")
public abstract class Feature {
    ...
}
```

Hibernate mapping

- Feature hierarchy represented using single-table inheritance,

```
@Entity
@FeatureType(cv="sequence", term="gene")
@Indexed
public class Gene extends AbstractGene {
    ...
}
```


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- A custom Hibernate Configuration class processes these FeatureType annotations and sets the discriminator value.

Hibernate mapping

- Feature classes have (at least some of) the methods you'd expect:
 - ▶ AbstractGene#`getTranscripts()`
 - ▶ Transcript#`getGene()`
 - ▶ Transcript#`getExons()`
- Feature has generic convenience methods:
 - ▶ Feature#`getFeatureProp`
(String `cvName`, String `termName`)

Thanks